Quick Select Product Guide
Industrial Sensors

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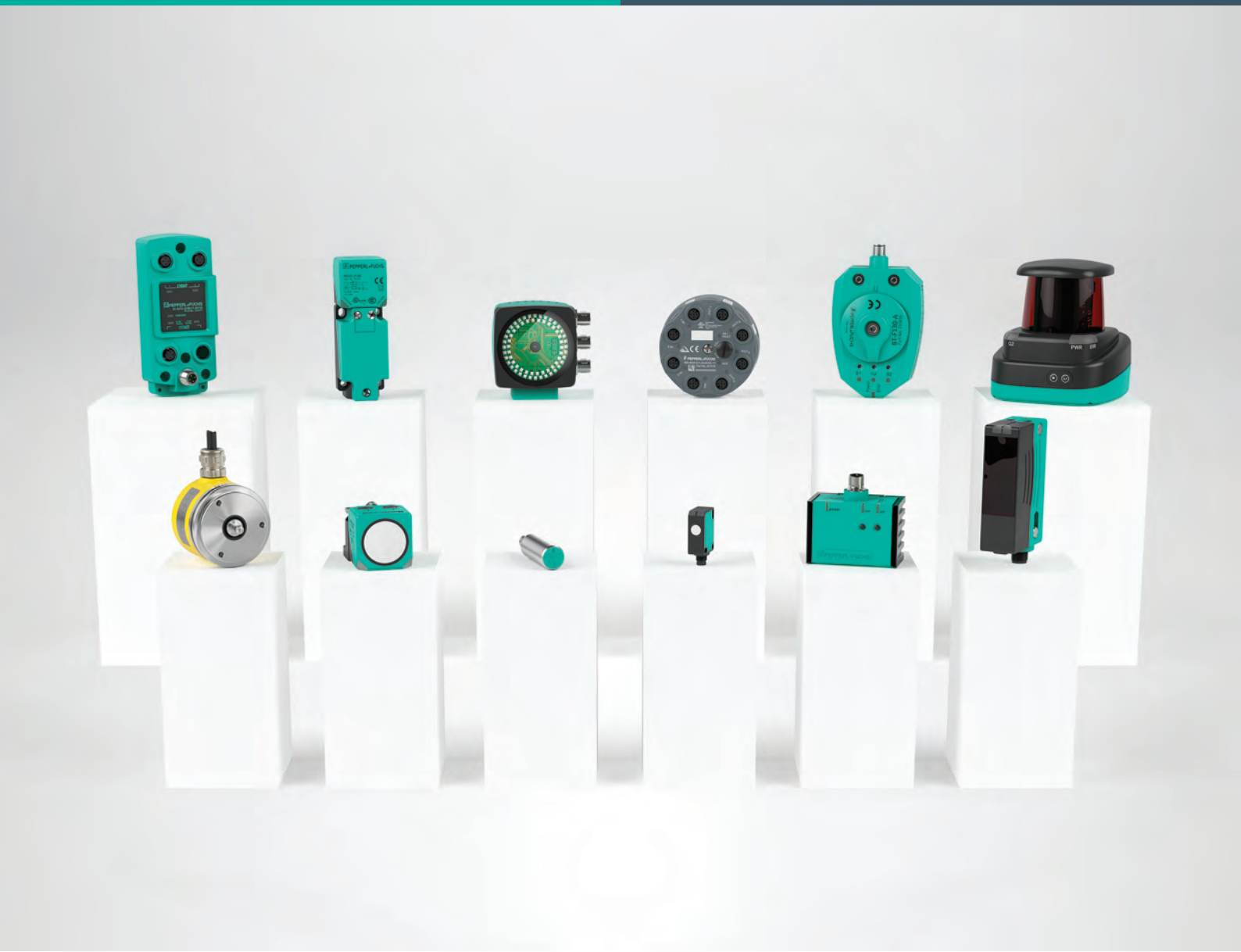
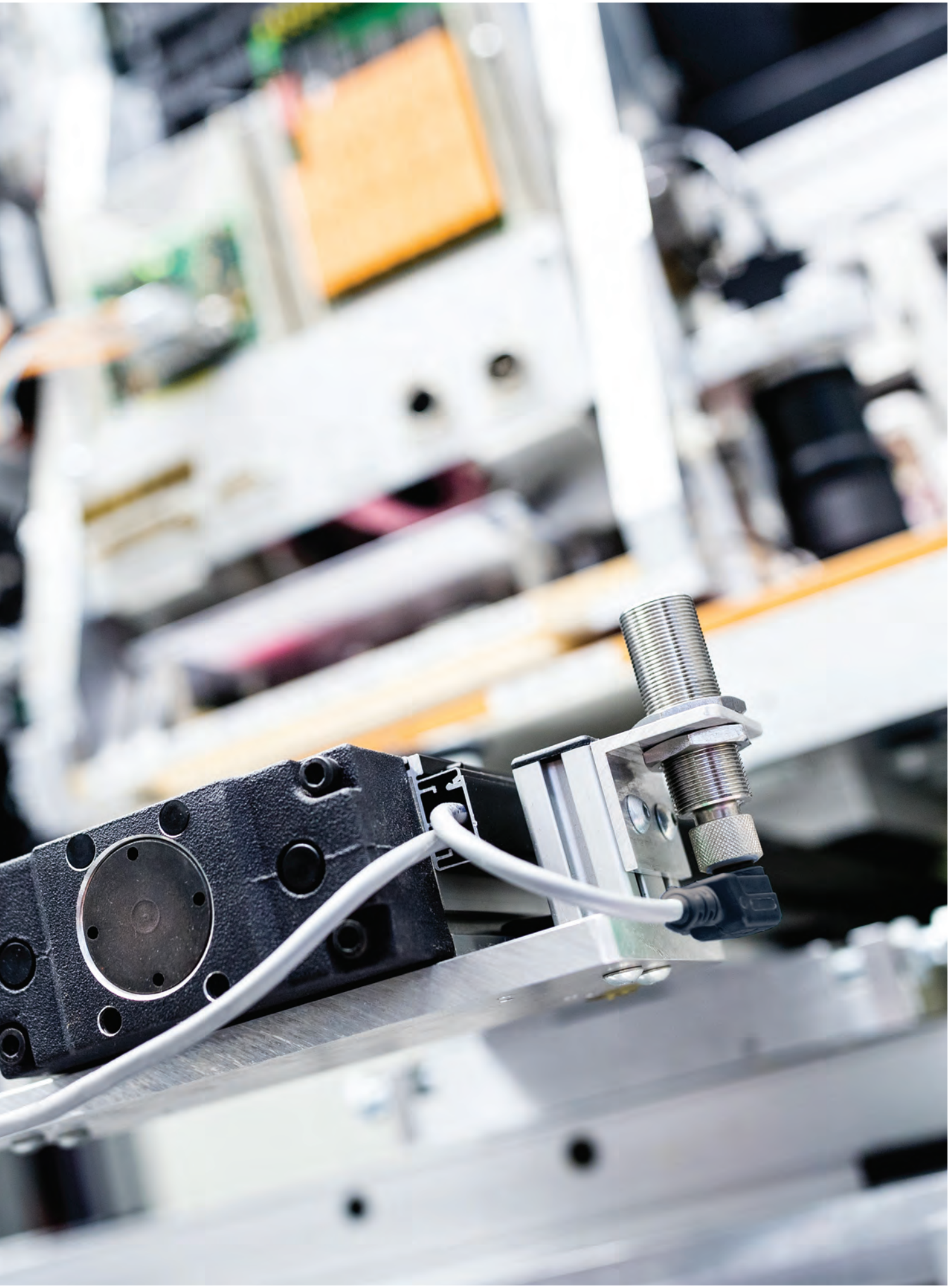


Your automation, our passion.

PEPPERL+FUCHS



Contents

Inductive proximity sensors **8**
Cylindrical inductive proximity sensors 12
Cubic-Style inductive proximity sensors 44
Slotted inductive proximity sensors 70
Ring-shaped inductive proximity sensors 77
Specialized inductive proximity sensors 82

Capacitive proximity sensors **118**
Cylindrical capacitive proximity sensors 120
Cubic-Style capacitive proximity sensors 124

Photoelectric sensors **130**
Light barriers / Diffuse mode sensors 132
Distance sensors 210
Light grid 226
Special photoelectric sensors 232
Sensors for safety applications 258

Ultrasonic sensors **266**
Cylindrical ultrasonic sensors 270
Cubic-Style ultrasonic sensors 280
Ultrasonic sensors for special applications 288

Identification systems **298**
RFID control interfaces and read heads, LF/HF/UHF 300
Stationary optical readers 310
Optical high-temperature identification 316

Image processing **318**

Positioning systems **326**
Inductive positioning systems 328
Optical positioning systems 336

Inclination and acceleration sensors **346**

Rotary encoders **356**
Industry-standard rotary encoders 358
Special rotary encoder 370

AS-Interface **384**

IO-Link master **416**

Fieldbus modules **420**

Connectivity **424**

Innovative Solutions.
Perfect Applications.

As a leader in industrial sensor technology and a pioneer in electrical explosion protection, Pepperl+Fuchs has been developing components and solutions for over 70 years. Above all, our goal is to offer the perfect solutions for our customers' applications. This is only possible with close collaboration. Not only do we share our passion for automation with customers—we also share our in-depth expertise and experience.

Forging ahead with new ideas and finding new approaches is what drives us. This is the foundation for technologically advanced solutions that are tailored to individual applications and geared toward future requirements.

Creating customer-focused solutions to meet today's and tomorrow's challenges is at the center of everything we do. And Industry 4.0 makes this more important than ever. Pepperl+Fuchs is re-envisioning tried and trusted technologies and developing innovations that pave the way for networked production and communication that transcends your company's boundaries. Our innovation—your competitive advantage.

For more information, visit our website:
www.pepperl-fuchs.com

Pepperl+Fuchs—Automation Industry Partner

For over 70 years, Pepperl+Fuchs has relied on the highest quality standards to develop innovative technologies. This is a claim that has made us one of the world's leading manufacturers of industrial sensors, with a portfolio that provides the exact right solution for each application.

Industrial Sensors from Pepperl+Fuchs

5 technology centers for sensor technology, 500 developers, and a range of over 35000 products. These figures represent the level of technological expertise at Pepperl+Fuchs and our constant effort to advance innovative ideas to perfection. After all, high-performance technology is a decisive criterion for success in view of the growing demands of dynamic markets.

Decades of experience across all sectors make Pepperl+Fuchs a globally competent partner for factory automation. The vast range of our portfolio not only offers the exact right sensor for the our customers' various standard applications—our experts also work alongside you to develop individual solutions that are perfectly tailored to each of your specific applications.

Strong Partners in the Pepperl+Fuchs Group Network

VMT GmbH: Innovative Vision Systems
VMT Vision Machine Technic Bildverarbeitungssysteme GmbH has 20 years of experience in the fields of image processing, laser measurement technology, and robot vision control. As one of the leading international systems companies, we offer our customers a broad portfolio of standardized and individually configured image processing solutions. A competence center within the powerful Pepperl+Fuchs Group network, which combines cutting-edge technology with the highest level of investment security.

www.vmt-vision-technology.com

Neoception GmbH: Customized IoT Solutions
On the path to a digital future, Neoception GmbH is the company of choice: Its tailor-made industrial IoT services turn conventional products into networked applications with added value. Secure, highly available infrastructure enables digital applications to be implemented ultra-efficiently and future-proof IoT solutions to be introduced smoothly, so that you too can benefit from securely connected processes.

www.neoception.com

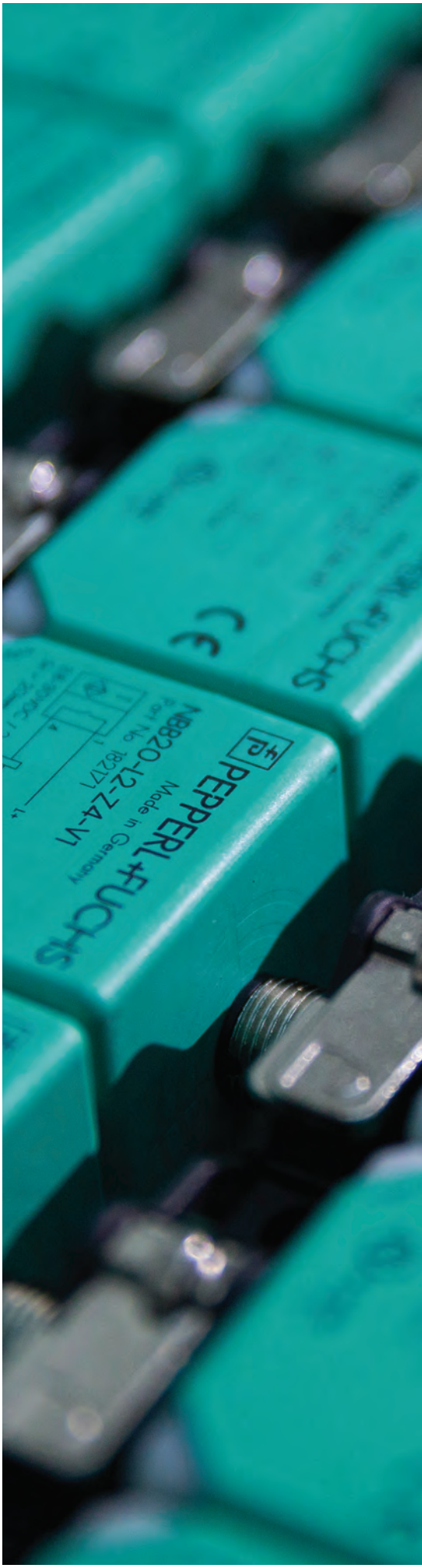
ecom: Solutions for Mobile Security and Communication
With ecom, Pepperl+Fuchs acquired a highly specialized partner that has been firmly established in a number of markets as the global market leader for mobile industrial devices such as mobile phones, smartphones, and tablets for hazardous areas for decades. Mobile security and communications solutions allow customers to digitalize their applications quickly and easily, opening up brand-new possibilities and significantly increasing workflow safety, efficiency, and transparency. Conventional applications are perfectly served, while Industry 4.0 applications are optimally prepared.

www.ecom-ex.com

Proximity Sensors

The Best Sensor Solution, Directly from the Inventor

As the inventor of the proximity sensor, Pepperl+Fuchs has continued to further develop and perfect its noncontact, wear-free technology. Having the most experience in the market and a complete portfolio of inductive, capacitive, and magnetic sensors always enables the best sensor solution for every application.



Highest Commitment to Quality

Reliability, process safety, and the highest quality standards—this is what proximity sensors from Pepperl+Fuchs stand for. As a pioneer in sensor technology, our key objective is to offer our customers the highest standard of quality on the market. Using test criteria far beyond the normative requirements, Pepperl+Fuchs sets standards in terms of performance and durability.

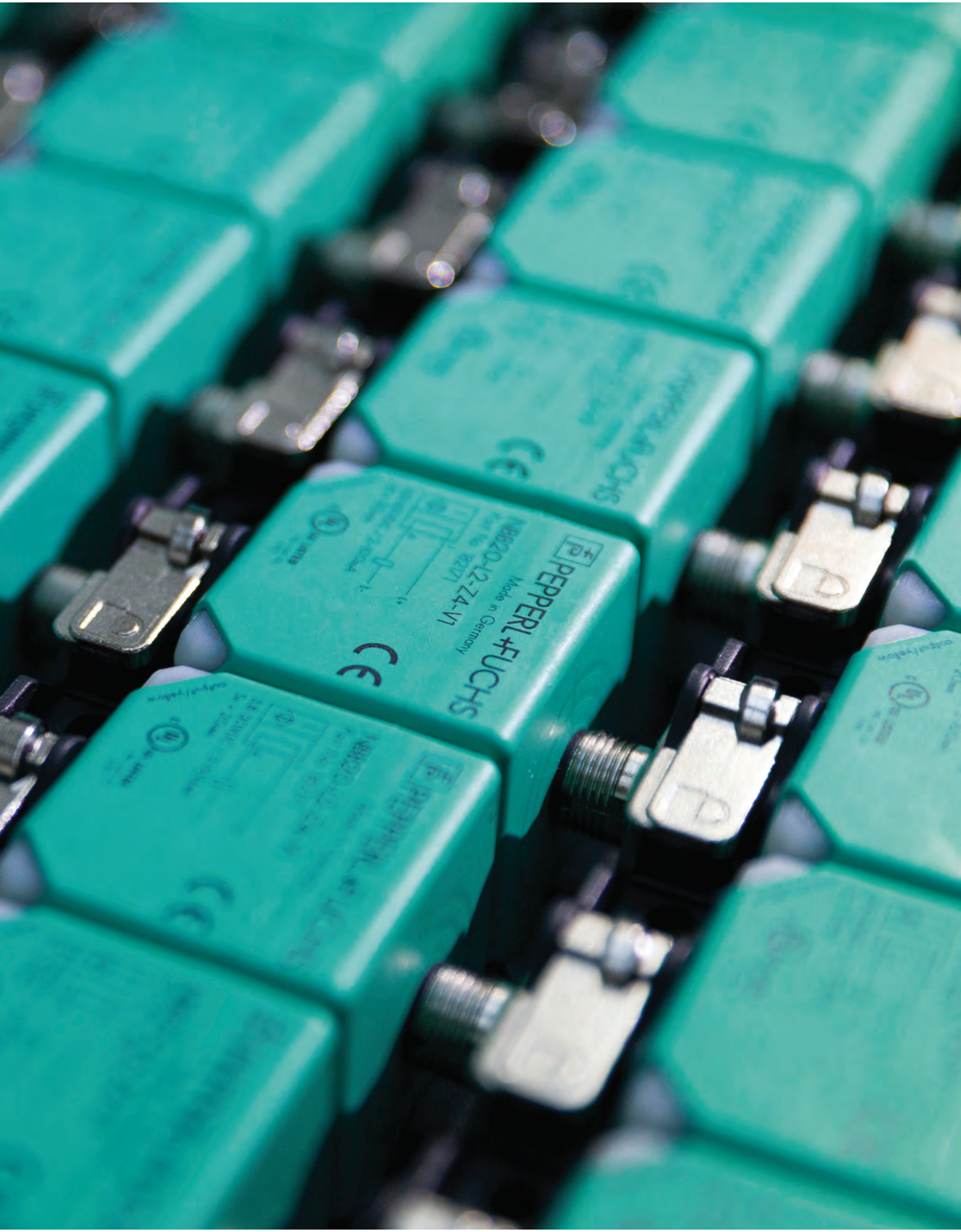
Expert Advice Since 1959

Having invented the proximity sensor in 1959, Pepperl+Fuchs has the most extensive experience on the market. Creating solutions for countless applications and developing a worldwide sales network means our customers benefit from practical consulting expertise combined with the greatest technical expertise. Based on this experience, our focus is constantly on the future. Continuous technological advancement makes sure Pepperl+Fuchs always offers products that are perfectly tailored to the requirements of your applications.

Offering the Optimal Solution Through Customization

Our offering is rounded off by the option to customize your solution: If your perfect sensor is not included in our comprehensive portfolio, our experts will work with you to develop the optimal configuration to suit your needs. This means that Pepperl+Fuchs will always offer the best sensor solution for each and every application.

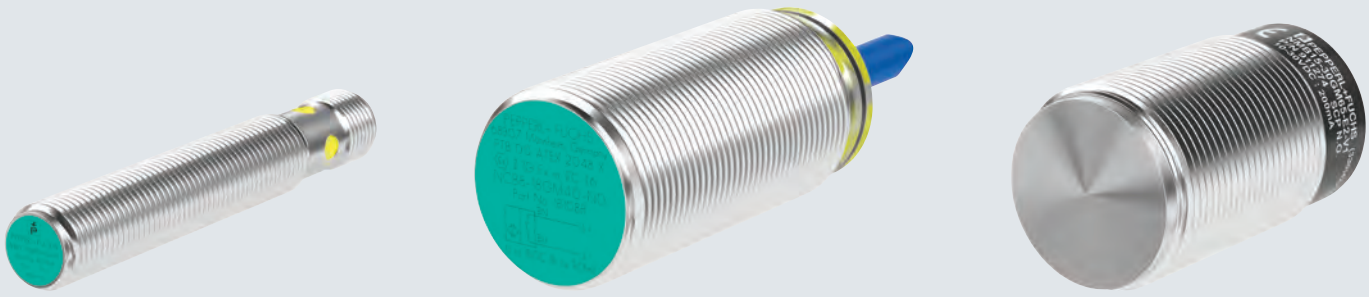
More information is available at:
www.pepperl-fuchs.com/fa-proximity


PEPPERL+FUCHS
Made in Germany

Inductive Proximity Sensors

Complete Portfolio and Customized Solutions

Our comprehensive portfolio of inductive proximity sensors is just as diverse as our customers' applications, offering endless possibilities. Worldwide approvals, various technologies, a wide range of designs, materials, and output signals—our portfolio of over 6000 sensors offers maximum flexibility when it comes to choosing the optimum sensor solution.



Typical Applications

- Wear-free, noncontact detection of metallic objects at a distance of up to 100 mm
- Position detection in machine tools
- Monitoring of safe end positions, e.g. for crane applications
- Position querying for skids and thrust plates in automotive manufacturing

Your Benefits at a Glance

- Reliability and process safety for your application thanks to the highest quality standards in sensor production
- The best sensory solution for every application, every time, thanks to our complete portfolio
- Customization beyond the standard portfolio
- Highest levels of robustness and durability even in harsh industrial environments
- Application-specific consulting at the highest technical level thanks to our extensive experience in the market, and our own developments and products

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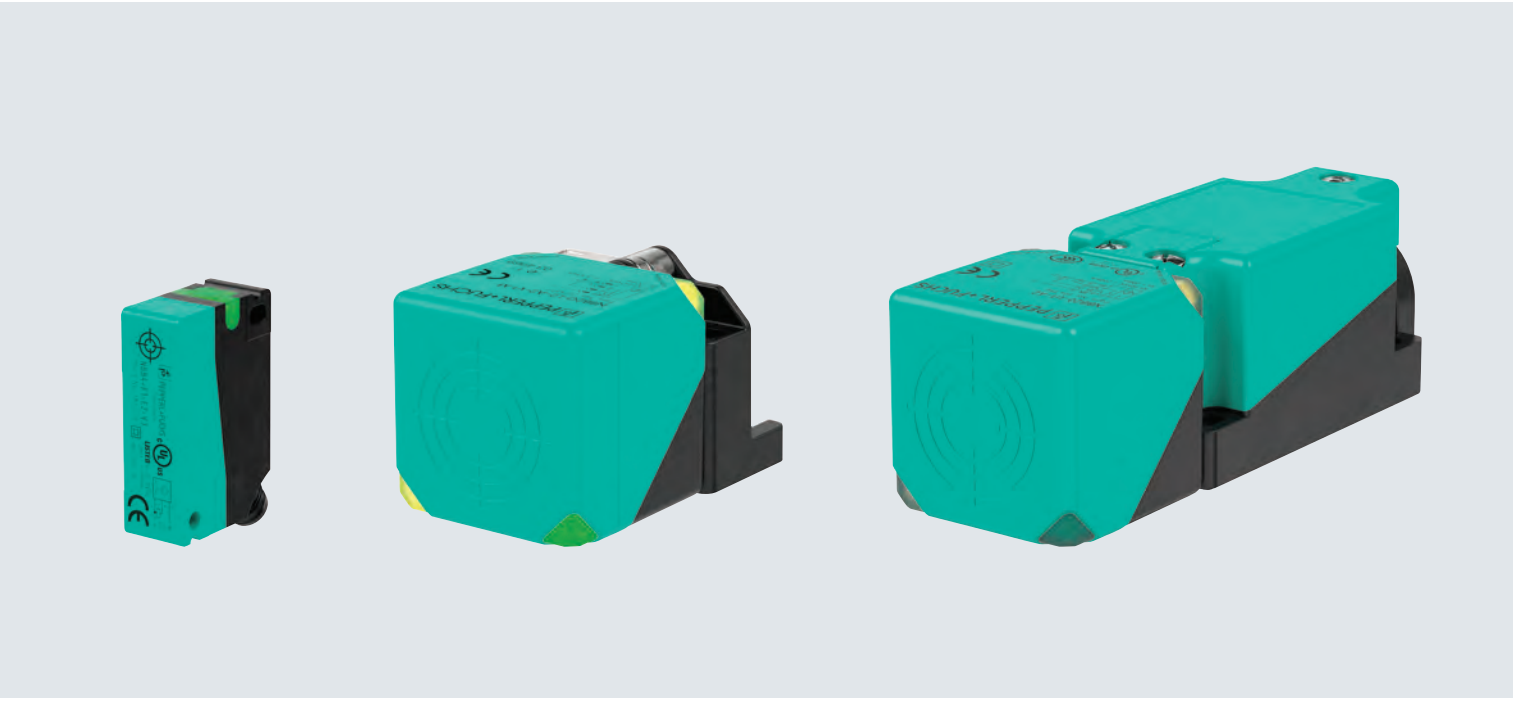
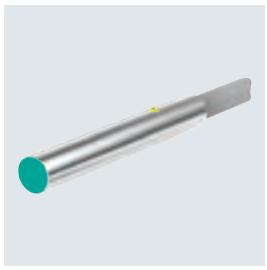


Technical Features

- Wide variety of worldwide approvals, including country and sector-specific approvals (e.g. KOSHA, NEPSI, GL/DNV, UL, CCC, ATEX, IECEx, EAC-Ex, E1, SIL)
- Sensors for all supply voltages (DC, AC, universal current) and output signals (e.g. discrete [two, three, and four-wire], analog, IO-Link, AS-Interface, and NAMUR)
- Wide variety of designs and materials
- Complete range of cable and connector types
- Variety of specialist technologies (e.g. metal face sensors, reduction factor 1)
- Sensing ranges from up to 100 mm

Cylindrical Inductive Proximity Sensors

Contents

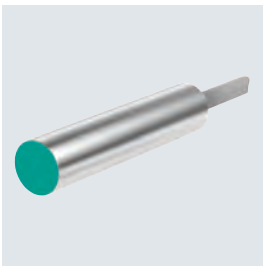


D3 Series
Page 14

D4/M4 Series
Page 15

M5 Series
Page 16

D6.5 Series –
With Plug Connection
Page 17



D6.5 Series –
With Cable
Connection
Page 18

M12 Series –
250 V Version
Page 30

M18 Series –
With Plug Connection
Page 32

M18 Series –
With Cable
Connection
Page 34

M18 Series –
250 V Version
Page 36

M30 Series –
With Plug Connection
Page 38

M8 Series –
With Plug Connection
Page 20

M8 Series – With
Cable Connection
Page 22

M11 Series
Page 24

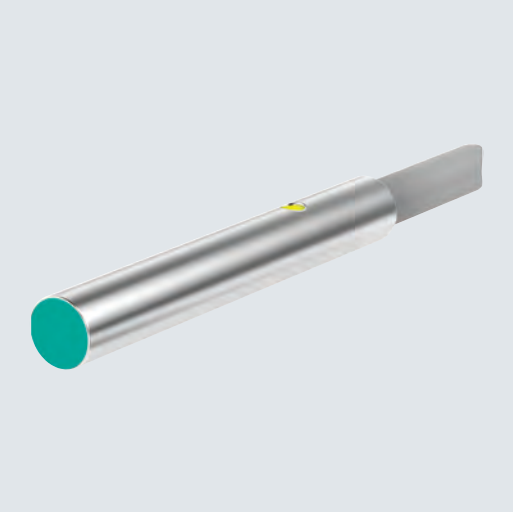
M12 Series –
With Plug Connection
Page 26

M12 Series –
With Cable
Connection
Page 28

M30 Series –
With Cable
Connection
Page 40

M30 Series –
250 V Version
Page 42

D3 Series

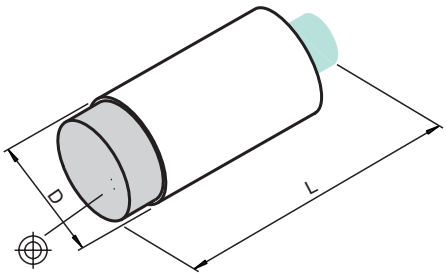


Standard Technical Data	
Type of installation	Flush
Output type	3-wire
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	22 mm
Housing diameter D	3 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material
NBB0,6-3M22-E0	0.6	NPN	Normally-open (NO)	1400	Fixed cable	2000	PUR
NBB0,6-3M22-E0-0,3M-V3	0.6	NPN	Normally-open (NO)	1400	Fixed cable with M8 plug	300	PVC
NBB0,6-3M22-E1	0.6	NPN	Normally-closed (NC)	1300	Fixed cable	2000	PUR
NBB0,6-3M22-E2	0.6	PNP	Normally-open (NO)	1400	Fixed cable	2000	PVC
NBB0,6-3M22-E2-0,3M-V3	0.6	PNP	Normally-open (NO)	1400	Fixed cable with M8 plug	300	PVC
NBB0,6-3M22-E3	0.6	PNP	Normally-closed (NC)	1300	Fixed cable	2000	PUR
NBB1-3M22-E0	1	NPN	Normally-open (NO)	700	Fixed cable	2000	PVC
NBB1-3M22-E0-0,3M-V3	1	NPN	Normally-open (NO)	700	Fixed cable with M8 plug	300	PVC
NBB1-3M22-E2	1	PNP	Normally-open (NO)	700	Fixed cable	2000	PUR
NBB1-3M22-E2-0,3M-V3	1	PNP	Normally-open (NO)	700	Fixed cable with M8 plug	300	PVC

Accessories	
BF 4	Mounting adapter, 4 mm
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable



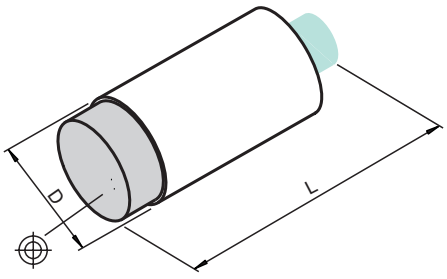
D4/M4 Series

Standard Technical Data	
Type of installation	Flush
Output type	3-wire
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	4 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	CSA	UL
NBB0,6-4GM22-E0	0.6	NPN	Normally-open (NO)	1400	Fixed cable	2000	PUR	22	■	■
NBB0,6-4GM22-E1	0.6	NPN	Normally-closed (NC)	1300	Fixed cable	2000	PUR	22	■	■
NBB0,6-4GM22-E2	0.6	PNP	Normally-open (NO)	1400	Fixed cable	2000	PUR	22	■	■
NBB0,6-4GM22-E2-0,3M-V3	0.6	PNP	Normally-open (NO)	1400	Fixed cable with M8 plug	300	PVC	22	■	■
NBB0,6-4GM22-E3	0.6	PNP	Normally-closed (NC)	1300	Fixed cable	2000	PUR	22	■	■
NBB0,8-4M25-E0	0.8	NPN	Normally-open (NO)	3000	Fixed cable	2000	PVC	25	■	■
NBB0,8-4M25-E0 PUR	0.8	NPN	Normally-open (NO)	3000	Fixed cable	2000	PUR	25	■	■
NBB0,8-4M25-E0-0,3M-V3	0.8	NPN	Normally-open (NO)	3000	Fixed cable with M8 plug	300	PVC	25	■	■
NBB0,8-4M25-E0-V3	0.8	NPN	Normally-open (NO)	3000	M8 connector plug			45	■	■
NBB0,8-4M25-E1	0.8	NPN	Normally-closed (NC)	3000	Fixed cable	2000	PVC	25	■	■
NBB0,8-4M25-E2	0.8	PNP	Normally-open (NO)	3000	Fixed cable	2000	PVC	25	■	■
NBB0,8-4M25-E2-0,3M-V3	0.8	PNP	Normally-open (NO)	3000	Fixed cable with M8 plug	300	PVC	25	■	■
NBB0,8-4M25-E2-V3	0.8	PNP	Normally-open (NO)	3000	M8 connector plug			45	■	■
NBB0,8-4M25-E3	0.8	PNP	Normally-closed (NC)	3000	Fixed cable	2000	PVC	25	■	■
NBB0,8-4S25-E2-0,2M-V3	0.8	PNP	Normally-open (NO)	5000	Fixed cable with M8 plug	200	PVC	25		
NBB1-4GM22-E0	1	NPN	Normally-open (NO)	700	Fixed cable	2000	PUR	22	■	■
NBB1-4GM22-E0-0,3M-V3	1	NPN	Normally-open (NO)	700	Fixed cable with M8 plug	300	PVC	22	■	■
NBB1-4GM22-E2	1	PNP	Normally-open (NO)	700	Fixed cable	2000	PUR	22	■	■
NBB1-4GM22-E2-0,3M-V3	1	PNP	Normally-open (NO)	700	Fixed cable with M8 plug	300	PVC	22	■	■
NBB1,5-4M25-E0-V3	1.5	NPN	Normally-open (NO)	3000	M8 connector plug			38	■	■

Accessories	
BF 4	Mounting adapter, 4 mm
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

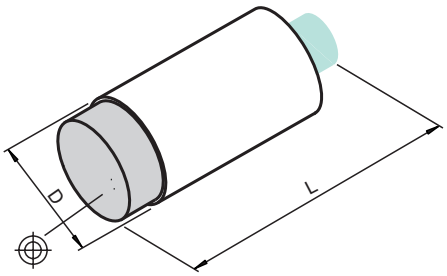


M5 Series

Standard Technical Data	
Type of installation	Flush
Output type	3-wire
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	CSA	EAC	UL
NBB0,8-5GM25-E2	0.8	PNP	Normally-open (NO)	3000	Fixed cable	2000	PVC	25	■	■	■
NBB0,6-5GS20-E2	0.6	PNP	Normally-open (NO)	5000	Fixed cable	140	PUR	25			
NBB0,8-5GM25-E0	0.8	NPN	Normally-open (NO)	3000	Fixed cable	2000	PVC	25	■		■
NBB0,8-5GM25-E0-0,3M-V3	0.8	NPN	Normally-open (NO)	3000	Fixed cable with M8 plug	300	PVC	25	■		■
NBB0,8-5GM25-E0-V3	0.8	NPN	Normally-open (NO)	3000	M8 connector plug			45	■		■
NBB0,8-5GM25-E1	0.8	NPN	Normally-closed (NC)	3000	Fixed cable	2000	PVC	25	■		■
NBB0,8-5GM25-E1-V3	0.8	NPN	Normally-closed (NC)	3000	M8 connector plug			45	■		■
NBB0,8-5GM25-E2-0,3M-V3	0.8	PNP	Normally-open (NO)	3000	Fixed cable with M8 plug	300	PVC	25	■		■
NBB0,8-5GM25-E2-V3	0.8	PNP	Normally-open (NO)	3000	M8 connector plug			45	■		■
NBB0,8-5GM25-E3	0.8	PNP	Normally-closed (NC)	3000	Fixed cable	2000	PVC	25	■		■
NBB1,5-5GM25-E2	1.5	PNP	Normally-open (NO)	3000	Fixed cable	2000	PVC	25	■		■
NBB1,5-5GM25-E2-V3	1.5	PNP	Normally-open (NO)	3000	M8 connector plug			38	■		■
NBB1,5-5GM25-E3-V3	1.5	PNP	Normally-closed (NC)	3000	M8 connector plug			38	■		■



Accessories	
BF 5	Mounting adapter, 5 mm
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

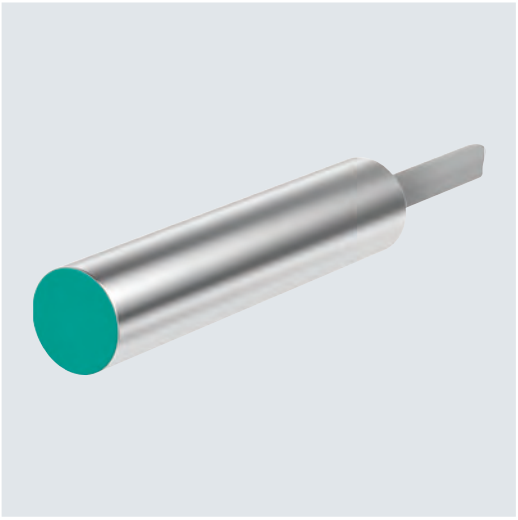
D6.5 Series – With Plug Connection

Standard Technical Data	
Special features	Extended temperature range
Output type	3-wire
Voltage type	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Housing diameter D	6.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L
NBB2-6,5M25-E0-V3	Flush	2	NPN	Normally-open (NO)	6000	M8 connector plug			35
NBB2-6,5M25-E1-V3	Flush	2	NPN	Normally-closed (NC)	6000	M8 connector plug			35
NBB2-6,5M25-E2-V3	Flush	2	PNP	Normally-open (NO)	6000	M8 connector plug			35
NBB2-6,5M25-E3-V3	Flush	2	PNP	Normally-closed (NC)	6000	M8 connector plug			35
NBB2-6,5M30-E0-0,15M-PUR-V3	Flush	2	NPN	Normally-open (NO)	6000	Fixed cable with M8 plug	150	PUR	30
NBB2-6,5M30-E2-0,15M-PUR-V3	Flush	2	PNP	Normally-open (NO)	6000	Fixed cable with M8 plug	150	PUR	30
NBB2-6,5S16-E2-0,3M-V3	Flush	2	PNP	Normally-open (NO)	6000	Fixed cable with M8 plug	300	PVC	16
NBB2-6,5S20-E2-V3	Flush	2	PNP	Normally-open (NO)	6000	M8 connector plug			30
NBB2-6,5S20-E3-V3	Flush	2	PNP	Normally-closed (NC)	6000	M8 connector plug			30
NBB2-6,5S35-E0-V3	Flush	2	NPN	Normally-open (NO)	6000	M8 connector plug			45
NBB2-6,5S35-E1-V3	Flush	2	NPN	Normally-closed (NC)	6000	M8 connector plug			45
NBB2-6,5S35-E2-0,3M-V3	Flush	2	PNP	Normally-open (NO)	6000	Fixed cable with M8 plug	300	PVC	35
NBB2-6,5S35-E2-V3	Flush	2	PNP	Normally-open (NO)	6000	M8 connector plug			45
NBB2-6,5S35-E3-V3	Flush	2	PNP	Normally-closed (NC)	6000	M8 connector plug			45
NBN3-6,5M25-E0-V3	Non-flush	3	NPN	Normally-open (NO)	4500	M8 connector plug			35
NBN3-6,5M25-E1-V3	Non-flush	3	NPN	Normally-closed (NC)	4500	M8 connector plug			35
NBN3-6,5M25-E2-V3	Non-flush	3	PNP	Normally-open (NO)	4500	M8 connector plug			35
NBN3-6,5M30-E0-0,3M-V3	Non-flush	3	NPN	Normally-open (NO)	4500	Fixed cable with M8 plug	300	PVC	30
NEB3-6,5M40-E0-V1	Semi-flush	3	NPN	Normally-open (NO)	3500	M12 connector plug			65
NEB3-6,5M40-E1-V1	Semi-flush	3	NPN	Normally-closed (NC)	3500	M12 connector plug			65
NEB3-6,5M40-E2-V1	Semi-flush	3	PNP	Normally-open (NO)	3500	M12 connector plug			65
NEB3-6,5M40-E3-V1	Semi-flush	3	PNP	Normally-closed (NC)	3500	M12 connector plug			65
NEB3-6,5M45-E0-V3	Semi-flush	3	NPN	Normally-open (NO)	3500	M8 connector plug			55
NEB3-6,5M45-E1-V3	Semi-flush	3	NPN	Normally-closed (NC)	3500	M8 connector plug			55
NEB3-6,5M45-E2-V3	Semi-flush	3	PNP	Normally-open (NO)	3500	M8 connector plug			55
NEB3-6,5M45-E3-V3	Semi-flush	3	PNP	Normally-closed (NC)	3500	M8 connector plug			55
NEN6-6,5M40-E0-V1	Non-flush	6	NPN	Normally-open (NO)	1500	M12 connector plug			65
NEN6-6,5M40-E1-V1	Non-flush	6	NPN	Normally-closed (NC)	1500	M12 connector plug			65
NEN6-6,5M40-E2-V1	Non-flush	6	PNP	Normally-open (NO)	1500	M12 connector plug			65
NEN6-6,5M40-E3-V1	Non-flush	6	PNP	Normally-closed (NC)	1500	M12 connector plug			65
NEN6-6,5M45-E0-V3	Non-flush	6	NPN	Normally-open (NO)	1500	M8 connector plug			55
NEN6-6,5M45-E1-V3	Non-flush	6	NPN	Normally-closed (NC)	1500	M8 connector plug			55
NEN6-6,5M45-E2-V3	Non-flush	6	PNP	Normally-open (NO)	1500	M8 connector plug			55
NEN6-6,5M45-E3-V3	Non-flush	6	PNP	Normally-closed (NC)	1500	M8 connector plug			55

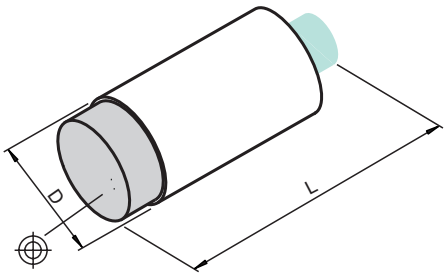
D6.5 Series – With Cable Connection



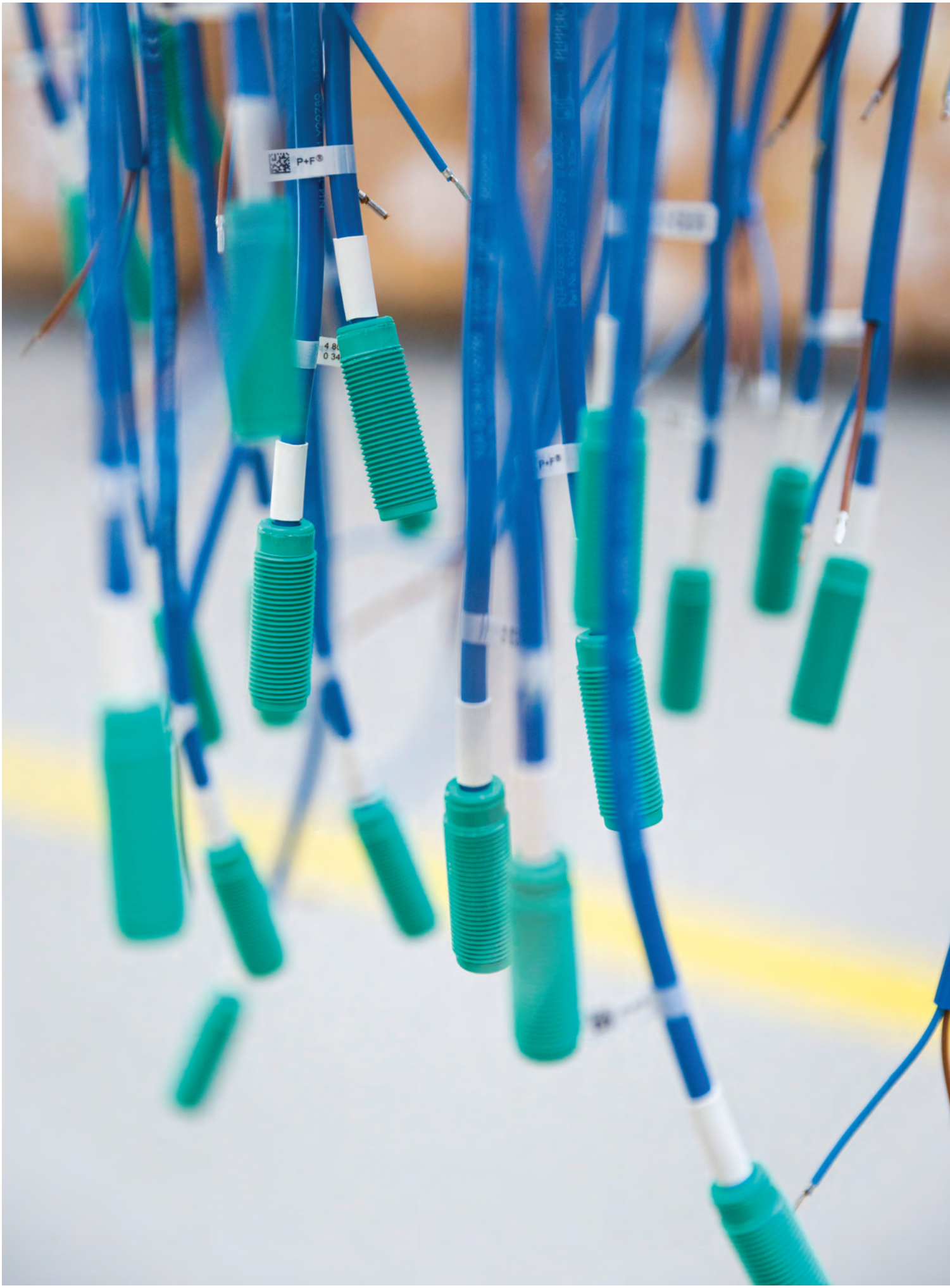
Standard Technical Data	
Special features	Extended temperature range
Output type	3-wire
Voltage type	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing diameter D	6.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Cable length [mm]	Cable material	Length L
NBB2-6,5M30-E0	Flush	2	NPN	Normally-open (NO)	6000	2000	PVC	30
NBB2-6,5M30-E2	Flush	2	PNP	Normally-open (NO)	6000	2000	PVC	30
NBB2-6,5M30M-E2-5M	Flush	2	PNP	Normally-open (NO)	6000	5000	PVC	30
NBB2-6,5S16-E0	Flush	2	NPN	Normally-open (NO)	6000	2000	PVC	16
NBB2-6,5S16-E2	Flush	2	PNP	Normally-open (NO)	6000	2000	PVC	16
NBB2-6,5S16-E3	Flush	2	PNP	Normally-closed (NC)	6000	2000	PVC	16
NBB2-6,5S35-E0-PUR	Flush	2	NPN	Normally-open (NO)	6000	2000	PUR	35
NBB2-6,5S35-E2-PUR	Flush	2	PNP	Normally-open (NO)	6000	2000	PUR	35
NBB2-6,5S40-E0-PUR	Flush	2	NPN	Normally-open (NO)	6000	2000	PUR	40
NBB2-6,5S40-E2-5M-PUR	Flush	2	PNP	Normally-open (NO)	6000	5000	PUR	40
NBB2-6,5S40-E2-PUR	Flush	2	PNP	Normally-open (NO)	6000	2000	PUR	40
NBB2-6,5S40-E3-PUR	Flush	2	PNP	Normally-closed (NC)	6000	2000	PUR	40
NBB2-6,5S50-E0-PUR	Flush	2	NPN	Normally-open (NO)	6000	2000	PUR	50
NBB2-6,5S50-E2-PUR	Flush	2	PNP	Normally-open (NO)	6000	2000	PUR	50
NBN3-6,5M30-E0	Non-flush	3	NPN	Normally-open (NO)	4500	2000	PVC	30
NBN3-6,5M30-E2	Non-flush	3	PNP	Normally-open (NO)	4500	2000	PVC	30
NBN3-6,5S40-E0-PUR	Non-flush	3	NPN	Normally-open (NO)	4500	2000	PUR	40
NBN3-6,5S40-E2-PUR	Non-flush	3	PNP	Normally-open (NO)	4500	2000	PUR	40
NEB3-6,5M40-E0-PUR	Semi-flush	3	NPN	Normally-open (NO)	3500	2000	PUR	40
NEB3-6,5M40-E1-PUR	Semi-flush	3	NPN	Normally-closed (NC)	3500	2000	PUR	40
NEB3-6,5M40-E2-PUR	Semi-flush	3	PNP	Normally-open (NO)	3500	2000	PUR	40
NEB3-6,5M40-E3-PUR	Semi-flush	3	PNP	Normally-closed (NC)	3500	2000	PUR	40
NEN6-6,5M40-E0-PUR	Non-flush	6	NPN	Normally-open (NO)	1500	2000	PUR	40
NEN6-6,5M40-E1-PUR	Non-flush	6	NPN	Normally-closed (NC)	1500	2000	PUR	40
NEN6-6,5M40-E2-PUR	Non-flush	6	PNP	Normally-open (NO)	1500	2000	PUR	40
NEN6-6,5M40-E3-PUR	Non-flush	6	PNP	Normally-closed (NC)	1500	2000	PUR	40



Accessories	
BF 6.5	Mounting adapter, 6.5 mm


P+F®

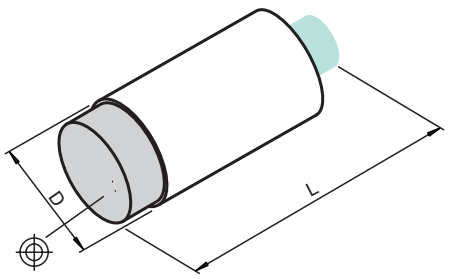
M8 Series – With Plug Connection

Standard Technical Data	
Voltage type	DC
Housing diameter D	8 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

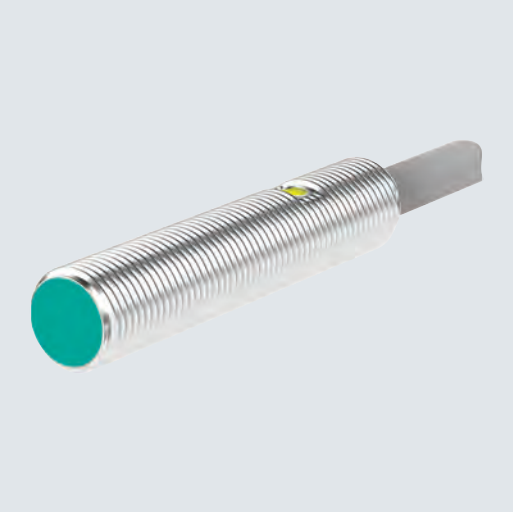
Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Length L	CCC	CSA	UL
NCB1,5-8GM50-Z0-V3	Flush	1.5	2-wire	2-wire	Normally-open (NO)	1200	5	60	M8 connector plug		50	■	■	■
NCB1,5-8GM50-Z1-V3	Flush	1.5	2-wire	2-wire	Normally-closed (NC)	1200	5	60	M8 connector plug		50	■	■	■
NBB1,5-8GM50-Z3-V3	Flush	1.5	2-wire	2-wire	Normally-open (NO)	1200	5	60	M8 connector plug		48	■	■	■
NBB2-8GH20-E0-V3	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	M8 connector plug		30		■	■
NBB2-8GH20-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	M8 connector plug		30		■	■
NBB2-8GH25-E0-V3	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	M8 connector plug		35		■	■
NBB2-8GH25-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	M8 connector plug		35		■	■
NBB2-8GH40-E0-V3	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	M8 connector plug		50		■	■
NBB2-8GH40-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	M8 connector plug		50		■	■
NBB2-8GM25-E0-V3	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	M8 connector plug		40			■
NBB2-8GM25-E1-V3	Flush	2	3-wire	NPN	Normally-closed (NC)	6000	5	30	M8 connector plug		40			■
NBB2-8GM25-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M8 connector plug		40			■
NBB2-8GM25-E3-V3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M8 connector plug		40			■
NBB2-8GM30-A0-V1	Flush	2	4-wire	NPN	Complementary	6000	5	30	M12 connector plug		55			■
NBB2-8GM30-A2-V1	Flush	2	4-wire	PNP	Complementary	6000	5	30	M12 connector plug		55			■
NBB2-8GM30-E0-V1	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	M12 connector plug		55			■
NBB2-8GM30-E2-0,2M-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M8 plug	200	30			■
NBB2-8GM30-E2-0,3M-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M8 plug	300	30			■
NBB2-8GM30-E2-0,5M-PUR-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M12 plug	500	30			■
NBB2-8GM30-E2-0,5M-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M12 plug	500	30			■
NBB2-8GM30-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M12 connector plug		55			■
NBB2-8GM40-A0-V1	Flush	2	4-wire	NPN	Complementary	6000	5	30	M12 connector plug		65			■
NBB2-8GM40-A2-V1	Flush	2	4-wire	PNP	Complementary	6000	5	30	M12 connector plug		65			■
NBB2-8GM40-E0-V1	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	M12 connector plug		65			■
NBB2-8GM40-E0-V3	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	M8 connector plug		55			■
NBB2-8GM40-E2-0,2M-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M12 plug	200	40			■
NBB2-8GM40-E2-0,3M-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	Fixed cable with M8 plug	300	40			■
NBB2-8GM40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M12 connector plug		65			■
NBB2-8GM40-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M8 connector plug		55			■
NBB2-8GM40-E3-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M12 connector plug		65			■
NBB2-8GM40-E3-V3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M8 connector plug		55			■
NBB2-8GS35-E0-V1	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	M12 connector plug		60			■
NBB2-8GS35-E1-V3	Flush	2	3-wire	NPN	Normally-closed (NC)	6000	5	30	M8 connector plug		50			■
NBB2-8GS35-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M12 connector plug		60			■
NBB2-8GS35-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M8 connector plug		50			■
NBB2-8GS35-E3-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M12 connector plug		60			■
NBB2-8GS35-E3-V3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M8 connector plug		50			■
NBB2-8GS40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M12 connector plug		65			■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Length L	CCC	CSA	UL
NBB2-8GS40-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	M8 connector plug		55			■
NBB2-8GS40-E3-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	M12 connector plug		65			■
NCN2-8GM50-Z0-V3	Non-flush	2	2-wire	2-wire	Normally-open (NO)	1200	5	60	M8 connector plug		40	■	■	■
NCN2-8GM50-Z1-V3	Non-flush	2	2-wire	2-wire	Normally-closed (NC)	1200	5	60	M8 connector plug		40	■	■	■
NXB2-8GM25-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	M8 connector plug		40			
NEB3-8GM40-E0-V1	Flush	3	3-wire	NPN	Normally-open (NO)	3500	5	30	M12 connector plug		65			■
NEB3-8GM40-E0-V3	Flush	3	3-wire	NPN	Normally-open (NO)	3500	5	30	M8 connector plug		55			■
NEB3-8GM40-E1-V1	Flush	3	3-wire	NPN	Normally-closed (NC)	3500	5	30	M12 connector plug		65			■
NEB3-8GM40-E1-V3	Flush	3	3-wire	NPN	Normally-closed (NC)	3500	5	30	M8 connector plug		55			■
NEB3-8GM40-E2-V1	Flush	3	3-wire	PNP	Normally-open (NO)	3500	5	30	M12 connector plug		65			■
NEB3-8GM40-E2-V3	Flush	3	3-wire	PNP	Normally-open (NO)	3500	5	30	M8 connector plug		55			■
NEB3-8GM40-E3-V1	Flush	3	3-wire	PNP	Normally-closed (NC)	3500	5	30	M12 connector plug		65			■
NEB3-8GM40-E3-V3	Flush	3	3-wire	PNP	Normally-closed (NC)	3500	5	30	M8 connector plug		55			■
NEB4-8GM50-E2-V3	Semi-flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	M8 connector plug		45.5		■	■
NBN2-8GM50-Z1-V3	Non-flush	2	2-wire	2-wire	Normally-closed (NC)	1200	5	60	M8 connector plug		48	■	■	■
NBN2-8GM50-Z3-V3	Non-flush	2	2-wire	2-wire	Normally-open (NO)	1200	5	60	M8 connector plug		48	■	■	■
NBN3-8GM25-E0-V3	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	M8 connector plug		40			■
NBN3-8GM25-E1-V3	Non-flush	3	3-wire	NPN	Normally-closed (NC)	4500	5	30	M8 connector plug		40			■
NBN3-8GM25-E2-V3	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M8 connector plug		40			■
NBN3-8GM25-E3-V3	Non-flush	3	3-wire	PNP	Normally-closed (NC)	4500	5	30	M8 connector plug		40			■
NBN3-8GM30-E0-V1	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	M12 connector plug		55			■
NBN3-8GM30-E2-V1	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M12 connector plug		55			■
NBN3-8GM40-A0-V1	Non-flush	3	4-wire	NPN	Complementary	4500	5	30	M12 connector plug		65			■
NBN3-8GM40-A2-V1	Non-flush	3	4-wire	PNP	Complementary	4500	5	30	M12 connector plug		65			■
NBN3-8GM40-E0-V1	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	M12 connector plug		65			■
NBN3-8GM40-E2-V1	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M12 connector plug		65			■
NBN3-8GM40-E2-V3	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M8 connector plug		55			■
NBN3-8GS35-E0-V3	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	M8 connector plug		50			■
NBN3-8GS35-E1-V3	Non-flush	3	3-wire	NPN	Normally-closed (NC)	4500	5	30	M8 connector plug		50			■
NBN3-8GS35-E2-V1	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M12 connector plug		60			■
NBN3-8GS35-E2-V3	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	M8 connector plug		50			■
NBN3-8GS35-E3-V3	Non-flush	3	3-wire	PNP	Normally-closed (NC)	4500	5	30	M8 connector plug		50			■
NXN3-8GM25-E2-V3	Non-flush	3	3-wire	PNP	Normally-open (NO)	1000	10	30	M8 connector plug		40			
NEN6-8GM40-E0-V1	Non-flush	6	3-wire	NPN	Normally-open (NO)	1500	5	30	M12 connector plug		65			■
NEN6-8GM40-E0-V3	Non-flush	6	3-wire	NPN	Normally-open (NO)	1500	5	30	M8 connector plug		55			■
NEN6-8GM40-E1-V1	Non-flush	6	3-wire	NPN	Normally-closed (NC)	1500	5	30	M12 connector plug		65			■
NEN6-8GM40-E1-V3	Non-flush	6	3-wire	NPN	Normally-closed (NC)	1500	5	30	M8 connector plug		55			■
NEN6-8GM40-E2-V1	Non-flush	6	3-wire	PNP	Normally-open (NO)	1500	5	30	M12 connector plug		65			■
NEN6-8GM40-E2-V3	Non-flush	6	3-wire	PNP	Normally-open (NO)	1500	5	30	M8 connector plug		55			■
NEN6-8GM40-E3-V1	Non-flush	6	3-wire	PNP	Normally-closed (NC)	1500	5	30	M12 connector plug		65			■
NEN6-8GM40-E3-V3	Non-flush	6	3-wire	PNP	Normally-closed (NC)	1500	5	30	M8 connector plug		55			■



Accessories	
BF 8	Mounting adapter, 8 mm
EXG-08	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WMV4A-5M-PUR	Single-ended female cordset, M8, stainless steel V4A, 3-pin, PUR cable

M8 Series – With Cable Connection



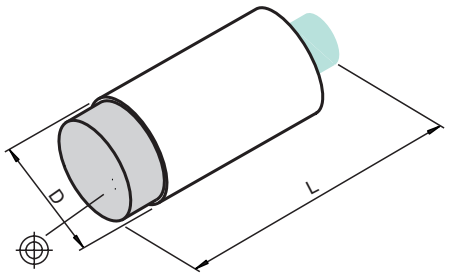
Standard Technical Data	
Voltage type	DC
Connection type	Fixed cable
Housing diameter D	8 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBB1,5-8GM40-Z0	Flush	1.5	2-wire	2-wire	Normally-open (NO)	1200	5	60	2000	PVC	40	■	■	■
NBB1,5-8GM40-Z1	Flush	1.5	2-wire	2-wire	Normally-closed (NC)	1200	5	60	2000	PVC	40	■	■	■
NCB1,5-8GM40-Z0	Flush	1.5	2-wire	2-wire	Normally-open (NO)	1200	5	60	2000	PUR	40	■	■	■
NCB1,5-8GM40-Z1	Flush	1.5	2-wire	2-wire	Normally-closed (NC)	1200	5	60	2000	PUR	40	■	■	■
NBB2-8GM30-E0	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PVC	30			■
NBB2-8GM30-E0-5M-PUR	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	5000	PUR	30			■
NBB2-8GM30-E2	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PVC	30			■
NBB2-8GM30-E2-10M	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	10000	PVC	30			■
NBB2-8GM30-E2-5M	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PVC	30			■
NBB2-8GM30-E2-5M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PUR	30			■
NBB2-8GM30-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PVC	30			■
NBB2-8GM30-E3-10M	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	10000	PVC	30			■
NBB2-8GM30-E3-5M	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	5000	PVC	30			■
NBB2-8GM35-E2-3M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	3000	PUR	35			■
NBB2-8GM40-E2	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PVC	40			■
NBB2-8GM40-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PVC	40			■
NBB2-8GM50-A0	Flush	2	3-wire	NPN	Complementary	6000	5	30	2000	PVC	50			■
NBB2-8GM50-A2	Flush	2	3-wire	PNP	Complementary	6000	5	30	2000	PVC	50			■
NBB2-8GM50-A2-5M	Flush	2	3-wire	PNP	Complementary	6000	5	30	5000	PVC	50			■
NBB2-8GM50-E0	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PVC	50			■
NBB2-8GM50-E0-5M	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	5000	PVC	50			■
NBB2-8GM50-E2	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PVC	50			■
NBB2-8GM50-E2-3M	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	3000	PVC	50			■
NBB2-8GM50-E2-5M	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PVC	50			■
NBB2-8GM50-E2-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PUR	50			■
NBB2-8GS16-E0	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PVC	16			■
NBB2-8GS16-E2	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PVC	16			■
NBB2-8GS16-E2-3M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	3000	PUR	16			■
NBB2-8GS16-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PVC	16			■
NBB2-8GS30-E3-3M-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	3000	PUR	30			■
NBB2-8GS35-E0-PUR	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PUR	35			■
NBB2-8GS35-E1-PUR	Flush	2	3-wire	NPN	Normally-closed (NC)	6000	5	30	2000	PUR	35			■
NBB2-8GS35-E2-5M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PUR	35			■
NBB2-8GS35-E2-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PUR	35			■
NBB2-8GS35-E3-8M-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	8000	PUR	35			■
NBB2-8GS35-E3-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PUR	35			■
NBB2-8GS40-E0-5M-PUR	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	5000	PUR	40			■
NBB2-8GS40-E0-PUR	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PUR	40			■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBB2-8GS40-E2-5M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PUR	40			■
NBB2-8GS40-E2-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PUR	40			■
NBB2-8GS40-E3-10M-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	10000	PUR	40			■
NBB2-8GS40-E3-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PUR	40			■
NBB2-8GS50-E0-PUR	Flush	2	3-wire	NPN	Normally-open (NO)	6000	5	30	2000	PUR	50			■
NBB2-8GS50-E2	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PVC	50			■
NBB2-8GS50-E2-0,6M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	600	PUR	50			■
NBB2-8GS50-E2-3,5M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PUR	50			■
NBB2-8GS50-E2-5M-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	5000	PUR	50			■
NBB2-8GS50-E2-PUR	Flush	2	3-wire	PNP	Normally-open (NO)	6000	5	30	2000	PUR	50			■
NBB2-8GS50-E3-PUR	Flush	2	3-wire	PNP	Normally-closed (NC)	6000	5	30	2000	PUR	50			■
NXB2-8GM30-E2	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	30			
NEB3-8GM40-E0-PUR	Flush	3	3-wire	NPN	Normally-open (NO)	3500	5	30	2000	PUR	40			■
NEB3-8GM40-E1-PUR	Flush	3	3-wire	NPN	Normally-closed (NC)	3500	5	30	2000	PUR	40			■
NEB3-8GM40-E2-PUR	Flush	3	3-wire	PNP	Normally-open (NO)	3500	5	30	2000	PUR	40			■
NEB3-8GM40-E3-PUR	Flush	3	3-wire	PNP	Normally-closed (NC)	3500	5	30	2000	PUR	40			■
NEB4-8GM45-E2	Semi-flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PUR	45		■	■
NCN2-8GM40-Z0	Non-flush	2	2-wire	2-wire	Normally-open (NO)	1200	5	60	2000	PUR	40	■	■	■
NCN2-8GM40-Z1	Non-flush	2	2-wire	2-wire	Normally-closed (NC)	1200	5	60	2000	PUR	40	■	■	■
NBN2-8GM40-Z1	Non-flush	2	2-wire	2-wire	Normally-closed (NC)	1200	5	60	2000	PVC	40	■	■	■
NBN3-8GM30-E0	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	2000	PVC	30			■
NBN3-8GM30-E2	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	2000	PVC	30			■
NBN3-8GM30-E2-5M	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	5000	PVC	30			■
NBN3-8GM30-E3	Non-flush	3	3-wire	PNP	Normally-closed (NC)	4500	5	30	2000	PVC	30			■
NBN3-8GM50-A0	Non-flush	3	3-wire	NPN	Complementary	4500	5	30	2000	PVC	50			■
NBN3-8GM50-A2	Non-flush	3	3-wire	PNP	Complementary	4500	5	30	2000	PVC	50			■
NBN3-8GM50-E0	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	2000	PVC	50			■
NBN3-8GM50-E2	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	2000	PVC	50			■
NBN3-8GS35-E1-PUR	Non-flush	3	3-wire	NPN	Normally-closed (NC)	4500	5	30	2000	PUR	35			■
NBN3-8GS35-E2-5M-PUR	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	5000	PUR	35			■
NBN3-8GS40-E0-PUR	Non-flush	3	3-wire	NPN	Normally-open (NO)	4500	5	30	2000	PUR	40			■
NBN3-8GS40-E2-10M-PUR	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	10000	PUR	40			■
NBN3-8GS40-E2-PUR	Non-flush	3	3-wire	PNP	Normally-open (NO)	4500	5	30	2000	PUR	40			■
NBN3-8GS40-E3-PUR	Non-flush	3	3-wire	PNP	Normally-closed (NC)	4500	5	30	2000	PUR	40			■
NXN3-8GM30-E2	Non-flush	3	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	30			
NEN6-8GM40-E0-PUR	Non-flush	6	3-wire	NPN	Normally-open (NO)	1500	5	30	2000	PUR	40			■
NEN6-8GM40-E1-PUR	Non-flush	6	3-wire	NPN	Normally-closed (NC)	1500	5	30	2000	PUR	40			■
NEN6-8GM40-E2-PUR	Non-flush	6	3-wire	PNP	Normally-open (NO)	1500	5	30	2000	PUR	40			■
NEN6-8GM40-E3-PUR	Non-flush	6	3-wire	PNP	Normally-closed (NC)	1500	5	30	2000	PUR	40			■

Accessories	
BF 8	Mounting adapter, 8 mm
EXG-08	Quick-mounting bracket with fixed stop



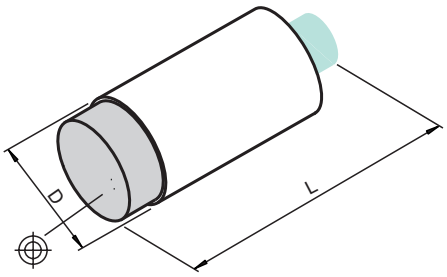
M11 Series

Standard Technical Data	
Output type	2-wire
Output type	NAMUR
Switching function	Normally-closed (NC)
Voltage type	DC
Switching frequency	3000 Hz
Operating voltage (min)	8.2 V
Operating voltage (max)	8.2 V
Connection type	Fixed cable
Cable material	PVC
ATEX	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	SIL	Cable length [mm]	Length L	Diameter D	EAC	FM
NJ2-11-N	Flush	2	2	2000	31	11		■
NJ2-11-N-G	Flush	2	2	2000	30	14	■	■
NJ2-11-N-G-5M	Flush	2	2	5000	30	14	■	■
NJ2-11-N-G-10M	Flush	2		10000	30	14	■	
NJ5-11-N-G	Non-flush	5	2	2000	31	14	■	
NJ5-11-N-G-5M	Non-flush	5	2	5000	31	14	■	
NJ5-11-N-G-10M	Non-flush	5	2	10000	31	14	■	
NJ5-11-N-G-6M	Non-flush	5	2	6000	31	14	■	

Accessories	
BF 11	Mounting adapter, 11 mm



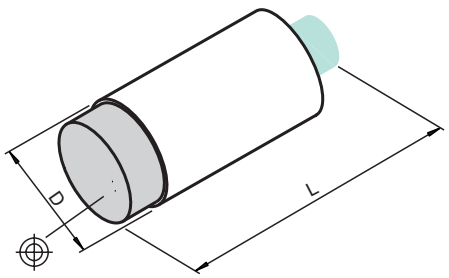
M12 Series – With Plug Connection

Standard Technical Data	
Voltage type	DC
Housing diameter D	12 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	CCC	CSA	EAC	UL
NBB2-12GM30-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	45		■		■
NBB2-12GM40-E0-V1	Flush	2	3-wire	NPN	Normally-open (NO)	1000	10	30	M12 connector plug	50		■		■
NBB2-12GM40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	M12 connector plug	50		■		■
NBB2-12GM40-Z0-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	1000	5	60	M12 connector plug	40	■	■		■
NBB2-12GM40-Z3-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	1000	5	60	M12 connector plug	40	■	■		■
NBB2-12GM50-A2-V1	Flush	2	4-wire	PNP	Complementary	1000	10	30	M12 connector plug	50		■		■
NBB2-12GM50-E0-V1	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	M12 connector plug	50		■		■
NBB2-12GM50-E1-V1	Flush	2	3-wire	NPN	Normally-closed (NC)	1500	10	30	M12 connector plug	50		■		■
NBB2-12GM50-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	M12 connector plug	50		■	■	■
NBB2-12GM50-E3-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	1500	10	30	M12 connector plug	50		■		■
NBB2-12GM60-A0-V1	Flush	2	4-wire	NPN	Complementary	1000	10	30	M12 connector plug	70		■		■
NBB2-12GM60-A2-V1	Flush	2	4-wire	PNP	Complementary	1000	10	30	M12 connector plug	70		■	■	■
NBB2-12GM60-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	M12 connector plug	70		■		■
NBB2-12GS40-Z4L-V1	Flush	2	2-wire		Normally-open (NO)	700	3.7	30	M12 connector plug	55				
NCB2-12GM40-Z0-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	800	5	60	M12 connector plug	40	■	■		■
NCB2-12GM40-Z1-V1	Flush	2	2-wire	2-wire	Normally-closed (NC)	800	5	60	M12 connector plug	40	■	■		■
NCB2-12GM60-B3-V1	Flush	2	2-wire	AS-Interface	Normally open/close selectable	500	26.5	31.9	M12 connector plug	60		■		■
NJ2-12GM40-E-V1	Flush	2	3-wire	NPN	Normally-open (NO)	3000	10	60	M12 connector plug	50	■	■		■
NJ2-12GM40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	3000	10	60	M12 connector plug	50	■	■		■
NJ2-12GM40-E3-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	3000	10	60	M12 connector plug	50	■	■		■
NBB4-12GM30-E0-V1	Flush	4	3-wire	NPN	Normally-open (NO)	500	10	30	M12 connector plug	35				■
NBB4-12GM30-E2-V1	Flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	M12 connector plug	30		■	■	■
NBB4-12GM30-E2-V3	Flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	M8 connector plug	30		■	■	■
NBB4-12GM30-E3-V1	Flush	4	3-wire	PNP	Normally-closed (NC)	500	10	30	M12 connector plug	30		■		■
NBB4-12GM35-A0-V1	Flush	4	4-wire	NPN	Complementary	2500	10	30	M12 connector plug	51				■
NBB4-12GM35-A2-V1	Flush	4	4-wire	PNP	Complementary	2500	10	30	M12 connector plug	51				■
NBB4-12GM50-A0-V1	Flush	4	4-wire	NPN	Complementary	1500	10	30	M12 connector plug	65		■		■
NBB4-12GM50-A2-V1	Flush	4	4-wire	PNP	Complementary	1500	10	30	M12 connector plug	65		■		■
NBB4-12GM50-E0-V1	Flush	4	3-wire	NPN	Normally-open (NO)	800	10	30	M12 connector plug	65		■		■
NBB4-12GM50-E1-V1	Flush	4	3-wire	NPN	Normally-closed (NC)	800	10	30	M12 connector plug	65		■		■
NBB4-12GM50-E2-V1	Flush	4	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	50		■	■	■
NBB4-12GM50-E3-V1	Flush	4	3-wire	PNP	Normally-closed (NC)	800	10	30	M12 connector plug	65		■		■
NCB4-12GM40-Z4-V1	Flush	4	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	M12 connector plug	35		■		■
NCB4-12GM40-Z5-V1	Flush	4	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	M12 connector plug	35		■		■
NCB4-12GM40-Z7-V1	Flush	4	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	M12 connector plug	35		■		■
NCB4-12GM50-E2-V1	Flush	4	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	50		■		■
NCB4-12GM60-B3-V1	Flush	4	2-wire	AS-Interface	Normally open/close selectable	500	26.5	31.9	M12 connector plug	60		■		■
NCB4-12GM60-B3B-V1	Flush	4	2-wire	AS-Interface	Normally open/close selectable	500	26.5	31.9	M12 connector plug	60		■		■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	CCC	CSA	EAC	UL
NEB6-12GM50-E0-V1	Semi-flush	6	3-wire	NPN	Normally-open (NO)	800	10	30	M12 connector plug	60			■	■
NEB6-12GM50-E1-V1	Semi-flush	6	3-wire	NPN	Normally-closed (NC)	800	10	30	M12 connector plug	60			■	■
NEB6-12GM50-E2-V1	Semi-flush	6	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	60			■	■
NEB6-12GM50-E3-V1	Semi-flush	6	3-wire	PNP	Normally-closed (NC)	800	10	30	M12 connector plug	60			■	■
NEB8-12GM50-E2-V1	Semi-flush	8	3-wire	PNP	Normally-open (NO)	400	10	30	M12 connector plug	60		■		■
NBN4-12GM35-A0-V1	Non-flush	4	4-wire	NPN	Complementary	800	10	30	M12 connector plug	35		■		■
NBN4-12GM35-A2-V1	Non-flush	4	4-wire	PNP	Complementary	800	10	30	M12 connector plug	35		■		■
NBN4-12GM40-E0-V1	Non-flush	4	3-wire	NPN	Normally-open (NO)	1200	10	30	M12 connector plug	50		■		■
NBN4-12GM40-E2-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	30	M12 connector plug	50		■		■
NBN4-12GM40-Z0-V1	Non-flush	4	2-wire	2-wire	Normally-open (NO)	1000	5	60	M12 connector plug	40	■	■		■
NBN4-12GM40-Z3-V1	Non-flush	4	2-wire	2-wire	Normally-open (NO)	1000	5	60	M12 connector plug	40	■	■		■
NBN4-12GM50-E0-V1	Non-flush	4	3-wire	NPN	Normally-open (NO)	1200	10	30	M12 connector plug	50		■		■
NBN4-12GM50-E1-V1	Non-flush	4	3-wire	NPN	Normally-closed (NC)	1200	10	30	M12 connector plug	50		■		■
NBN4-12GM50-E2-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	30	M12 connector plug	50		■	■	■
NBN4-12GM50-E3-V1	Non-flush	4	3-wire	PNP	Normally-closed (NC)	1200	10	30	M12 connector plug	50		■		■
NBN4-12GM60-A0-V1	Non-flush	4	4-wire	NPN	Complementary	1200	10	30	M12 connector plug	70		■		■
NBN4-12GM60-A2-V1	Non-flush	4	4-wire	PNP	Complementary	1200	10	30	M12 connector plug	70		■	■	■
NBN4-12GS40-Z4L-V1	Non-flush	4	2-wire	2-wire	Normally-open (NO)	700	3.7	30	M12 connector plug	55				
NCN4-12GM40-Z0-V1	Non-flush	4	2-wire	2-wire	Normally-open (NO)	800	5	60	M12 connector plug	40	■	■		■
NCN4-12GM40-Z1-V1	Non-flush	4	2-wire	2-wire	Normally-closed (NC)	800	5	60	M12 connector plug	40	■	■		■
NCN4-12GM60-B3-C2-V1	Non-flush	4	2-wire	AS-Interface	Normally open/close selectable	500	26.5	31.9	M12 connector plug	60		■		■
NCN4-12GM60-B3B-C2-V1	Non-flush	4	2-wire	AS-Interface	Normally open/close selectable	500	26.5	31.9	M12 connector plug	60		■		■
NJ4-12GM40-E-V1	Non-flush	4	3-wire	NPN	Normally-open (NO)	2000	10	60	M12 connector plug	50	■	■		■
NJ4-12GM40-E2-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	2000	10	60	M12 connector plug	50	■	■	■	■
NJ4-12GM40-E3-V1	Non-flush	4	3-wire	PNP	Normally-closed (NC)	2000	10	60	M12 connector plug	50	■	■		■
NBN7-12GM35-E2-V1	Non-flush	7	3-wire	PNP	Normally-open (NO)	300	10	30	M12 connector plug	35		■		■
NBN7-12GM35-E3-V1	Non-flush	7	3-wire	PNP	Normally-closed (NC)	300	10	30	M12 connector plug	35		■		■
NBN8-12GM35-A0-V1	Non-flush	8	4-wire	NPN	Complementary	2000	10	30	M12 connector plug	51				■
NBN8-12GM35-A2-V1	Non-flush	8	4-wire	PNP	Complementary	2000	10	30	M12 connector plug	51				■
NBN8-12GM50-A0-V1	Non-flush	8	4-wire	NPN	Complementary	1500	10	30	M12 connector plug	65		■	■	■
NBN8-12GM50-A2-V1	Non-flush	8	4-wire	PNP	Complementary	1500	10	30	M12 connector plug	65		■		■
NBN8-12GM50-E0-V1	Non-flush	8	3-wire	NPN	Normally-open (NO)	1500	10	30	M12 connector plug	50		■	■	■
NBN8-12GM50-E2-V1	Non-flush	8	3-wire	PNP	Normally-open (NO)	1500	10	30	M12 connector plug	50		■		■
NCN8-12GM40-Z4-V1	Non-flush	8	2-wire	2-wire	Normally-open (NO)	750	3.5	30	M12 connector plug	35		■		■
NCN8-12GM40-Z5-V1	Non-flush	8	2-wire	2-wire	Normally-closed (NC)	750	3.5	30	M12 connector plug	35		■		■
NCN8-12GM40-Z7-V1	Non-flush	8	2-wire	2-wire	Normally-closed (NC)	750	3.5	30	M12 connector plug	35		■		■
NEN10-12GM50-E0-V1	Non-flush	10	3-wire	NPN	Normally-open (NO)	600	10	30	M12 connector plug	60			■	■
NEN10-12GM50-E1-V1	Non-flush	10	3-wire	NPN	Normally-closed (NC)	600	10	30	M12 connector plug	60			■	■
NEN10-12GM50-E2-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	60			■	■
NEN10-12GM50-E3-V1	Non-flush	10	3-wire	PNP	Normally-closed (NC)	600	10	30	M12 connector plug	60			■	■



Accessories	
BF 12	Mounting adapter, 12 mm
EXG-12	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-BK0,3M-PUR-U-V1-G	Cordset, M12 to M12, PUR cable, 4-pin
V1-G-BK1M-PUR-U-V1-G	Cordset, M12 to M12, PUR cable, 4-pin
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

M12 Series – With Cable Connection

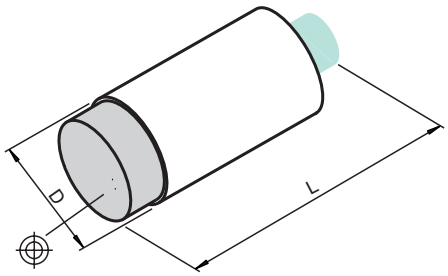
Standard Technical Data	
Voltage type	DC
Connection type	Fixed cable
Housing diameter D	12 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	EAC	UL
NBB2-12GK50-E0	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	2000	PVC	50		■		■
NBB2-12GK50-E2	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	2000	PVC	50		■		■
NBB2-12GK50-E2-10M	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	10000	PVC	50		■		■
NBB2-12GK60-E2-5M PUR	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	5000	PUR	60		■		■
NBB2-12GM30-E2	Flush	2	3-wire	PNP	Normally-open (NO)	800	10	30	2000	PVC	30		■		■
NBB2-12GM40-E0	Flush	2	3-wire	NPN	Normally-open (NO)	1000	10	30	2000	PVC	40		■		■
NBB2-12GM40-E1	Flush	2	3-wire	NPN	Normally-closed (NC)	1000	10	30	2000	PVC	40		■		■
NBB2-12GM40-E2	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	40		■		■
NBB2-12GM40-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	1000	10	30	2000	PVC	40		■		■
NBB2-12GM40-Z0	Flush	2	2-wire	2-wire	Normally-open (NO)	1000	5	60	2000	PVC	40	■	■		■
NBB2-12GM50-E0	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	2000	PVC	50		■		■
NBB2-12GM50-E0-5M	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	30	5000	PVC	50		■		■
NBB2-12GM50-E1	Flush	2	3-wire	NPN	Normally-closed (NC)	1500	10	30	2000	PVC	50		■		■
NBB2-12GM50-E2	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	2000	PVC	50		■	■	■
NBB2-12GM50-E2-2M PUR	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	2000	PUR	50		■		■
NBB2-12GM50-E2-5M	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30	5000	PVC	50		■		■
NBB2-12GM50-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	1500	10	30	2000	PVC	50		■		■
NBB2-12GM60-A0	Flush	2	4-wire	NPN	Complementary	1000	10	30	2000	PVC	60		■		■
NBB2-12GM60-A2	Flush	2	4-wire	PNP	Complementary	1000	10	30	2000	PVC	60		■		■
NBB2-12GS40-Z4L	Flush	2	2-wire	2-wire	Normally-open (NO)	700	3.7	30	2000	PVC	40				
NCB2-12GM40-Z0	Flush	2	2-wire	2-wire	Normally-open (NO)	800	5	60	2000	PUR	40	■	■		■
NCB2-12GM40-Z1	Flush	2	2-wire	2-wire	Normally-closed (NC)	800	5	60	2000	PUR	40	■	■		■
NJ2-12GM40-E	Flush	2	3-wire	NPN	Normally-open (NO)	3000	10	60	2000	PUR	40	■	■		■
NJ2-12GM40-E2	Flush	2	3-wire	PNP	Normally-open (NO)	3000	10	60	2000	PUR	40	■	■	■	■
NJ2-12GM40-E2-10M	Flush	2	3-wire	PNP	Normally-open (NO)	3000	10	60	10000	PUR	40	■	■		■
NJ2-12GM40-E2-5M	Flush	2	3-wire	PNP	Normally-open (NO)	3000	10	60	5000	PUR	40	■	■		■
NJ2-12GM40-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	3000	10	60	2000	PUR	40	■	■		■
NCB4-12GM35-Z4	Flush	4	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	2000	PVC	35		■		■
NCB4-12GM35-Z5	Flush	4	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	2000	PVC	35		■		■
NBB4-12GM30-E0	Flush	4	3-wire	NPN	Normally-open (NO)	500	10	30	2000	PUR	35				■
NBB4-12GM30-E2	Flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PVC	30		■		■
NBB4-12GM30-E2-5M	Flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	5000	PVC	30		■		■
NBB4-12GM30-E3	Flush	4	3-wire	PNP	Normally-closed (NC)	500	10	30	2000	PVC	30		■		■
NBB4-12GM35-A0	Flush	4	4-wire	NPN	Complementary	2500	10	30	2000	PVC	35				■
NBB4-12GM35-A2	Flush	4	4-wire	PNP	Complementary	2500	10	30	2000	PVC	35				■
NBB4-12GM40-E0	Flush	4	3-wire	NPN	Normally-open (NO)	800	10	30	2000	PVC	40		■		■
NBB4-12GM50-A0	Flush	4	4-wire	NPN	Complementary	1500	10	30	2000	PVC	50		■		■
NBB4-12GM50-A2	Flush	4	4-wire	PNP	Complementary	1500	10	30	2000	PVC	50		■		■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	EAC	UL
NBB4-12GM50-E0	Flush	4	3-wire	NPN	Normally-open (NO)	800	10	30	2000	PVC	50		■		■
NBB4-12GM50-E1	Flush	4	3-wire	NPN	Normally-closed (NC)	800	10	30	2000	PVC	50		■		■
NBB4-12GM50-E3	Flush	4	3-wire	PNP	Normally-closed (NC)	800	10	30	2000	PVC	50		■		■
NEB6-12GM50-E0	Semi-flush	6	3-wire	NPN	Normally-open (NO)	800	10	30	2000	PUR	50			■	■
NEB6-12GM50-E1	Semi-flush	6	3-wire	NPN	Normally-closed (NC)	800	10	30	2000	PUR	50			■	■
NEB6-12GM50-E2	Semi-flush	6	3-wire	PNP	Normally-open (NO)	800	10	30	2000	PUR	50			■	■
NEB6-12GM50-E3	Semi-flush	6	3-wire	PNP	Normally-closed (NC)	800	10	30	2000	PUR	50			■	■
NBN4-12GK50-E0	Non-flush	4	3-wire	NPN	Normally-open (NO)	1200	10	30	2000	PVC	50		■		■
NBN4-12GK50-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	30	2000	PVC	50		■		■
NBN4-12GM40-E0	Non-flush	4	3-wire	NPN	Normally-open (NO)	800	10	30	2000	PVC	40		■		■
NBN4-12GM40-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	800	10	30	2000	PVC	40		■		■
NBN4-12GM40-Z0	Non-flush	4	2-wire	2-wire	Normally-open (NO)	700	5	60	2000	PVC	40	■	■		■
NBN4-12GM50-E0	Non-flush	4	3-wire	NPN	Normally-open (NO)	1200	10	30	2000	PVC	50		■		■
NBN4-12GM50-E1	Non-flush	4	3-wire	NPN	Normally-closed (NC)	1200	10	30	2000	PVC	50		■		■
NBN4-12GM50-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	30	2000	PVC	50		■	■	■
NBN4-12GM50-E2-5M	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	30	5000	PVC	50		■		■
NBN4-12GM50-E3	Non-flush	4	3-wire	PNP	Normally-closed (NC)	1200	10	30	2000	PVC	50		■		■
NBN4-12GM60-A0	Non-flush	4	4-wire	NPN	Complementary	1000	10	30	2000	PVC	60		■		■
NBN4-12GM60-A2	Non-flush	4	4-wire	PNP	Complementary	1000	10	30	2000	PVC	60		■		■
NBN4-12GS40-Z4L	Non-flush	4	2-wire	2-wire	Normally-open (NO)	700	3.7	30	2000	PVC	40				
NCN4-12GM40-Z0	Non-flush	4	2-wire	2-wire	Normally-open (NO)	800	5	60	2000	PUR	40	■	■		■
NCN4-12GM40-Z0-10M	Non-flush	4	2-wire	2-wire	Normally-open (NO)	800	5	60	10000	PUR	40	■	■		■
NCN4-12GM40-Z1	Non-flush	4	2-wire	2-wire	Normally-closed (NC)	800	5	60	2000	PUR	40	■	■		■
NJ4-12GM40-E	Non-flush	4	3-wire	NPN	Normally-open (NO)	2000	10	60	2000	PUR	40	■	■		■
NJ4-12GM40-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	2000	10	60	2000	PUR	40	■	■	■	■
NJ4-12GM40-E2-10M	Non-flush	4	3-wire	PNP	Normally-open (NO)	2000	10	60	10000	PUR	40	■	■		■
NJ4-12GM40-E2-5M	Non-flush	4	3-wire	PNP	Normally-open (NO)	2000	10	60	5000	PUR	40	■	■		■
NJ4-12GM40-E3	Non-flush	4	3-wire	PNP	Normally-closed (NC)	2000	10	60	2000	PUR	40	■	■		■
NBN7-12GM35-E2	Non-flush	7	3-wire	PNP	Normally-open (NO)	300	10	30	2000	PVC	35		■		■
NBN8-12GM35-A0	Non-flush	8	4-wire	NPN	Complementary	2000	10	30	2000	PVC	35				■
NBN8-12GM35-A2	Non-flush	8	4-wire	PNP	Complementary	2000	10	30	2000	PVC	35				■
NBN8-12GM50-A0	Non-flush	8	4-wire	NPN	Complementary	1500	10	30	2000	PVC	50		■		■
NBN8-12GM50-A2	Non-flush	8	4-wire	PNP	Complementary	1500	10	30	2000	PVC	50		■		■
NBN8-12GM50-E0	Non-flush	8	3-wire	NPN	Normally-open (NO)	1500	10	30	2000	PVC	50		■		■
NBN8-12GM50-E2	Non-flush	8	3-wire	PNP	Normally-open (NO)	1500	10	30	2000	PVC	50		■		■
NCN8-12GM35-Z4	Non-flush	8	2-wire	2-wire	Normally-open (NO)	750	3.5	30	2000	PVC	35		■		■
NCN8-12GM35-Z5	Non-flush	8	2-wire	2-wire	Normally-closed (NC)	750	3.5	30	2000	PVC	35		■		■
NEN10-12GM50-E0	Non-flush	10	3-wire	NPN	Normally-open (NO)	600	10	30	2000	PUR	50			■	■
NEN10-12GM50-E1	Non-flush	10	3-wire	NPN	Normally-closed (NC)	600	10	30	2000	PUR	50			■	■
NEN10-12GM50-E2	Non-flush	10	3-wire	PNP	Normally-open (NO)	600	10	30	2000	PUR	50			■	■
NEN10-12GM50-E3	Non-flush	10	3-wire	PNP	Normally-closed (NC)	600	10	30	2000	PUR	50			■	■

Accessories	
BF 12	Mounting adapter, 12 mm
EXG-12	Quick-mounting bracket with fixed stop



BAJA COMTECH
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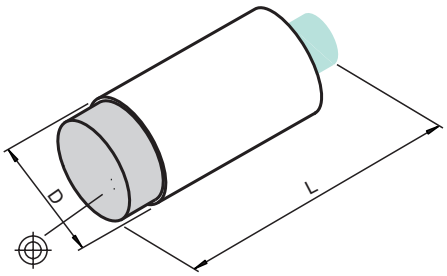
M12 Series – 250 V Version

Standard Technical Data	
Output type	2-wire
Output type	2-wire
Operating voltage (min)	20 V
Housing diameter D	12 mm
CCC	■
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Switching function	Voltage type	Switching frequency [Hz]	UB (max)	Connection type	Cable length [mm]	Cable material	Length L
NBB4-12GM65-US-V11B	Flush	4	Normally-open (NO)	AC/DC	30	300	M12 connector plug			82
NBB4-12GM65-US-V12	Flush	4	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			82
NBN8-12GM65-US-V12	Non-flush	8	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			82
NBN8-12GM75-US	Non-flush	8	Normally-open (NO)	AC/DC	30	300	Fixed cable	2000	PUR	75
NJ2-12GM50-WO	Flush	2	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	50
NJ2-12GM50-WO-V13	Flush	2	Normally-closed (NC)	AC	20	253	M12 connector plug			60
NJ2-12GM50-WS	Flush	2	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	50
NJ2-12GM50-WS-5M	Flush	2	Normally-open (NO)	AC	20	253	Fixed cable	5000	PVC	50
NJ2-12GM50-WS-V11	Flush	2	Normally-open (NO)	AC	20	253	M12 connector plug			50
NJ2-12GM50-WS-V12	Flush	2	Normally-open (NO)	AC	20	253	1/2 inch connector plug			50
NJ2-12GM50-WS-V13	Flush	2	Normally-open (NO)	AC	20	253	M12 connector plug			60
NJ4-12GM50-WO	Non-flush	4	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	50
NJ4-12GM50-WO-V13	Non-flush	4	Normally-closed (NC)	AC	20	253	M12 connector plug			60
NJ4-12GM50-WS	Non-flush	4	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	50
NJ4-12GM50-WS-10M	Non-flush	4	Normally-open (NO)	AC	20	253	Fixed cable	10000	PVC	50
NJ4-12GM50-WS-V11	Non-flush	4	Normally-open (NO)	AC	20	253	M12 connector plug			50
NJ4-12GM50-WS-V12	Non-flush	4	Normally-open (NO)	AC	20	253	1/2 inch connector plug			50
NJ4-12GM50-WS-V13	Non-flush	4	Normally-open (NO)	AC	20	253	M12 connector plug			60



Accessories	
BF 12	Mounting adapter, 12 mm
EXG-12	Quick-mounting bracket with fixed stop
V11-G-2M-PUR	Single-ended female cordset, M12, 3-pin, PUR cable
V12-G-YE2M-PVC	Cordset, 1/2"-20 UNF, 3-pin, PVC cable
V13-G-5M-PUR	Single-ended female cordset, M12, 3-pin, PUR cable

PEPPERL+FUCHS
Made in Germany
NRN30-30GM50-E3-V1
Part No. 206810
10-30V DC / 200mA

M18 Series – With Plug Connection

Standard Technical Data	
Voltage type	DC
Connection type	M12 connector plug
Housing diameter D	18 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Length L	CCC	CSA	EAC	UL
NBB5-18GM20-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	20		■		■
NBB5-18GH40-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	39				
NBB5-18GM40-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	39		■		■
NBB5-18GM40-Z0-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	500	5	60	40	■	■		■
NBB5-18GM40-Z3-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	500	5	60	40	■	■		■
NBB5-18GM50-E0-V1	Flush	5	3-wire	NPN	Normally-open (NO)	800	10	30	50		■		■
NBB5-18GM50-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	50		■	■	■
NBB5-18GM50-E3-V1	Flush	5	3-wire	PNP	Normally-closed (NC)	800	10	30	50				■
NBB5-18GM60-A0-V1	Flush	5	4-wire	NPN	Complementary	800	10	30	60		■		■
NBB5-18GM60-A2-V1	Flush	5	4-wire	PNP	Complementary	800	10	30	60		■		■
NBB5-18GM60-I-V1	Flush	5	3-wire	Analog current output	4 mA … 20 mA		10	30	75				■
NBB5-18GM60-I3-V1	Flush	5	3-wire	Analog current output	0 mA … 20 mA		10	30	75				■
NBB5-18GM70-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	70		■		■
NCB5-18GM40-Z0-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60	40	■	■		■
NCB5-18GM40-Z1-V1	Flush	5	2-wire	2-wire	Normally-closed (NC)	350	5	60	40	■	■		■
NCB5-18GM40-Z3-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60	55	■	■		■
NCB5-18GM60-B3B-V1	Flush	5	2-wire	AS-Interface	Normally open/close selectable	100	26.5	31.9	70		■		■
NJ5-18GM50-A2-V1	Flush	5	4-wire	PNP	Complementary	500	10	60	50	■	■		■
NJ5-18GM50-E-V1	Flush	5	3-wire	NPN	Normally-open (NO)	1500	10	60	65	■	■		■
NJ5-18GM50-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	1500	10	60	65	■	■		■
NJ5-18GM50-E3-V1	Flush	5	3-wire	PNP	Normally-closed (NC)	1500	10	60	65	■	■		■
NBB8-18GM30-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	30		■		■
NBB8-18GM30-E3-V1	Flush	8	3-wire	PNP	Normally-closed (NC)	500	10	30	30		■		■
NBB8-18GM35-A0-V1	Flush	8	4-wire	NPN	Complementary	1500	10	30	51				■
NBB8-18GM35-A2-V1	Flush	8	4-wire	PNP	Complementary	1500	10	30	51				■
NBB8-18GM50-E0-V1	Flush	8	3-wire	NPN	Normally-open (NO)	500	10	30	50		■		■
NBB8-18GM50-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	50		■	■	■
NBB8-18GM60-A0-V1	Flush	8	4-wire	NPN	Complementary	500	10	30	60		■		■
NBB8-18GM60-A2-V1	Flush	8	4-wire	PNP	Complementary	500	10	30	60		■	■	■
NBB8-18GM60-B3-V1	Flush	8	2-wire	AS-Interface	Normally open/close selectable	200	26.5	31.9	75		■		■
NBB8-18GM60-B3B-V1	Flush	8	2-wire	AS-Interface	Normally open/close selectable	200	26.5	31.9	75		■		■
NCB8-18GM50-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	50		■		■
NCB8-18GM50-Z4-V1	Flush	8	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	65		■		■
NCB8-18GM50-Z5-V1	Flush	8	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	60		■		■
NCB8-18GM50-Z7-V1	Flush	8	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	60		■		■
NEB12-18GM50-E0-V1	Semi-flush	12	3-wire	NPN	Normally-open (NO)	500	10	30	69		■	■	■
NEB12-18GM50-E1-V1	Semi-flush	12	3-wire	NPN	Normally-closed (NC)	500	10	30	69		■	■	■
NEB12-18GM50-E2-V1	Semi-flush	12	3-wire	PNP	Normally-open (NO)	500	10	30	69		■	■	■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Length L	CCC	CSA	EAC	UL
NEB12-18GM50-E3-V1	Semi-flush	12	3-wire	PNP	Normally-closed (NC)	500	10	30	69		■	■	■
NBN8-18GM40-E3-V1	Non-flush	8	3-wire	PNP	Normally-closed (NC)	1000	10	30	40		■		■
NBN8-18GM40-Z0-V1	Non-flush	8	2-wire	2-wire	Normally-open (NO)	450	5	60	40	■	■		■
NBN8-18GM40-Z3-V1	Non-flush	8	2-wire	2-wire	Normally-open (NO)	450	5	60	40	■	■		■
NBN8-18GM50-E0-V1	Non-flush	8	3-wire	NPN	Normally-open (NO)	500	10	30	50		■		■
NBN8-18GM50-E2-V1	Non-flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	65		■	■	■
NBN8-18GM60-A0-V1	Non-flush	8	4-wire	NPN	Complementary	700	10	30	60		■		■
NBN8-18GM60-A2-V1	Non-flush	8	4-wire	PNP	Complementary	700	10	30	60		■		■
NCN8-18GM40-Z0-V1	Non-flush	8	2-wire	2-wire	Normally-open (NO)	300	5	60	40	■	■		■
NCN8-18GM40-Z1-V1	Non-flush	8	2-wire	2-wire	Normally-closed (NC)	300	5	60	40	■	■		■
NCN8-18GM60-B3B-V1	Non-flush	8	2-wire	AS-Interface	Normally open/close selectable	100	26.5	31.9	60		■		■
NJ8-18GM50-A2-V1	Non-flush	8	4-wire	PNP	Complementary	500	10	60	65	■	■	■	■
NJ8-18GM50-E-V1	Non-flush	8	3-wire	NPN	Normally-open (NO)	1000	10	60	65	■	■		■
NJ8-18GM50-E2-V1	Non-flush	8	3-wire	PNP	Normally-open (NO)	1000	10	60	65	■	■		■
NJ8-18GM50-E3-V1	Non-flush	8	3-wire	PNP	Normally-closed (NC)	1000	10	60	65	■	■		■
NBN12-18GM35-A0-V1	Non-flush	12	4-wire	NPN	Complementary	1500	10	30	51				■
NBN12-18GM35-A2-V1	Non-flush	12	4-wire	PNP	Complementary	1500	10	30	51				■
NBN12-18GM35-E2-V1	Non-flush	12	3-wire	PNP	Normally-open (NO)	300	10	30	50		■		■
NBN12-18GM50-A0-V1	Non-flush	12	4-wire	NPN	Complementary	1000	10	30	65		■		■
NBN12-18GM50-A2-V1	Non-flush	12	4-wire	PNP	Complementary	1000	10	30	65		■		■
NBN12-18GM50-E0-V1	Non-flush	12	3-wire	NPN	Normally-open (NO)	200	10	30	50		■		■
NBN12-18GM50-E2-V1	Non-flush	12	3-wire	PNP	Normally-open (NO)	200	10	30	50		■		■
NCN12-18GM50-Z4-V1	Non-flush	12	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	60		■		■
NCN12-18GM50-Z5-V1	Non-flush	12	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	60		■		■
NCN12-18GM50-Z7-V1	Non-flush	12	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	60		■		■
NEN20-18GM50-E0-V1	Non-flush	20	3-wire	NPN	Normally-open (NO)	200	10	30	69		■	■	■
NEN20-18GM50-E1-V1	Non-flush	20	3-wire	NPN	Normally-closed (NC)	200	10	30	69		■	■	■
NEN20-18GM50-E2-V1	Non-flush	20	3-wire	PNP	Normally-open (NO)	200	10	30	69		■	■	■
NEN20-18GM50-E3-V1	Non-flush	20	3-wire	PNP	Normally-closed (NC)	200	10	30	69		■	■	■

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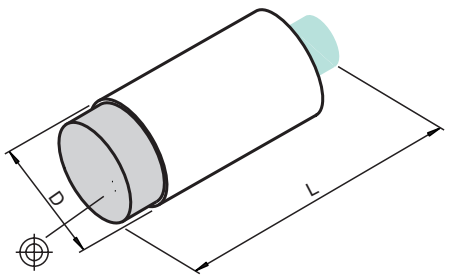


Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
EXG-18	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-BK0,3M-PUR-U-V1-G	Cordset, M12 to M12, PUR cable, 4-pin
V1-G-BK1M-PUR-U-V1-G	Cordset, M12 to M12, PUR cable, 4-pin
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

M18 Series – With Cable Connection

Standard Technical Data	
Voltage type	DC
Connection type	Fixed cable
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	EAC	UL	E1
NBB5-18GK50-E0	Flush	5	3-wire	NPN	Normally-open (NO)	1000	10	30	2000	PVC	50		■		■	
NBB5-18GK50-E2	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	50		■		■	
NBB5-18GM20-E2	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	20		■		■	
NBB5-18GM40-E1	Flush	5	3-wire	NPN	Normally-closed (NC)	1000	10	30	2000	PVC	40		■		■	
NBB5-18GM40-E2	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	2000	PVC	40		■		■	
NBB5-18GM40-E2-5M	Flush	5	3-wire	PNP	Normally-open (NO)	1000	10	30	5000	PVC	40		■		■	
NBB5-18GM40-Z0	Flush	5	2-wire	2-wire	Normally-open (NO)	500	5	60	2000	PVC	40	■	■		■	
NBB5-18GM50-E0	Flush	5	3-wire	NPN	Normally-open (NO)	800	10	30	2000	PVC	50		■		■	
NBB5-18GM50-E0-5M	Flush	5	3-wire	NPN	Normally-open (NO)	800	10	30	5000	PVC	50				■	
NBB5-18GM50-E2	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	2000	PVC	50		■	■	■	
NBB5-18GM50-E2-10M	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	10000	PVC	50				■	
NBB5-18GM50-E2-5M	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	5000	PVC	50		■		■	
NBB5-18GM50-E3	Flush	5	3-wire	PNP	Normally-closed (NC)	800	10	30	2000	PVC	50		■		■	
NBB5-18GM60-A0	Flush	5	4-wire	NPN	Complementary	800	10	30	2000	PVC	60		■		■	
NBB5-18GM60-A0-5M	Flush	5	4-wire	NPN	Complementary	800	10	30	5000	PVC	60		■		■	
NBB5-18GM60-A2	Flush	5	4-wire	PNP	Complementary	800	10	30	2000	PVC	60		■		■	
NBB5-18GM60-A2-5M	Flush	5	4-wire	PNP	Complementary	800	10	30	5000	PVC	60		■		■	
NBB5-18GM60-I	Flush	5	3-wire	Analog current output	4 mA … 20 mA		10	30	2000	PVC	60				■	
NBB5-18GM60-I3	Flush	5	3-wire	Analog current output	0 mA … 20 mA		10	30	2000	PVC	60				■	
NCB5-18GM40-Z0	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60	2000	PUR	40	■	■		■	
NCB5-18GM40-Z0-10M	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60	10000	PUR	40	■	■		■	
NCB5-18GM40-Z1	Flush	5	2-wire	2-wire	Normally-closed (NC)	350	5	60	2000	PUR	40	■	■		■	
NJ5-18GK50-A2	Flush	5	3-wire	PNP	Complementary	500	10	60	2000	PVC	50	■	■		■	
NJ5-18GM50-A2	Flush	5	4-wire	PNP	Complementary	500	10	60	2000	PVC	50	■	■		■	
NJ5-18GM50-E	Flush	5	3-wire	NPN	Normally-open (NO)	1500	10	60	2000	PVC	50	■	■		■	
NJ5-18GM50-E2	Flush	5	3-wire	PNP	Normally-open (NO)	1500	10	60	2000	PVC	50	■	■		■	
NJ5-18GM50-E2-10M	Flush	5	3-wire	PNP	Normally-open (NO)	1500	10	60	10000	PVC	50	■	■		■	
NJ5-18GM50-E2-5M	Flush	5	3-wire	PNP	Normally-open (NO)	1500	10	60	5000	PVC	50	■	■		■	
NJ5-18GM50-E3	Flush	5	3-wire	PNP	Normally-closed (NC)	1500	10	60	2000	PVC	50	■	■		■	
NBB8-18GM30-E2	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PVC	30		■		■	
NBB8-18GM30-E3	Flush	8	3-wire	PNP	Normally-closed (NC)	500	10	30	2000	PVC	30		■		■	
NBB8-18GM35-A0	Flush	8	4-wire	NPN	Complementary	1500	10	30	2000	PVC	35				■	
NBB8-18GM35-A2	Flush	8	4-wire	PNP	Complementary	1500	10	30	2000	PVC	35				■	
NBB8-18GM50-E0	Flush	8	3-wire	NPN	Normally-open (NO)	500	10	30	2000	PVC	50		■		■	
NBB8-18GM50-E2	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PVC	50		■		■	
NBB8-18GM50-E2-5M	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	5000	PVC	50		■	■	■	
NBB8-18GM50-E2-6M	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	6000	PVC	50		■		■	
NBB8-18GM60-A0	Flush	8	4-wire	NPN	Complementary	500	10	30	2000	PVC	60		■		■	

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	EAC	UL	E1
NBB8-18GM60-A2	Flush	8	4-wire	PNP	Complementary	500	10	30	2000	PVC	60		■		■	
NCB8-18GM50-Z4	Flush	8	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	2000	PVC	48		■		■	
NCB8-18GM50-Z5	Flush	8	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	2000	PVC	48		■		■	
NEB12-18GM50-E0	Semi-flush	12	3-wire	NPN	Normally-open (NO)	500	10	30	2000	PUR	53		■	■	■	
NEB12-18GM50-E1	Semi-flush	12	3-wire	NPN	Normally-closed (NC)	500	10	30	2000	PUR	53		■	■	■	
NEB12-18GM50-E2	Semi-flush	12	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PUR	53		■	■	■	
NEB12-18GM50-E3	Semi-flush	12	3-wire	PNP	Normally-closed (NC)	500	10	30	2000	PUR	53		■	■	■	
NBN8-18GK50-A2	Non-flush	8	4-wire	PNP	Complementary	500	10	30	2000	PVC	50		■		■	
NBN8-18GM40-Z0	Non-flush	8	2-wire	2-wire	Normally-open (NO)	500	5	60	2000	PVC	40	■	■		■	
NBN8-18GM50-E0	Non-flush	8	3-wire	NPN	Normally-open (NO)	500	10	30	2000	PVC	50		■		■	
NBN8-18GM50-E2	Non-flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	2000	PVC	50		■	■	■	
NBN8-18GM50-E2-5M	Non-flush	8	3-wire	PNP	Normally-open (NO)	500	10	30	5000	PVC	50		■		■	
NBN8-18GM60-A0	Non-flush	8	4-wire	NPN	Complementary	700	10	30	2000	PVC	60		■		■	
NBN8-18GM60-A2	Non-flush	8	4-wire	PNP	Complementary	700	10	30	2000	PVC	60		■		■	
NCN8-18GM40-Z0	Non-flush	8	2-wire	2-wire	Normally-open (NO)	300	5	60	2000	PUR	40	■	■		■	
NCN8-18GM40-Z1	Non-flush	8	2-wire	2-wire	Normally-closed (NC)	300	5	60	2000	PUR	40	■	■		■	
NJ8-18GK50-A2	Non-flush	8	4-wire	PNP	Complementary	500	10	60	2000	PVC	50	■	■		■	
NJ8-18GM50-A2	Non-flush	8	4-wire	PNP	Complementary	500	10	60	2000	PVC	50	■	■		■	
NJ8-18GM50-E0	Non-flush	8	3-wire	NPN	Normally-open (NO)	1000	10	60	2000	PVC	50	■	■		■	
NJ8-18GM50-E2	Non-flush	8	3-wire	PNP	Normally-open (NO)	1000	10	60	2000	PVC	50	■	■		■	
NJ8-18GM50-E2-10M	Non-flush	8	3-wire	PNP	Normally-open (NO)	1000	10	60	10000	PVC	50	■	■		■	
NJ8-18GM50-E2-5M	Non-flush	8	3-wire	PNP	Normally-open (NO)	1000	10	60	5000	PVC	50	■	■		■	
NJ8-18GM50-E3	Non-flush	8	3-wire	PNP	Normally-closed (NC)	1000	10	60	2000	PVC	50	■	■		■	
NBN12-18GM35-A0	Non-flush	12	4-wire	NPN	Complementary	1500	10	30	2000	PVC	35				■	
NBN12-18GM35-A2	Non-flush	12	4-wire	PNP	Complementary	1500	10	30	2000	PVC	35				■	
NBN12-18GM35-E2	Non-flush	12	3-wire	PNP	Normally-open (NO)	300	10	30	2000	PVC	50		■		■	
NBN12-18GM35-E3	Non-flush	12	3-wire	PNP	Normally-closed (NC)	300	10	30	2000	PVC	35		■		■	
NBN12-18GM35-E3-5M	Non-flush	12	3-wire	PNP	Normally-closed (NC)	300	10	30	5000	PVC	35				■	
NBN12-18GK50-E0-M	Non-flush	12	3-wire	NPN	Normally-open (NO)	1500	5	60	2000	PUR	58	■	■		■	■
NBN12-18GK50-E1-M	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1500	5	60	2000	PUR	58	■	■		■	■
NBN12-18GK50-E2-M	Non-flush	12	3-wire	PNP	Normally-open (NO)	1500	5	60	2000	PUR	58	■	■		■	■
NBN12-18GK50-E3-M	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1500	5	60	2000	PUR	58	■	■		■	■
NBN12-18GM50-A0	Non-flush	12	4-wire	NPN	Complementary	1000	10	30	2000	PVC	50		■		■	
NBN12-18GM50-A2	Non-flush	12	4-wire	PNP	Complementary	1000	10	30	2000	PVC	50		■		■	
NBN12-18GM50-E0	Non-flush	12	3-wire	NPN	Normally-open (NO)	200	10	30	2000	PVC	50		■		■	
NBN12-18GM50-E0-10M	Non-flush	12	3-wire	NPN	Normally-open (NO)	200	10	30	10000	PVC	50		■		■	
NBN12-18GM50-E2	Non-flush	12	3-wire	PNP	Normally-open (NO)	200	10	30	2000	PVC	50		■		■	
NCN12-18GM50-Z4	Non-flush	12	2-wire	2-wire	Normally-open (NO)	1000	3.5	30	2000	PVC	48		■		■	
NCN12-18GM50-Z5	Non-flush	12	2-wire	2-wire	Normally-closed (NC)	1000	3.5	30	2000	PVC	48		■		■	
NEN20-18GM50-E0	Non-flush	20	3-wire	NPN	Normally-open (NO)	200	10	30	2000	PUR	53		■	■	■	
NEN20-18GM50-E1	Non-flush	20	3-wire	NPN	Normally-closed (NC)	200	10	30	2000	PUR	53		■	■	■	
NEN20-18GM50-E2	Non-flush	20	3-wire	PNP	Normally-open (NO)	200	10	30	2000	PUR	53		■	■	■	
NEN20-18GM50-E3	Non-flush	20	3-wire	PNP	Normally-closed (NC)	200	10	30	2000	PUR	53		■	■	■	

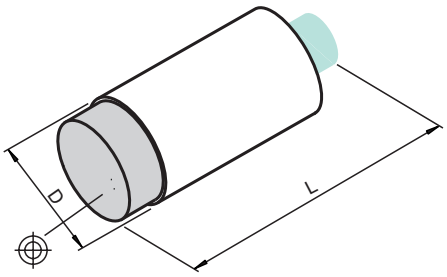
Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
EXG-18	Quick-mounting bracket with fixed stop

M18 Series – 250 V Version

Standard Technical Data	
Output type	2-wire
Operating voltage (min)	20 V
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (max)	Connection type	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBB5-18GM60-WO	Flush	5	2-wire	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	60	■	■	■
NBB5-18GM60-WO-V12	Flush	5	2-wire	Normally-closed (NC)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB5-18GM60-WS	Flush	5	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	60	■	■	■
NBB5-18GM60-WS-10M	Flush	5	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	10000	PVC	60	■	■	■
NBB5-18GM60-WS-5M	Flush	5	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	5000	PVC	60		■	■
NBB5-18GM60-WS-V11	Flush	5	2-wire	Normally-open (NO)	AC	20	253	M12 connector plug			60	■	■	■
NBB5-18GM60-WS-V12	Flush	5	2-wire	Normally-open (NO)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB5-18GM80-WO-V93	Flush	5	2-wire	Normally-closed (NC)	AC	20	253	7/8 inch connector plug			80	■	■	■
NBB5-18GM80-WS-V93	Flush	5	2-wire	Normally-open (NO)	AC	20	253	7/8 inch connector plug			80	■	■	■
NBB8-18GM55-UO-V93	Flush	8	3-wire	Normally-closed (NC)	AC/DC	30	300	7/8 inch connector plug			75	■	■	■
NBB8-18GM60-UO	Flush	8	3-wire	Normally-closed (NC)	AC/DC	30	300	Fixed cable	2000	PUR	63	■	■	■
NBB8-18GM60-UO-V12	Flush	8	3-wire	Normally-closed (NC)	AC/DC	30	300	1/2 inch connector plug			70	■	■	■
NBB8-18GM60-US	Flush	8	2-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	2000	PUR	63	■	■	■
NBB8-18GM60-US-10M	Flush	8	3-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	10000	PUR	63		■	■
NBB8-18GM60-US-V12	Flush	8	3-wire	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			70	■	■	■
NBN8-18GM60-WO	Non-flush	8	2-wire	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	60	■	■	■
NBN8-18GM60-WO-V12	Non-flush	8	2-wire	Normally-closed (NC)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBN8-18GM60-WS	Non-flush	8	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	60	■	■	■
NBN8-18GM60-WS-V11	Non-flush	8	2-wire	Normally-open (NO)	AC	20	253	M12 connector plug			60	■	■	■
NBN8-18GM60-WS-V12	Non-flush	8	2-wire	Normally-open (NO)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBN8-18GM80-WO-V93	Non-flush	8	2-wire	Normally-closed (NC)	AC	20	253	7/8 inch connector plug			80	■	■	■
NBN8-18GM80-WS-V93	Non-flush	8	2-wire	Normally-open (NO)	AC	20	253	7/8 inch connector plug			80	■	■	■
NBN15-18GM55-UO-V93	Non-flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300				75			■
NBN15-18GM55-US-V93	Non-flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	7/8 inch connector plug			75	■	■	■
NBN15-18GM60-UO	Non-flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	Fixed cable	2000	PUR	63	■	■	■
NBN15-18GM60-UO-V12	Non-flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	1/2 inch connector plug			70	■	■	■
NBN15-18GM60-US	Non-flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	2000	PUR	63	■	■	■
NBN15-18GM60-US-V12	Non-flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			70	■	■	■



Accessories	
BF 18	Mounting adapter, 18 mm
EXG-18	Quick-mounting bracket with fixed stop
V11-G-2M-PUR	Single-ended female cordset, M12, 3-pin, PUR cable
V12-G-YE2M-PVC	Cordset, 1/2"-20 UNF, 3-pin, PVC cable
V93-G-YE2M-STOOW	Single-ended female cordset, 7/8", 3-pole, STOOW cable

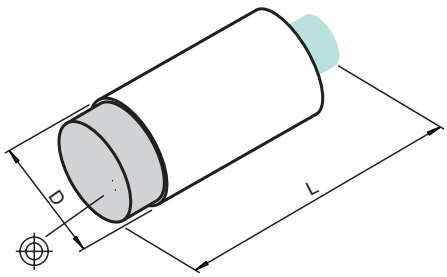
M30 Series – With Plug Connection

Standard Technical Data	
Voltage type	DC
Connection type	M12 connector plug
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Length L	CCC	CSA	EAC	UL
NBB10-30GM40-Z0-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	150	5	60	40	■	■		■
NBB10-30GM40-Z3-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	150	5	60	40	■	■		■
NBB10-30GM50-E0-V1	Flush	10	3-wire	NPN	Normally-open (NO)	200	10	30	50		■		■
NBB10-30GM50-E2-V1	Flush	10	3-wire	PNP	Normally-open (NO)	200	10	30	50		■		■
NBB10-30GM50-E3-V1	Flush	10	3-wire	PNP	Normally-closed (NC)	200	10	30	50		■		■
NBB10-30GM60-A0-V1	Flush	10	4-wire	NPN	Complementary	200	10	30	60		■		■
NBB10-30GM60-A2-V1	Flush	10	4-wire	PNP	Complementary	200	10	30	60		■		■
NCB10-30GM40-Z0-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	150	5	60	40	■	■		■
NCB10-30GM40-Z1-V1	Flush	10	2-wire	2-wire	Normally-closed (NC)	150	5	60	40	■	■		■
NJ10-30GM50-A2-V1	Flush	10	4-wire	PNP	Complementary	300	10	60	50	■	■		■
NBB15-30GM30-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	150	10	30	30		■		■
NBB15-30GM30-E3-V1	Flush	15	3-wire	PNP	Normally-closed (NC)	150	10	30	30		■		■
NBB15-30GM35-A0-V1	Flush	15	4-wire	NPN	Complementary	1000	10	30	51				■
NBB15-30GM35-A2-V1	Flush	15	4-wire	PNP	Complementary	1000	10	30	51				■
NBB15-30GM50-E0-V1	Flush	15	3-wire	NPN	Normally-open (NO)	200	10	30	50		■		■
NBB15-30GM50-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	200	10	30	65		■		■
NBB15-30GM60-A0-V1	Flush	15	4-wire	NPN	Complementary	200	10	30	60		■		■
NBB15-30GM60-A2-V1	Flush	15	4-wire	PNP	Complementary	200	10	30	60		■		■
NBB15-30GM60-B3B-V1	Flush	15	2-wire	AS-Interface	Normally open/close selectable	200	26.5	31.9	65		■		■
NCB15-30GM50-Z4-V1	Flush	15	2-wire	2-wire	Normally-open (NO)	500	3.5	30	48		■		■
NCB15-30GM50-Z5-V1	Flush	15	2-wire	2-wire	Normally-closed (NC)	500	3.5	30	48		■		■
NCB15-30GM50-Z7-V1	Flush	15	2-wire	2-wire	Normally-closed (NC)	500	3.5	30	48		■		■
NEB22-30GM60-E0-V1	Semi-flush	22	3-wire	NPN	Normally-open (NO)	150	10	30	73.5				
NEB22-30GM60-E2-V1	Semi-flush	22	3-wire	PNP	Normally-open (NO)	150	10	30	73.5		■		■
NEB22-30GM60-E3-V1	Semi-flush	22	3-wire	PNP	Normally-closed (NC)	150	10	30	73.5				
NBN15-30GM40-Z0-V1	Non-flush	15	2-wire	2-wire	Normally-open (NO)	150	5	60	40	■	■		■
NBN15-30GM40-Z3-V1	Non-flush	15	2-wire	2-wire	Normally-open (NO)	150	5	60	40	■	■		■
NBN15-30GM50-E0-V1	Non-flush	15	3-wire	NPN	Normally-open (NO)	200	10	30	50		■		■
NBN15-30GM50-E2-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	200	10	30	50		■	■	■
NBN15-30GM60-A0-V1	Non-flush	15	4-wire	NPN	Complementary	200	10	30	60		■		■
NBN15-30GM60-A2-V1	Non-flush	15	4-wire	PNP	Complementary	200	10	30	60		■		■
NCN15-30GM40-Z0-V1	Non-flush	15	2-wire	2-wire	Normally-open (NO)	100	5	60	40	■	■		■
NCN15-30GM40-Z1-V1	Non-flush	15	2-wire	2-wire	Normally-closed (NC)	100	5	60	40	■	■		■
NJ15-30GM50-A2-V1	Non-flush	15	4-wire	PNP	Complementary	300	10	60	50	■	■		■
NBN20-30GM40-A0-V1	Non-flush	20	4-wire	NPN	Complementary	1000	10	30	56				■
NBN20-30GM40-A2-V1	Non-flush	20	4-wire	PNP	Complementary	1000	10	30	56				■
NBN22-30GM35-E2-V1	Non-flush	22	3-wire	PNP	Normally-open (NO)	80	10	30	50		■		■
NBN25-30GM50-E0-V1	Non-flush	25	3-wire	NPN	Normally-open (NO)	200	10	30	50		■		■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Length L	CCC	CSA	EAC	UL
NBN25-30GM50-E2-V1	Non-flush	25	3-wire	PNP	Normally-open (NO)	200	10	30	50		■		■
NCN25-30GM50-Z4-V1	Non-flush	25	2-wire	2-wire	Normally-open (NO)	500	3.5	30	48		■		■
NCN25-30GM50-Z5-V1	Non-flush	25	2-wire	2-wire	Normally-closed (NC)	500	3.5	30	48		■		■
NCN25-30GM50-Z7-V1	Non-flush	25	2-wire	2-wire	Normally-closed (NC)	500	3.5	30	48		■		■
NEN40-30GM60-E0-V1	Non-flush	40	3-wire	NPN	Normally-open (NO)	100	10	30	73.5				
NEN40-30GM60-E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	100	10	30	73.5		■		■
NEN40-30GM60-E3-V1	Non-flush	40	3-wire	PNP	Normally-closed (NC)	100	10	30	73.5				



Accessories	
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
EXG-30	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-BK0,3M-PUR-U-V1-G	Cordset, M12 to M12, PUR cable, 4-pin
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

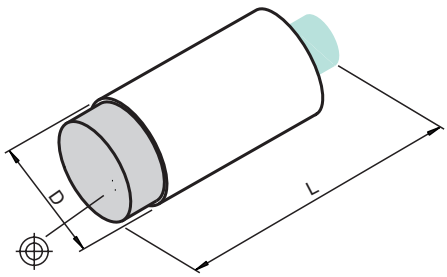
M30 Series – With Cable Connection

Standard Technical Data	
Connection type	Fixed cable
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBB8-30GM60-I3	Flush	8	3-wire	Analog current output	0 mA … 20 mA	DC		15	30	2000	PVC	60			■
NBB10-30GK50-E0	Flush	10	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB10-30GK50-E2	Flush	10	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB10-30GK50-E2-10M	Flush	10	3-wire	PNP	Normally-open (NO)	DC	200	10	30	10000	PVC	50		■	■
NBB10-30GM40-E2	Flush	10	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	40		■	■
NBB10-30GM40-Z0	Flush	10	2-wire	2-wire	Normally-open (NO)	DC	150	5	60	2000	PVC	40	■	■	■
NBB10-30GM50-E0	Flush	10	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB10-30GM50-E2	Flush	10	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB10-30GM60-A0	Flush	10	4-wire	NPN	Complementary	DC	200	10	30	2000	PVC	60		■	■
NBB10-30GM60-A2	Flush	10	4-wire	PNP	Complementary	DC	200	10	30	2000	PVC	60		■	■
NBB10-30GM60-A2-5M	Flush	10	4-wire	PNP	Complementary	DC	200	10	30	5000	PVC	60		■	■
NCB10-30GM40-Z0	Flush	10	2-wire	2-wire	Normally-open (NO)	DC	150	5	60	2000	PUR	40	■	■	■
NCB10-30GM40-Z1	Flush	10	2-wire	2-wire	Normally-closed (NC)	DC	150	5	60	2000	PUR	40	■	■	■
NJ10-30GK50-A2	Flush	10	4-wire	PNP	Complementary	DC	500	10	60	2000	PVC	50	■	■	■
NJ10-30GM50-A2	Flush	10	4-wire	PNP	Complementary	DC	300	10	60	2000	PVC	50	■	■	■
NBB15-30GM30-E2	Flush	15	3-wire	PNP	Normally-open (NO)	DC	150	10	30	2000	PVC	30		■	■
NBB15-30GM30-E3	Flush	15	3-wire	PNP	Normally-closed (NC)	DC	150	10	30	2000	PVC	30		■	■
NBB15-30GM35-A0	Flush	15	4-wire	NPN	Complementary	DC	1000	10	30	2000	PVC	35			■
NBB15-30GM35-A2	Flush	15	4-wire	PNP	Complementary	DC	1000	10	30	2000	PVC	35			■
NBB15-30GM50-E0	Flush	15	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB15-30GM50-E2	Flush	15	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBB15-30GM60-A0	Flush	15	4-wire	NPN	Complementary	DC	200	10	30	2000	PVC	60		■	■
NBB15-30GM60-A2	Flush	15	4-wire	PNP	Complementary	DC	200	10	30	2000	PVC	60		■	■
NCB15-30GM50-Z4	Flush	15	2-wire	2-wire	Normally-open (NO)	DC	500	3.5	30	2000	PVC	48		■	■
NCB15-30GM50-Z5	Flush	15	2-wire	2-wire	Normally-closed (NC)	DC	500	3.5	30	2000	PVC	48		■	■
NEB22-30GM60-E0	Semi-flush	22	3-wire	NPN	Normally-open (NO)	DC	150	10	30	2000	PVC	60			
NEB22-30GM60-E2	Semi-flush	22	3-wire	PNP	Normally-open (NO)	DC	150	10	30	2000	PVC	60			
NBN15-30GK50-E0	Non-flush	15	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBN15-30GK50-E2	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBN15-30GK50-E2-25M	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	200	10	30	5000	PVC	50		■	■
NBN15-30GK60-AR-1M	Non-flush	15	Relay	Relay	Change-over contact	DC	20	10	30	1000	PVC	60		■	■
NBN15-30GK60-AR-3M	Non-flush	15	Relay	Relay	Change-over contact	DC	20	10	30	3000	PVC	60		■	■
NBN15-30GK60-UR-5M	Non-flush	15	Relay	Relay	Change-over contact	AC/DC		20	132	5000	PVC	60		■	■
NBN15-30GM40-Z0	Non-flush	15	2-wire	2-wire	Normally-open (NO)	DC	150	5	60	2000	PVC	40	■	■	■
NBN15-30GM50-E0	Non-flush	15	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBN15-30GM50-E2	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBN15-30GM60-A0	Non-flush	15	4-wire	NPN	Complementary	DC	200	10	30	2000	PVC	60		■	■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBN15-30GM60-A2	Non-flush	15	4-wire	PNP	Complementary	DC	200	10	30	2000	PVC	60		■	■
NBN15-30GM60-A2-5M	Non-flush	15	4-wire	PNP	Complementary	DC	200	10	30	5000	PVC	60		■	■
NBN15-30GM60-I3	Non-flush	15	3-wire	Analog current output	0 mA … 20 mA	DC		15	30	2000	PVC	60			■
NBN15-30GM60-I3-5M	Non-flush	15	3-wire	Analog current output	0 mA … 20 mA	DC		15	30	5000	PVC	60			■
NCN15-30GM40-Z0	Non-flush	15	2-wire	2-wire	Normally-open (NO)	DC	100	5	60	2000	PUR	40	■	■	■
NCN15-30GM40-Z0-10M	Non-flush	15	2-wire	2-wire	Normally-open (NO)	DC	100	5	60	10000	PUR	40	■	■	■
NCN15-30GM40-Z1	Non-flush	15	2-wire	2-wire	Normally-closed (NC)	DC	100	5	60	2000	PUR	40	■	■	■
NJ15-30GK50-A2	Non-flush	15	4-wire	PNP	Complementary	DC	300	10	60	2000	PVC	50	■	■	■
NJ15-30GM50-A2	Non-flush	15	4-wire	PNP	Complementary	DC	300	10	60	2000	PVC	50	■	■	■
NBN20-30GM40-A0	Non-flush	20	4-wire	NPN	Complementary	DC	1000	10	30	2000	PVC	40			■
NBN20-30GM40-A2	Non-flush	20	4-wire	PNP	Complementary	DC	1000	10	30	2000	PVC	40			■
NBN22-30GM35-E2	Non-flush	22	3-wire	PNP	Normally-open (NO)	DC	80	10	30	2000	PVC	35		■	■
NBN25-30GM50-E0	Non-flush	25	3-wire	NPN	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NBN25-30GM50-E2	Non-flush	25	3-wire	PNP	Normally-open (NO)	DC	200	10	30	2000	PVC	50		■	■
NCN25-30GM50-Z4	Non-flush	25	2-wire	2-wire	Normally-open (NO)	DC	500	3.5	30	2000	PVC	48		■	■
NCN25-30GM50-Z5	Non-flush	25	2-wire	2-wire	Normally-closed (NC)	DC	500	3.5	30	2000	PVC	48		■	■
NEN40-30GM60-E0	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	100	10	30	2000	PVC	60			
NEN40-30GM60-E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	100	10	30	2000	PVC	60			



Accessories	
AB-30	Mounting aid
BF 30	Mounting adapter, 30 mm
EXG-18	Quick-mounting bracket with fixed stop
EXG-30	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

M30 Series – 250 V Version

Standard Technical Data	
Output type	2-wire
Operating voltage (min)	20 V
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

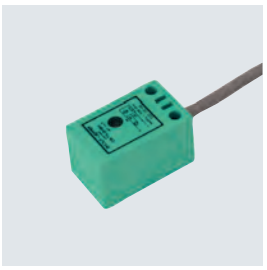
Model number	Type of installation	Detection range [mm]	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (max)	Connection type	Cable length [mm]	Cable material	Length L	CCC	CSA	UL
NBB10-30GKK-WO	Flush	10	2-wire	Normally-closed (NC)	AC	20	250	Terminal compartment			115	■	■	■
NBB10-30GKK-WS	Flush	10	2-wire	Normally-open (NO)	AC	20	250	Terminal compartment			115	■	■	■
NBB10-30GM50-WO	Flush	10	2-wire	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	50	■	■	■
NBB10-30GM50-WO-10M	Flush	10	2-wire	Normally-closed (NC)	AC	20	253	Fixed cable	10000	PVC	50	■	■	■
NBB10-30GM50-WO-V12	Flush	10	2-wire	Normally-closed (NC)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB10-30GM50-WO-V93	Flush	10	2-wire	Normally-closed (NC)	AC	20	253	7/8 inch connector plug			50	■	■	■
NBB10-30GM50-WS	Flush	10	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	50	■	■	■
NBB10-30GM50-WS-10M	Flush	10	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	10000	PVC	50	■	■	■
NBB10-30GM50-WS-V11	Flush	10	2-wire	Normally-open (NO)	AC	20	253	M12 connector plug			60	■	■	■
NBB10-30GM50-WS-V12	Flush	10	2-wire	Normally-open (NO)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB10-30GM50-WS-V93	Flush	10	2-wire	Normally-open (NO)	AC	20	253	7/8 inch connector plug			50	■	■	■
NBB15-30GKK-WO	Flush	15	2-wire	Normally-closed (NC)	AC	20	250	Terminal compartment			115	■	■	■
NBB15-30GKK-WS	Flush	15	2-wire	Normally-open (NO)	AC	20	250	Terminal compartment			115	■	■	■
NBB15-30GM50-UO	Flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	Fixed cable	2000	PUR	50	■	■	■
NBB15-30GM50-UO-5M	Flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	Fixed cable	5000	PUR	50			■
NBB15-30GM50-UO-V12	Flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	M12 connector plug			60	■	■	■
NBB15-30GM50-UO-V93	Flush	15	3-wire	Normally-closed (NC)	AC/DC	30	300	7/8 inch connector plug			65	■	■	■
NBB15-30GM50-US	Flush	15	2-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	2000	PUR	50	■	■	■
NBB15-30GM50-US-5M	Flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	5000	PUR	50	■	■	■
NBB15-30GM50-US-V12	Flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			60	■	■	■
NBB15-30GM50-US-V93	Flush	15	3-wire	Normally-open (NO)	AC/DC	30	300	7/8 inch connector plug			65	■	■	■
NBB15-30GM50-WO	Semi-flush	15	2-wire	Normally-closed (NC)	AC	20	253	Fixed cable	2000	PVC	50	■	■	■
NBB15-30GM50-WO-V12	Semi-flush	15	2-wire	Normally-closed (NC)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB15-30GM50-WO-V93	Semi-flush	15	2-wire	Normally-closed (NC)	AC	20	253	7/8 inch connector plug			50		■	■
NBB15-30GM50-WS	Semi-flush	15	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	2000	PVC	50	■	■	■
NBB15-30GM50-WS-5M	Semi-flush	15	2-wire	Normally-open (NO)	AC	20	253	Fixed cable	5000	PVC	50			
NBB15-30GM50-WS-V11	Semi-flush	15	2-wire	Normally-open (NO)	AC	20	250	M12 connector plug			60	■	■	■
NBB15-30GM50-WS-V12	Semi-flush	15	2-wire	Normally-open (NO)	AC	20	253	1/2 inch connector plug			60	■	■	■
NBB15-30GM50-WS-V93	Semi-flush	15	2-wire	Normally-open (NO)	AC	20	253	7/8 inch connector plug			50	■	■	■
NBN25-30GM50-UO	Non-flush	25	3-wire	Normally-closed (NC)	AC/DC	30	300	Fixed cable	2000	PUR	51	■	■	■
NBN25-30GM50-UO-V12	Non-flush	25	3-wire	Normally-closed (NC)	AC/DC	30	300	1/2 inch connector plug			60	■	■	■
NBN25-30GM50-UO-V93	Non-flush	25	3-wire	Normally-closed (NC)	AC/DC	30	300	7/8 inch connector plug			65	■	■	■
NBN25-30GM50-US	Non-flush	25	3-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	2000	PUR	51	■	■	■
NBN25-30GM50-US-V12	Non-flush	25	3-wire	Normally-open (NO)	AC/DC	30	300	1/2 inch connector plug			60	■	■	■
NBN25-30GM50-US-V93	Non-flush	25	3-wire	Normally-open (NO)	AC/DC	30	300	7/8 inch connector plug			65	■	■	■
NBN25-30GM65-US-5M	Non-flush	25	3-wire	Normally-open (NO)	AC/DC	30	300	Fixed cable	5000	PUR	51	■		■

Cube-Style Inductive Proximity Sensors

Contents

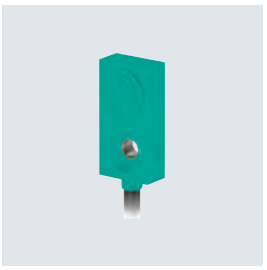
F Series
Page 47

F1 Series
Page 47

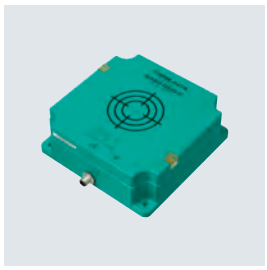


F7 Series
Page 48

F76 Series
Page 49



F79 Series
Page 50



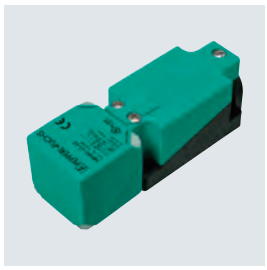
F23 Series
Page 56

F29 Series
Page 57

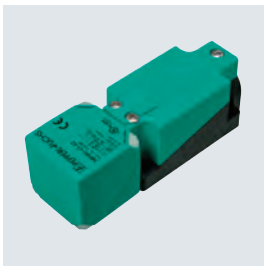
F33/F33M Series
Page 58

F41/F41A Series
Page 59

FP Series
Page 60



VariKont U4 Series
Page 68



VariKont U10 Series
Page 69

F9 Series
Page 51

F10 Series
Page 52

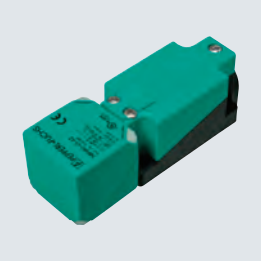
F11 Series
Page 53

F148 Series
Page 54

V3 Series
Page 55

FPS Series
Page 61

VariKont L2/L3 Series
Page 62



VariKont U1 Series
Page 64

VariKont U2 Series
Page 66

VariKont U3 Series
Page 67

BAJA COMTECH
DISTRIBUIDOR AUTORIZADO
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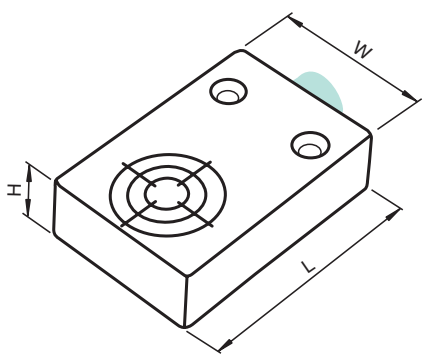
ventas@bajacomtech.com

F Series

Standard Technical Data	
Voltage type	DC
Connection type	Fixed cable
Housing length L	45 mm
Housing width W	30 mm
Housing height H	12 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Cable length [mm]	Cable material	CCC
NJ6-F-A	Flush	6	4-wire	NPN	Complementary	500	10	60	2000	PUR	■
NJ6-F-A2	Flush	6	4-wire	PNP	Complementary	500	10	60	2000	PUR	■
NJ6-F-E	Flush	6	3-wire	NPN	Normally-open (NO)	500	10	60	2000	PUR	■
NJ6-F-E2	Flush	6	3-wire	PNP	Normally-open (NO)	500	10	60	2000	PUR	■
NJ6-F-E2-5M	Flush	6	3-wire	PNP	Normally-open (NO)	500	10	60	5000	PUR	■
NJ6-F-E2-10M	Flush	6	3-wire	PNP	Normally-open (NO)	500	10	60	10000	PUR	■
NBB6-F-B3	Flush	6	2-wire	AS-Interface	Normally open/close selectable		26.5	31.9	2000	PVC	
NBB6-F-B3B	Flush	6	2-wire	AS-Interface	Normally open/close selectable		26.5	31.9	2000	PVC	
NBB6-F-E2	Flush	6	3-wire	PNP	Normally-open (NO)	500	10	30	5000	PVC	
NJ10-F-A2	Flush	10	4-wire	PNP	Complementary	200	10	60	2000	PUR	■
NJ10-F-E2	Non-flush	10	3-wire	PNP	Normally-open (NO)	250	10	60	2000	PUR	■

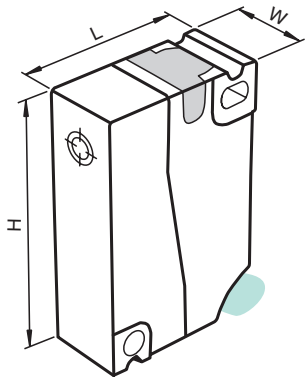


F1 Series

Standard Technical Data	
Housing length L	26 mm
Housing width W	12 mm
Housing height H	40 mm
CSA	■
UL	■

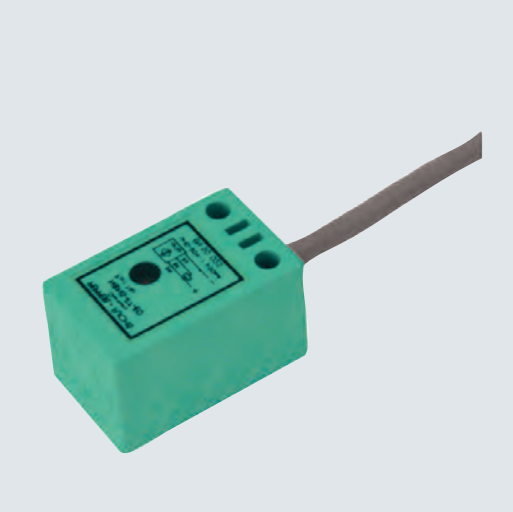
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable material	CCC
NBB2-F1-US	Flush	2	2-wire	2-wire	Normally-open (NO)	AC/DC	25	20	253	Fixed cable	2000	PVC	■
NBB2-F1-E2	Flush	2	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	Fixed cable	2000	PVC	
NBB2-F1-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	M8 connector plug			
NBB4-F1-A0	Flush	4	4-wire	NPN	Complementary	DC	1400	10	30	Fixed cable	2000	PVC	
NBB4-F1-A0 5M	Flush	4	4-wire	NPN	Complementary	DC	1400	10	30	Fixed cable	5000	PVC	
NBB4-F1-A0-V31	Flush	4	4-wire	NPN	Complementary	DC	1400	10	30	M8 connector plug			
NBB4-F1-A2	Flush	4	4-wire	PNP	Complementary	DC	1400	10	30	Fixed cable	2000	PVC	
NBB4-F1-A2-V31	Flush	4	4-wire	PNP	Complementary	DC	1400	10	30	M8 connector plug			
NBB4-F1-E0	Flush	4	3-wire	NPN	Normally-open (NO)	DC	1400	10	30	Fixed cable	2000	PVC	
NBB4-F1-E0-V3	Flush	4	3-wire	NPN	Normally-open (NO)	DC	1400	10	30	M8 connector plug			
NBB4-F1-E2	Flush	4	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	Fixed cable	2000	PVC	
NBB4-F1-E2-6M	Flush	4	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	Fixed cable	6000	PVC	
NBB4-F1-E2-V3	Flush	4	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	M8 connector plug			
NBB4-F1-E3	Flush	4	3-wire	PNP	Normally-closed (NC)	DC	1400	10	30	Fixed cable	2000	PVC	
NBB4-F1-E3-6M	Flush	4	3-wire	PNP	Normally-closed (NC)	DC	1400	10	30	Fixed cable	6000	PVC	
NBB4-F1-E3-V3	Flush	4	3-wire	PNP	Normally-closed (NC)	DC	1400	10	30	M8 connector plug			
NBB4-F1-UO	Flush	4	2-wire	2-wire	Normally-closed (NC)	AC/DC	25	20	253	Fixed cable	2000	PVC	■
NBB4-F1-US	Flush	4	2-wire	2-wire	Normally-open (NO)	AC/DC	25	20	253	Fixed cable	2000	PVC	■
NBN8-F1-A0	Non-flush	8	4-wire	NPN	Complementary	DC	1400	10	30	Fixed cable	2000	PVC	
NBN8-F1-A0-V31	Non-flush	8	4-wire	NPN	Complementary	DC	1400	10	30	M8 connector plug			
NBN8-F1-A2	Non-flush	8	4-wire	PNP	Complementary	DC	1400	10	30	Fixed cable	2000	PVC	
NBN8-F1-A2-V31	Non-flush	8	4-wire	PNP	Complementary	DC	1400	10	30	M8 connector plug			
NBN8-F1-E0	Non-flush	8	3-wire	NPN	Normally-open (NO)	DC	1400	10	30	Fixed cable	2000	PVC	
NBN8-F1-E0-V3	Non-flush	8	3-wire	NPN	Normally-open (NO)	DC	1400	10	30	M8 connector plug			
NBN8-F1-E2	Non-flush	8	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	Fixed cable	2000	PVC	
NBN8-F1-E2-V3	Non-flush	8	3-wire	PNP	Normally-open (NO)	DC	1400	10	30	M8 connector plug			
NBN8-F1-E3	Non-flush	8	3-wire	PNP	Normally-closed (NC)	DC	1400	10	30	Fixed cable	2000	PVC	
NBN8-F1-E3-V3	Non-flush	8	3-wire	PNP	Normally-closed (NC)	DC	1400	10	30	M8 connector plug			



Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

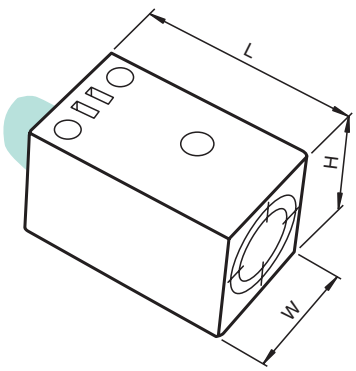
F7 Series



Standard Technical Data	
Type of installation	Non-flush
Detection range	5 mm
Output type	3-wire
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable material	PVC
Housing length L	28 mm
Housing width W	17 mm
Housing height H	17 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Cable length [mm]
NBN5-F7-E0	NPN	2000
NBN5-F7-E0-5M	NPN	5000
NBN5-F7-E2	PNP	2000

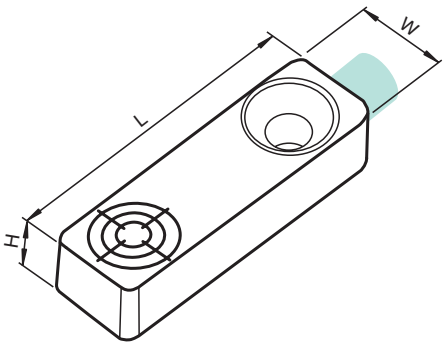


F76 Series

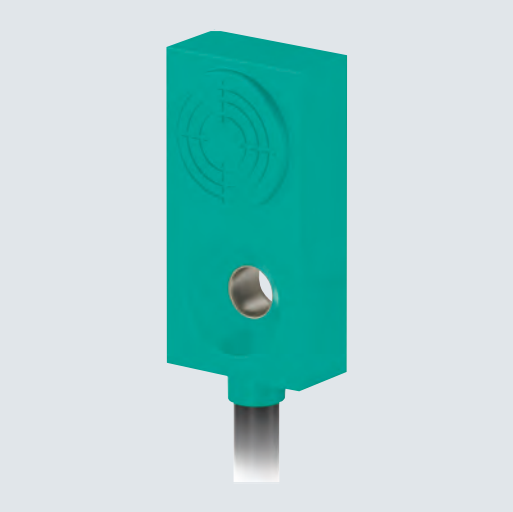
Standard Technical Data	
Type of installation	Flush
Detection range	2 mm
Output type	3-Wire
Voltage type	DC
Switching frequency	1500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable Length	5000 mm
Cable material	PVC
Housing length L	25 mm
Housing width W	8 mm
Housing height H	5.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Switching function
NBB2-F76-E0-0,5M	NPN	Normally-open (NO)
NBB2-F76-E1-0,5M	NPN	Normally-closed (NC)
NBB2-F76-E2-0,5M	PNP	Normally-open (NO)
NBB2-F76-E3-0,5M	PNP	Normally-closed (NC)



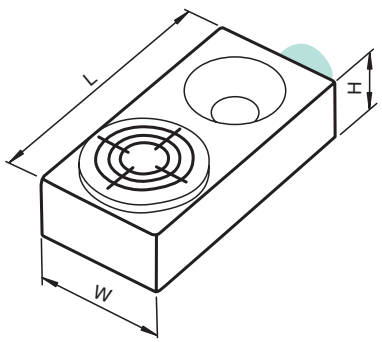
F79 Series



Standard Technical Data	
Type of installation	Flush
Detection range	1.5 mm
Output type	3-wire
Voltage type	DC
Switching frequency	1200 Hz
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	16 mm
Housing width W	8 mm
Housing height H	4.7 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Switching function	Connection type	Cable length [mm]	CSA	EAC	UL
NBB1,5-F79-E0	NPN	Normally-open (NO)	Stranded cable	500	■		■
NBB1,5-F79-E0-0,1M-V3	NPN	Normally-open (NO)	Fixed cable with M8 plug	100			
NBB1,5-F79-E0-0,5M	NPN	Normally-open (NO)	Fixed cable	500			
NBB1,5-F79-E0-5M	NPN	Normally-open (NO)	Fixed cable	5000			
NBB1,5-F79-E1	NPN	Normally-closed (NC)	Other		■		■
NBB1,5-F79-E1-0,1M-V3	NPN	Normally-closed (NC)	Fixed cable with M8 plug	100			
NBB1,5-F79-E1-0,5M	NPN	Normally-closed (NC)	Fixed cable	500			
NBB1,5-F79-E1-5M	NPN	Normally-closed (NC)	Fixed cable	5000			
NBB1,5-F79-E2	PNP	Normally-open (NO)	Stranded cable	500	■	■	■
NBB1,5-F79-E2-0,16M-V1	PNP	Normally-open (NO)	Fixed cable with M12 plug	160			
NBB1,5-F79-E2-0,1M-V3	PNP	Normally-open (NO)	Fixed cable with M8 plug	100			
NBB1,5-F79-E2-0,5M	PNP	Normally-open (NO)	Fixed cable	500			
NBB1,5-F79-E2-2M	PNP	Normally-open (NO)	Fixed cable	2000			■
NBB1,5-F79-E2-5M	PNP	Normally-open (NO)	Fixed cable	5000			
NBB1,5-F79-E3	PNP	Normally-closed (NC)	Stranded cable	500	■	■	■
NBB1,5-F79-E3-0,1M-V3	PNP	Normally-closed (NC)	Fixed cable with M8 plug	100			
NBB1,5-F79-E3-0,5M	PNP	Normally-closed (NC)	Fixed cable	500			
NBB1,5-F79-E3-5M	PNP	Normally-closed (NC)	Fixed cable	5000			



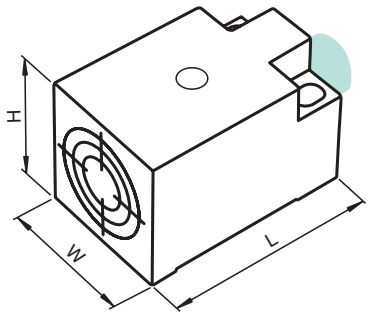
Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

F9 Series

Standard Technical Data	
Type of installation	Flush
Detection range	5 mm
Output type	3-wire
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	16 mm
Housing height H	16.5 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Connection type	Cable length [mm]	Cable material
NBB5-F9-E0	NPN	Fixed cable	2000	PVC
NBB5-F9-E0-V3	NPN	8 mm connector plug		
NBB5-F9-E2	PNP	Fixed cable	2000	PVC
NBB5-F9-E2-V3	PNP	8 mm connector plug		



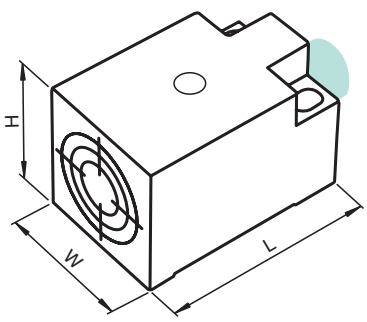
Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

F10 Series

Standard Technical Data	
Output type	3-wire
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	25 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Connection type	Cable length [mm]	Cable material	EAC
NBB7-F10-E0	Flush	7	NPN	Fixed cable	2000	PVC	
NBB7-F10-E2	Flush	7	PNP	Fixed cable	2000	PVC	
NBN10-F10-E0	Non-flush	10	NPN	Fixed cable	2000	PVC	
NBN10-F10-E0-V1	Non-flush	10	NPN	M12 connector plug			
NBN10-F10-E2	Non-flush	10	PNP	Fixed cable	2000	PVC	■
NBN10-F10-E2-V1	Non-flush	10	PNP	M12 connector plug			



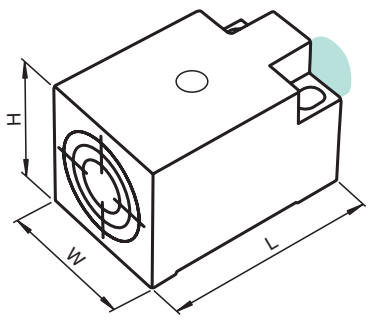
Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

F11 Series

Standard Technical Data	
Type of installation	Non-flush
Detection range	15 mm
Output type	3-wire
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	150 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	30 mm
Housing height H	30.5 mm
CSA	■
UL	■

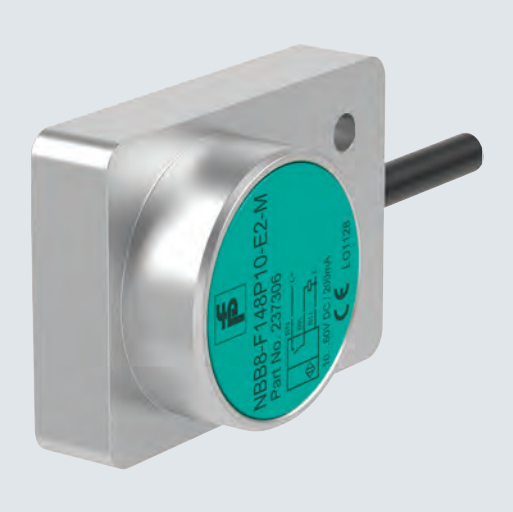
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Connection type	Cable length [mm]	Cable material
NBN15-F11-E0	NPN	Fixed cable	2000	PVC
NBN15-F11-E0-V1	NPN	M12 connector plug		
NBN15-F11-E2	PNP	Fixed cable	2000	PVC
NBN15-F11-E2-V1	PNP	M12 connector plug		



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

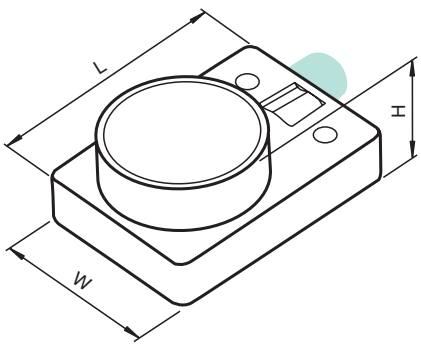
F148 Series



Standard Technical Data	
Type of installation	Flush
Voltage type	DC
Switching frequency	600 Hz
Operating voltage (min)	10 V
Cable material	PUR
Housing length L	50 mm
Housing width W	35 mm
Housing height H	20 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Output type	Switching function	UB (max)	Connection type	Cable length [mm]	E1 type approval
NBB8-F148P10-E0-M	8	3-wire	NPN	Normally-open (NO)	60	Fixed cable	2000	■
NBB8-F148P10-E2-M	8	3-wire	PNP	Normally-open (NO)	60	Fixed cable	2000	■
NBB8-F148P10-E2-M-0,15M-3DT04	8	3-wire	PNP	Normally-open (NO)	60	Fixed cable with Deutsch plug	150	■
NBB15-F148P10-E0-M	15	3-wire	NPN	Normally-open (NO)	60	Fixed cable	2000	■
NBB15-F148P10-E2-M	15	3-wire	PNP	Normally-open (NO)	60	Fixed cable	2000	■
NBB15-F148P10-E2-M-0,15M-3DT04	15	3-wire	PNP	Normally-open (NO)	60	Fixed cable with Deutsch plug	150	■
NBB15-F148P10-ARO	15	Relay	Relay	Normally-closed (NC)	30	Fixed cable	2000	
NBB15-F148P10-ARS	15	Relay	Relay	Normally-open (NO)	30	Fixed cable	2000	



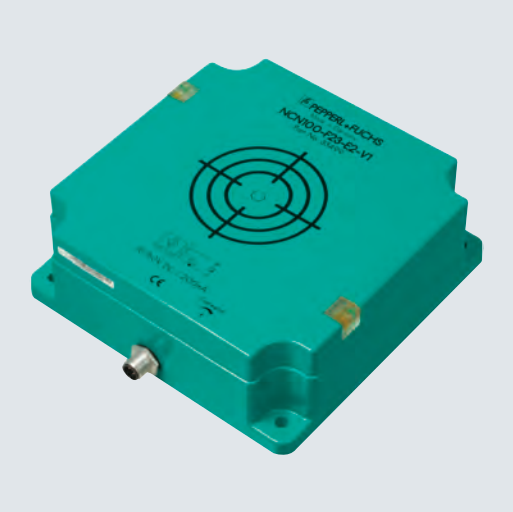
V3 Series

Standard Technical Data	
Voltage type	DC
Housing length L	16 mm
Housing width W	27.8 mm
Housing height H	10.2 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching Frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable material	CCC	CSA	EAC	UL
NBB2-V3-E0	Flush	2	3-wire	NPN	Normally-open (NO)	1000	10	30	Fixed cable	130	PVC		■		■
NBB2-V3-E0-V5	Flush	2	3-wire	NPN	Normally-open (NO)	1000	10	30	Faston connector plug				■		■
NBB2-V3-E1-V5	Flush	2	3-wire	NPN	Normally-closed (NC)	1000	10	30	Faston connector plug				■		■
NBB2-V3-E2	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	Fixed cable	130	PVC		■	■	■
NBB2-V3-E2-10M	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	Fixed cable	10000	PVC		■		■
NBB2-V3-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	M8 connector plug						■
NBB2-V3-E2-V5	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30	Faston connector plug				■		■
NBB2-V3-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	1000	10	30	Fixed cable	130	PVC		■		■
NBB2-V3-E3-V3	Flush	2	3-wire	PNP	Normally-closed (NC)	1000	10	30	M8 connector plug						■
NBB2-V3-E3-V5	Flush	2	3-wire	PNP	Normally-closed (NC)	1000	10	30	Faston connector plug				■		■
NBB2-V3-Z4L	Flush	2	2-wire	2-wire	Normally-open (NO)	700	3.7	30	Fixed cable	130	PVC				
NBB3-V3-E0	Flush	3	3-wire	NPN	Normally-open (NO)	1000	10	30	Fixed cable	130	PVC				
NBB3-V3-E0-V3	Flush	3	3-wire	NPN	Normally-open (NO)	1000	10	30	M8 connector plug						
NBB3-V3-E1	Flush	3	3-wire	NPN	Normally-closed (NC)	1000	10	30	Fixed cable	130	PVC				
NBB3-V3-E1-V3	Flush	3	3-wire	NPN	Normally-closed (NC)	1000	10	30	M8 connector plug						
NBB3-V3-E2	Flush	3	3-wire	PNP	Normally-open (NO)	1000	10	30	Fixed cable	130	PVC				
NBB3-V3-E2-2M	Flush	3	3-wire	PNP	Normally-open (NO)	1000	10	30	Fixed cable	2000	PVC				
NBB3-V3-E2-V3	Flush	3	3-wire	PNP	Normally-open (NO)	1000	10	30	M8 connector plug						
NBB3-V3-E3	Flush	3	3-wire	PNP	Normally-closed (NC)	1000	10	30	Fixed cable	130	PVC				
NBB3-V3-E3-V3	Flush	3	3-wire	PNP	Normally-closed (NC)	1000	10	30	M8 connector plug						
NBB3-V3-Z4	Flush	3	2-wire	2-wire	Normally-open (NO)	2000	5	60	Fixed cable	130	PVC	■	■		■
NBB3-V3-Z4-2M	Flush	3	2-wire	2-wire	Normally-open (NO)	2000	5	60	Fixed cable	2000	PVC	■	■		■
NBB3-V3-Z4-V5	Flush	3	2-wire	2-wire	Normally-open (NO)	2000	5	60	Faston connector plug			■	■		■
NBB3-V3-Z5	Flush	3	2-wire	2-wire	Normally-closed (NC)	2000	5	60	Fixed cable	130	PVC	■	■		■
NBB3-V3-Z5-V5	Flush	3	2-wire	2-wire	Normally-closed (NC)	2000	5	60	Faston connector plug			■	■		■
NBN4-V3-E0	Non-flush	4	3-wire	NPN	Normally-open (NO)	500	10	30	Fixed cable	130	PVC		■		■
NBN4-V3-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	Fixed cable	130	PVC		■		■
NBN6-V3-E0	Non-flush	6	3-wire	NPN	Normally-open (NO)	500	10	30	Fixed cable	130	PVC				
NBN6-V3-E0-V3	Non-flush	6	3-wire	NPN	Normally-open (NO)	1000	10	30	M8 connector plug						
NBN6-V3-E1	Non-flush	6	3-wire	NPN	Normally-closed (NC)	500	10	30	Fixed cable	130	PVC				
NBN6-V3-E1-V3	Non-flush	6	3-wire	NPN	Normally-closed (NC)	1000	10	30	M8 connector plug						
NBN6-V3-E2	Non-flush	6	3-wire	PNP	Normally-open (NO)	500	10	30	Fixed cable	130	PVC				
NBN6-V3-E2-V3	Non-flush	6	3-wire	PNP	Normally-open (NO)	1000	10	30	M8 connector plug						
NBN6-V3-E3	Non-flush	6	3-wire	PNP	Normally-closed (NC)	500	10	30	Fixed cable	130	PVC				
NBN6-V3-E3-V3	Non-flush	6	3-wire	PNP	Normally-closed (NC)	1000	10	30	M8 connector plug						

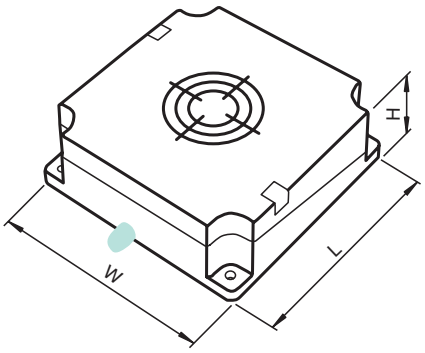
F23 Series



Standard Technical Data	
Type of installation	Non-flush
Detection range	100 mm
Output type	3-wire
Output type	PNP
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	10 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	177 mm
Housing width W	177 mm
Housing height H	60.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	
NCN100-F23-E2-V1	



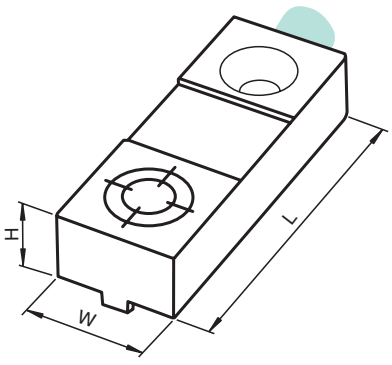
Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

F29 Series

Standard Technical Data	
Voltage type	DC
Switching frequency	1000 Hz
Operating voltage (min)	4.75 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	27 mm
Housing width W	10 mm
Housing height H	6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Connection type	Cable length [mm]	CSA
NBB2-F29-A0	Flush	2	4-wire	NPN	Complementary	Fixed cable	2000	■
NBB2-F29-A2	Flush	2	4-wire	PNP	Complementary	Fixed cable	2000	■
NBB2-F29-E2-5M	Flush	2	3-wire	PNP	Normally-open (NO)	Fixed cable	5000	
NBB2-F29-E3	Flush	2	3-wire	PNP	Normally-closed (NC)	Fixed cable	2000	■
NBN4-F29-A2	Non-flush	4	4-wire	PNP	Complementary	Fixed cable	2000	■
NBN4-F29-E0	Non-flush	4	3-wire	NPN	Normally-open (NO)	Fixed cable	2000	■
NBN4-F29-E0-5M	Non-flush	4	3-wire	NPN	Normally-open (NO)	Fixed cable	5000	■
NBN4-F29-E2	Non-flush	4	3-wire	PNP	Normally-open (NO)	Fixed cable	2000	■
NBN4-F29-E2-5M	Non-flush	4	3-wire	PNP	Normally-open (NO)	Fixed cable	5000	■
NBN4-F29-E3-0,5M-V3	Non-flush	4	3-wire	PNP	Normally-closed (NC)	Fixed cable with M8 plug	5000	
NBN4-F29-E3-5M	Non-flush	4	3-wire	PNP	Normally-closed (NC)	Fixed cable	5000	■



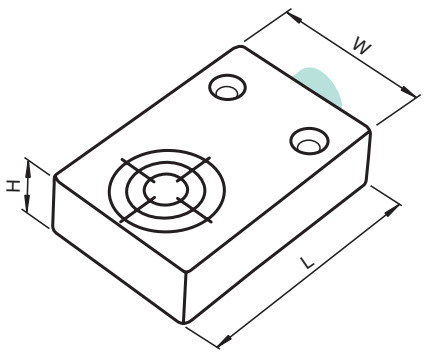
Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

F33/F33M Series

Standard Technical Data	
Type of installation	Flush
Voltage type	DC
Operating voltage (min)	10 V
Connection type	Fixed cable
Housing length L	10 mm
Housing width W	50 mm
Housing height H	25 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Output type	Switching function	Switching Frequency [Hz]	UB (max)	Cable length [mm]	Cable material	CCC	CSA
NBB5-F33-A0	5	4-wire	NPN	Complementary	500	30	2000	PVC		■
NBB5-F33-A2	5	4-wire	PNP	Complementary	500	30	2000	PVC		■
NBB5-F33-A2-5M	5	4-wire	PNP	Complementary	500	30	5000	PVC		■
NBB5-F33-E0	5	3-wire	NPN	Normally-open (NO)	500	30	2000	PVC		■
NBB5-F33-E2	5	3-wire	PNP	Normally-open (NO)	500	30	2000	PVC		■
NBB5-F33M-A0	5	4-wire	NPN	Complementary	500	30	2000	PVC		■
NBB5-F33M-A2	5	4-wire	PNP	Complementary	500	30	2000	PVC		■
NBB5-F33M-E0	5	3-wire	NPN	Normally-open (NO)	500	30	2000	PVC		■
NBB5-F33M-E2	5	3-wire	PNP	Normally-open (NO)	500	30	2000	PVC		■
NBB5-F33M-E2-5M	5	3-wire	PNP	Normally-open (NO)	500	30	5000	PVC		■
NBB8-F33-E0	8	3-wire	NPN	Normally-open (NO)	350	60	2000	PVC	■	■
NBB8-F33-E1	8	3-wire	NPN	Normally-closed (NC)	350	60	2000	PVC	■	■
NBB8-F33-E2	8	3-wire	PNP	Normally-open (NO)	350	60	2000	PVC	■	■
NBB8-F33-E2-0,2M-V1	8	3-wire	PNP	Normally-open (NO)	350	30		PVC		
NBB8-F33-E3	8	3-wire	PNP	Normally-closed (NC)	350	60	2000	PVC	■	■
NBB8-F33-E3-0,2M-V1	8	3-wire	PNP	Normally-closed (NC)	350	30				



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

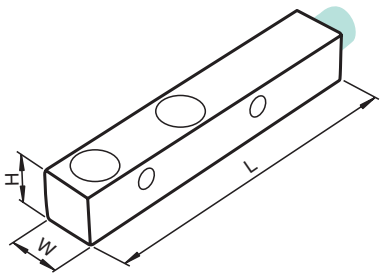
F41/F41A Series

Standard Technical Data	
Output type	3-wire
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing width W	8 mm
Housing height H	8 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L
NBB1,5-F41-E2	Flush	1.5	PNP	Normally-open (NO)	1500	Fixed cable	2000	PVC	40
NBB1,5-F41-E2-V3	Flush	1.5	PNP	Normally-open (NO)	1500	M8 connector plug			46
NBB1,5-F41-E3	Flush	1.5	PNP	Normally-closed (NC)	1500	Fixed cable	2000	PVC	40
NBB1,5-F41-E3-6M	Flush	1.5	PNP	Normally-closed (NC)	1500	Fixed cable	6000	PVC	40
NBB1,5-F41-E3-V3	Flush	1.5	PNP	Normally-closed (NC)	1500	M8 connector plug			46
NBB1,5-F41A-E2	Flush	1.5	PNP	Normally-open (NO)	1500	Fixed cable	2000	PVC	40
NBB1,5-F41A-E2-V3	Flush	1.5	PNP	Normally-open (NO)	1500	M8 connector plug			46
NBB1,5-F41A-E3	Flush	1.5	PNP	Normally-closed (NC)	1500	Fixed cable	2000	PVC	40
NBB1,5-F41A-E3-V3	Flush	1.5	PNP	Normally-closed (NC)	1500	M8 connector plug			46
NBB2-F41-E2-V3	Flush	2	PNP	Normally-open (NO)	3000	M8 connector plug			46
NEB3-F41-E0	Semi-flush	3	NPN	Normally-open (NO)	1000	Fixed cable	2000	PVC	40
NEB3-F41-E0-V3	Semi-flush	3	NPN	Normally-open (NO)	1000	M8 connector plug			50
NEB3-F41-E1	Semi-flush	3	NPN	Normally-closed (NC)	1000	Fixed cable	2000	PVC	40
NEB3-F41-E1-V3	Semi-flush	3	NPN	Normally-closed (NC)	1000	M8 connector plug			50
NEB3-F41-E2	Semi-flush	3	PNP	Normally-open (NO)	1000	Fixed cable	2000	PVC	40
NEB3-F41-E2-V3	Semi-flush	3	PNP	Normally-open (NO)	1000	M8 connector plug			50
NEB3-F41-E3	Semi-flush	3	PNP	Normally-closed (NC)	1000	Fixed cable	2000	PVC	40
NEB3-F41-E3-V3	Semi-flush	3	PNP	Normally-closed (NC)	1000	M8 connector plug			50

Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

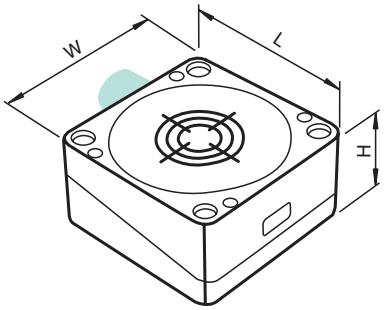


FP Series

Standard Technical Data	
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	EAC
NCB40-FP-A2-P1	Flush	40	4-wire	PNP	Complementary	DC	80	10	60	Terminal compartment	80	80	40	■	
NCB40-FP-A2-P1-V1	Flush	40	4-wire	PNP	Complementary	DC	80	10	60	M12 connector plug	80	80	40	■	
NCB40-FP-A2-P4-V1	Flush	40	4-wire	PNP	Complementary	DC	80	10	60	M12 connector plug	80	80	40	■	
NCB40-FP-W-P1	Flush	40	2-wire	2-wire	Normally open/close selectable	AC	20	20	253	Terminal compartment	80	80	40	■	
NCB40-FP-Z2-P1	Flush	40	2-wire	2-wire	Normally open/close selectable	DC	50	10	60	Terminal compartment	84	84	40	■	
NCB50-FP-A2-P1	Flush	50	4-wire	PNP	Complementary	DC	80	10	60	Terminal compartment	84	84	40	■	
NCB50-FP-A2-P1-V1	Flush	50	4-wire	PNP	Complementary	DC	80	10	60	M12 connector plug	84	84	40	■	
NCB50-FP-A2-P4-V1	Flush	50	4-wire	PNP	Complementary	DC	80	10	60	M12 connector plug	84	84	40		
NCB50-FP-E2-P1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	80	10	60	Terminal compartment	84	84	40	■	■
NCB50-FP-E2-P1-V1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	80	10	60	M12 connector plug	84	84	40	■	■
NCB50-FP-E2-P4	Flush	50	3-wire	PNP	Normally-open (NO)	DC	80	10	60	Terminal compartment	84	84	40	■	
NCB50-FP-E2-P4-V1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	80	10	60	M12 connector plug	84	84	40	■	
NCB50-FP-Z2-P1	Flush	50	2-wire	2-wire	Normally open/close selectable	DC	80	10	60	Terminal compartment	84	84	40	■	
NCB50-FP-Z4-V1	Flush	50	2-wire	2-wire	Normally-open (NO)	DC	80	10	60	M12 connector plug	84	84	40	■	
NCB50-FP-Z5-V1	Flush	50	2-wire	2-wire	Normally-closed (NC)	DC	80	10	60	M12 connector plug	84	84	40		
NCN50-FP-A2-P1	Non-flush	50	4-wire	PNP	Complementary	DC	80	10	60	Terminal compartment	80	80	40	■	■
NCN50-FP-A2-P1-V1	Non-flush	50	4-wire	PNP	Complementary	DC	80	10	60	M12 connector plug	80	80	40	■	
NCN50-FP-A2-P4	Non-flush	50	4-wire	PNP	Complementary	DC	80	10	60	Terminal compartment	80	80	40	■	
NCN50-FP-W-P1	Non-flush	50	2-wire	2-wire	Normally open/close selectable	AC	20	20	253	Terminal compartment	80	80	40	■	
NCN50-FP-W-P4	Non-flush	50	2-wire	Two-wire	Normally open/close selectable	AC	20	20	253	Terminal compartment	80	80	40	■	
NCN50-FP-Z2-P1	Non-flush	50	2-wire	2-wire	Normally open/close selectable	DC	80	10	60	Terminal compartment	80	80	40	■	
NCN50-FP-Z2-P4	Non-flush	50	2-wire	2-wire	Normally open/close selectable	DC	80	10	60	Terminal compartment	40	80	80		
NCN50-FP-Z4-V1	Non-flush	50	2-wire	2-wire	Normally-open (NO)	DC	80	10	60	M12 connector plug	80	80	40	■	
NJ40P-FP-A2-P1	Non-flush	40	4-wire	PNP	Complementary	DC	150	10	30	Terminal compartment	80	80	40		
NJ50-FP-A-P1	Non-flush	50	4-wire	NPN	Complementary	DC	100	10	30	Terminal compartment	80	80	40		
NJ50-FP-E-P1	Non-flush	50	3-wire	NPN	Normally-open (NO)	DC	100	10	30	Terminal compartment	80	80	40		
NJ60-FP-E2-P2	Non-flush	60	3-wire	PNP	Normally-open (NO)	DC	20	10	30	Terminal compartment	80	80	40		



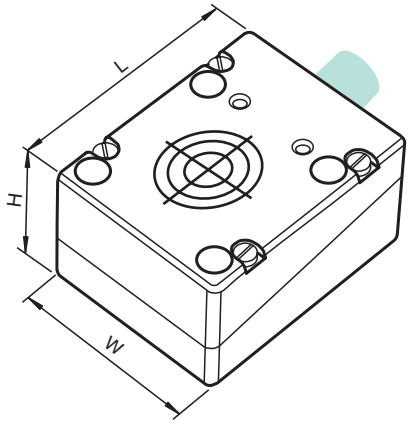
Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

FPS Series

Standard Technical Data	
Connection type	Terminal compartment
Housing length L	77 mm
Housing width W	60 mm
Housing height H	41 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)
NBB25-FPS-A2	Flush	25	4-wire	PNP	Complementary	DC	70	10	30
NBN30-FPS-A2	Non-flush	30	4-wire	PNP	Complementary	DC	50	10	30
NBN30-FPS-E5	Non-flush	30	3-wire	PNP	Normally open/close selectable	DC	50	10	65
NBN30-FPS-UU	Non-flush	30	2-wire	2-wire	Normally open/close selectable	AC/DC	25	20	265



VariKont L2/L3 Series

Standard Technical Data	
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	CCC	CSA	EAC
NBB20-L2-A0-V1	Flush	20	4-wire	NPN	Complementary	DC	440	10	30	M12 connector plug	67			
NBB20-L2-A2-V1	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	M12 connector plug	67			■
NBB20-L2-B3-V1	Flush	20	2-wire	AS-Interface	Normally open/close selectable	DC	150	26.5	31.9	M12 connector plug	67		■	
NBB20-L2-B3B-V1	Flush	20	2-wire	AS-Interface	Normally open/close selectable	DC	150	26.5	31.9	M12 connector plug	67		■	
NBB20-L2-E0-V1	Flush	20	3-wire	NPN	Normally-open (NO)	DC	440	10	30	M12 connector plug	67			
NBB20-L2-E2-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	M12 connector plug	67			■
NBB20-L2-E3-V1	Flush	20	3-wire	PNP	Normally-closed (NC)	DC	440	10	30	M12 connector plug	67			
NBB20-L2-Z0-V1	Flush	20	2-wire	2-wire	Normally-open (NO)	DC	30	5	30	M12 connector plug	67			
NBB20-L2-Z4-V1	Flush	20	2-wire	2-wire	Normally-open (NO)	DC	30	3.8	30	M12 connector plug	67		■	
NBB20-L2-Z5-V1	Flush	20	2-wire	2-wire	Normally-closed (NC)	DC	30	3.8	30	M12 connector plug	67		■	
NBB20-L2M-A0-V1	Flush	20	4-wire	NPN	Complementary	DC	440	10	30	M12 connector plug	67			
NBB20-L2M-A2-V1	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	M12 connector plug	67			■
NBB20-L2M-E0-V1	Flush	20	3-wire	NPN	Normally-open (NO)	DC	440	10	30	M12 connector plug	67			
NBB20-L2M-E2-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	M12 connector plug	67			■
NBB20-L2M-E34-V1	Flush	20	3-wire	PNP	Normally-closed (NC)	DC	440	10	30	M12 connector plug	67			
NBB20-L3M-US-V12	Flush	20	2-wire	2-wire	Normally-open (NO)	AC/DC	30	20	300	1/2 inch connector plug	68	■	■	
NBB20-L3M-US-V93	Flush	20	2-wire	2-wire	Normally-open (NO)	AC/DC	30	20	300	7/8 inch connector plug	76	■	■	
NBN30-L2-A2-V1	Non-flush	30	4-wire	PNP	Complementary	DC	230	10	30	M12 connector plug	67			
NBN30-L2-B3B-V1	Non-flush	30	2-wire	AS-Interface	Normally open/close selectable	DC	100	26.5	31.9	M12 connector plug	67		■	
NBN30-L2-E2-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	230	10	30	M12 connector plug	67			
NBN40-L2-A0-V1	Non-flush	40	4-wire	NPN	Complementary	DC	180	10	30	M12 connector plug	67			
NBN40-L2-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	67			■
NBN40-L2-B3-V1	Non-flush	40	2-wire	AS-Interface	Normally open/close selectable	DC	50	26.5	31.9	M12 connector plug	67		■	
NBN40-L2-B3B-V1	Non-flush	40	2-wire	AS-Interface	Normally open/close selectable	DC	50	26.5	31.9	M12 connector plug	67		■	
NBN40-L2-E0-V1	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	180	10	30	M12 connector plug	67			■
NBN40-L2-E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	M12 connector plug	67			■
NBN40-L2-E34-V1	Non-flush	40	3-wire	PNP	Normally-closed (NC)	DC	100	10	30	M12 connector plug	67			
NBN40-L2-Z0-V1	Non-flush	40	2-wire	2-wire	Normally-open (NO)	DC	30	5	30	M12 connector plug	67			
NBN40-L2-Z4-V1	Non-flush	40	2-wire	2-wire	Normally-open (NO)	DC	30	3.8	30	M12 connector plug	67			
NBN40-L2-Z5-V1	Non-flush	40	2-wire	2-wire	Normally-closed (NC)	DC	30	3.8	30	M12 connector plug	67			
NBN40-L2M-A0-V1	Non-flush	40	4-wire	NPN	Complementary	DC	180	10	30	M12 connector plug	67			
NBN40-L2M-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	67			■
NBN40-L2M-E0-V1	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	180	10	30	M12 connector plug	67			
NBN40-L2M-E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	M12 connector plug	67			
NBN40-L3M-A2-C3-V1	Non-flush	40	4-wire	PNP	Complementary	DC	5	10	30	M12 connector plug	67			
NBN40-L3M-US-V12	Non-flush	40	2-wire	2-wire	Normally-open (NO)	AC/DC	30	20	300	1/2 inch connector plug	68	■	■	
NRN40-L3K-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	67			

PEPPERL+FUCHS
Made in Germany
NJ30P+U1+A2
Part No. 020995
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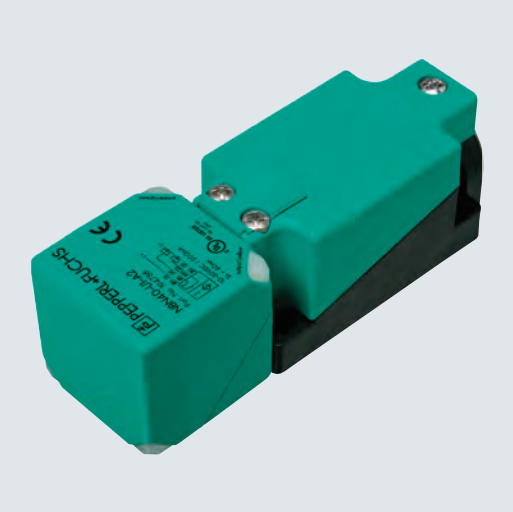
VariKont U1 Series

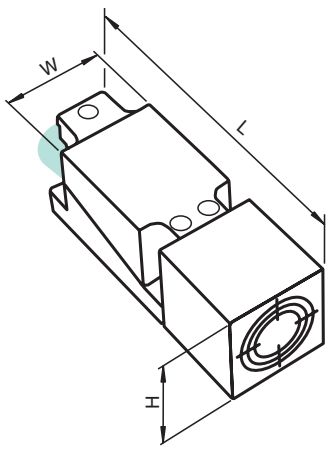


Standard Technical Data	
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	CSA	EAC
NBB15-U1-A0	Flush	15	4-wire	NPN	Complementary	DC	560	10	30	Terminal compartment	118	40	40			
NBB15-U1-A2	Flush	15	4-wire	PNP	Complementary	DC	560	10	30	Terminal compartment	118	40	40			■
NBB15-U1-A2-V1	Flush	15	4-wire	PNP	Complementary	DC	560	10	30	M12 connector plug	118	40	40			
NBB15-U1-E0	Flush	15	3-wire	NPN	Normally-open (NO)	DC	560	10	30	Terminal compartment	118	40	40			
NBB15-U1-E1	Flush	15	3-wire	NPN	Normally-closed (NC)	DC	560	10	30	Terminal compartment	118	40	40			
NBB15-U1-E2	Flush	15	3-wire	PNP	Normally-open (NO)	DC	560	10	30	Terminal compartment	118	40	40			■
NBB15-U1-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	560	10	30	M12 connector plug	118	40	40			
NBB15-U1-E3	Flush	15	3-wire	PNP	Normally-closed (NC)	DC	560	10	30	Terminal compartment	118	40	40			
NBB15-U1-Z2	Flush	15	2-wire	2-wire	Normally open/close selectable	DC	400	5	60	Terminal compartment	118	40	40	■		■
NJ15+U1+DW1-1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	1	15	60	Terminal compartment	118	40	40	■	■	
NJ15+U1+DW1-10	Flush	15	3-wire	PNP	Normally-open (NO)	DC	10	15	60	Terminal compartment	118	40	40	■	■	
NJ15+U1+DW1-100	Flush	15	3-wire	PNP	Normally-open (NO)	DC	100	15	60	Terminal compartment	118	40	40	■	■	
NBB20-U1-A0	Flush	20	4-wire	NPN	Complementary	DC	440	10	30	Terminal compartment	118	40	40			
NBB20-U1-A2	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	Terminal compartment	118	40	40			■
NBB20-U1-A2-V1	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	M12 connector plug	118	40	40			
NBB20-U1-B3B	Flush	20	2-wire	AS-Interface	Normally open/close selectable	DC	150	26.5	31.9	Terminal compartment	118	40	40		■	
NBB20-U1-E0	Flush	20	3-wire	NPN	Normally-open (NO)	DC	440	10	30	Terminal compartment	118	40	40			
NBB20-U1-E1	Flush	20	3-wire	NPN	Normally-closed (NC)	DC	440	10	30	Terminal compartment	118	40	40			
NBB20-U1-E2	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	Terminal compartment	118	40	40			■
NBB20-U1-E2-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	M12 connector plug	118	40	40			
NBB20-U1-E3	Flush	20	3-wire	PNP	Normally-closed (NC)	DC	440	10	30	Terminal compartment	118	40	40			
NBB20-U1-UU	Flush	20	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	Terminal compartment	118	40	40	■		
NBB20-U1-Z2	Flush	20	2-wire	2-wire	Normally open/close selectable	DC	250	5	60	Terminal compartment	118	40	40	■		■
NJ20P+U1+A2	Non-flush	20	4-wire	PNP	Complementary	DC	200	10	30	Terminal compartment	118	40	40		■	
NBN30-U1-A0	Non-flush	30	4-wire	NPN	Complementary	DC	230	10	30	Terminal compartment	118	40	40			
NBN30-U1-A2	Non-flush	30	4-wire	PNP	Complementary	DC	230	10	30	Terminal compartment	118	40	40			■
NBN30-U1-A2-V1	Non-flush	30	4-wire	PNP	Complementary	DC	230	10	30	M12 connector plug	118	40	40			
NBN30-U1-E0	Non-flush	30	3-wire	NPN	Normally-open (NO)	DC	230	10	30	Terminal compartment	118	40	40			
NBN30-U1-E1	Non-flush	30	3-wire	NPN	Normally-closed (NC)	DC	230	10	30	Terminal compartment	118	40	40			
NBN30-U1-E2	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	230	10	30	Terminal compartment	118	40	40			
NBN30-U1-E2-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	230	10	30	M12 connector plug	118	40	40			
NBN30-U1-E3	Non-flush	30	3-wire	PNP	Normally-closed (NC)	DC	230	10	30	Terminal compartment	118	40	40			
NBN30-U1-Z2	Non-flush	30	2-wire	2-wire	Normally open/close selectable	DC	150	5	60	Terminal compartment	118	40	40	■		
NJ30P+U1+A2	Non-flush	30	4-wire	PNP	Complementary	DC	150	10	30	Terminal compartment	128	55	55		■	
NJ30+U1+DW1-1	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	1	15	60	Terminal compartment	118	40	40		■	
NJ30+U1+DW1-10	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	10	15	60	Terminal compartment	118	40	40		■	
NBN40-U1-A0	Non-flush	40	4-wire	NPN	Complementary	DC	180	10	30	Terminal compartment	118	40	40			
NBN40-U1-A2	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	Terminal compartment	118	40	40			■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	CSA	EAC
NBN40-U1-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	118	40	40			
NBN40-U1-B3B	Non-flush	40	2-wire	AS-Interface	Normally open/close selectable	DC	150	26.5	31.9	Terminal compartment	118	40	40		■	
NBN40-U1-E0	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	180	10	30	Terminal compartment	118	40	40			
NBN40-U1-E1	Non-flush	40	3-wire	NPN	Normally-closed (NC)	DC	180	10	30	Terminal compartment	118	40	40			
NBN40-U1-E1-V1	Non-flush	40	3-wire	NPN	Normally-closed (NC)	DC	180	10	30	M12 connector plug	118	40	40			
NBN40-U1-E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	Terminal compartment	118	40	40			■
NBN40-U1-E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	M12 connector plug	118	40	40			
NBN40-U1-E3	Non-flush	40	3-wire	PNP	Normally-closed (NC)	DC	180	10	30	Terminal compartment	118	40	40			
NBN40-U1-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	Terminal compartment	118	40	40	■		
NBN40-U1-Z2	Non-flush	40	2-wire	2-wire	Normally open/close selectable	DC	100	5	60	Terminal compartment	118	40	40	■		
NBN40-U1L-A0	Non-flush	40	4-wire	NPN	Complementary	DC	100	10	30	Terminal compartment	128	55	55			
NBN40-U1L-A2	Non-flush	40	4-wire	PNP	Complementary	DC	100	10	30	Terminal compartment	128	55	55			
NBN40-U1L-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	100	10	30	M12 connector plug	128	55	55			
NBN40-U1L-E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	100	10	30	Terminal compartment	128	55	55			
NBN40-U1L-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	25	20	300	Terminal compartment	128	55	55			
NBN40-U1L-Z2	Non-flush	40	2-wire	Two-wire	Normally open/close selectable	DC	100	5	60	Terminal compartment	128	55	55		■	
NJ40+U1+E	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	100	10	60	Terminal compartment	128	55	55	■	■	
NJ40+U1+E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	100	10	60	Terminal compartment	128	55	55	■	■	■
NJ40+U1+E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	100	10	60	M12 connector plug	128	55	55	■	■	



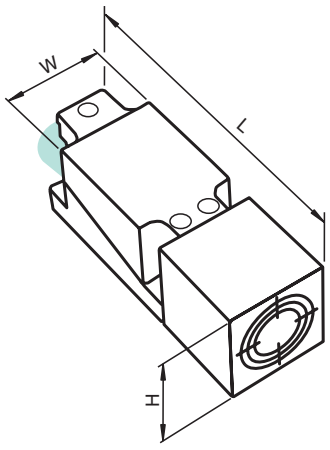
Accessories	
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-M20-80	Receptacle, M12/M20; plastic version
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

VariKont U2 Series

Standard Technical Data	
Connection type	Terminal compartment
Housing length L	118 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	CCC
NBB15-U2-A0	Flush	15	4-wire	NPN	Complementary	DC	560	10	30	
NBB20-U2-A0	Flush	20	4-wire	NPN	Complementary	DC	440	10	30	
NBB20-U2-A2	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	
NBB20-U2-E0	Flush	20	3-wire	NPN	Normally-open (NO)	DC	440	10	30	
NBB20-U2-E2	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	
NBB20-U2-UU	Flush	20	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	■
NBN30-U2-A2	Non-flush	30	4-wire	PNP	Complementary	DC	150	10	30	
NBN40-U2-A2	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	
NBN40-U2-E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	
NBN40-U2-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	■



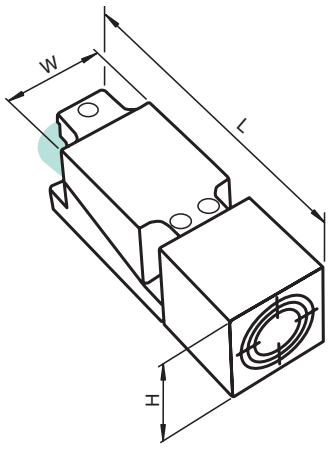
Accessories	
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket

VariKont U3 Series

Standard Technical Data	
Connection type	Terminal compartment
Housing length L	118 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

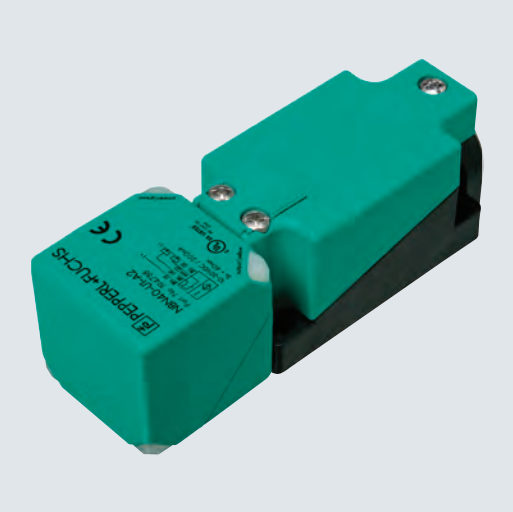
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	CCC
NBB20-U3-UU	Flush	20	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	■
NBB20-U3-A2	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	
NBN40-U3-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	■



Accessories	
MHW 01	Modular mounting bracket

VariKont U4 Series

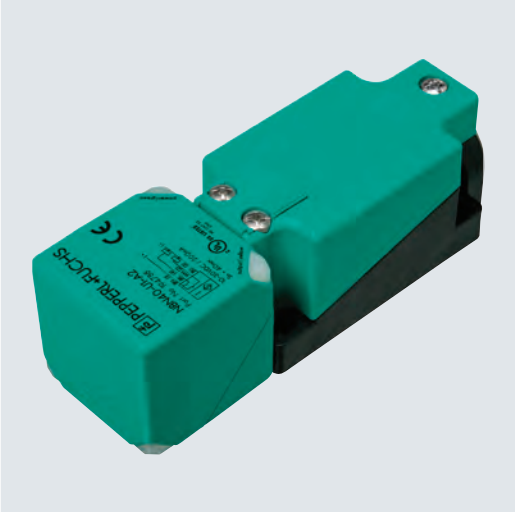


Standard Technical Data	
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	CSA
NBB15-U4-A0	Flush	15	4-wire	NPN	Complementary	DC	560	10	30	Terminal compartment	118	40	40		
NBB15-U4-A2	Flush	15	4-wire	PNP	Complementary	DC	560	10	30	Terminal compartment	118	40	40		
NBB15-U4-A2-V1	Flush	15	4-wire	PNP	Complementary	DC	560	10	30	M12 connector plug	118	40	40		
NBB15-U4-E0	Flush	15	3-wire	NPN	Normally-open (NO)	DC	560	10	30	Terminal compartment	118	40	40		
NBB15-U4-E2	Flush	15	3-wire	PNP	Normally-open (NO)	DC	560	10	30	Terminal compartment	118	40	40		
NBB15-U4-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	560	10	30	M12 connector plug	118	40	40		
NBB15-U4-Z2	Flush	15	2-wire	2-wire	Normally open/close selectable	DC	400	5	60	Terminal compartment	118	40	40	■	
NBB20-U4-A0	Flush	20	4-wire	NPN	Complementary	DC	440	10	30	Terminal compartment	118	40	40		
NBB20-U4-A2	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	Terminal compartment	118	40	40		
NBB20-U4-A2-V1	Flush	20	4-wire	PNP	Complementary	DC	440	10	30	M12 connector plug	118	40	40		
NBB20-U4-E0	Flush	20	3-wire	NPN	Normally-open (NO)	DC	440	10	30	Terminal compartment	118	40	40		
NBB20-U4-E2	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	Terminal compartment	118	40	40		
NBB20-U4-E2-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	440	10	30	M12 connector plug	118	40	40		■
NBB20-U4-UU	Flush	20	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	Terminal compartment	118	40	40	■	
NBB20-U4-Z2	Flush	20	2-wire	2-wire	Normally open/close selectable	DC	250	5	60	Terminal compartment	118	40	40	■	
NBN30-U4-A2	Non-flush	30	4-wire	PNP	Complementary	DC	150	10	30		118	40	40		
NBN30-U4-A2-V1	Non-flush	30	4-wire	PNP	Complementary	DC	150	10	30	M12 connector plug	118	40	40		
NBN30-U4-E0	Non-flush	30	3-wire	NPN	Normally-open (NO)	DC	230	10	30	Terminal compartment	118	40	40		
NBN30-U4-E2	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	230	10	30	Terminal compartment	118	40	40		
NBN30-U4-E2-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	DC	230	10	30	M12 connector plug	118	40	40		
NBN40-U4-A2	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	Terminal compartment	118	40	40		
NBN40-U4-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	118	40	40		
NBN40-U4-E0	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	180	10	30	Terminal compartment	118	40	40		
NBN40-U4-E2	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	Terminal compartment	118	40	40		
NBN40-U4-E2-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	M12 connector plug	118	40	40		
NBN40-U4-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	100	20	300	Terminal compartment	118	40	40	■	
NBN40-U4-Z2	Non-flush	40	2-wire	2-wire	Normally open/close selectable	DC	100	5	60	Terminal compartment	118	40	40	■	
NBN40-U4-Z2-V1	Non-flush	40	2-wire	2-wire	Normally open/close selectable	DC	100	5	60	M12 connector plug	118	40	40	■	
NBN40-U4L-A2	Non-flush	40	4-wire	PNP	Complementary	DC	100	10	30	Terminal compartment	128	55	55		
NBN40-U4L-A2-V1	Non-flush	40	4-wire	PNP	Complementary	DC	100	10	30	M12 connector plug	128	55	55		
NBN40-U4L-UU	Non-flush	40	2-wire	2-wire	Normally open/close selectable	AC/DC	25	20	300	Terminal compartment	128	55	55		
NBN40-U4L-Z2	Non-flush	40	2-wire	2-wire	Normally open/close selectable	DC	100	5	60	Terminal compartment	128	55	55	■	
NJ40+U4+A	Non-flush	40	4-wire	NPN	Complementary	DC	100	10	60	Terminal compartment	128	55	55	■	■
NJ40+U4+E	Non-flush	40	3-wire	NPN	Normally-open (NO)	DC	100	10	60	Terminal compartment	128	55	55	■	■

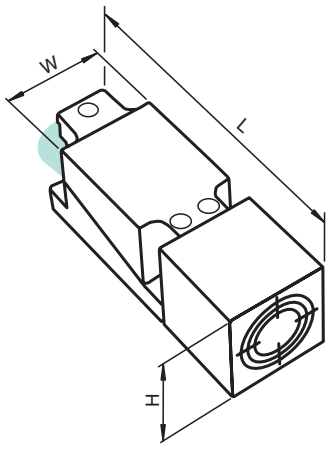
VariKont U10 Series



Standard Technical Data	
Output type	PNP
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Terminal compartment
Housing length L	118 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

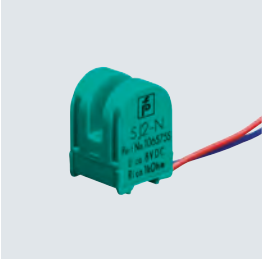
Model number	Type of installation	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]
NBB15-U10-A2	Flush	15	4-wire	Complementary	560
NBB15-U10-E2	Flush	15	3-wire	Normally-open (NO)	560
NBB20-U10-A2	Flush	20	4-wire	Complementary	440
NBB20-U10-E2	Flush	20	3-wire	Normally-open (NO)	440
NBN30-U10-E2	Non-flush	30	3-wire	Normally-open (NO)	230
NBN40-U10-E2	Non-flush	40	3-wire	Normally-open (NO)	180



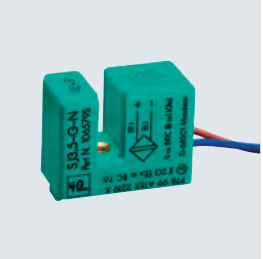
Accessories	
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-M20-80	Receptacle, M12/M20; plastic version

Slotted Inductive Proximity Sensors

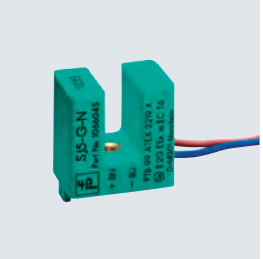
Contents



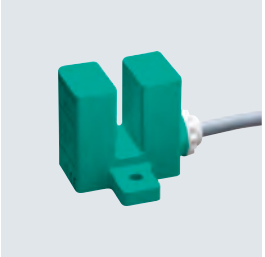
Slot Width 2 mm
Page 71



Slot Width 3.5 mm
Page 72



Slot Width 5 mm
Page 73

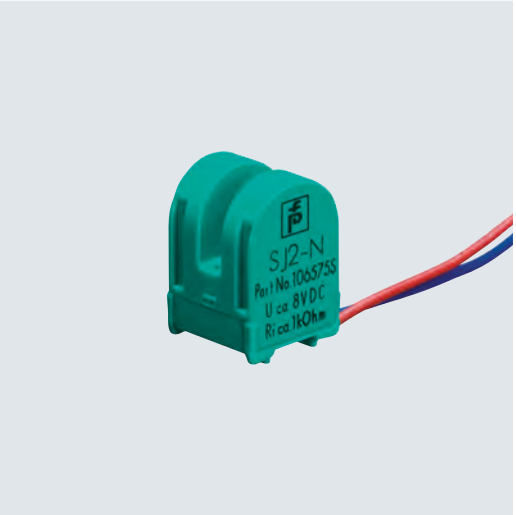


Slot Width 10 mm
Page 74

Slot Width 15 mm
Page 75

Slot Width 30 mm
Page 76

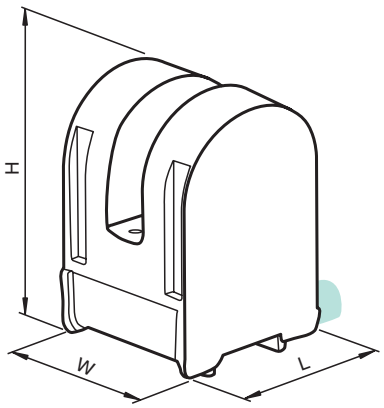
Slot Width 2 mm



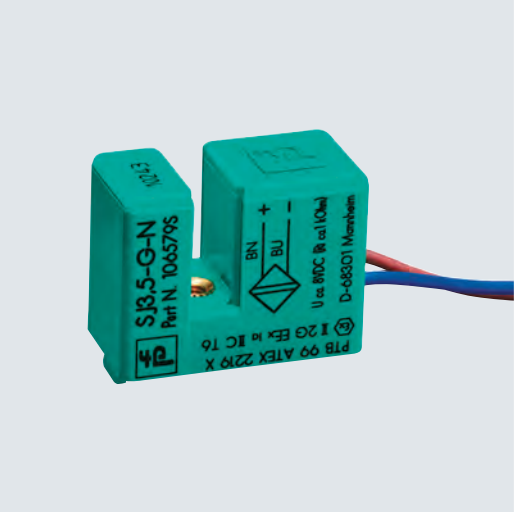
Standard Technical Data	
Detection range	2 mm
Voltage type	DC
Cable length	500 mm
Housing length L	8 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Cable material	Width W	Height H	ATEX	CSA	EAC	FM
SJ2-N	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2	2	Stranded cable		8	12	■	■	■	■
SB2-Z0 GELB		2-wire	Normally-open (NO)	2000	5	30		Stranded cable		15	13		■		
SC2-N0-GN	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	PVC	15	13	■	■		
SC2-N0-YE	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2	2	Stranded cable	PVC	15	13	■	■		
SJ2-SN	2-wire	NAMUR with safety function	Normally-closed (NC)	5000	8.2	8.2	3	Stranded cable		15	13	■		■	■



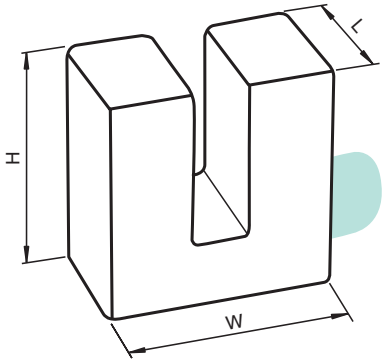
Slot Width 3.5 mm



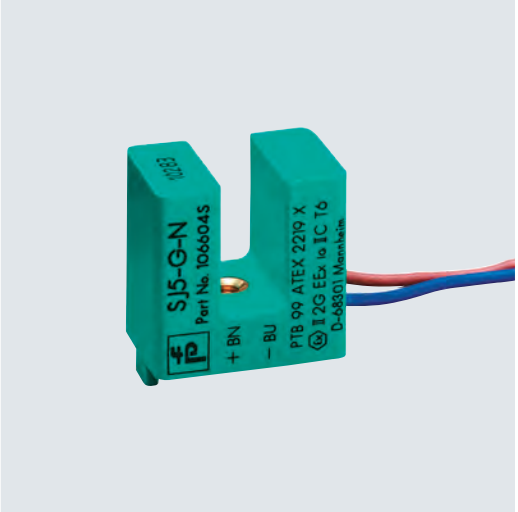
Standard Technical Data	
Detection range	3.5 mm
Voltage type	DC
Housing width W	10 mm
Housing height H	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Cable length [mm]	Cable material	Length L	ATEX	CSA	EAC	FM
SJ3,5-S1N	2-wire	NAMUR with safety function	Normally-open (NO)	2500	8.2	8.2	3	Stranded cable	500		19.5	■		■	■
SJ3,5-SN	2-wire	NAMUR with safety function	Normally-closed (NC)	3000	8.2	8.2	3	Stranded cable	500		19.5	■		■	■
SB3,5-A2	3-wire	PNP	Complementary	3000	10	30		Fixed cable	500	PVC	19		■		
SB3,5-E2	3-wire	PNP	Normally-open (NO)	3000	10	30		Stranded cable	500		19.5		■		
SB3,5-E2-BU	3-wire	PNP	Normally-open (NO)	3000	10	30		Stranded cable	500		19.5		■		
SB3,5-G-E2	3-wire	PNP	Normally-open (NO)	2000	10	30		Stranded cable	5000	PVC	19.5		■		
SB3,5-G-E2-2M	3-wire	PNP	Normally-open (NO)	2000	10	30		Fixed cable	2000	PVC	19.5		■		
SC3,5-G-N0	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Stranded cable	5000	PVC	19.5	■	■	■	
SC3,5-N0-BU	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Stranded cable	500		19.5	■	■		
SC3,5-N0-WH	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Stranded cable	500		19.5	■	■	■	
SC3,5-N0-YE	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Stranded cable	500	PVC	19.5	■	■	■	■
SJ3,5-G-N	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■		
SJ3,5-H	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500	PVC	19.5	■	■		■
SJ3,5-N	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■	■	■
SJ3,5-N LED	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■		
SJ3,5-N-BU	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■		
SJ3,5-N-GN	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■		
SJ3,5-N-YE	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Stranded cable	500		19.5	■	■		



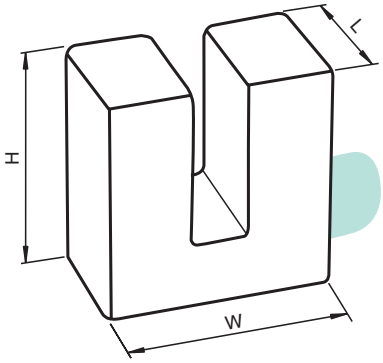
Slot Width 5 mm



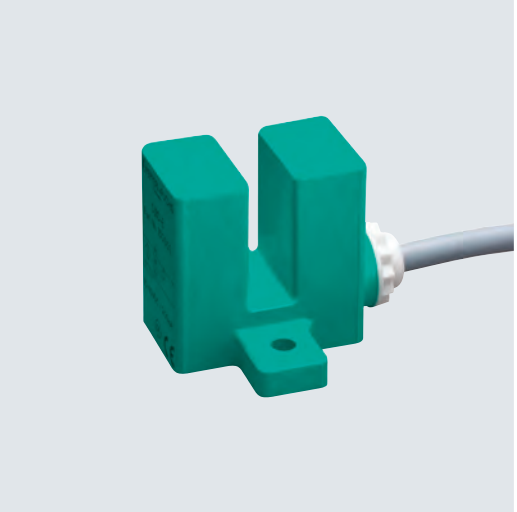
Standard Technical Data	
Detection range	5 mm
Output type	2-wire
Output type	NAMUR
Switching function	Normally-closed (NC)
Voltage type	DC
Switching frequency	2000 Hz
Operating voltage (min)	8.2 V
Operating voltage (max)	8.2 V
ATEX	■
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	SIL	Connection type	Cable length [mm]	Cable material	Length L	Width W	Height H	EAC	FM
SJ5-N	2	Stranded cable	500		15	10	15	■	■
SJ5-G-N		Stranded cable	500		15	10	15		
SJ5-K-N		Fixed cable	2000	PVC	29	32	31		■



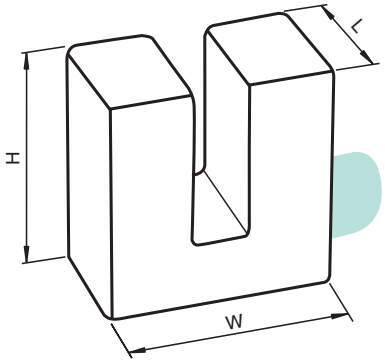
Slot Width 10 mm



Standard Technical Data	
Detection range	10 mm
Voltage type	DC
Switching frequency	1000 Hz
Connection type	Fixed cable
Cable material	PVC
Housing length L	44 mm
Housing width W	55 mm
Housing height H	45 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	UB (min)	UB (max)	Cable length [mm]	ATEX	FM
SJ10-N	2-wire	NAMUR	Normally-closed (NC)	8.2	8.2	2000	■	■
SJ10-N-5M	2-wire	NAMUR	Normally-closed (NC)	8.2	8.2	5000	■	
SJ10-E	3-wire	NPN	Normally-open (NO)	10	30	2000		
SJ10-E2	3-wire	PNP	Normally-open (NO)	10	30	2000		

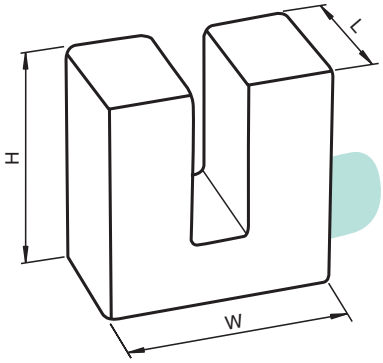


Slot Width 15 mm

Standard Technical Data	
Detection range	15 mm
Housing length L	48 mm
Housing width W	30 mm
Housing height H	60 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable material	CCC
SJ15-WO	2-wire	2-wire	Normally-closed (NC)	AC	25	20	253	Fixed cable	2000	PVC	■
SJ15-WS	2-wire	2-wire	Normally-open (NO)	AC	25	20	253	Fixed cable	2000	PVC	■
SJ15-A	4-wire	NPN	Complementary	DC	500	10	30	Fixed cable	2000	PVC	
SJ15-A-5M	4-wire	NPN	Complementary	DC	500	10	30	Fixed cable	5000	PVC	
SJ15-A2	4-wire	PNP	Complementary	DC	500	10	30	Fixed cable	2000	PVC	
SJ15-A2-V1	4-wire	PNP	Complementary	DC	500	10	30	M12 connector plug			
SJ15-E	3-wire	NPN	Normally-open (NO)	DC	500	10	30	Fixed cable	2000	PVC	
SJ15-E2	3-wire	PNP	Normally-open (NO)	DC	500	10	30	Fixed cable	2000	PVC	



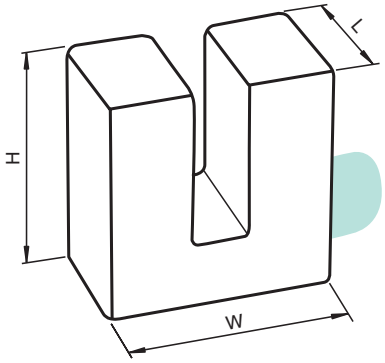
Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

Slot Width 30 mm

Standard Technical Data	
Detection range	30 mm
Voltage type	DC
Switching frequency	150 Hz
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	84 mm
Housing width W	51 mm
Housing height H	110 mm
CSA	■
UL	■

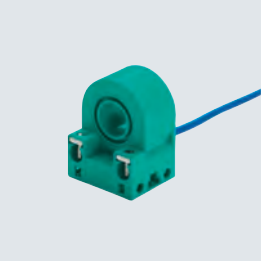
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	UB (min)	UB (max)	ATEX	FM
SJ30-N	2-wire	NAMUR	Normally-closed (NC)	8.2	8.2	■	■
SJ30-A	4-wire	NPN	Complementary	10	30		
SJ30-A2	4-wire	PNP	Complementary	10	30		



Ring-Shaped Inductive Proximity Sensors

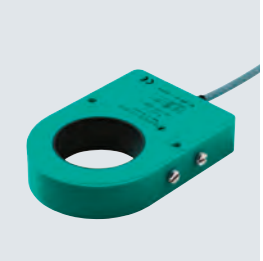
Contents



Ring Diameter 10 mm
Page 78

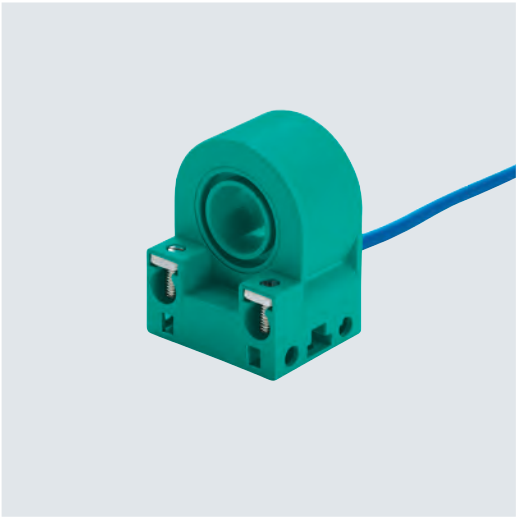
Ring Diameter 15 mm
Page 79

Ring Diameter 21 mm
Page 80



Ring Diameter 43 mm
Page 81

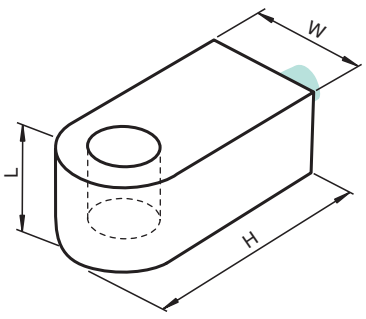
Ring Diameter 10 mm



Standard Technical Data	
Detection range	10 mm
Output type	2-wire
Output type	NAMUR
Switching function	Normally-closed (NC)
Voltage type	DC
Operating voltage (min)	8.2 V
Operating voltage (max)	8.2 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	20 mm
Housing width W	25 mm
Housing height H	32.5 mm
ATEX	■
CSA	■
FM	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Switching frequency [Hz]
RC10-14-N0	2000
RC10-14-N3	

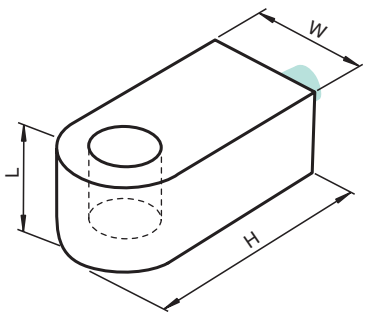


Ring Diameter 15 mm

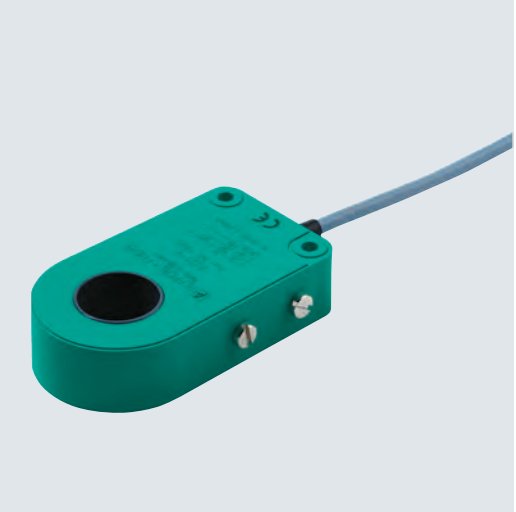
Standard Technical Data	
Special features	Ex sensor
Detection range	15 mm
Output type	2-wire
Output type	NAMUR
Switching function	Normally-closed (NC)
Voltage type	DC
Operating voltage (min)	8.2 V
Operating voltage (max)	8.2 V
Connection type	Fixed cable
Cable material	PVC
ATEX	■
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Switching frequency [Hz]	Cable length [mm]	Ambient temperature (min)	Ambient temperature (max)	Length L	Width W	Height H	FM	ATEX
RC15-14-N0	1500	2000	-20	65	20	25	32.5	■	■
RC15-14-N3		2000	-20	70	20	25	32.5	■	■
RJ15-14-N	1500	2000	-25	70	20	25	32.5		
RJ15-14-N-5M	1500	5000	-25	70	20	25	32.5		
RJ15-N	1500	2000	-25	70	25	29	45	■	



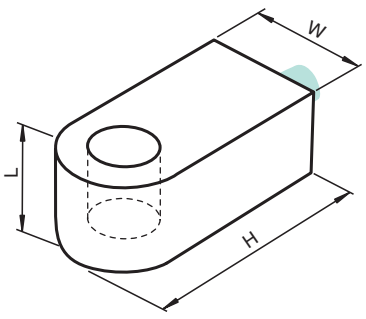
Ring Diameter 21 mm



Standard Technical Data	
Detection range	21 mm
Output type	3-wire
Output type	PNP
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	1000 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	20 mm
Housing width W	45 mm
Housing height H	80 mm
CSA	■
UL	■

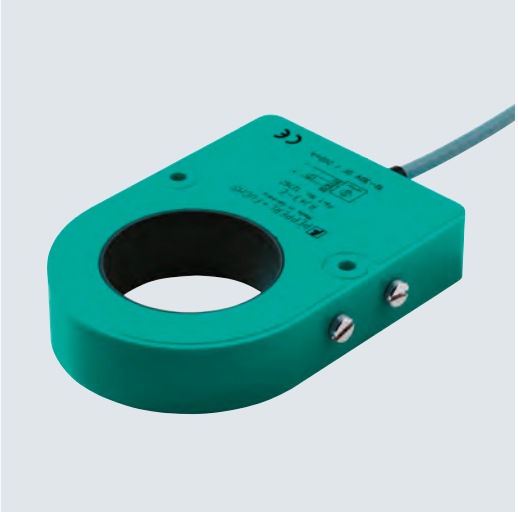
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Connection type	Cable length [mm]
RJ21-E2	Fixed cable	2000
RJ21-E2-0,1M-V1	Fixed cable with M12 plug	100



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

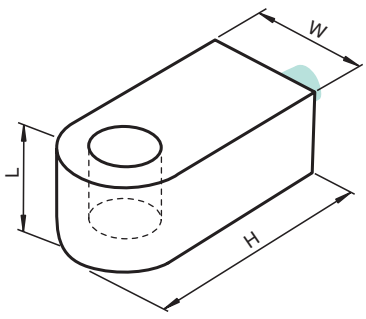
Ring Diameter 43 mm



Standard Technical Data	
Detection range	43 mm
Output type	3-wire
Output type	PNP
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	20 mm
Housing width W	70 mm
Housing height H	100 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

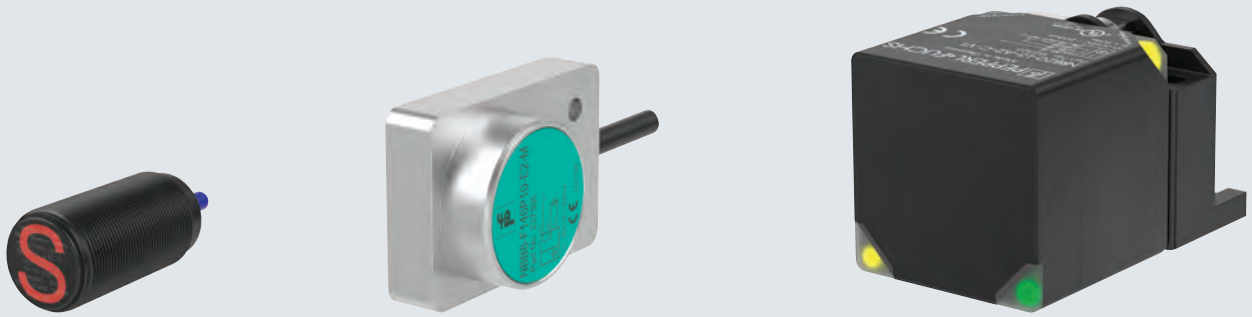
Model number	
RJ43-E2	



Specialized Inductive Proximity Sensors

Specialized Sensors for Specific Tasks

Whether it is for welding work in automotive manufacturing, severe temperature fluctuations in mobile applications, or specific safety requirements in hazardous areas, Pepperl+Fuchs offers the best sensor to meet any challenge.



Industry-Specific Special Sensors

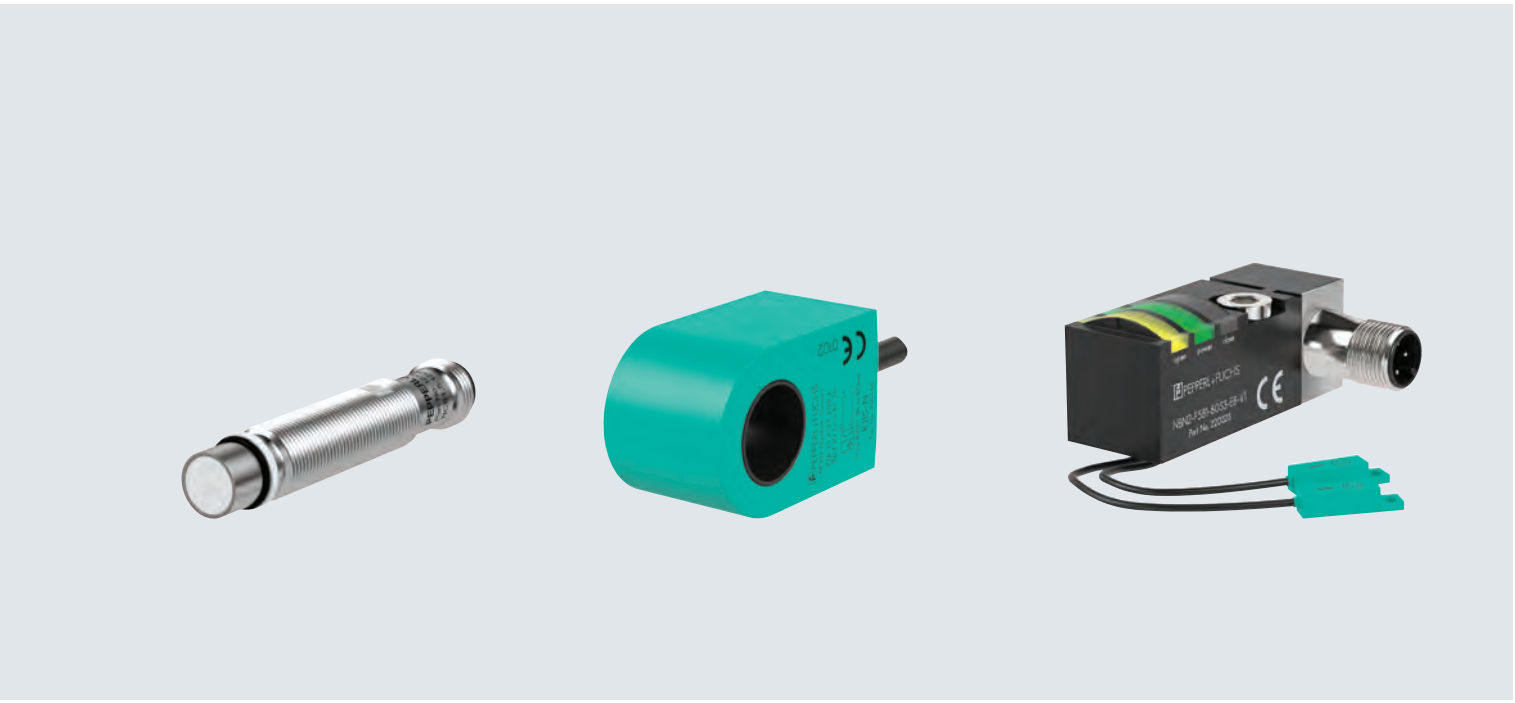
In addition to the scope of our comprehensive standard portfolio, different industries also place their own specific requirements on sensor technology. The automotive, mobile equipment, and process industries are three extreme examples where intrinsically safe NAMUR sensors are used. In addition to these three areas, Pepperl+Fuchs offers a range of sensors specifically tailored to individual industry requirements.

Typical Applications

- Position querying in the welding areas of automotive manufacturing
- Valve position feedback in explosion-hazardous areas
- Outrigger monitoring for mobile cranes

Your Benefits at a Glance

- Largest portfolio of sensors for explosion protection with global approvals (e.g. ATEX, IECEx, EAC-Ex), e.g., for the process industry
- Weld-proof sensors for maximum robustness, e.g, in automotive manufacturing
- Pressure-resistant sensors for maximum resistance when used in hydraulic cylinders, for example
- Extremely resistant sensors with E1 approval for use on public roads for the mobile equipment industry
- Reduction factor 1 sensors with the same switching distance with all metals for maximum flexibility, e.g., in mechanical engineering



Proximity Sensors in Special Designs

In addition to industry-specific solutions, sensors often have to be adapted to specific installation conditions. As well as the countless cylindrical and cubic standard designs, the Pepperl+Fuchs portfolio also includes special designs that have been specially adapted to the spatial conditions of certain applications.

Typical Applications

- Ring-shaped proximity sensors for detecting and counting small parts or detecting fill levels
- Design F58: Detection of two different target positions in minimal space, e.g. for power clamps

The Benefits of Selected Sensors at a Glance

Ring-shaped proximity sensors with RC/RJ design:

- Reliable detection of even the smallest parts due to high accuracy
- High passing speed of up to 10 m/s
- Bistable models with direction detection
- NAMUR versions with explosion protection approval for Zone 1

F58 design for power clamps:

- Special design with two sensors connected to the main housing via a flexible cable
- Flexible installation thanks to the rotating M12 connector
- A number of sensor designs available for minimal installation space
- Easy diagnosis via a bright LED strip around the edge

Specialized Inductive Proximity Sensors

Contents

Weld-Proof Cylindrical Sensors
Page 86

Weld-Proof Cube-Style Sensors
Page 88

Reduction Factor 1 - Cylindrical Sensors
Page 90

Reduction Factor 1 - Cube-Style Sensors
Page 92

Metal Face - Cylindrical Sensors
Page 94

Safety Sensors with OSSD Output
Page 103

Sensors for Hazardous Areas - Cylindrical Sensors
Page 104

Sensors for Hazardous Areas - Cube-Style Sensors
Page 108

Sensors for Mobile Equipment - Cylindrical Sensors
Page 110

Sensors for Mobile Equipment - Cube-Style Sensors
Page 113

Metal Face - Cube-Style Sensors
Page 96

Pressure-Resistant Sensors
Page 97

High-Temperature - Cylindrical Sensors
Page 98

High-Temperature - Cube-Style Sensors
Page 100

Safety Sensors with NAMUR Output and Ex Approval
Page 102

Sensors for Valve Position Detection - F25 Series
Page 114

Sensors for Valve Position Detection - F31/F31K Series
Page 115

Sensors for Valve Position Detection - F31K2 Series
Page 116

BAJA COMTECH
DISTRIBUIDOR AUTORIZADO
Tel: 664 664 189 0514
ventas@bajacomtech.com

Weld-Proof Cylindrical Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	Connection type	Length L	Diameter D	CSA
NBB1,5-8GM30-E2-C-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	1800	10	M12 connector plug	30	8	■
NRB1,5-8GM40-E2-C-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	1000	10	M12 connector plug	40	8	
NMB1,5-8GM35-E2-C-FE-150MM-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	5	10	Fixed cable with M12 plug	35	8	■
NMB1,5-8GM35-E2-C-FE-150MM-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	5	10	Fixed cable with M8 plug	35	8	■
NBB1,5-8GM40-E2-C	Flush	1.5	3-wire	PNP	Normally-open (NO)	1800	10	Fixed cable	40	8	■
NBB1,5-8GM40-E2-C-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	1800	10	M8 connector plug	40	8	■
NMB1,5-8GM50-E2-C-FE-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	40	8	■
NRB2-8GM40-E2-C-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	M12 connector plug	40	8	
NRB2-12GM40-E2-C-V1	Flush	2	3-wire	PNP	Normally-open (NO)	2000	10	M12 connector plug	55	12	
NBB2-12GM50-E0-C-V1	Flush	2	3-wire	NPN	Normally-open (NO)	1500	10	M12 connector plug	49	12	■
NBB2-12GM50-E2-C.	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	Fixed cable	50	12	■
NBB2-12GM50-E2-C-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	M12 connector plug	49	12	■
NRB3-12GM40-E2-C-V1	Flush	3	3-wire	PNP	Normally-open (NO)	2000	10	M12 connector plug	55	12	
NMB2-12GM40-Z3-C-FE-300MM-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	5	6	Fixed cable with M12 plug	40	12	■
NRB4-12GM40-A2-C	Flush	4	4-wire	PNP	Complementary	2000	10	Fixed cable	40	12	
NRB4-12GM40-E2-C-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	10	M12 connector plug	55	12	
NRB4-12GM50-E2-C-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	10	M12 connector plug	65	12	
NRB5-18GM40-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	55	18	
NRB4-12GM40-E2-IO-C	Flush	4	3-wire	IO-Link, PNP	Normally open/close selectable	2000	10	Fixed cable	40	12	
NRB5-18GM50-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	65	18	
NRB4-12GM40-E2-IO-C-V1	Flush	4	3-wire	IO-Link, PNP	Normally open/close selectable	2000	10	M12 connector plug	55	12	
NMB2-12GM65-E2-C-FE-V1	Flush	2	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	44	12	■
NMB2-12GM75-Z0-C-FE-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	5	6	M12 connector plug	75	12	■
NBB5-18GM50-E0-C-V1	Flush	5	3-wire	NPN	Normally-open (NO)	800	10	M12 connector plug	50	18	■
NBB5-18GM50-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	M12 connector plug	50	18	■
NRB6-18GM40-E2-C-V1	Flush	6	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	55	18	
NRB8-18GM40-E2-C-V1	Flush	8	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	55	18	
NMB3-8GM50-E2-C-V1	Flush	3	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	50	8	■
NRB8-18GM50-E2-C-V1	Flush	8	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	65	18	
NRB10-30GM50-E2-C-V1	Flush	10	3-wire	PNP	Normally-open (NO)	750	10	M12 connector plug	65	30	
NMB5-12GM45-Z9-C4-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	1	6	Fixed cable with M12 plug	45	12	■
NRB8-18GM40-E2-IO-C	Flush	8	3-wire	IO-Link, PNP	Normally open/close selectable	1500	10	Fixed cable	45	18	
NRB12-18GM40-E2-C-V1	Semi-flush	12	3-wire	PNP	Normally-open (NO)	600	10	M12 connector plug	40	18	■
NMB5-12GM45-Z4-C4-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	1	6	Fixed cable with M12 plug	45	12	■
NRB8-18GM40-E2-IO-C-V1	Flush	8	3-wire	IO-Link, PNP	Normally open/close selectable	1500	10	M12 connector plug	55	18	
NRB13-30GM50-E2-C-V1	Flush	13	3-wire	PNP	Normally-open (NO)	750	10	M12 connector plug	65	30	

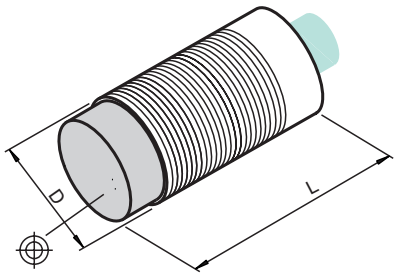
Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	Connection type	Length L	Diameter D	CSA
NBB10-30GM50-E2-C-V1	Flush	10	3-wire	PNP	Normally-open (NO)	10	10	M12 connector plug	50	30	■
NMB5-12GM65-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	65	12	■
NMB5-12GM65-E2-C4-V1	Flush	5	3-wire	PNP	Normally-open (NO)	1	10	M12 connector plug	65	12	■
NRB15-30GM50-A2-C	Flush	15	4-wire	PNP	Complementary	750	10	Fixed cable	50	30	
NMB5-18GM55-Z3-C-FE-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	5	6	Fixed cable with M12 plug	55	18	■
NMB5-18GM65-E2-C-FE-V1	Flush	5	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	65	18	■
NRB15-30GM50-E2-C-V1	Flush	15	3-wire	PNP	Normally-open (NO)	750	10	M12 connector plug	65	30	
NBN3-8GM30-E2-C-V1	Non-flush	3	3-wire	PNP	Normally-open (NO)	50	10	M12 connector plug	35	8	■
NBN4-12GM50-E2-C	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	Fixed cable	50	12	■
NBN4-12GM50-E2-C-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	1200	10	M12 connector plug	46	12	■
NRN6-8GM40-E2-C-V1	Non-flush	6	3-wire	PNP	Normally-open (NO)	400	10	M12 connector plug	40	8	
NBN8-18GM50-E2-C-V1	Non-flush	8	3-wire	PNP	Normally-open (NO)	500	10	M12 connector plug	50	18	■
NRN10-12GM40-A2-C	Non-flush	10	4-wire	PNP	Complementary	1000	10	Fixed cable	40	12	
NRN10-12GM40-E2-C-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	1000	10	M12 connector plug	55	12	
NRN10-12GM40-E2-IO-C	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	10	Fixed cable	40	12	
NRN10-12GM40-E2-IO-C-V1	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	10	M12 connector plug	55	12	
NRN12-18GM50-E2-C-V1	Non-flush	12	3-wire	PNP	Normally-open (NO)	500	10	M12 connector plug	65	18	
NMB8-30GM65-E2-C-FE-V1	Flush	8	3-wire	PNP	Normally-open (NO)	2	10	M12 connector plug	40	30	■
NRN15-18GM40-E2-IO-C	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	10	Fixed cable	40	18	
NRN15-18GM40-E2-IO-C-V1	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	10	M12 connector plug	55	18	
NRN15-18GM50-A2-C	Non-flush	15	4-wire		Complementary	800	10	Fixed cable	55	18	
NRN15-18GM50-E2-C-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	500	10	M12 connector plug	65	18	
NMB10-18GM65-E2-C-V1	Flush	10	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	65	18	■
NMB10-18GM65-E2-C4-V1	Flush	10	3-wire	PNP	Normally-open (NO)	1	10	M12 connector plug	65	18	■
NRN20-30GM50-E2-C-V1	Non-flush	20	3-wire	PNP	Normally-open (NO)	300	10	M12 connector plug	65	30	
NRN30-30GM50-A2-C	Non-flush	30	4-wire	PNP	Complementary	300	10	Fixed cable	50	30	
NRN30-30GM50-E2-C-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	10	M12 connector plug	65	30	
NRN30-30GM50-E2-IO-C	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	10	Fixed cable	50	30	
NRN30-30GM50-E2-IO-C-V1	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	10	M12 connector plug	65	30	
NMB15-30GM65-E2-C-V1	Flush	15	3-wire	PNP	Normally-open (NO)	5	10	M12 connector plug	65	30	■
NMB15-30GM65-E2-C4-V1	Flush	15	3-wire	PNP	Normally-open (NO)	1	10	M12 connector plug	65	30	■

Highlights

- Safe switching characteristics due to high magnetic field immunity
- Extremely durable thanks to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic
- Available with IO-Link as an option
- Many years of experience in the selection and integration of sensors

Brief Description

Resistant to magnetic fields and welding sparks. Weld-proof sensors with a degree of protection up to IP68 are the ideal detection solution in welding areas and other harsh operating environments. An assembly with two coupled air coils makes them insensitive to magnetic fields, which can occur during electric welding or through frequency converters. The sensor electronics themselves also guarantee the highest level of immunity towards EMC interference. The housing design of the various versions also ensures maximum durability and availability. The brass sleeves of the cylindrical sensors are PTFE coated, ensuring they are also protected against welding sparks and metal chips.



Accessories	
AB-12	Mounting aid
AB-18	Mounting aid
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 8	Mounting adapter, 8 mm
EXG-08	Quick-mounting bracket with fixed stop
EXG-12	Quick-mounting bracket with fixed stop

Weld-Proof Cube-Style Sensors

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	CSA	UL
NMB6-F104M-E2-C-FE-200MM-V1	Flush	6	3-wire	PNP	Normally-open (NO)	DC	2	10	30	Fixed cable with M12 plug	32	20	8			
NMB6-F104M-E2-C-FE-200MM-V3	Flush	6	3-wire	PNP	Normally-open (NO)	DC	2	10	30	Fixed cable with M8 plug	32	20	8			
NRB20-L3-E2-IO-C-V1	Flush	20	3-wire	IO-Link, PNP	Normally open/close selectable	DC	440	10	30	M12 connector plug	67	40	40			■
NBB15-U1-E2-C	Flush	15	3-wire	PNP	Normally-open (NO)	DC	4	10	30	Terminal compartment	118	40	40			■
NMB6-F104M-E2-C-NFE-200MM-V1	Flush	6	3-wire	PNP	Normally-open (NO)	DC	2	10	30	Fixed cable with M12 plug	32	20	8			
NRB50-FP-A2-C-P3-V1	Flush	50	4-wire	PNP	Complementary	DC	1	10	30	M12 connector plug	84	84	40		■	■
NBB20-L2-A2-C-V1	Flush	20	4-wire	PNP	Complementary	DC	5	10	30	M12 connector plug	67	40	40			■
NBB20-L2-E2-C-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	67	40	40			■
NMB6-F104M-E2-C-NFE-200MM-V3	Flush	6	3-wire	PNP	Normally-open (NO)	DC	2	10	30	Fixed cable with M8 plug	32	20	8			
NRB50-FP-E2-C-P3-V1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	84	84	40		■	■
NBB20-U1-E2-C	Flush	20	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	118	40	40			■
NBB20-U1-E2-C-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	118	40	40			■
NBB20-U4-E2-C	Flush	20	3-wire	PNP	Normally-open (NO)	DC	5	10	30	Terminal compartment	118	40	40			■
NBB20-U4-E2-C-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	118	40	40			■
NRN40-L3K-E2-IO-C-V1	Non-flush	40	3-wire	IO-Link, PNP	Normally open/close selectable	DC	180	10	30	M12 connector plug	67	40	40			■
NBB20-L2-E2B-C-V1	Flush	20	3-wire	PNP	Normally-open (NO)	DC	50	10	30	M12 connector plug	67	40	40		■	■
NBB20-L3M-US-C3-V12	Flush	20	2-wire	2-wire	Normally-open (NO)	AC/DC	2	20	300	1/2 inch connector plug	68	40	40	■	■	■
NRN75-FP-A2-C-P3-V1	Non-flush	75	4-wire	PNP	Complementary	DC	1	10	30	M12 connector plug	80	80	40		■	■
NRN75-FP-E2-C-P3-V1	Non-flush	75	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	80	80	40		■	■
NCB50-FP-E2-C-P1-V1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	1	10	60	M12 connector plug	84	84	40	■	■	■
NCB50-FP-E2-C-P3-V1	Flush	50	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	84	84	40		■	■
NCB50-FP-A2-C-P3-V1	Flush	50	4-wire	PNP	Complementary	DC	1	10	60	M12 connector plug	84	84	40	■	■	■
NCB50-FP-E34-C-P3-V1	Flush	50	3-wire	PNP	Normally-closed (NC)	DC	1	10	60	M12 connector plug	84	84	40		■	■
NBN4-F29-E2-C	Non-flush	4	3-wire	PNP	Normally-open (NO)	DC	1000	4,8	30	Fixed cable	27	10	6		■	■
NBN4-F29A-E2-C	Non-flush	4	3-wire	PNP	Normally-open (NO)	DC	1000	10	30	Fixed cable	9	27	10		■	■
NBN30-L2-A2-C-V1	Non-flush	30	4-wire	PNP	Complementary	DC	5	10	30	M12 connector plug	67	40	40			■
NRN35-L3-A2-C-V1	Non-flush	35	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	67	40	40			■
NBN40-U1-E2-C	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	118	40	40			■
NBN40-L2-A2-C-V1	Non-flush	40	4-wire	PNP	Complementary	DC	5	10	30	M12 connector plug	67	40	40			■
NBN40-L2-E2-C-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	67	40	40			■
NBN40-L2-E2B-C-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	50	10	30	M12 connector plug	67	40	40			■
NRN40-L3K-A2-C-V1	Non-flush	40	4-wire	PNP	Complementary	DC	180	10	30	M12 connector plug	67	40	40			■
NRN40-L3K-E2-C-V1	Non-flush	40	3-wire	PNP	Normally-open (NO)	DC	180	10	30	M12 connector plug	67	40	40			■

Reduction Factor 1 - Cylindrical Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	Diameter D	CSA	EAC
NRB1,5-8GM40-E2-C-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	1000	M12 connector plug			40	8		
NRB2-6,5S40-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	4000	M8 connector plug			40	6.5		
NRB2-8GH40-E2	Flush	2	3-wire	PNP	Normally-open (NO)	4000	Fixed cable	2000	PVC	40	8		
NRB2-8GH40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	4000	M12 connector plug			40	8		
NRB2-8GS40-E2-V1	Flush	2	3-wire	PNP	Normally-open (NO)	4000	M12 connector plug			40	8		
NRB2-8GS40-E2-V3	Flush	2	3-wire	PNP	Normally-open (NO)	4000	M8 connector plug			40	8		■
NRB2-8GM40-E2-C-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1000	M12 connector plug			40	8		
NRB2-12GM40-E2-C-V1	Flush	2	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		
NRB3-12GS40-E2-V1	Flush	3	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		
NRB3-12GM40-E2-C-V1	Flush	3	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		
NRB4-12GH40-E2	Flush	4	3-wire	PNP	Normally-open (NO)	2000	Fixed cable	2000	PVC	40	12		
NRB4-12GH40-E2-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		
NRB4-12GS40-A2-V1	Flush	4	4-wire	PNP	Complementary	2000	M12 connector plug			55	12		
NRB4-12GS40-E2	Flush	4	3-wire	PNP	Normally-open (NO)	2000	Fixed cable	2000	PVC	40	12		
NRB4-12GS40-E2-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		■
NRB4-12GS40-E3-V1	Flush	4	3-wire	PNP	Normally-closed (NC)	2000	M12 connector plug			55	12		
NRB4-12GM40-A2-C	Flush	4	4-wire	PNP	Complementary	2000	Fixed cable	2000	PUR	40	12		
NRB4-12GM40-E2-C-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			55	12		
NRB4-12GM50-E2-C-V1	Flush	4	3-wire	PNP	Normally-open (NO)	2000	M12 connector plug			65	12		
NRB5-18GM40-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			55	18		
NRB5-18GM50-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			65	18		
NRB6-18GS40-E2-V1	Flush	6	3-wire	PNP	Normally-open (NO)	1200	M12 connector plug			55	18		
NRB8-18GH40-E2	Flush	8	3-wire	PNP	Normally-open (NO)	1200	Fixed cable	2000	PVC	45	18		
NRB8-18GH40-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	1200	M12 connector plug			55	18		
NRB8-18GS40-A2-V1	Flush	8	4-wire	PNP	Complementary	1200	M12 connector plug			55	18		
NRB8-18GS40-E2-IO	Flush	8	3-wire	IO-Link, PNP	Normally open/close selectable	1500	Fixed cable	2000	PVC	45	18		
NRB8-18GS40-E2-IO-V1	Flush	8	3-wire	IO-Link, PNP	Normally open/close selectable	1500	M12 connector plug			55	18		
NRB8-18GS40-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	1200	M12 connector plug			55	18		
NRB8-18GS50-E2-V1	Flush	8	3-wire	PNP	Normally-open (NO)	1200	M12 connector plug			65	18		
NRB8-18GS50-E3-V1	Flush	8	3-wire	PNP	Normally-closed (NC)	1200	M12 connector plug			65	18		
NRB6-18GM40-E2-C-V1	Flush	6	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			55	18		
NRB8-18GM40-E2-C-V1	Flush	8	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			55	18		
NRB8-18GM50-E2-C-V1	Flush	8	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			65	18		
NRB10-30GM50-E2-C-V1	Flush	10	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB12-18GS40-E2-V1	Semi-flush	12	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			40	18	■	
NRB12-18GM40-E2-C-V1	Semi-flush	12	3-wire	PNP	Normally-open (NO)	600	M12 connector plug			40	18	■	
NRB13-30GS50-E2-V1	Flush	13	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB13-30GM50-E2-C-V1	Flush	13	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB15-30GH50-E2	Flush	15	3-wire	PNP	Normally-open (NO)	750	Fixed cable	2000	PVC	50	30		
NRB15-30GH50-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB15-30GM50-E2-IO-C	Flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	600	Fixed cable	2000	PUR	40	30		

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	Diameter D	CSA	EAC
NRB15-30GM50-E2-IO-C-V1	Flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	600	M12 connector plug			65	30		
NRB15-30GS50-E2	Flush	15	3-wire	PNP	Normally-open (NO)	750	Fixed cable	2000	PVC	50	30		
NRB15-30GM50-A2-C	Flush	15	4-wire	PNP	Complementary	750	Fixed cable	2000	PUR	50	30		
NRB15-30GM50-E2-C-V1	Flush	15	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB15-30GS50-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	750	M12 connector plug			65	30		
NRB15-30GS50-E3-V1	Flush	15	3-wire	PNP	Normally-closed (NC)	750	M12 connector plug			65	30		
NRN6-6,5S40-E2-V3	Non-flush	6	3-wire	PNP	Normally-open (NO)	2500	M8 connector plug			40	6.5		
NRN6-8GH40-E2	Non-flush	6	3-wire	PNP	Normally-open (NO)	2500	Fixed cable	2000	PVC	40	8		
NRN6-8GH40-E2-V1	Non-flush	6	3-wire	PNP	Normally-open (NO)	2500	M12 connector plug			40	8		
NRN6-8GM40-E2-C-V1	Non-flush	6	3-wire	PNP	Normally-open (NO)	400	M12 connector plug			40	8		
NRN6-8GS40-E2-V1	Non-flush	6	3-wire	PNP	Normally-open (NO)	2500	M12 connector plug			40	8		
NRN6-8GS40-E2-V3	Non-flush	6	3-wire	PNP	Normally-open (NO)	2500	M8 connector plug			40	8		
NRN10-12GM40-A2-C	Non-flush	10	4-wire	PNP	Complementary	1000	Fixed cable	2000	PUR	40	12		
NRN10-12GM40-E2-C-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	1000	M12 connector plug			55	12		
NRN10-12GM40-E2-IO-C	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	Fixed cable	2000	PUR	40	12		
NRN10-12GM40-E2-IO-C-V1	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	M12 connector plug			55	12		
NRN10-12GH40-E2	Non-flush	10	3-wire	PNP	Normally-open (NO)	1500	Fixed cable	2000	PVC	40	12		
NRN10-12GH40-E2-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	1500	M12 connector plug			55	12		
NRN10-12GS40-A2-V1	Non-flush	10	4-wire	PNP	Complementary	1500	M12 connector plug			55	12		
NRN10-12GS40-E2	Non-flush	10	3-wire	PNP	Normally-open (NO)	1500	Fixed cable	2000	PVC	40	12		
NRN10-12GS40-E2-IO	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	Fixed cable	2000	PVC	40	12		
NRN10-12GS40-E2-IO-V1	Non-flush	10	3-wire	IO-Link, PNP	Normally open/close selectable	1300	M12 connector plug			55	12		
NRN10-12GS40-E2-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	1500	M12 connector plug			55	12		
NRN10-12GS40-E3-V1	Non-flush	10	3-wire	PNP	Normally-closed (NC)	1500	M12 connector plug			55	12		
NRN12-18GM50-E2-C-V1	Non-flush	12	3-wire	PNP	Normally-open (NO)	500	M12 connector plug			65	18		
NRN15-18GM40-E2-IO-C	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	Fixed cable	2000	PUR	40	18		
NRN15-18GM40-E2-IO-C-V1	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	M12 connector plug			55	18		
NRN15-18GH40-E2	Non-flush	15	3-wire	PNP	Normally-open (NO)	800	Fixed cable	2000	PVC	45	18		
NRN15-18GH40-E2-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	800	M12 connector plug			55	18		
NRN15-18GS40-A2-V1	Non-flush	15	4-wire	PNP	Complementary	800	M12 connector plug			55	18		
NRN15-18GS40-E2-IO	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	Fixed cable	2000	PVC	40	18		
NRN15-18GS40-E2-IO-V1	Non-flush	15	3-wire	IO-Link, PNP	Normally open/close selectable	550	M12 connector plug			55	18		
NRN15-18GS40-E2-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	800	M12 connector plug			55	18		
NRN15-18GM50-A2-C	Non-flush	15	4-wire		Complementary	800	Fixed cable	2000	PUR	55	18		
NRN15-18GM50-E2-C-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	500	M12 connector plug			65	18		
NRN15-18GS50-E2	Non-flush	15	3-wire		Normally-open (NO)	800	Fixed cable	2000	PVC	55	18		
NRN15-18GS50-E2-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	800	M12 connector plug			65	18		
NRN15-18GS50-E3-V1	Non-flush	15	3-wire	PNP	Normally-closed (NC)	800	M12 connector plug			65	18		
NRN20-30GM50-E2-C-V1	Non-flush	20	3-wire	PNP	Normally-open (NO)	300	M12 connector plug			65	30		
NRN30-30GM50-A2-C	Non-flush	30	4-wire	PNP	Complementary	300	Fixed cable	2000	PUR	50	30		
NRN30-30GM50-E2-C-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	M12 connector plug			65	30		
NRN30-30GM50-E2-IO-C	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	Fixed cable	2000	PUR	50	30		
NRN30-30GM50-E2-IO-C-V1	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	M12 connector plug			65	30		
NRN30-30GH50-E2	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	Fixed cable	2000	PVC	50	30		
NRN30-30GH50-E2-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	M12 connector plug			65	30		
NRN30-30GS50-E2	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	Fixed cable	2000	PVC	50	30		
NRN30-30GS50-E2-IO	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	Fixed cable	2000	PVC	50	30		
NRN30-30GS50-E2-IO-V1	Non-flush	30	3-wire	IO-Link, PNP	Normally open/close selectable	680	M12 connector plug			65	30		
NRN30-30GS50-E2-V1	Non-flush	30	3-wire	PNP	Normally-open (NO)	300	M12 connector plug			65	30		
NRN30-30GS50-E3-V1	Non-flush	30	3-wire	PNP	Normally-closed (NC)	300	M12 connector plug			65	30		

Highlights

- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments
- Extremely durable thanks to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic
- Available with IO-Link as an option

Brief Description

The broad portfolio of reduction factor 1 sensors from Pepperl+Fuchs enables maximum flexibility in the design of machines and plants. This is ensured through industry-standard cylindrical and cubic designs, different cable versions, variants with IO-Link, and weld-proof and chemically resistant special sensors for particularly harsh operational conditions. Users benefit from Pepperl+Fuchs' technological expertise and many years of experience as pioneers of inductive sensor technology as part of customer and application-specific adaptations.

Reduction Factor 1 - Cube-Style Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	Connection type	Length L	Width W	CSA
NRB20-U1-A2	Flush	20	4-wire	PNP	Complementary	440	Terminal compartment	118	40	
NRB20-U1-E2-IO	Flush	20	3-wire	IO-Link, PNP	Normally open/close selectable	440	Terminal compartment	118	40	
NRB20-L3-E2-IO-V1	Flush	20	3-wire	IO-Link, PNP	Normally open/close selectable	440	M12 connector plug	67	40	
NRB20-L3-E2-IO-C-V1	Flush	20	3-wire	IO-Link, PNP	Normally open/close selectable	440	M12 connector plug	67	40	
NRB50-FP-A2-P3-V1	Flush	50	4-wire	PNP	Complementary	80	M12 connector plug	84	84	■
NRB50-FP-A2-C-P3-V1	Flush	50	4-wire	PNP	Complementary	1	M12 connector plug	84	84	■
NRB50-FP-E2-P3-V1	Flush	50	3-wire	PNP	Normally-open (NO)	80	M12 connector plug	84	84	■
NRB50-FP-E2-C-P3-V1	Flush	50	3-wire	PNP	Normally-open (NO)	1	M12 connector plug	84	84	■
NRN40-U1-A2	Non-flush	40	4-wire	PNP	Complementary	180	Terminal compartment	118	40	
NRN40-U1-E2-IO-V1	Non-flush	40	3-wire	IO-Link, PNP	Normally open/close selectable	180	M12 connector plug	118	40	
NRN40-L3K-E2-IO-V1	Non-flush	40	3-wire	IO-Link, PNP	Normally open/close selectable	180	M12 connector plug	67	40	
NRN40-L3K-E2-IO-C-V1	Non-flush	40	3-wire	IO-Link, PNP	Normally open/close selectable	180	M12 connector plug	67	40	
NRN75-FP-A2-P3	Non-flush	75	4-wire	PNP	Complementary	50	Terminal compartment	80	80	■
NRN75-FP-A2-C-P3-V1	Non-flush	75	4-wire	PNP	Complementary	1	M12 connector plug	80	80	■
NRN75-FP-A2-P3-V1	Non-flush	75	4-wire	PNP	Complementary	50	M12 connector plug	80	80	■
NRN75-FP-E2-C-P3-V1	Non-flush	75	3-wire	PNP	Normally-open (NO)	1	M12 connector plug	80	80	■

Highlights

- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments
- Extremely durable thanks to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic

Brief Description

The broad portfolio of reduction factor 1 sensors from Pepperl+Fuchs enables maximum flexibility in the design of machines and plants. This is ensured through industry-standard cylindrical and cubic designs, different cable versions, variants with IO-Link, and weld-proof and chemically resistant special sensors for particularly harsh operational conditions. Users benefit from Pepperl+Fuchs' technological expertise and many years of experience as pioneers of inductive sensor technology as part of customer and application-specific adaptations.

Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
MH 02-L	Mounting aid
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

Metal Face - Cylindrical Sensors

Standard Technical Data	
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	CCC	CSA
NMB1,5-8GM35-E0-FE	Flush	1.5	3-wire	NPN	Normally-open (NO)	DC	80	10	30	Fixed cable	35	8		■
NMB1,5-8GM35-E2-C-FE-150MM-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	5	10	30	Fixed cable with M12 plug	35	8		■
NMB1,5-8GM35-E2-C-FE-150MM-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	5	10	30	Fixed cable with M8 plug	35	8		■
NMB1,5-8GM35-E2-FE	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	Fixed cable	35	8		■
NMB1,5-8GM35-E2-FE-1M-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	Fixed cable with M12 plug	35	8		■
NMB1,5-8GM50-E0-FE	Flush	1.5	3-wire	NPN	Normally-open (NO)	DC	80	10	30	Fixed cable	40	8		■
NMB1,5-8GM50-E2-C-FE-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	40	8		■
NMB1,5-8GM50-E2-FE	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	Fixed cable	40	8		■
NMB1,5-8GM50-E2-FE-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	M12 connector plug	50	8		■
NMB1,5-8GM50-E2-FE-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	M8 connector plug	50	8		■
NMB1,5-8GM65-E0-FE-V1	Flush	1.5	3-wire	NPN	Normally-open (NO)	DC	80	10	30	M12 connector plug	40	8		■
NMB1,5-8GM65-E0-FE-V3	Flush	1.5	3-wire	NPN	Normally-open (NO)	DC	80	10	30	M8 connector plug	40	8		■
NMB1,5-8GM65-E2-FE-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	M12 connector plug	40	8		■
NMB1,5-8GM65-E2-FE-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	DC	80	10	30	M8 connector plug	40	8		■
NMB2-12GM40-Z0-C-FE-300MM-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	40	12		■
NMB2-12GM40-Z3-C-FE-300MM-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	40	12		■
NMB2-12GM55-E0-FE	Flush	2	3-wire	NPN	Normally-open (NO)	DC	100	10	30	Fixed cable	55	12		■
NMB2-12GM55-E2-FE	Flush	2	3-wire	PNP	Normally-open (NO)	DC	100	10	30	Fixed cable	55	12		■
NMB2-12GM65-E0-FE-V1	Flush	2	3-wire	NPN	Normally-open (NO)	DC	100	10	30	M12 connector plug	65	12		■
NMB2-12GM65-E0-NFE-V1	Flush	2	3-wire	NPN	Normally-open (NO)	DC	15	10	30	M12 connector plug	65	12		■
NMB2-12GM65-E2-FE-V1	Flush	2	3-wire	PNP	Normally-open (NO)	DC	100	10	30	M12 connector plug	65	12		■
NMB2-12GM65-E2-NFE-V1	Flush	2	3-wire	PNP	Normally-open (NO)	DC	15	10	30	M12 connector plug	65	12		■
NMB2-12GM65-E2-C-FE-V1	Flush	2	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	44	12		■
NMB2-12GM65-E3-FE-V1	Flush	2	3-wire	PNP	Normally-closed (NC)	DC	100	10	30	M12 connector plug	65	12		■
NMB2-12GM75-Z0-C-FE-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	M12 connector plug	75	12		■
NMB2-12GM75-Z0-FE-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	DC	50	6	30	M12 connector plug	75	12		■
NMB2-12GM75-Z3-FE-V1	Flush	2	2-wire	2-wire	Normally-open (NO)	DC	50	6	30	M12 connector plug	75	12		■
NMB3-8GM35-E2	Flush	3	3-wire	PNP	Normally-open (NO)	DC	360	10	30	Fixed cable	35	8		■
NMB3-8GM35-E2-150MM-V1	Flush	3	3-wire	PNP	Normally-open (NO)	DC	360	10	30	Fixed cable with M12 plug	35	8		■
NMB3-8GM35-E2-150MM-V3	Flush	3	3-wire	PNP	Normally-open (NO)	DC	360	10	30	Fixed cable with M8 plug	35	8		■
NMB3-8GM50-E0-V3	Flush	3	3-wire	NPN	Normally-open (NO)	DC	360	10	30	M8 connector plug	50	8		■
NMB3-8GM50-E2-V1	Flush	3	3-wire	PNP	Normally-open (NO)	DC	360	10	30	M12 connector plug	50	8		■
NMB3-8GM50-E2-C-V1	Flush	3	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	50	8		■
NMB3-8GM50-E2-V3	Flush	3	3-wire	PNP	Normally-open (NO)	DC	360	10	30	M8 connector plug	50	8		■
NMB5-12GM45-Z9-C4-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	45	12		■
NMB5-12GM45-Z4-C4-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	45	12		■
NMB5-12GM55-E0	Flush	5	3-wire	NPN	Normally-open (NO)	DC	360	10	30	Fixed cable	55	12		■
NMB5-12GM55-E2	Flush	5	3-wire	PNP	Normally-open (NO)	DC	360	10	30	Fixed cable	55	12		■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	CCC	CSA
NMB5-12GM65-E0-V1	Flush	5	3-wire	NPN	Normally-open (NO)	DC	360	10	30	M12 connector plug	65	12		■
NMB5-12GM65-E2-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	360	10	30	M12 connector plug	65	12		■
NMB5-12GM65-E2-C-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	65	12		■
NMB5-12GM65-E2-C4-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	65	12		■
NMB5-12GM65-E3-V1	Flush	5	3-wire	PNP	Normally-closed (NC)	DC	360	10	30	M12 connector plug	65	12		■
NMB5-18GM55-Z3-C-FE-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	55	18		■
NMB5-18GM65-E2-C-FE-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	65	18		■
NMB5-18GM55-E0-FE	Flush	5	3-wire	NPN	Normally-open (NO)	DC	15	10	30	Fixed cable	55	18		■
NMB5-18GM55-E2-FE	Flush	5	3-wire	PNP	Normally-open (NO)	DC	15	10	30	Fixed cable	55	18		■
NMB5-18GM55-Z0-C-FE-300MM-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	55	18		■
NMB5-18GM65-E0-FE-V1	Flush	5	3-wire	NPN	Normally-open (NO)	DC	15	10	30	M12 connector plug	50	18		■
NMB5-18GM65-E2-FE-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	15	10	30	M12 connector plug	50	18		■
NMB5-18GM65-E2-NFE-V1	Flush	5	3-wire	PNP	Normally-open (NO)	DC	30	10	30	M12 connector plug	65	18		■
NMB5-18GM65-E3-FE-V1	Flush	5	3-wire	PNP	Normally-closed (NC)	DC	15	10	30	M12 connector plug	65	18		■
NMB5-18GM65-Z0-FE-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	15	6	30	M12 connector plug	65	18		■
NMB5-18GM65-Z0-NFE-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	30	6	30	M12 connector plug	65	18		■
NMB5-18GM65-Z3-FE-V1	Flush	5	2-wire	2-wire	Normally-open (NO)	DC	15	6	30	M12 connector plug	65	18		■
NMB5-18GM80-US-FE	Flush	5	2-wire	2-wire	Normally-open (NO)	AC/DC	15	20	300	Fixed cable	80	18	■	■
NMB5-18GM85-US-FE-V12	Flush	5	2-wire	2-wire	Normally-open (NO)	AC/DC	15	20	300	1/2 inch connector plug	90	18	■	■
NMB6-12GH50-E2	Flush	6	3-wire	PNP	Normally-open (NO)	DC	600	10	30	Fixed cable	69	12		
NMB6-12GH50-E2-V1	Flush	6	3-wire	PNP	Normally-open (NO)	DC	600	10	30	M12 connector plug	60	12		
NMB8-30GM55-E0-FE	Flush	8	3-wire	NPN	Normally-open (NO)	DC	10	10	30	Fixed cable	55	30		■
NMB8-30GM55-E2-FE	Flush	8	3-wire	PNP	Normally-open (NO)	DC	10	10	30	Fixed cable	55	30		■
NMB8-30GM55-Z0-C-FE-300MM-V1	Flush	8	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	55	30		■
NMB8-30GM55-Z3-C-FE-300MM-V1	Flush	8	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	Fixed cable with M12 plug	55	30		■
NMB8-30GM65-E0-FE-V1	Flush	8	3-wire	NPN	Normally-open (NO)	DC	10	10	30	M12 connector plug	65	30		■
NMB8-30GM65-E2-FE-V1	Flush	8	3-wire	PNP	Normally-open (NO)	DC	10	10	30	M12 connector plug	65	30		■
NMB8-30GM65-E2-C-FE-V1	Flush	8	3-wire	PNP	Normally-open (NO)	DC	2	10	30	M12 connector plug	40	30		■
NMB8-30GM65-E2-NFE-V1	Flush	8	3-wire	PNP	Normally-open (NO)	DC	10	10	30	M12 connector plug	65	30		■
NMB8-30GM65-Z0-FE-V1	Flush	8	2-wire	2-wire	Normally-open (NO)	DC	10	6	30	M12 connector plug	65	30		■
NMB8-30GM85-US-FE-V12	Flush	8	2-wire	2-wire	Normally-open (NO)	AC/DC	10	20	300	1/2 inch connector plug	70	30		■
NMB8-30GM85-US-FE-V93	Flush	8	2-wire	2-wire	Normally-open (NO)	AC/DC	10	20	300	7/8 inch connector plug	71	30	■	■
NMB10-18GH50-E2	Flush	10	3-wire	PNP	Normally-open (NO)	DC	300	10	30	Fixed cable	70	18		
NMB10-18GH50-E2-V1	Flush	10	3-wire	PNP	Normally-open (NO)	DC	300	10	30	M12 connector plug	63.5	18		
NMB10-18GM55-E2	Flush	10	3-wire	PNP	Normally-open (NO)	DC	240	10	30	Fixed cable	55	18		■
NMB10-18GM55-Z4-C4-300MM-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	55	18		■
NMB10-18GM55-Z9-C4-300MM-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	55	18		■
NMB10-18GM65-E2-V1	Flush	10	3-wire	PNP	Normally-open (NO)	DC	240	10	30	M12 connector plug	65	18		■
NMB10-18GM65-E2-C-V1	Flush	10	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	65	18		■
NMB10-18GM65-E2-C4-V1	Flush	10	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	65	18		■
NMB10-18GM65-E3-V1	Flush	10	3-wire	PNP	Normally-closed (NC)	DC	240	10	30	M12 connector plug	65	18		■
NMB10-30GM65-Z0-NFE-V1	Flush	10	2-wire	2-wire	Normally-open (NO)	DC	5	6	30	M12 connector plug	65	30		■
NMB15-30GM55-E0	Flush	15	3-wire	NPN	Normally-open (NO)	DC	150	10	30	Fixed cable	55	30		■
NMB15-30GM55-E2	Flush	15	3-wire	PNP	Normally-open (NO)	DC	150	10	30	Fixed cable	55	30		■
NMB15-30GM55-Z4-C4-300MM-V1	Flush	15	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	55	30		■
NMB15-30GM55-Z9-C4-300MM-V1	Flush	15	2-wire	2-wire	Normally-open (NO)	DC	1	6	30	Fixed cable with M12 plug	55	30		■
NMB15-30GM65-E2-C-V1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	5	10	30	M12 connector plug	65	30		■
NMB15-30GM65-E2-C4-V1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	1	10	30	M12 connector plug	65	30		■
NMB15-30GM65-E0-V1	Flush	15	3-wire	NPN	Normally-open (NO)	DC	150	10	30	M12 connector plug	65	30		■
NMB15-30GM65-E2-V1	Flush	15	3-wire	PNP	Normally-open (NO)	DC	150	10	30	M12 connector plug	65	30		■
NMB15-30GM65-Z4-V1	Flush	15	2-wire	2-wire	Normally-open (NO)	DC	150	6	30	M12 connector plug	65	30		■
NMB15-30GM65-Z9-V1	Flush	15	2-wire	2-wire	Normally-open (NO)	DC	150	6	30	M12 connector plug	65	30		■
NMN10-12GH50-E2	Non-flush	10	3-wire	PNP	Normally-open (NO)	DC	400	10	30	Fixed cable	69	12		
NMN10-12GH50-E2-V1	Non-flush	10	3-wire	PNP	Normally-open (NO)	DC	400	10	30	M12 connector plug	60	12		
NMN20-18GH50-E2	Non-flush	20	3-wire	PNP	Normally-open (NO)	DC	200	10	30	Fixed cable	70	18		
NMN20-18GH50-E2-V1	Non-flush	20	3-wire	PNP	Normally-open (NO)	DC	200	10	30	M12 connector plug	63.5	18		

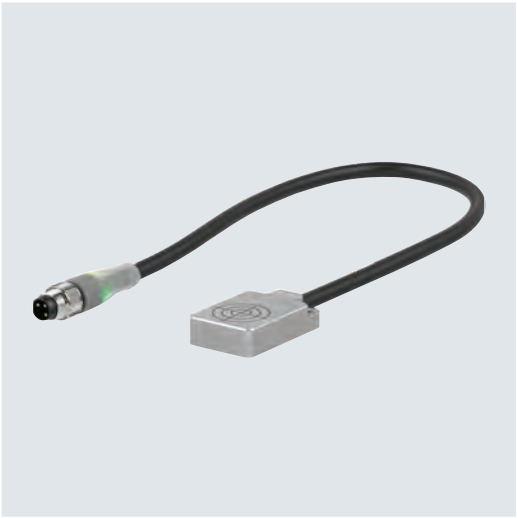
Highlights

- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- C-series "Metal Face" sensors are resistant to weld splatter

Brief Description

Highly resistant to heavy loads and forces. In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle. For example, when used in machine tools, sensors are subjected to high forces, abrasion, and aggressive media.

Metal Face - Cube-Style Sensors



Standard Technical Data	
Type of installation	Flush
Detection range	6 mm
Output type	3-wire
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	32 mm
Housing width W	20 mm
Housing height H	8 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	UL
NMB6-F104M-E0-FE	NPN	Normally-open (NO)	20	Fixed cable	2000	PUR	■
NMB6-F104M-E2-C-FE-200MM-V1	PNP	Normally-open (NO)	2	Fixed cable with M12 plug	200	POC	
NMB6-F104M-E0-FE-200MM-V1	NPN	Normally-open (NO)	20	Fixed cable with M12 plug	200	PUR	■
NMB6-F104M-E2-C-FE-200MM-V3	PNP	Normally-open (NO)	2	Fixed cable with M8 plug	200	POC	
NMB6-F104M-E0-FE-200MM-V3	NPN	Normally-open (NO)	20	Fixed cable with M8 plug	200	PUR	■
NMB6-F104M-E2-C-NFE-200MM-V1	PNP	Normally-open (NO)	2	Fixed cable with M12 plug	200	POC	
NMB6-F104M-E1-FE	NPN	Normally-closed (NC)	20	Fixed cable	2000	PUR	■
NMB6-F104M-E2-C-NFE-200MM-V3	PNP	Normally-open (NO)	2	Fixed cable with M8 plug	200	POC	
NMB6-F104M-E1-FE-200MM-V3	NPN	Normally-closed (NC)	20	Fixed cable with M8 plug	200	PUR	■
NMB6-F104M-E2-FE	PNP	Normally-open (NO)	20	Fixed cable	2000	PUR	■
NMB6-F104M-E2-FE-200MM-V1	PNP	Normally-open (NO)	20	Fixed cable with M12 plug	200	PUR	■
NMB6-F104M-E2-FE-200MM-V3	PNP	Normally-open (NO)	20	Fixed cable with M8 plug	200	PUR	■
NMB6-F104M-E2-NFE	PNP	Normally-open (NO)	20	Fixed cable	2000	PUR	■
NMB6-F104M-E2-NFE-200MM-V1	PNP	Normally-open (NO)	20	Fixed cable with M12 plug	200	PUR	■
NMB6-F104M-E2-NFE-200MM-V3	PNP	Normally-open (NO)	20	Fixed cable with M8 plug	200	PUR	■
NMB6-F104M-E3-FE	PNP	Normally-closed (NC)	20	Fixed cable	2000	PUR	■
NMB6-F104M-E3-FE-200MM-V3	PNP	Normally-closed (NC)	20	Fixed cable with M8 plug	200	PUR	■

Highlights

- Resistant to harsh ambient conditions such as humidity and mechanical shocks
- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- C-series "Metal Face" sensors are resistant to weld splatter
- Extended sensing range

Brief Description

Resistant to heavy loads and forces. In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle. For example, when used in machine tools, high forces, abrasion, and aggressive media act on the sensors. For this type of application, Pepperl+Fuchs offers "Metal Face" sensors, which are perfectly protected under particularly adverse conditions thanks to their self-contained stainless steel housing with an active sensing face. All FE types are only suitable for ferromagnetic targets and all NFE types for non-ferromagnetic targets.

Pressure-Resistant Sensors

Standard Technical Data	
Type of installation	Flush
Detection range	1.5 mm
Voltage type	DC
CSA	CSA
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable mate-rial	Length L	Diame-ter D	CCC	ATEX	EAC
NCB1,5-18GM60-E2-D	3-wire	PNP	Normally-open (NO)	1500	10	60	Fixed cable	2000	PVC	57	18	■		
NCB1,5-18GM60-E2-D-V1	3-wire	PNP	Normally-open (NO)	1500	10	60	M12 connector plug			65	18	■		
NCB1,5-18GM60-E3-D	3-wire	PNP	Normally-closed (NC)	1500	10	60	Fixed cable	2000	PVC	57	18	■		
NJ1,5-18GM-N-D	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2	Fixed cable	2000	PVC	50	18		■	■
NJ1,5-18GM-N-D-10M	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2	Fixed cable	10000	PVC	50	18		■	■
NJ1,5-18GM-N-D-V1	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2	M12 connector plug			35	18		■	■
NCB1,5-12GM40-E2-D-V1	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug			56	12			
NCB1,5-12GM45-E2-D-V1	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug			56	12			
NCB1,5-12GM60-E2-D-V1	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug			69	12			
NCB1,5-12GM70-E2-D-V1	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug			93	12			
NCB1,5-12GM85-E2-D-V1	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug			93	12			

Highlights

- Extremely rugged design for pressures up to 1000 bar
- Optimized portfolio that is perfectly tailored to applications in hydraulic and pneumatic cylinders
- Different sensing ranges, output and connection options guarantee optimal application solutions

Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-N-2M-PUR	Single-ended female cordset, M12, 2-pin, NAMUR, PUR cable

Brief Description

Pressure-resistant proximity sensors are typically used in applications involving high hydraulic and pneumatic pressures to detect components within the pressure range. The required pressure resistance is achieved by means of a ceramic front face that is embedded in the stainless steel housing. This enables flush assembly. These special sensors are mainly used, for example, to determine the end position of pistons in hydraulic and pneumatic cylinders. Some sensors in the Pepperl+Fuchs product range are designed for operating pressures of up to 500 bar and offer reliable protection against pressure peaks of up to 1000 bar. In addition, the portfolio offers variants with different operating distances, designs, and output and connection options that guarantee an optimal application solution.

High-Temperature - Cylindrical Sensors

Standard Technical Data	
Voltage type	DC
Ambient temperature (min)	-25 °C
Ambient temperature (max)	100 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	ATEX	CSA	EAC	FM	UL
NBB1-8GS50-Z0-T	Flush	1	2-wire	2-wire	Normally-open (NO)	1500	15	34	Fixed cable	50	8					
NCB1,5-6,5M25-N0	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	6.5	■	■	■		■
NCB1,5-6,5M25-N0-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	6.5	■	■	■		■
NCB1,5-6,5M25-N0-10M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	6.5	■	■	■		■
NCB1,5-6,5M25-N0-V1	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	M12 connector plug	25	6.5	■	■	■		■
NCB1,5-8GM25-N0	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	8	■	■	■	■	■
NCB1,5-8GM25-N0-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	8	■	■	■		■
NCB1,5-8GM25-N0-10M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	Fixed cable	25	8	■	■	■		■
NCB1,5-8GM25-N0-V1	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	M12 connector plug	48.5	8	■	■	■	■	■
NBB1,5-8GS30-E2-T	Flush	1.5	3-wire	PNP	Normally-open (NO)	1500	10	30	Fixed cable	34.5	8					■
NBB1,5-8GS40-E2-T-V3	Flush	1.5	3-wire	PNP	Normally-open (NO)	1500	10	30	M8 connector plug	45	8					
NCB1,5-12GM40-E2-D-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	56	12		■			■
NCB1,5-12GM45-E2-D-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	56	12		■			■
NCB1,5-12GM60-E2-D-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	69	12		■			■
NCB1,5-12GM70-E2-D-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	93	12		■			■
NCB1,5-12GM85-E2-D-V1	Flush	1.5	3-wire	PNP	Normally-open (NO)	600	10	30	M12 connector plug	93	12		■			■
NCB2-12GM35-N0-V1	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	M12 connector plug	34	12	■	■	■	■	■
NCB2-12GK35-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	Fixed cable	35	12	■	■		■	■
NCB2-12GM35-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	Fixed cable	35	12	■	■	■	■	■
NCB2-12GM35-N0-5M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	Fixed cable	35	12	■	■	■	■	■
NCB2-12GM35-N0-10M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	Fixed cable	35	12	■	■	■		■
NBB2-12GM50-E2-T-V1	Flush	2	3-wire	PNP	Normally-open (NO)	1200	10	65	M12 connector plug	65	12					
NBB2-12GM60-E2-T	Flush	2	3-wire	PNP	Normally-open (NO)	1200	10	65	Fixed cable	56	12					■
NCB4-12GM40-N0	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2	Fixed cable	40	12	■	■	■	■	■
NCB4-12GM40-N0-5M	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2	Fixed cable	40	12	■	■	■	■	■
NCB4-12GM40-N0-10M	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2	Fixed cable	40	12	■	■	■	■	■
NCB4-12GM40-N0-V1	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2	M12 connector plug	40	12	■	■	■	■	■
NBB4-12GM30-E2-T-V1	Flush	4	3-wire	PNP	Normally-open (NO)	500	10	30	M12 connector plug	30	12		■			■
NCB5-18GK40-N0	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2	Fixed cable	40	18	■	■		■	■
NBB5-18GM50-E2-T-V1	Flush	5	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	69	18					
NBB10-30GM50-E2-T	Flush	10	3-wire	PNP	Normally-open (NO)	300	10	30	Fixed cable	54	30					
NBB10-30GM50-E2-T-V1	Flush	10	3-wire	PNP	Normally-open (NO)	300	10	65	M12 connector plug	69	30			■		
NBB10-30GM50-Z0-T	Flush	10	2-wire	2-wire	Normally-open (NO)	300	15	30	Fixed cable	54	30					
NCB10-30GK40-N0	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2	Fixed cable	40	30	■	■		■	■
NCB10-30GM40-N0	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2	Fixed cable	40	30	■	■	■	■	■
NCB10-30GM40-N0-5M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2	Fixed cable	40	30	■	■	■		■
NCB10-30GM40-N0-10M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2	Fixed cable	40	30	■	■	■	■	■
NCB10-30GM40-N0-V1	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2	M12 connector plug	55	30	■	■	■		■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	ATEX	CSA	EAC	FM	UL
NJ10-30GK-E-T	Flush	10	3-wire	NPN	Normally-open (NO)	300	10	30	Fixed cable	80	30		■			■
NJ10-30GK-E2-T	Flush	10	3-wire	PNP	Normally-open (NO)	300	10	30	Fixed cable	80	30		■			■
NCB15-30GM40-N0	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2	Fixed cable	40	30	■	■	■	■	■
NCB15-30GM40-N0-5M	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2	Fixed cable	40	30	■	■	■	■	■
NCB15-30GM40-N0-10M	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2	Fixed cable	40	30	■	■	■	■	■
NCB15-30GM40-N0-V1	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2	M12 connector plug	40	30	■	■	■	■	■
NBN4-12GM40-E2-T-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	37	12					
NBN4-12GM60-E2-T-V1	Non-flush	4	3-wire	PNP	Normally-open (NO)	800	10	30	M12 connector plug	56	12					
NBN8-18GM50-E2-T	Non-flush	8	3-wire	PNP	Normally-open (NO)	300	10	30	Fixed cable	59	18					
NBN8-18GM50-E2-T-V1	Non-flush	8	3-wire	PNP	Normally-open (NO)	300	10	30	M12 connector plug	69	18					
NBN15-30GM50-E3-T-V1	Non-flush	15	3-wire	PNP	Normally-closed (NC)	300	10	30	M12 connector plug	69	30					
NJ15-30GK-E-T	Non-flush	15	3-wire	NPN	Normally-open (NO)	300	10	30	Fixed cable	80	30		■			■
NJ15-30GK-E2-T	Non-flush	15	3-wire	PNP	Normally-open (NO)	300	10	30	Fixed cable	80	30		■			■

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 250 °C

Accessories	
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 6,5	Mounting adapter, 6.5 mm
BF 8	Mounting adapter, 8 mm
EXG-08	Quick-mounting bracket with fixed stop
EXG-12	Quick-mounting bracket with fixed stop
EXG-18	Quick-mounting bracket with fixed stop

High-Temperature - Cube-Style Sensors

Standard Technical Data	
Voltage type	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Temp. (min)	Temp. max)	Length L	Width W	Height H	ATEX	CSA	EAC	FM	UL
NCB2-V3-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	Fixed cable	-25	100	16	27.8	10.2	■	■	■	■	■
NCB2-V3-N0-2M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	-25	100	16	27.8	10.2	■	■	■	■	■
FJ7-N	Flush	7	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	-25	100	25	50	24	■			■	
NBB15-U1-A0-T	Flush	15	4-wire		Complementary	560	10	30		Terminal compartment	-25	100	118	40	40					■
NBB15-U1-A2-T	Flush	15	4-wire		Complementary	560	10	30		Terminal compartment	-25	100	118	40	40			■		■
NBB15-U1-A2-T-V1	Flush	15	4-wire		Complementary	560	10	30		M12 connector plug	-25	100	118	40	40					■
NBB15-U1K-N0	Flush	15	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBB15-U2K-N0	Flush	15	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBB15-U4-A2-T	Flush	15	4-wire	PNP	Complementary	560	10	30		Terminal compartment	-25	100	118	40	40					■
NBB15-U4K-N0	Flush	15	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBB15-U4K-N0-V1	Flush	15	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		M12 connector plug	-25	100	118	40	40	■				■
NCB15+U4+N0	Flush	15	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Terminal compartment	-25	100	118	40	40	■	■		■	■
NCB15+U4+N0-V1	Flush	15	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		M12 connector plug	-25	100	118	40	40	■	■		■	■
NCB20-L2-N0-V1	Flush	20		NAMUR	Normally-closed (NC)	300	8.2	8.2		M12 connector plug	-25	100	67	40	40	■		■		■
NBB20-U1K-N0	Flush	20	2-wire	NAMUR	Normally-closed (NC)	250	8.2	8.2		Terminal compartment	-25	100	118	40	40	■		■		■
NBB20-U4K-N0	Flush	20	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBB20-L2-A2-T-V1	Flush	20	4-wire		Complementary	440	10	30		M12 connector plug	-25	100	67	40	40			■		■
NBB20-L2M-A2-T-V1	Flush	20	4-wire		Complementary	440	10	30		M12 connector plug	-25	100	67	40	40			■		■
NBB20-U1-A0-T	Flush	20	4-wire		Complementary	440	10	30		Terminal compartment	-25	100	118	40	40					■
NBB20-U1-A2-T	Flush	20	4-wire		Complementary	440	10	30		Terminal compartment	-25	100	118	40	40			■		■
NBB20-U1-A2-T-V1	Flush	20	4-wire		Complementary	440	10	30		M12 connector plug	-25	100	118	40	40			■		■
NBB20-U1-E2-T-V1	Flush	20	3-wire		Normally-open (NO)	440	10	30		M12 connector plug	-25	100	118	40	40					■
NBB20-U2-A2-T	Flush	20	4-wire		Complementary	440	10	30		Terminal compartment	-25	100	118	40	40					■
NBB20-U4-A0-T	Flush	20	4-wire		Complementary	440	10	30		Terminal compartment	-25	100	118	40	40					■
NBB20-U4-A2-T	Flush	20	4-wire		Complementary	440	10	30		Terminal compartment	-25	100	118	40	40					■
NCB40-FP-N0-P4	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	-25	100	83	83	40	■	■	■	■	■
NCB40-FP-N0-P1-V1	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		M12 connector plug	-25	100	83	83	40	■	■	■	■	■
NCB40-FP-N0-P1	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	-25	100	83	83	40	■	■	■	■	■
NCB40-FP-A2-T-P1	Flush	40	4-wire	PNP	Complementary	80	10	30		Terminal compartment	-40	100	80	80	40		■			■
NCB40-FP-A2-T-P1-V1	Flush	40	4-wire	PNP	Complementary	80	10	30		M12 connector plug	-25	100	80	80	40		■			■
NCN20-F35-A2-250-10M-V1	Flush mountable	20	4-wire	PNP	Complementary	20	10	30		M12 connector plug	0	250	56	44	40		■			■
NCN20-F35-A2-250-20M-V1	Flush mountable	20	4-wire	PNP	Complementary	20	10	30		M12 connector plug	0	250	56	44	40		■			■
NCN25-F35-A2-250-15M-V1	Flush mountable	25	4-wire	PNP	Complementary	20	10	30		M12 connector plug	0	250	56	44	40					■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Temp. (min)	Temp. max)	Length L	Width W	Height H	ATEX	CSA	EAC	FM	UL
NCN25-F35-A2-250-V1	Flush mountable	25	4-wire	PNP	Complementary	20	10	30		M12 connector plug	0	250	56	44	40					■
NBN30-U1-A2-T	Non-flush	30	4-wire		Complementary	230	10	30		Terminal compartment	-25	100	118	40	40			■		■
NBN30-U1-A2-T-V1	Non-flush	30	4-wire		Complementary	230	10	30		M12 connector plug	-25	100	118	40	40					■
NBN30-U1K-N0	Non-flush	30	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBN30-U4K-N0	Non-flush	30	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBN30-U4K-N0-V1	Non-flush	30	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	-25	100	118	40	40	■				■
NBN40-U1-A2-T	Non-flush	40	4-wire	PNP	Complementary	180	10	30		Terminal compartment	-25	100	118	40	40			■		■
NBN40-U1-A2-T-V1	Non-flush	40	4-wire		Complementary	180	10	30		M12 connector plug	-25	100	118	40	40					■
NBN40-U1L-A0-T	Non-flush	40	4-wire	NPN	Complementary	100	10	60		Terminal compartment	-25	100	128	55	55					■
NBN40-U1L-A2-T	Non-flush	40	4-wire	PNP	Complementary	100	10	60		Terminal compartment	-25	100	128	55	55					■
NBN40-U1K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	-25	100	118	40	40	■		■		■
NBN40-U1K-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	-25	100	118	40	40	■		■		■
NBN40-U1LK-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	-25	100	128	55	55	■				■
NBN40-U1LK-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		M12 connector plug	-25	100	128	55	55	■				■
NBN40-U2-A2-T	Non-flush	40	4-wire		Complementary	180	10	30		Terminal compartment	-25	100	118	40	40					■
NBN40-U2K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBN40-U4K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	-25	100	118	40	40	■				■
NBN40-U4K-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	-25	100	118	40	40	■				■
NBN40-U4LK-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	-25	100	128	55	55	■				■
NBN40-U4LK-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		M12 connector plug	-25	100	128	55	55	■				■

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 250 °C

Accessories	
KCD2-E2L	Sensor output interface terminal with lead breakage detection
KCD2-SR-Ex1.LB	24 V DC
MH 02-L	Mounting aid
MH 04-2057B	Mounting aid for VariKont and +U1+ sensors
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-M20-80	Receptacle, M12/M20; plastic version

Safety Sensors with NAMUR Output and Ex Approval

Standard Technical Data	
Output type	2-wire
Output type	NAMUR with safety function
Voltage type	DC
Operating voltage (min)	8.2 V
Operating voltage (max)	8.2 V
SIL	3
ATEX	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Switching function	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	Width W	Height H	Diameter D	CSA	EAC	FM
NJ2-11-SN-G	Flush	2	Normally-closed (NC)	3000	Fixed cable	2000	Silicone	30			14		■	■
NJ2-11-SN-G-5M	Flush	2	Normally-closed (NC)	3000	Fixed cable	5000	Silicone	30			14		■	■
NJ2-11-SN-G-10M	Flush	2	Normally-closed (NC)	3000	Fixed cable	10000	Silicone	30			14		■	
NJ2-12GK-SN	Flush	2	Normally-closed (NC)	2000	Fixed cable	2000	Silicone	34			12		■	■
NJ2-12GK-SN-0,3M	Flush	2	Normally-closed (NC)	2000	Fixed cable	3000	Silicone	34			12	■		■
NJ2-12GK-SN-10M	Flush	2	Normally-closed (NC)	2000	Fixed cable	10000	Silicone	34			12		■	■
NJ3-18GK-S1N	Flush	3	Normally-open (NO)	200	Fixed cable	2000	Silicone	39			18		■	■
NJ3-18GK-S1N-5M	Flush	3	Normally-open (NO)	200	Fixed cable	5000	Silicone	39			18		■	■
NJ3-18GK-S1N-10M	Flush	3	Normally-open (NO)	200	Fixed cable	10000	Silicone	39			18		■	
NJ4-12GK-SN	Non-flush	4	Normally-closed (NC)	1500	Fixed cable	2000	Silicone	34			12		■	■
NJ4-12GK-SN-15M	Non-flush	4	Normally-closed (NC)	1500	Fixed cable	5000	Silicone	34			12		■	■
NJ5-18GK-SN	Flush	5	Normally-closed (NC)	500	Fixed cable	2000	Silicone	39			18		■	■
NJ5-18GK-SN-5M	Flush	5	Normally-closed (NC)	500	Fixed cable	5000	Silicone	39			18		■	■
NJ5-18GK-SN-10M	Flush	5	Normally-closed (NC)	500	Fixed cable	10000	Silicone	39			18		■	■
NJ5-30GK-S1N	Flush	5	Normally-open (NO)	150	Fixed cable	2000	Silicone	40			30		■	■
NJ5-30GK-S1N-5M	Flush	5	Normally-open (NO)	150	Fixed cable	5000	Silicone	40			30		■	■
NJ5-30GK-S1N-10M	Flush	5	Normally-open (NO)	150	Fixed cable	10000	Silicone	40			30		■	
NJ6-22-SN	Flush	6	Normally-closed (NC)	2000	Fixed cable	2000	Silicone	35			22			■
NJ6-22-SN-10M	Flush	6	Normally-closed (NC)	2000	Fixed cable	10000	Silicone	35			22			
NJ6-22-SN-G	Flush	6	Normally-closed (NC)	2000	Fixed cable	2000	Silicone	35			28.3			■
NJ6-22-SN-G-3M	Flush	6	Normally-closed (NC)	2000	Fixed cable	3000	Silicone	35			28.3			
NJ6-22-SN-G-10M	Flush	6	Normally-closed (NC)	2000	Fixed cable	10000	Silicone	35			28.3			
NJ8-18GK-SN	Non-flush	8	Normally-closed (NC)	200	Fixed cable	2000	Silicone	39			18		■	■
NJ8-18GK-SN-10M	Non-flush	8	Normally-closed (NC)	200	Fixed cable	10000	Silicone	39			18		■	■
NJ10-30GK-SN	Flush	10	Normally-closed (NC)	300	Fixed cable	2000	Silicone	40			30		■	■
NJ10-30GK-SN-10M	Flush	10	Normally-closed (NC)	300	Fixed cable	10000	Silicone	40			30		■	
NJ15-30GK-SN	Non-flush	15	Normally-closed (NC)	100	Fixed cable	2000	Silicone	40			30		■	■
NJ15-30GK-SN-5M	Non-flush	15	Normally-closed (NC)	100	Fixed cable	5000	Silicone	40			30		■	
NJ40-FP-SN-P1	Non-flush	40	Normally-closed (NC)	100	Terminal compartment			80	80	40		■	■	
SJ2-SN		2	Normally-closed (NC)	5000	Stranded cable	500		8	15	13			■	■
SJ3,5-S1N		3.5	Normally-open (NO)	2500	Stranded cable	500		19.5	10	15			■	■
SJ3,5-SN		3.5	Normally-closed (NC)	3000	Stranded cable	500		19.5	10	15			■	■

Brief Description

These safety sensors require a qualified safety switch amplifier for operation in safety applications.

Accessories	
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
EXG-12	Quick-mounting bracket with fixed stop

Safety Sensors with OSSD Output

Standard Technical Data	
Output type	4-wire
Output type	PNP
Switching function	Normally-open (NO)
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
SIL	2
Performance level (PL)	PL d
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Switching frequency [Hz]	Connection type	Cable length [mm]	Cable material	Length L	Width W	Height H	Diameter D	E1
NSB2-12GH45-2E2-V1-M1-S2D2	Flush	2	30	M12 connector plug			65			12	■
NSB2-12GH45-2E2-V1-S2D2	Flush	2	30	M12 connector plug			65			12	
NSB2-12GM45-2E2-V1-M1-S2D2	Flush	2	30	M12 connector plug			65			12	■
NSB2-12GM45-2E2-V1-S2D2	Flush	2	30	M12 connector plug			65			12	
NSB2-12GH50-2E2-M1-S2D2	Flush	2	30	Fixed cable	2000	PUR	60			12	■
NSB2-12GH50-2E2-PUR-S2D2	Flush	2	30	Fixed cable	2000	PUR	60			12	
NSB2-12GH50-2E2-S2D2	Flush	2	30	Fixed cable	2000	PVC	60			12	
NSB2-12GM50-2E2-M1-S2D2	Flush	2	30	Fixed cable	2000	PUR	60			12	■
NSB2-12GM50-2E2-PUR-S2D2	Flush	2	30	Fixed cable	2000	PUR	60			12	
NSB2-12GM50-2E2-S2D2	Flush	2	30	Fixed cable	2000	PVC	60			12	
NSB5-18GH45-2E2-V1-S2D2	Flush	5	30	M12 connector plug			65			18	
NSB5-18GH45-2E2-V1-M1-S2D2	Flush	5	30	M12 connector plug			65			18	■
NSB5-18GM45-2E2-V1-M1-S2D2	Flush	5	30	M12 connector plug			65			18	■
NSB5-18GH50-2E2-S2D2	Flush	5	30	Fixed cable	2000	PVC	60			18	
NSB5-18GH50-2E2-M1-S2D2	Flush	5	30	Fixed cable	2000	PUR	60			18	■
NSB5-18GH50-2E2-PUR-S2D2	Flush	5	30	Fixed cable	2000	PUR	60			18	
NSB5-18GM45-2E2-V1-S2D2	Flush	5	30	M12 connector plug			65			18	
NSB5-18GM50-2E2-M1-S2D2	Flush	5	30	Fixed cable	2000	PUR	60			18	■
NSB5-18GM50-2E2-PUR-S2D2	Flush	5	30	Fixed cable	2000	PUR	60			18	
NSB5-18GM50-2E2-S2D2	Flush	5	30	Fixed cable	2000	PVC	60			18	
NSB15-L2M-2E2-V1-S2D2	Flush	15	10	M12 connector plug			67	40	40		
NSN4-12GH45-2E2-V1-M1-S2D2	Non-flush	4	30	M12 connector plug			65			12	■
NSN4-12GH45-2E2-V1-S2D2	Non-flush	4	30	M12 connector plug			65			12	
NSN4-12GM45-2E2-V1-S2D2	Non-flush	4	30	M12 connector plug			65			12	
NSN4-12GM45-2E2-V1-M1-S2D2	Non-flush	4	30	M12 connector plug			65			12	■
NSN4-12GH50-2E2-M1-S2D2	Non-flush	4	30	Fixed cable	2000	PUR	60			12	■
NSN4-12GH50-2E2-PUR-S2D2	Non-flush	4	30	Fixed cable	2000	PUR	60			12	
NSN4-12GH50-2E2-S2D2	Non-flush	4	30	Fixed cable	2000	PVC	60			12	
NSN4-12GM50-2E2-S2D2	Non-flush	4	30	Fixed cable	2000	PVC	60			12	
NSN4-12GM50-2E2-M1-S2D2	Non-flush	4	30	Fixed cable	2000	PUR	60			12	■
NSN4-12GM50-2E2-PUR-S2D2	Non-flush	4	30	Fixed cable	2000	PUR	60			12	
NSN8-18GH45-2E2-V1-M1-S2D2	Non-flush	8	30	M12 connector plug			65			18	■
NSN8-18GH45-2E2-V1-S2D2	Non-flush	8	30	M12 connector plug			65			18	
NSN8-18GM45-2E2-V1-S2D2	Non-flush	8	30	M12 connector plug			65			18	
NSN8-18GM45-2E2-V1-M1-S2D2	Non-flush	8	30	M12 connector plug			65			18	■
NSN8-18GH50-2E2-M1-S2D2	Non-flush	8	30	Fixed cable	2000	PUR	60			18	■
NSN8-18GH50-2E2-PUR-S2D2	Non-flush	8	30	Fixed cable	2000	PUR	60			18	
NSN8-18GH50-2E2-S2D2	Non-flush	8	30	Fixed cable	2000	PVC	60			18	
NSN8-18GM50-2E2-M1-S2D2	Non-flush	8	30	Fixed cable	2000	PUR	60			18	■
NSN8-18GM50-2E2-PUR-S2D2	Non-flush	8	30	Fixed cable	2000	PUR	60			18	
NSN8-18GM50-2E2-S2D2	Non-flush	8	30	Fixed cable	2000	PVC	60			18	
NSN20-L2M-2E2-V1-S2D2	Non-flush	20	10	M12 connector plug			67	40	40		

Sensors for Hazardous Areas - Cylindrical Sensors

Standard Technical Data	
Voltage type	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Diameter D	CCC	ATEX	CSA	EAC	FM	UL
NCB1,5-6,5M25-N0	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	6.5		■	■	■		■
NCB1,5-6,5M25-N0-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	6.5		■	■	■		■
NCB1,5-6,5M25-N0-10M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	6.5		■	■	■		■
NCB1,5-6,5M25-N0-V1	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		M12 connector plug	25	6.5		■	■	■		■
NCB1,5-8GM25-N0	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	8		■	■	■	■	■
NCB1,5-8GM25-N0-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	8		■	■	■		■
NCB1,5-8GM25-N0-10M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	25	8		■	■	■		■
NCB1,5-8GM25-N0-V1	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		M12 connector plug	48.5	8		■	■	■	■	■
NBB2-8GM40-E2-V1-3G-3D	Flush	2	3-wire	PNP	Normally-open (NO)	1500	10	30		M12 connector plug	40	8			■			■
NCB2-12GM35-N0-V1	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		M12 connector plug	34	12		■	■	■	■	■
NCB2-12GK35-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	35	12		■	■		■	■
NCB2-12GM35-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	35	12		■	■	■	■	■
NCB2-12GM35-N0-5M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	35	12		■	■	■	■	■
NCB2-12GM35-N0-10M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	35	12		■	■	■		■
NCB2-12GM40-E2-3G-3D	Flush	2	3-wire	PNP	Normally-open (NO)	2500	10	30		Fixed cable	40	12						■
NCB2-12GM40-E2-5M-3G-3D	Flush	2	3-wire	PNP	Normally-open (NO)	2500	10	30		Fixed cable	40	12						■
NCB2-12GM40-Z0-V1-3G-3D	Flush	2	2-wire	2-wire	Normally-open (NO)	800	5	60		M12 connector plug	40	12	■		■			■
NBB2-12GM40-Z0-3G-3D	Flush	2	2-wire	2-wire	Normally-open (NO)	1000	5	60		Fixed cable	40	12	■		■			■
NBB2-12GM60-A2-3G-3D	Flush	2	4-wire	PNP	Complementary	1000	10	30		Fixed cable	60	12			■			■
NBB4-12GM50-E2-3G-3D	Flush	4	3-wire	PNP	Normally-open (NO)	1000	10	30		Fixed cable	50	12			■			■
NBB4-12GM50-E2-V1-3G-3D	Flush	4	3-wire	PNP	Normally-open (NO)	1000	10	30		M12 connector plug	49	12			■			■
NCB4-12GM40-N0	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	12		■	■	■	■	■
NCB4-12GM40-N0-5M	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	12		■	■	■	■	■
NCB4-12GM40-N0-10M	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	12		■	■	■	■	■
NCB4-12GM40-N0-V1	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		M12 connector plug	40	12		■	■	■	■	■
NCB5-18GM40-N0	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCB5-18GM40-N0-10M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Fixed cable	40	18		■	■	■		■
NCB5-18GM40-N0-5M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Fixed cable	40	18		■	■	■		■
NCB5-18GK40-N0	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		Fixed cable	40	18		■	■		■	■
NCB5-18GM40-N0-V1	Flush	5	2-wire	NAMUR	Normally-closed (NC)	400	8.2	8.2		M12 connector plug	40	18		■	■	■	■	■
NCB5-18GM40-Z0-3G-3D	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60		Fixed cable	40	18	■		■			■
NCB5-18GM40-Z0-3G-3D-10M	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60		Fixed cable	40	18	■		■			■
NCB5-18GM40-Z0-V1-3G-3D	Flush	5	2-wire	2-wire	Normally-open (NO)	350	5	60		M12 connector plug	40	18	■		■			■
NCB5-18GM40-Z1-3G-3D	Flush	5	2-wire	2-wire	Normally-closed (NC)	350	5	60		Fixed cable	40	18	■		■			■
NBB5-18GM60-A2-V1-3G-3D	Flush	5	4-wire	PNP	Complementary	800	10	30		M12 connector plug	60	18			■			■
NCB8-18GM40-N0	Flush	8	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCB8-18GM40-N0-5M	Flush	8	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCB8-18GM40-N0-10M	Flush	8	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCB8-18GM40-N0-V1	Flush	8	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		M12 connector plug	40	18		■	■	■	■	■
NBB8-18GM50-E2-3G-3D	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30		Fixed cable	50	18			■			■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Diameter D	CCC	ATEX	CSA	EAC	FM	UL
NBB8-18GM50-E2-3G-3D-5M	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30		Fixed cable	50	18			■			■
NBB8-18GM50-E2-V1-3G-3D	Flush	8	3-wire	PNP	Normally-open (NO)	500	10	30		M12 connector plug	50	18			■			■
NBB8-18GM60-A2-V1-3G-3D	Flush	8	4-wire	PNP	Complementary	500	10	30		M12 connector plug	60	18			■			■
NCB10-30GK40-N0	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	30		■	■		■	■
NCB10-30GM40-N0	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCB10-30GM40-N0-5M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	30		■	■	■		■
NCB10-30GM40-N0-10M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCB10-30GM40-N0-V1	Flush	10	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		M12 connector plug	55	30		■	■	■		■
NCB10-30GM40-Z0-3G-3D	Flush	10	2-wire	2-wire	Normally-open (NO)	150	5	60		Fixed cable	40	30			■			■
NCB10-30GM40-Z0-V1-3G-3D	Flush	10	2-wire	2-wire	Normally-open (NO)	150	5	60		M12 connector plug	40	30	■		■			■
NCB10-30GM40-Z1-3G-3D	Flush	10	2-wire	2-wire	Normally-closed (NC)	150	5	60		Fixed cable	40	30	■		■			■
NCB15-30GM40-N0	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCB15-30GM40-N0-5M	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCB15-30GM40-N0-10M	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCB15-30GM40-N0-V1	Semi-flush	15	2-wire	NAMUR	Normally-closed (NC)	450	8.2	8.2		M12 connector plug	40	30		■	■	■	■	■
NBB15-30GM50-E2-3G-3D	Flush	15	3-wire	PNP	Normally-open (NO)	200	10	30		Fixed cable	50	30			■			■
NBB15-30GM50-E2-V1-3G-3D	Flush	15	3-wire	PNP	Normally-open (NO)	200	10	30		M12 connector plug	50	30			■			■
NBB15-30GM50-E3-V1-3G-3D	Flush	15	3-wire	PNP	Normally-closed (NC)	200	10	30		M12 connector plug	50	30			■			■
NCN4-12GK35-N0	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	800	8.2	8.2		Fixed cable	35	12		■	■		■	■
NCN4-12GM35-N0	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	800	8.2	8.2	2	Fixed cable	35	12		■	■	■	■	■
NCN4-12GM35-N0-5M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	800	8.2	8.2		Fixed cable	35	12		■	■	■		■
NCN4-12GM35-N0-10M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	800	8.2	8.2		Fixed cable	35	12		■	■	■		■
NCN4-12GM35-N0-V1	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	800	8.2	8.2	2	M12 connector plug	40	12		■	■	■	■	■
NCN4-12GM40-E2-3G-3D	Non-flush	4	3-wire	PNP	Normally-open (NO)	2200	10	30		Fixed cable	40	12						■
NCN4-12GM40-E2-V1-3G-3D	Non-flush	4	3-wire	PNP	Normally-open (NO)	2200	10	30		M12 connector plug	52	12						■
NCN4-12GM40-Z0-3G-3D	Non-flush	4	2-wire	2-wire	Normally-open (NO)	800	5	60		Fixed cable	40	12	■		■			■
NBN5-11K8-N-V8	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Other	6.5	10			■			■
NCN8-18GK40-N0	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	18		■	■		■	■
NCN8-18GM40-N0	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCN8-18GM40-N0-5M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCN8-18GM40-N0-10M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NCN8-18GM40-N0-V1	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		M12 connector plug	40	18		■	■	■	■	■
NCN8-18GM40-Z0-3G-3D	Non-flush	8	2-wire	2-wire	Normally-open (NO)	300	5	60		Fixed cable	40	18	■		■			■
NCN8-18GM50-E2-3G-3D	Non-flush	8	3-wire	PNP	Normally-open (NO)	400	10	60		Fixed cable	50	18	■					
NCN8-18GM50-E2-3G-3D-5M	Non-flush	8	3-wire	PNP	Normally-open (NO)	400	10	60		Fixed cable	50	18	■					
NCN15-30GK40-N0	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Fixed cable	40	30		■	■		■	■
NCN15-30GM40-N0	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NCN15-30GM40-N0-10M	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Fixed cable	40	30		■	■	■		■
NCN15-30GM40-N0-V1	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	55	30		■	■	■		■
NCN15-30GM40-Z0-3G-3D	Non-flush	15	2-wire	2-wire	Normally-open (NO)	100	5	60		Fixed cable	40	30	■		■			■
NJ0,2-10GM-N	Flush	0.2	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Fixed cable	27	10			■			■
NJ0,8-4,5-N	Flush	0.8	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	4.5		■	■		■	■
NJ0,8-5GM-N	Flush	0.8	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	5		■	■	■	■	■
NJ0,8-5GM-N-5M	Flush	0.8	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	5		■	■	■		■
NJ0,8-5GM-N-10M	Flush	0.8	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	5		■	■	■		■
NJ1,5-6,5-N	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	22	6.5		■	■	■		■
NJ1,5-6,5-N-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	22	6.5		■	■	■		■
NJ1,5-8GM-N	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2	2	Fixed cable	22	8		■	■	■	■	■
NJ1,5-8GM-N-10M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	22	8		■	■	■		■
NJ1,5-8GM-N-5M	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	22	8		■	■	■		■
NJ1,5-8GM-N-V1	Flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		M12 connector plug	20	8		■	■	■	■	■
NJ2-11-N	Flush	2	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	31	11		■			■	■
NJ2-11-N-G	Flush	2	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	30	14		■		■	■	■
NJ2-11-N-G-5M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	30	14		■		■	■	■
NJ2-11-N-G-10M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Fixed cable	30	14		■		■		■
NJ2-12GK-N	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	34	12		■	■	■	■	■
NJ2-12GK-N-5M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	34	12		■	■	■	■	■
NJ2-12GM-N	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	Fixed cable	35	12		■	■	■	■	■
NJ2-12GM-N-5M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	Fixed cable	35	12		■	■	■		■
NJ2-12GM-N-10M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	Fixed cable	35	12		■	■	■	■	■
NJ2-12GM-N-V1	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	M12 connector plug	50	12		■	■	■	■	■
NJ4-12GK-N	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2	2	Fixed cable	34	12		■	■	■	■	■
NJ4-12GK-N-5M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	34	12		■	■	■	■	■
NJ4-12GK-N-10M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	34	12		■	■	■		■
NJ4-12GM-N	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	33	12		■	■	■	■	■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Diameter D	CCC	ATEX	CSA	EAC	FM	UL
NJ4-12GM-N-5M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	33	12		■	■	■		■
NJ4-12GM-N-10M	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		Fixed cable	33	12		■	■	■	■	■
NJ4-12GM-N-V1	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	1500	8.2	8.2		M12 connector plug	50	12		■	■	■	■	■
NJ4-30GM-N-200	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	75	30		■				■
NJ4-30GM-N-200-10M	Flush	4	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Fixed cable	75	30		■				■
NJ5-11-N	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Fixed cable	31	11		■			■	■
NJ5-11-N-5M	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Fixed cable	31	11		■				■
NJ5-11-N-G	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	31	14		■		■		■
NJ5-11-N-G-5M	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	31	14		■		■		■
NJ5-11-N-G-10M	Non-flush	5	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	Fixed cable	31	14		■		■		■
NJ5-18GK-N	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	39	18		■	■	■	■	■
NJ5-18GK-N-5M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	39	18		■	■	■	■	■
NJ5-18GK-N-10M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	39	18		■	■	■		■
NJ5-18GK-N-150	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	47	18		■	■	■		■
NJ5-18GM-N	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NJ5-18GM-N-5M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NJ5-18GM-N-10M	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		Fixed cable	40	18		■	■	■		■
NJ5-18GM-N-V1	Flush	5	2-wire	NAMUR	Normally-closed (NC)	500	8.2	8.2		M12 connector plug	50	18		■	■	■	■	■
NJ5-18GM50-E2-3G-3D	Flush	5	3-wire	PNP	Normally-open (NO)	2000	10	30		Fixed cable	50	18						■
NJ5-18GM50-E2-5M-3G-3D	Flush	5	3-wire	PNP	Normally-open (NO)	2000	10	30		Fixed cable	50	18						■
NJ5-18GM50-E2-V1-3G-3D	Flush	5	3-wire	PNP	Normally-open (NO)	2000	10	30		M12 connector plug	50	18						■
NJ6-22-N	Flush	6	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	22		■	■		■	■
NJ6-22-N-5M	Flush	6	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	22		■	■		■	■
NJ6-22-N-10M	Flush	6	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	22		■	■			■
NJ6-22-N-G	Flush	6	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	21		■	■			■
NJ6-22-N-G-5M	Flush	6	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	21		■	■			■
NJ8-18GK-N	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	39	18		■	■	■	■	■
NJ8-18GK-N-5M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	39	18		■	■	■		■
NJ8-18GK-N-10M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	39	18		■	■	■	■	■
NJ8-18GK-N-150	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	47	18		■	■	■		■
NJ8-18GK-N-150-10M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	47	18		■	■	■		■
NJ8-18GM-N	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NJ8-18GM-N-5M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NJ8-18GM-N-10M	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	40	18		■	■	■	■	■
NJ8-18GM-N-V1	Non-flush	8	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		M12 connector plug	50	18		■	■	■	■	■
NJ10-22-N	Non-flush	10	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	22		■	■		■	■
NJ10-22-N-G	Non-flush	10	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	21		■	■			■
NJ10-22-N-G-5M	Non-flush	10	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	35	21		■	■			■
NJ10-30GK-N	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NJ10-30GK-N-5M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NJ10-30GKK-N	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Terminal compartment	115	30		■	■		■	■
NJ10-30GM-N	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NJ10-30GM-N-5M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	30		■	■	■	■	■
NJ10-30GM-N-10M	Flush	10	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Fixed cable	40	30		■	■	■		■

Highlights

- Cylindrical sensors with diameters between 4.5 mm and 30 mm

Brief Description

As a leader in explosion protection technology, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this field. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we also offer numerous proximity sensors with the appropriate certification.

NRB8-18GS40-E2-10-V1
Part No. 305533-0017
NO 0.2A
Sn = 8mm
53368

Sensors for Hazardous Areas - Cube-Style Sensors

Standard Technical Data	
Voltage type	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Width W	Height H	CCC	ATEX	CSA	EAC	FM	UL
NCB2-V3-N0	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2	2	Fixed cable	16	27.8	10.2		■	■	■	■	■
NCB2-V3-N0-2M	Flush	2	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	16	27.8	10.2		■	■	■	■	■
NBB2-V3-E2-3G-3D	Flush	2	3-wire	PNP	Normally-open (NO)	1000	10	30		Fixed cable	16	27.8	10.2			■			■
NBB2-V3-Z4L-3G-3D	Flush	2	2-wire	2-wire	Normally-open (NO)	700	3.7	30		Fixed cable	16	27.8	10.2						■
NBB3-V3-Z4-3G-3D	Flush	3	2-wire	2-wire	Normally-open (NO)	2000	5	60		Fixed cable	16	27.8	10.2			■			■
NBB20-L2-A2-V1-3G-3D	Flush	20	4-wire	PNP	Complementary	440	10	30		M12 connector plug	67	40	40						■
NBB20-L2-E2-V1-3G-3D	Flush	20	3-wire	PNP	Normally-open (NO)	440	10	30		M12 connector plug	67	40	40						■
NBB20-U1K-E2-3G-3D	Flush	20	3-wire	PNP	Normally-open (NO)	150	10	30		Terminal compartment	118	40	40					■	■
NBB20-U4K-N0-V1	Flush	20	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		M12 connector plug	118	40	40						
NCB20-L2-N0-V1	Flush	20		NAMUR	Normally-closed (NC)	300	8.2	8.2		M12 connector plug	67	40	40		■		■		■
NBB20-U1K-N0	Flush	20	2-wire	NAMUR	Normally-closed (NC)	250	8.2	8.2		Terminal compartment	118	40	40		■		■		■
NBB20-U4K-N0	Flush	20	2-wire	NAMUR	Normally-closed (NC)	300	8.2	8.2		Terminal compartment	118	40	40		■				■
NCB40-FP-A2-P1-3G-3D	Flush	40	4-wire	PNP	Complementary	80	10	60		Terminal compartment	80	80	40	■		■			■
NCB40-FP-N0-P4	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	83	83	40		■	■	■	■	■
NCB40-FP-N0-P1-V1	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		M12 connector plug	83	83	40		■	■	■	■	■
NCB50-FP-A2-P1-3G-3D	Flush	50	4-wire	PNP	Complementary	80	10	60		Terminal compartment	84	84	40	■		■			■
FJ7-N	Flush	7	2-wire	NAMUR	Normally-closed (NC)	200	8.2	8.2		Fixed cable	25	50	24		■			■	
NBN4-V3-E2-3G-3D	Non-flush	4	3-wire	PNP	Normally-open (NO)	500	10	30		Fixed cable	16	27.8	10.2			■			■
NCN4-V3-N0	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable	16	27.8	10.2		■	■		■	■
NCN4-V3-N0-V5	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Faston connector plug	16	27.8	10.2		■	■			■
NCN20+U4+N0	Non-flush	20	2-wire	NAMUR	Normally-closed (NC)	250	8.2	8.2		Terminal compartment	118	40	40		■	■			■
NBN40-L2-A2-V1-3G-3D	Non-flush	40	4-wire	PNP	Complementary	180	10	30		M12 connector plug	67	40	40						■
NBN40-L2-E2-V1-3G-3D	Non-flush	40	3-wire	PNP	Normally-open (NO)	180	10	30		M12 connector plug	67	40	40						■
NBN40-U1K-E2-3G-3D	Non-flush	40	3-wire	PNP	Normally-open (NO)	150	10	30		Terminal compartment	118	40	40					■	■
NCB40-FP-N0-P1	Flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	83	83	40		■	■	■	■	■
NCN40-L2-N0-V1	Non-flush	40		NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	67	40	40		■		■		■
NBN40-U1K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	118	40	40		■		■		■
NBN40-U1K-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	118	40	40		■		■		■
NBN40-U1LK-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	128	55	55		■				■
NBN40-U1LK-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		M12 connector plug	128	55	55		■				■
NBN40-U2K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	118	40	40		■				■
NBN40-U4K-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	118	40	40		■				■
NBN40-U4K-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		M12 connector plug	118	40	40		■				■
NBN40-U4LK-N0	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	128	55	55		■				■
NBN40-U4LK-N0-V1	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		M12 connector plug	128	55	55		■				■
NCN50-FP-A2-P1-3G-3D	Non-flush	50	4-wire	PNP	Complementary	80	10	60		Terminal compartment	80	80	40	■		■			■
NCN50-FP-N0-P4-V1	Non-flush	50	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		M12 connector plug	80	80	40		■	■		■	■
NJ1,5-F-N	Non-flush	1.5	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Stranded cable	8	8	10		■	■		■	■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Width W	Height H	CCC	ATEX	CSA	EAC	FM	UL
NJ2-V3-N	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2	2	Fixed cable	16	27.8	10.2		■	■	■	■	■
NJ2-V3-N-V5	Flush	2	2-wire	NAMUR	Normally-closed (NC)	1000	8.2	8.2		Faston connector plug	16	27.8	10.2		■	■	■		■
NJ4-F-N	Non-flush	4	2-wire	NAMUR	Normally-closed (NC)	2000	8.2	8.2		Fixed cable					■	■		■	■
NJ6-F-N	Flush	6	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	45	30		■	■		■	■
NJ6-F-N-10M	Flush	6	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	45	30		■				
NJ6-F-N-5M	Flush	6	2-wire	NAMUR	Normally-closed (NC)	5000	8.2	8.2		Fixed cable	20	45	30		■	■			■
NJ10-F-N	Non-flush	10	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2		Fixed cable	20	45	30		■	■		■	■
NJ15-M1K-N	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	91	30	30		■				■
NJ15-M1K-N-V1	Non-flush	15	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		M12 connector plug	91	30	30		■				■
NJ20+U1+N	Non-flush	20	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	118	40	40		■	■	■	■	■
NJ20+U4+N	Non-flush	20	2-wire	NAMUR	Normally-closed (NC)	150	8.2	8.2		Terminal compartment	118	40	40		■	■		■	■
NJ30P+U1+1N	Non-flush	30	2-wire	NAMUR	Normally-open (NO)	150	8.2	8.2		Terminal compartment	128	55	55		■	■			■
NJ40+U1+N	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	128	55	55		■	■	■	■	■
NJ40+U2+N	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	128	55	55		■	■		■	■
NJ40+U4+N	Non-flush	40	2-wire	NAMUR	Normally-closed (NC)	80	8.2	8.2		Terminal compartment	128	55	55		■	■		■	■
NJ50-FP-N-P1	Non-flush	50	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	80	80	40		■	■			■
NJ50-FP-N-P4	Non-flush	50	2-wire	NAMUR	Normally-closed (NC)	100	8.2	8.2		Terminal compartment	80	80	40		■	■		■	■

Highlights

- Rectangular sensors with operating distances from 1.5 mm to 50 mm

Brief Description

As a technology leader in explosion protection, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this area. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we have numerous proximity sensors with the appropriate certification.

Accessories	
KCD2-E2L	Sensor output interface terminal with lead breakage detection
KCD2-SR-EX1.LB	24 V DC
MH 02-L	Mounting aid
MH 04-2057B	Mounting aid for VariKont and +U1+ sensors
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-N-2M-PUR	Single-ended female cordset, M12, 2-pin, NAMUR, PUR cable

Sensors for Mobile Equipment - Cylindrical Sensors

Standard Technical Data	
Special features	Extended temperature range, mobile equipment
Voltage type	DC
E1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	CCC	CSA	EAC	UL
NBB4-12GM35-A0-M1	Flush	4	4-wire	NPN	Complementary	2200	7	30	Fixed cable	35	12				■
NBB4-12GM35-A2-V1-M1	Flush	4	4-wire	PNP	Complementary	2200	7	30	M12 connector plug	51	12				■
NBB4-12GK50-E0-M	Flush	4	3-wire	NPN	Normally-open (NO)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GK50-E1-M	Flush	4	3-wire	NPN	Normally-closed (NC)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GK50-E2-M	Flush	4	3-wire	PNP	Normally-open (NO)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GK50-E3-M	Flush	4	3-wire	PNP	Normally-closed (NC)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GM50-A0-M1	Flush	4	4-wire	NPN	Complementary	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-A0-V1-M1	Flush	4	4-wire	NPN	Complementary	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-A2-M1	Flush	4	4-wire	PNP	Complementary	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-A2-V1-M1	Flush	4	4-wire	PNP	Complementary	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-E0-M	Flush	4	3-wire	NPN	Normally-open (NO)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GM50-E0-M1	Flush	4	3-wire	NPN	Normally-open (NO)	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-E0-V1-M	Flush	4	3-wire	NPN	Normally-open (NO)	2500	5	60	M12 connector plug	66	12	■	■		■
NBB4-12GM50-E0-V1-M1	Flush	4	3-wire	NPN	Normally-open (NO)	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-E1-M	Flush	4	3-wire	NPN	Normally-closed (NC)	2500	5	60	Fixed cable	50	12	■	■		■
NBB4-12GM50-E1-M1	Flush	4	3-wire	NPN	Normally-closed (NC)	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-E1-V1-M	Flush	4	3-wire	NPN	Normally-closed (NC)	2500	5	60	M12 connector plug	66	12	■	■		■
NBB4-12GM50-E1-V1-M1	Flush	4	3-wire	NPN	Normally-closed (NC)	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-E2-M	Flush	4	3-wire	PNP	Normally-open (NO)	2500	5	60	Fixed cable	50	12	■			
NBB4-12GM50-E2-M1	Flush	4	3-wire	PNP	Normally-open (NO)	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-E2-V1-M	Flush	4	3-wire	PNP	Normally-open (NO)	2500	5	60	M12 connector plug	66	12	■	■		■
NBB4-12GM50-E2-V1-M1	Flush	4	3-wire	PNP	Normally-open (NO)	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-E3-M	Flush	4	3-wire	PNP	Normally-closed (NC)	2500	5	60	Fixed cable	50	12	■			
NBB4-12GM50-E3-M1	Flush	4	3-wire	PNP	Normally-closed (NC)	2200	7	30	Fixed cable	50	12				■
NBB4-12GM50-E3-V1-M	Flush	4	3-wire	PNP	Normally-closed (NC)	2500	5	60	M12 connector plug	66	12	■	■		■
NBB4-12GM50-E3-V1-M1	Flush	4	3-wire	PNP	Normally-closed (NC)	2200	7	30	M12 connector plug	66	12				■
NBB4-12GM50-EI-M1	Flush	4	3-wire	Digital current output		1800	9	30	Fixed cable	50	12				■
NBB4-12GM50-EI-V1-M1	Flush	4	3-wire	Digital current output		1800	9	30	M12 connector plug	65	12				■
NCB4-12GM70-E0-M	Flush	4	3-wire	NPN	Normally-open (NO)	1000	10	60	Fixed cable	70	12		■		■
NCB4-12GM70-E1-M	Flush	4	3-wire	NPN	Normally-closed (NC)	1000	10	60	Fixed cable	70	12		■		■
NCB4-12GM70-E2-M	Flush	4	3-wire	PNP	Normally-open (NO)	1000	10	60	Fixed cable	70	12		■		■
NCB4-12GM70-E3-M	Flush	4	3-wire	PNP	Normally-closed (NC)	1000	10	60	Fixed cable	70	12		■		■
NBB5-18GK50-E0-M	Flush	5	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	58	18	■	■		■
NBB5-18GK50-E1-M	Flush	5	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	58	18	■	■		■
NBB5-18GK50-E2-M	Flush	5	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	58	18	■	■		■
NBB5-18GK50-E3-M	Flush	5	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	58	18	■	■		■
NBB8-18GM35-A0-M1	Flush	8	4-wire	NPN	Complementary	1600	7	30	Fixed cable	35	18				■
NBB8-18GM50-A0-M1	Flush	8	4-wire	NPN	Complementary	1600	7	30	Fixed cable	50	18				■
NBB8-18GM50-A0-V1-M1	Flush	8	4-wire	NPN	Complementary	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-A2-M1	Flush	8	4-wire	PNP	Complementary	1600	7	30	Fixed cable	50	18				■

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	CCC	CSA	EAC	UL
NBB8-18GM50-A2-V1-M1	Flush	8	4-wire	PNP	Complementary	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-E0-M	Flush	8	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBB8-18GM50-E0-M1	Flush	8	3-wire	NPN	Normally-open (NO)	1600	7	30	Fixed cable	50	18				■
NBB8-18GM50-E0-V1-M	Flush	8	3-wire	NPN	Normally-open (NO)	1500	5	60	M12 connector plug	65	18	■	■	■	■
NBB8-18GM50-E0-V1-M1	Flush	8	3-wire	NPN	Normally-open (NO)	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-E1-M	Flush	8	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBB8-18GM50-E1-M1	Flush	8	3-wire	NPN	Normally-closed (NC)	1600	7	30	Fixed cable	50	18				■
NBB8-18GM50-E1-V1-M	Flush	8	3-wire	NPN	Normally-closed (NC)	1500	5	60	M12 connector plug	65	18	■	■	■	■
NBB8-18GM50-E1-V1-M1	Flush	8	3-wire	NPN	Normally-closed (NC)	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-E2-M	Flush	8	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBB8-18GM50-E2-M1	Flush	8	3-wire	PNP	Normally-open (NO)	1600	7	30	Fixed cable	50	18				■
NBB8-18GM50-E2-V1-M	Flush	8	3-wire	PNP	Normally-open (NO)	1500	5	60	M12 connector plug	65	18	■	■	■	■
NBB8-18GM50-E2-V1-M1	Flush	8	3-wire	PNP	Normally-open (NO)	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-E3-M	Flush	8	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBB8-18GM50-E3-M1	Flush	8	3-wire	PNP	Normally-closed (NC)	1600	7	30	Fixed cable	50	18				■
NBB8-18GM50-E3-V1-M	Flush	8	3-wire	PNP	Normally-closed (NC)	1500	5	60	M12 connector plug	65	18	■	■	■	■
NBB8-18GM50-E3-V1-M1	Flush	8	3-wire	PNP	Normally-closed (NC)	1600	7	30	M12 connector plug	65	18				■
NBB8-18GM50-EI-M1	Flush	8	3-wire	Digital current output		1300	9	30	Fixed cable	50	18				■
NBB8-18GM50-EI-V1-M1	Flush	8	3-wire	Digital current output		1300	9	30	M12 connector plug	65	18				■
NBB10-30GK50-E0-M	Flush	10	3-wire	NPN	Normally-open (NO)	800	5	60	Fixed cable	63	30	■	■		■
NBB10-30GK50-E1-M	Flush	10	3-wire	NPN	Normally-closed (NC)	800	5	60	Fixed cable	63	30	■	■		■
NBB10-30GK50-E2-M	Flush	10	3-wire	PNP	Normally-open (NO)	800	5	60	Fixed cable	63	30	■	■		■
NBB10-30GK50-E3-M	Flush	10	3-wire	PNP	Normally-closed (NC)	800	5	60	Fixed cable	63	30	■	■		■
NBB15-30GM35-A0-M1	Flush	15	4-wire	NPN	Complementary	500	7	30	Fixed cable	35	30				■
NBB15-30GM50-A0-M1	Flush	15	4-wire	NPN	Complementary	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-A0-V1-M1	Flush	15	4-wire	NPN	Complementary	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-A2-M1	Flush	15	4-wire	PNP	Complementary	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-A2-V1-M1	Flush	15	4-wire	PNP	Complementary	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-E0-M	Flush	15	3-wire	NPN	Normally-open (NO)	600	5	60	Fixed cable	61	30	■	■	■	■
NBB15-30GM50-E0-M1	Flush	15	3-wire	NPN	Normally-open (NO)	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-E0-V1-M	Flush	15	3-wire	NPN	Normally-open (NO)	600	5	60	M12 connector plug	66	30	■	■	■	■
NBB15-30GM50-E0-V1-M1	Flush	15	3-wire	NPN	Normally-open (NO)	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-E1-M	Flush	15	3-wire	NPN	Normally-closed (NC)	600	5	60	Fixed cable	61	30	■	■	■	■
NBB15-30GM50-E1-M1	Flush	15	3-wire	NPN	Normally-closed (NC)	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-E1-V1-M	Flush	15	3-wire	NPN	Normally-closed (NC)	600	5	60	M12 connector plug	66	30	■	■	■	■
NBB15-30GM50-E1-V1-M1	Flush	15	3-wire	NPN	Normally-closed (NC)	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-E2-M	Flush	15	3-wire	PNP	Normally-open (NO)	600	5	60	Fixed cable	61	30	■	■	■	■
NBB15-30GM50-E2-M1	Flush	15	3-wire	PNP	Normally-open (NO)	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-E2-V1-M	Flush	15	3-wire	PNP	Normally-open (NO)	600	5	60	M12 connector plug	66	30	■	■	■	■
NBB15-30GM50-E2-V1-M1	Flush	15	3-wire	PNP	Normally-open (NO)	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-E3-M	Flush	15	3-wire	PNP	Normally-closed (NC)	600	5	60	Fixed cable	61	30	■	■	■	■
NBB15-30GM50-E3-M1	Flush	15	3-wire	PNP	Normally-closed (NC)	500	7	30	Fixed cable	50	30				■
NBB15-30GM50-E3-V1-M	Flush	15	3-wire	PNP	Normally-closed (NC)	600	5	60	M12 connector plug	66	30	■	■	■	■
NBB15-30GM50-E3-V1-M1	Flush	15	3-wire	PNP	Normally-closed (NC)	500	7	30	M12 connector plug	66	30				■
NBB15-30GM50-EI-M1	Flush	15	3-wire	Digital current output		700	9	30	Fixed cable	50	30				■
NBB15-30GM50-EI-V1-M1	Flush	15	3-wire	Digital current output		700	9	30	M12 connector plug	65	30				■
NBN4-12GM35-A2-V1-M1	Non-flush	4	4-wire	PNP	Complementary	1200	7	30	M12 connector plug	51	12				■
NBN7-12GK50-E0-M	Non-flush	7	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GK50-E1-M	Non-flush	7	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GK50-E2-M	Non-flush	7	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GK50-E3-M	Non-flush	7	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GM50-E0-M	Non-flush	7	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GM50-E0-V1-M	Non-flush	7	3-wire	NPN	Normally-open (NO)	1500	5	60	M12 connector plug	66	12	■	■		■
NBN7-12GM50-E1-M	Non-flush	7	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GM50-E1-V1-M	Non-flush	7	3-wire	NPN	Normally-closed (NC)	1500	5	60	M12 connector plug	66	12	■	■		■
NBN7-12GM50-E2-M	Non-flush	7	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GM50-E2-V1-M	Non-flush	7	3-wire	PNP	Normally-open (NO)	1500	5	60	M12 connector plug	66	12	■	■		■
NBN7-12GM50-E3-M	Non-flush	7	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	50	12	■	■		■
NBN7-12GM50-E3-V1-M	Non-flush	7	3-wire	PNP	Normally-closed (NC)	1500	5	60	M12 connector plug	66	12	■	■		■
NBN8-12GM50-EI-V1-M1	Non-flush	8	3-wire	Digital current output		1500	9	30	M12 connector plug	65	12				■
NBN8-12GM50-A0-M1	Non-flush	8	4-wire	NPN	Complementary	1200	7	30	Fixed cable	50	12				■
NBN8-12GM50-A0-V1-M1	Non-flush	8	4-wire	NPN	Complementary	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-A2-M1	Non-flush	8	4-wire	PNP	Complementary	1200	7	30	Fixed cable	50	12				■
NBN8-12GM50-A2-V1-M1	Non-flush	8	4-wire	PNP	Complementary	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-E0-M1	Non-flush	8	3-wire	NPN	Normally-open (NO)	1200	7	30	Fixed cable	50	12				■

Model number	Type Of Installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Diameter D	CCC	CSA	EAC	UL
NBN8-12GM50-E0-V1-M1	Non-flush	8	3-wire	NPN	Normally-open (NO)	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-E1-M1	Non-flush	8	3-wire	NPN	Normally-closed (NC)	1200	7	30	Fixed cable	50	12				■
NBN8-12GM50-E1-V1-M1	Non-flush	8	3-wire	NPN	Normally-closed (NC)	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-E2-M1	Non-flush	8	3-wire	PNP	Normally-open (NO)	1200	7	30	Fixed cable	50	12				■
NBN8-12GM50-E2-V1-M1	Non-flush	8	3-wire	PNP	Normally-open (NO)	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-E3-M1	Non-flush	8	3-wire	PNP	Normally-closed (NC)	1200	7	30	Fixed cable	50	12				■
NBN8-12GM50-E3-V1-M1	Non-flush	8	3-wire	PNP	Normally-closed (NC)	1200	7	30	M12 connector plug	66	12				■
NBN8-12GM50-EI-M1	Non-flush	8	3-wire	Digital current output		1500	9	30	Fixed cable	50	12				■
NBN12-18GK50-E0-M	Non-flush	12	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	58	18	■	■		■
NBN12-18GK50-E1-M	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	58	18	■	■		■
NBN12-18GK50-E2-M	Non-flush	12	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	58	18	■	■		■
NBN12-18GK50-E3-M	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	58	18	■	■		■
NBN12-18GM50-A0-M1	Non-flush	12	4-wire	NPN	Complementary	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-A0-V1-M1	Non-flush	12	4-wire	NPN	Complementary	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-A2-M1	Non-flush	12	4-wire	PNP	Complementary	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-A2-V1-M1	Non-flush	12	4-wire	PNP	Complementary	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-E0-M	Non-flush	12	3-wire	NPN	Normally-open (NO)	1500	5	60	Fixed cable	55	18	■		■	
NBN12-18GM50-E0-M1	Non-flush	12	3-wire	NPN	Normally-open (NO)	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-E0-V1-M	Non-flush	12	3-wire	NPN	Normally-open (NO)	1500	5	60	M12 connector plug	65	18	■		■	
NBN12-18GM50-E0-V1-M1	Non-flush	12	3-wire	NPN	Normally-open (NO)	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-E1-M	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBN12-18GM50-E1-M1	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-E1-V1-M	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1500	5	60	M12 connector plug	65	18	■		■	
NBN12-18GM50-E1-V1-M1	Non-flush	12	3-wire	NPN	Normally-closed (NC)	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-E2-M	Non-flush	12	3-wire	PNP	Normally-open (NO)	1500	5	60	Fixed cable	55	18	■		■	
NBN12-18GM50-E2-M1	Non-flush	12	3-wire	PNP	Normally-open (NO)	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-E2-V1-M	Non-flush	12	3-wire	PNP	Normally-open (NO)	1500	5	60	M12 connector plug	65	18	■		■	
NBN12-18GM50-E2-V1-M1	Non-flush	12	3-wire	PNP	Normally-open (NO)	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-E3-M	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1500	5	60	Fixed cable	55	18	■	■	■	■
NBN12-18GM50-E3-M1	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1200	7	30	Fixed cable	50	18				■
NBN12-18GM50-E3-V1-M	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1500	5	60	M12 connector plug	65	18	■		■	
NBN12-18GM50-E3-V1-M1	Non-flush	12	3-wire	PNP	Normally-closed (NC)	1200	7	30	M12 connector plug	65	18				■
NBN12-18GM50-EI-M1	Non-flush	12	3-wire	Digital current output		1000	9	30	Fixed cable	50	18				■
NBN12-18GM50-EI-V1-M1	Non-flush	12	3-wire	Digital current output		1000	9	30	M12 connector plug	65	18				■
NBN15-30GM50-A2-V1-M1	Non-flush	15	4-wire	PNP	Complementary	450	7	30	M12 connector plug	66	30				■
NBN20-30GM50-EI-M1	Non-flush	20	3-wire	Digital current output		1000	9	30	Fixed cable	50	30				■
NBN20-30GM50-EI-V1-M1	Non-flush	20	3-wire	Digital current output		1000	9	30	M12 connector plug	65	30				■
NBN25-30GK50-E0-M	Non-flush	25	3-wire	NPN	Normally-open (NO)	200	5	60	Fixed cable	63	30	■	■		■
NBN25-30GK50-E1-M	Non-flush	25	3-wire	NPN	Normally-closed (NC)	200	5	60	Fixed cable	63	30	■	■		■
NBN25-30GK50-E2-M	Non-flush	25	3-wire	PNP	Normally-open (NO)	200	5	60	Fixed cable	63	30	■	■		■
NBN25-30GK50-E3-M	Non-flush	25	3-wire	PNP	Normally-closed (NC)	200	5	60	Fixed cable	63	30	■	■		■
NBN25-30GM40-E2-M1	Non-flush	25	3-wire	PNP	Normally-open (NO)	450	7	30	Fixed cable	40	30				■
NBN25-30GM50-A0-M1	Non-flush	25	4-wire	NPN	Complementary	450	7	30	Fixed cable	50	30				■
NBN25-30GM50-A0-V1-M1	Non-flush	25	4-wire	NPN	Complementary	450	7	30	M12 connector plug	66	30				■

Highlights

- Excellent mechanical and electrical properties for reliable operation in the harshest outdoor conditions
- Optimized for mobile equipment (E1 type approval for use on public roads)
- Comprehensive portfolio and application-specific adaptations for excellent flexibility in sensor selection
- The highest quality standards (internal testing according to criteria far beyond the normative requirements)

Brief Description

High Reliability under the Toughest Conditions
Applications in the mobile equipment sector place highly specific demands on sensor technology. In addition to approval for road traffic (E1 type approval), proximity sensors in this area must also have EMC immunity. Other typical requirements include high impermeability, resistance to shocks, vibrations, and chemicals, and an extended temperature range of -40 °C to +85 °C. With this in mind, Pepperl+Fuchs offers an extremely broad portfolio that guarantees maximum flexibility. The selection includes exceptionally rugged devices, which, thanks to a special internal test procedure, ensure a level of impermeability beyond the IP68 standard—a new benchmark in quality.

Sensors for Mobile Equipment - Cube-Style Sensors

Standard Technical Data	
Voltage type	DC
E1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Length L	Width W	Height H	CCC	CSA	UL
NBB8-F148P10-E0-M	Flush	8	3-wire	NPN	Normally-open (NO)	600	10	60	Fixed cable	50	35	20			
NBB8-F148P10-E2-M	Flush	8	3-wire	PNP	Normally-open (NO)	600	10	60	Fixed cable	50	35	20			
NBB8-F148P10-E2-M-0,15M-3DT04	Flush	8	3-wire	PNP	Normally-open (NO)	600	10	60	Fixed cable with Deutsch plug	50	35	20			
NBB8-F33-A2-M1	Flush	8	3-wire	PNP	Complementary	350	10	30	Fixed cable	10	50	25			■
NBB8-F33-E0-M	Flush	8	3-wire	NPN	Normally-open (NO)	350	5	60	Fixed cable	10	50	25	■		
NBB8-F33-E1-M	Flush	8	3-wire	NPN	Normally-closed (NC)	350	5	60	Fixed cable	10	50	25	■		
NBB8-F33-E2-M	Flush	8	3-wire	PNP	Normally-open (NO)	350	5	60	Fixed cable	10	50	25	■		
NBB8-F33-E2-M-150MM-3DT04	Flush	8	3-wire	PNP	Normally-open (NO)	350	5	60	Fixed cable	10	50	25			■
NBB8-F33-E3-M	Flush	8	3-wire	PNP	Normally-closed (NC)	350	5	60	Fixed cable	10	50	25	■		
NBB15-U1-A2-M	Flush	15	4-wire	PNP	Complementary	200	10	60	Terminal compartment	118	40	40	■	■	■
NBB15-F148P10-E0-M	Flush	15	3-wire	NPN	Normally-open (NO)	600	10	60	Fixed cable	50	35	20			
NBB15-F148P10-E2-M	Flush	15	3-wire	PNP	Normally-open (NO)	600	10	60	Fixed cable	50	35	20			
NBB15-F148P10-E2-M-0,15M-3DT04	Flush	15	3-wire	PNP	Normally-open (NO)	600	10	60	Fixed cable with Deutsch plug	50	35	20			
NBB20-U1-A0-M	Flush	20	4-wire	NPN	Complementary	200	10	60	Terminal compartment	118	40	40	■		■
NBB20-U1-A2-M	Flush	20	4-wire	PNP	Complementary	200	10	60	Terminal compartment	118	40	40	■		■
NBB20-L2-A2-V1-M	Flush	20	4-wire	PNP	Complementary	200	10	60	M12 connector plug	67	40	40	■	■	■
NBB20-L2M-A2-V1-M	Flush	20	4-wire	PNP	Complementary	200	10	60	M12 connector plug	67	40	40	■		■
NBB20-U4-A0-M	Flush	20	4-wire	NPN	Complementary	200	10	60	Terminal compartment	118	40	40	■	■	■
NBN10-F33-E0-M	Non-flush	10	3-wire	NPN	Normally-open (NO)	200	5	60	Fixed cable	10	50	25	■		
NBN10-F33-E2-M	Non-flush	10	3-wire	PNP	Normally-open (NO)	200	5	60	Fixed cable	10	50	25	■		
NBN10-F33-E1-M	Non-flush	10	3-wire	NPN	Normally-closed (NC)	200	5	60	Fixed cable	10	50	25	■		
NBN10-F33-E3-M	Non-flush	10	3-wire	PNP	Normally-closed (NC)	200	5	60	Fixed cable	10	50	25	■		
NBN40-U1-A0-M	Non-flush	40	4-wire	NPN	Complementary	150	10	60	Terminal compartment	118	40	40	■		■
NBN40-U1-A2-M	Non-flush	40	4-wire	PNP	Complementary	150	10	60	Terminal compartment	118	40	40	■		■
NBN40-U1-E2-M	Non-flush	40	3-wire	PNP	Normally-open (NO)	150	10	60	Terminal compartment	118	40	40	■	■	■
NBN40-U1L-A0-M	Non-flush	40	4-wire	NPN	Complementary	100	10	60	Terminal compartment	128	55	55			■
NBN40-U1L-A2-M	Non-flush	40	4-wire	PNP	Complementary	100	10	60	Terminal compartment	128	55	55			■
NBN40-L2-A0-V1-M	Non-flush	40	4-wire	NPN	Complementary	150	10	60	M12 connector plug	67	40	40	■	■	■
NBN40-L2-A2-V1-M	Non-flush	40	4-wire	PNP	Complementary	150	10	60	M12 connector plug	67	40	40	■	■	■
NBN40-L2M-A0-V1-M	Non-flush	40	4-wire	NPN	Complementary	150	10	60	M12 connector plug	67	40	40	■	■	■

Highlights

- Excellent mechanical and electrical properties for reliable operation in the harshest outdoor conditions
- Optimized for mobile equipment (E1 type approval for use on public roads)
- Comprehensive portfolio and application-specific adaptations for excellent flexibility in sensor selection

Brief Description

High Reliability under the Toughest Conditions
Applications in the mobile equipment sector place highly specific demands on sensor technology. In addition to approval for road traffic (E1 type approval), these proximity sensors must also have EMC immunity.

Sensors for Valve Position Detection - F25 Series

Standard Technical Data	
Special features	Double sensor
Type of installation	Flush mountable
Voltage type	DC
Operating voltage (max)	30 V
Housing width W	52 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

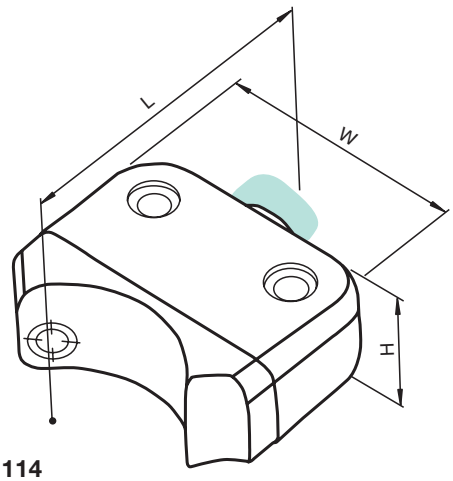
Model number	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	Connection type	Length L	Height H	CSA	UL
NBN3-F25-E8-5M	3	3-wire	PNP	Normally-open (NO)	500	10	Fixed cable	52	20	■	■
NBN3-F25-E9-V1	3	3-wire	PNP	Normally-closed (NC)	500	10	M12 connector plug	52	20	■	■
NBN3-F25F-E8-V1	3	3-wire	PNP	Normally-open (NO)	500	10	M12 connector plug	45	20	■	■
NBN3-F25L-E2-V1	3	3-wire	PNP	Normally-open (NO)	500	10	M12 connector plug	52	20	■	■
NBN3-F25R-E3-V1	3	3-wire	PNP	Normally-closed (NC)	500	10	M12 connector plug	52	20	■	■
NBN4-F25-2Z4L	4	2-wire	2-wire	Normally-open (NO)	500	5	Fixed cable	52	20		■
NBN4-F25-2Z4L-0,14M	4	2-wire	2-wire	Normally-open (NO)	500	5	Fixed cable	52	20		■
NBN4-F25-2Z4L-5M	4	2-wire	2-wire	Normally-open (NO)	500	5	Fixed cable	52	20		■
NBN4-F25-2Z4L-V1	4	2-wire	2-wire	Normally-open (NO)	500	5	M12 connector plug	52	20		■
NBN4-F25-E8	4	3-wire	PNP	Normally-open (NO)	1000	10	Fixed cable	52	20		■
NBN4-F25-E8-0,14M	4	3-wire	PNP	Normally-open (NO)	1000	10	Fixed cable	52	20		■
NBN4-F25-E8-V1	4	3-wire	PNP	Normally-open (NO)	1000	10	M12 connector plug	52	20		■
NBN4-F25K-2E2	4	3-wire	PNP	Normally-open (NO)	1000	10	Terminal compartment	69	20		■
NBN4-F25K-2Z4L	4	2-wire	2-wire	Normally-open (NO)	500	5	Terminal compartment	69	37.5		■
NBN4-F25K-E8	4	3-wire	PNP	Normally-open (NO)	1000	10	Terminal compartment	69	37.5		■

Highlights

- Direct assembly on standard drives

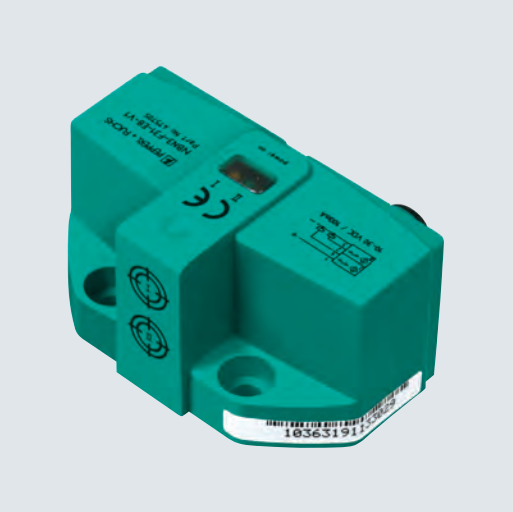
Brief Description

The F25/F25K series is available as a cable, plug, or terminal compartment version and combines the two sensor elements in the smallest possible space. This makes them perfect for small basic applications, such as manual valves in indoor areas.



Accessories	
BT32XAS	Activator for F25 series
BT33	Activator for F25 series
BT34	Activator for F25 series
BT43-RG-01	Activator for F25 series including protective cover and mounting base
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

Sensors for Valve Position Detection - F31/F31K Series



Standard Technical Data	
Type of installation	Flush mountable
Detection range	3 mm
Housing width W	65 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	SIL	Connection type	Length L	Height H	CCC	ATEX	CSA	EAC	UL
NBN3-F31-E8-K	3-wire	PNP	Normally-open (NO)	DC	500	10	30		Fixed cable	36	33.5			■		■
NBN3-F31-E8-K-K	3-wire	PNP	Normally-open (NO)	DC	500	10	30		Fixed cable	36	33.5			■		■
NBN3-F31-E8-V1	3-wire	PNP	Normally-open (NO)	DC	500	10	30		M12 connector plug	36	33.5			■	■	■
NBN3-F31-E8-V16-V15	3-wire	PNP	Normally-open (NO)	DC	500	10	30			36	33.5			■		■
NBN3-F31-E8-V18	3-wire	PNP	Normally-open (NO)	DC	500	10	30		M18 connector plug	36	33.5			■	■	■
NBN3-F31-U8-K	4-wire		Normally-open (NO)	AC/DC	25	20	253		Fixed cable	36	33.5			■		■
NBN3-F31-U8-V18	4-wire		Normally-open (NO)	AC/DC	25	20	253		M18 connector plug	36	33.5			■		■
NBN3-F31-Z8-K	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		Fixed cable	36	33.5	■				■
NBN3-F31-Z8-K-K	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		Fixed cable	36	33.5	■				■
NBN3-F31-Z8-V1	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		M12 connector plug	36	33.5	■				■
NBN3-F31-Z8-V18	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		M18 connector plug	36	33.5	■				■
NBN3-F31K-E8	4-wire	PNP	Normally-open (NO)	DC	500	10	30		Terminal compartment	77.5	35.5			■		■
NBN3-F31K-E8-K	4-wire	PNP	Normally-open (NO)	DC	500	10	30		Terminal compartment	77.5	35.5			■		■
NBN3-F31K-E8-V1-V1	4-wire	PNP	Normally-open (NO)	DC	500	10	30		Terminal compartment	77.5	35.5			■		■
NBN3-F31K-Z8	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		Terminal compartment	77.5	35	■				■
NBN3-F31K-Z8-K	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		Terminal compartment	77.5	35	■				■
NBN3-F31K-Z8-V1-V1	4-wire	2-wire	Normally-open (NO)	DC	500	6	60		Terminal compartment	77.5	35	■				■
NCN3-F31-B3-V1-K		AS-Interface	Normally open/close selectable	DC	100	26.5	31.9		M12 connector plug	36	33.5			■		■
NCN3-F31-B3B-V1		AS-Interface	Normally open/close selectable	DC	100	26.5	31.9		M12 connector plug	36	33.5			■		■
NCN3-F31-B3B-V1-K		AS-Interface	Normally open/close selectable	DC	100	26.5	31.9		M12 connector plug	36	33.5			■		■
NCN3-F31-B3B-V1-V1		AS-Interface	Normally open/close selectable	DC	100	26.5	31.9		M12 connector plug	36	33.5			■		■
NCN3-F31K-B3B-B31		AS-Interface	Normally open/close selectable	DC	100	26.5	31.9		Terminal compartment	77.5	35.5			■		■
NCN3-F31K-N4	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■	■	■	■
NCN3-F31K-N4-B13-S	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■		■	
NCN3-F31K-N4-K	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■	■	■	■
NCN3-F31K-N4-K-S	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■	■	■	■
NCN3-F31K-N4-S	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■	■	■	■
NCN3-F31K-N4-V1-V1	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2	2	Terminal compartment	77.5	35.5		■	■	■	■
NCN3-F31K-N5-K	2-wire	NAMUR	Normally-closed (NC)	DC	3000	8.2	8.2		Terminal compartment	77.5	35.5		■	■		■

Highlights

- Direct assembly on standard drives
- Valve connection
- Versions up to SIL 2 available

Brief Description

The F31/F31K series are used in applications on standard valve actuators in indoor and outdoor areas. They are very easy to assemble and are also available as a variant for hazardous areas.

Sensors for Valve Position Detection - F31K2 Series

Standard Technical Data	
Voltage type	DC
Connection type	Terminal compartment
Housing length L	106 mm
Housing width W	100 mm
Housing height H	53 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Switching frequency [Hz]	UB (min)	UB (max)	SIL	ATEX	EAC	UL
NBN3-F31K2-E8-B13-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	
NBN3-F31K2-E8-B33-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2-E8-B43-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2-Z8L-B13-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NBN3-F31K2-Z8L-B33-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NBN3-F31K2M-E8-B13-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2M-E8-B13-S-3G-3D	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30		■		
NBN3-F31K2M-E8-B23-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2M-E8-B33-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2M-E8-B43-S	Cannot be flush mounted	2.5	4-wire	PNP	Normally-open (NO)	100	10	30			■	■
NBN3-F31K2M-Z8L-B13-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NBN3-F31K2M-Z8L-B13-S-3G-3D	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30				
NBN3-F31K2M-Z8L-B23-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NBN3-F31K2M-Z8L-B33-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NBN3-F31K2M-Z8L-B43-S	Cannot be flush mounted	2.5	2-wire	2-wire	Normally-open (NO)	100	6	30			■	■
NCN3-F31K2-N4-B13-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	■		■
NCN3-F31K2-N4-B33-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	■		
NCN3-F31K2-N5-B13-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	■		■
NCN3-F31K2-N5-B33-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	■		■
NCN3-F31K2M-N4-B13-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2	■		■
NCN3-F31K2M-N4-B23-S	Flush mountable	3	2-wire	NAMUR	Normally-closed (NC)	3000	8.2	8.2	2			■

Highlights

- Easy to mount on standard valve actuators without the need for additional mounting aids
- Open solution with the highly visible integrated valve position indicator and translucent housing
- Flexible, modular housing design
- Tightly sealed thanks to inductive, noncontact detection of the valve position
- Optimized for outdoor use thanks to high resistance to UV, temperature, and salt water
- Versions up to SIL 2 available

Brief Description

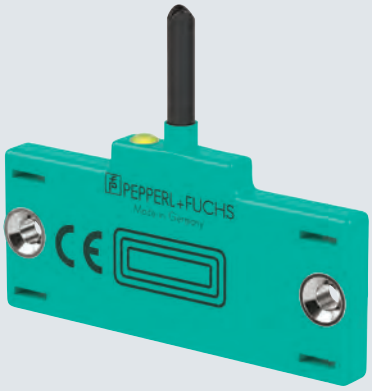
The F31K2 series, on the other hand, is specifically designed for uncompromising use outdoors. It combines flexibility with robustness and excellent performance, even under extreme conditions.

Accessories	
BT115A	Activator for F31 series
BT115X	Activator for F31 series
BT65-F31K2-RG-EN	Activator for F31K2 series
BT65A	Activator for F31 series
BT65X	Activator for F31 series
SH-BT65-F31K2-01	Protective cover for BT65-F31K2-RG-EN-01 activators
SH-F31K2-B13	Protective cover for mechanically protected assembly
VMA-2+P/Z2-0,3M-PVC-V1-W-Y	Valve connector, Form A to M12, 2+PE, LED, Z-diode, PVC cable

Capacitive Proximity Sensors

Reliable Detection of Non-Metallic Objects

If inductive sensors cannot be used with liquids, granulates, or wood, capacitive proximity sensors are the perfect solution. In particular, special versions such as rugged sensors in stainless steel or chemically resistant housing materials guarantee outstanding reliability and service life.

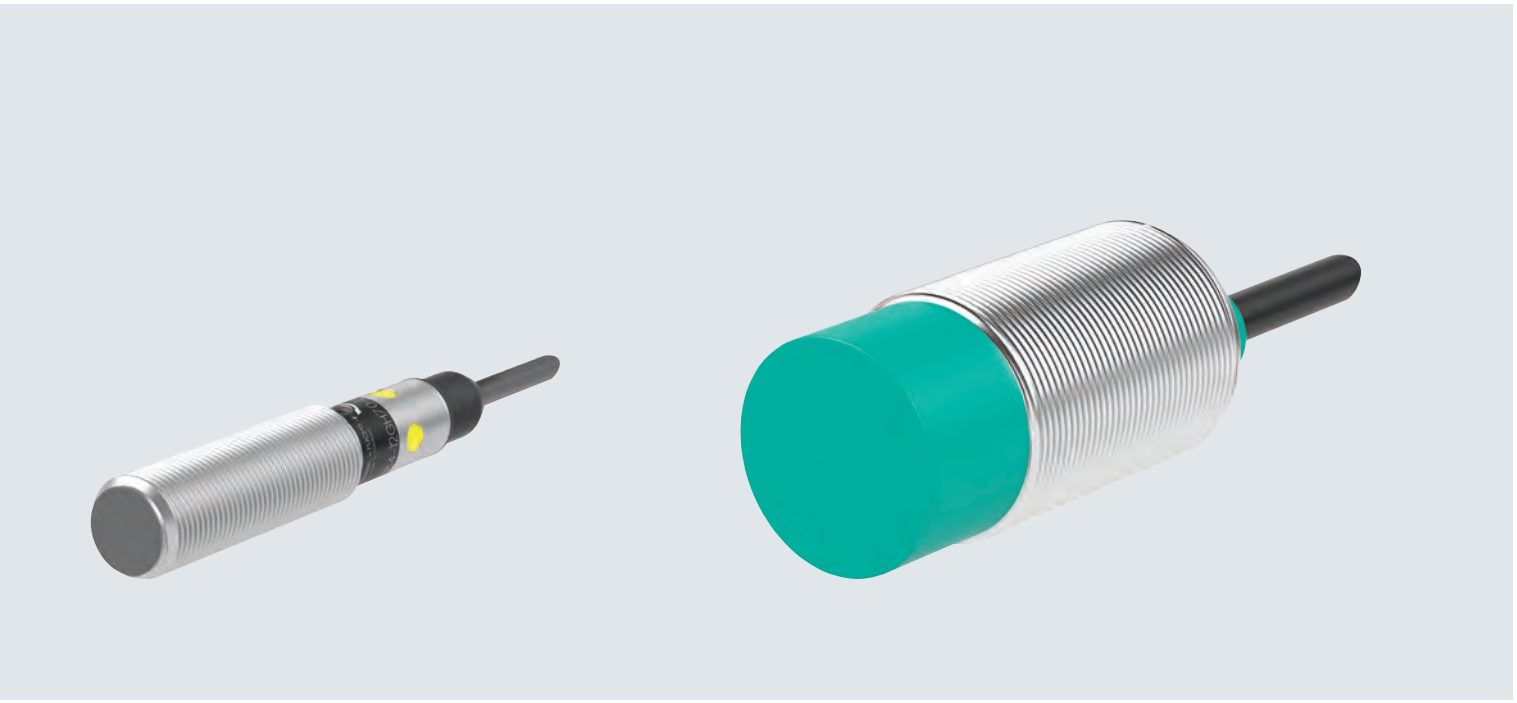


Typical Applications

- Fill level querying for liquids and solidse.g., in the agricultural or wood-processing industry
- Detection of materials in plastic containers
- Process engineering for the chemical and pharmaceutical industries
- Medical and rehabilitation technology
- Woodworking machines
- Glass and plastic handling

Your Benefits at a Glance

- Reliability and process safety for your application thanks to the highest quality standards in sensor production
- The perfect solution for detecting non-metallic objects
- Highest levels of robustness and durability even in harsh industrial environments
- Application-specific advice at the highest technical level



Technical Features

- Sensors for all supply voltages (DC, AC, universal current) and output signals (e.g. two, three, and four-wire, AS-Interface and NAMUR)
- Complete range of cable and connector types
- Variety of special approvals, including for explosion protection
- Especially robust sensors with stainless steel housing and chemically resistant housing materials available
- Sensing ranges from 1 mm to 50 mm available

Cylindrical Capacitive Proximity Sensors

Contents

12 mm Series
Page 121

18 mm Series
Page 122

30 mm Series
Page 123

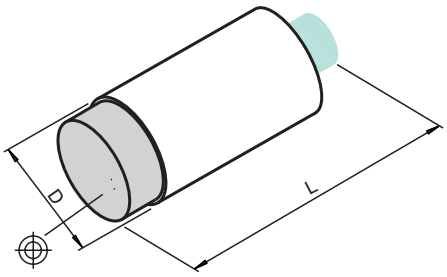
12 mm Series

Standard Technical Data	
Switching function	Normally-open (NO)
Voltage type	DC
Housing diameter D	12 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable material	Length L	ATEX	FM
CBB4-12GH60-E0-V1	Flush	4	3-wire	NPN	50	10	36	M12 connector plug			60		
CBB4-12GH60-E2-V1	Flush	4	3-wire	PNP	50	10	36	M12 connector plug			60		
CBB4-12GH70-E0	Flush	4	3-wire	NPN	50	10	36	Fixed cable	2000	PUR	70		
CBB4-12GH70-E2	Flush	4	3-wire	PNP	50	10	36	Fixed cable	2000	PUR	70		
CBN8-12GH60-E2-V1	Non-flush	8	3-wire	PNP	50	10	36	M12 connector plug			61.2		
CJ1-12GK-N	Non-flush	1	2-wire	NAMUR	1	8.2	8.2	Fixed cable	2000	PVC	60	■	■
CJ1-12GK-N-5M	Non-flush	1	2-wire	NAMUR	1	8.2	8.2	Fixed cable	5000	PVC	60	■	■
CJ4-12GK-N	Non-flush	4	2-wire	NAMUR	1	8.2	8.2	Fixed cable	2000	PVC	60	■	■
CJ4-12GK-N-10M	Non-flush	4	2-wire	NAMUR	1	8.2	8.2	Fixed cable	10000	PVC	60	■	■
CJ4-12GK-N-5M	Non-flush	4	2-wire	NAMUR	1	8.2	8.2	Fixed cable	5000	PVC	60	■	■

Accessories	
BF 12	Mounting adapter, 12 mm
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

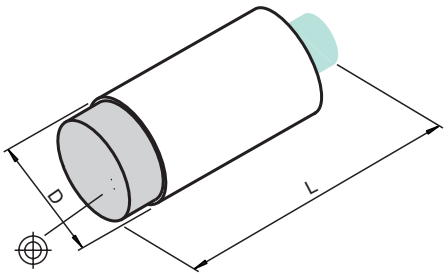


18 mm Series

Standard Technical Data	
Switching function	Normally-open (NO)
Voltage type	DC
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Cable length [mm]	Cable material	Ambient temperature (max)	Length L	ATEX	CSA	FM
CBB8-18GK75-E2-V1	Flush	8	3-wire	PNP	100	10	30	M12 connector plug			85	88			
CBB8-18GS75-E0	Flush	8	3-wire	NPN	100	10	30	Fixed cable	2000	PUR	85	75			
CBB8-18GS75-E2	Flush	8	3-wire	PNP	100	10	30	Fixed cable	2000	PUR	85	75			
CBB8-18GS75-E2-V1	Flush	8	3-wire	PNP	100	10	30	M12 connector plug			85	88			
CBN15-18GK75-E2-V1	Non-flush	15	3-wire	PNP	100	10	30	M12 connector plug			85	88			
CBN15-18GS75-E2	Non-flush	15	3-wire	PNP	100	10	30	Fixed cable	2000	PUR	85	75			
CBN15-18GS75-E2-V1	Non-flush	15	3-wire	PNP	100	10	30	M12 connector plug			85	88			
CJ2-18GK-N	Non-flush	2	2-wire	NAMUR	1	8.2	8.2	Fixed cable	2000	PVC	70	80	■	■	■
CJ6-18GK-N	Non-flush	6	2-wire	NAMUR	1	8.2	8.2	Fixed cable	2000	PVC	70	80	■	■	■



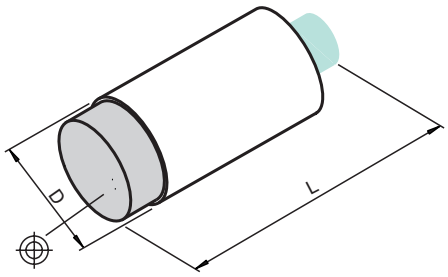
Accessories	
BF 18	Mounting adapter, 18 mm
EXG-18	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

30 mm Series

Standard Technical Data	
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type of installation	Detection range [mm]	Output type	Output type	Switching function	Voltage type	Switching frequency [Hz]	UB (min)	UB (max)	Connection type	Ambient temperature (min)	Length L	CCC	ATEX	UL
CBB10-30GKK-A2	Flush	10	4-wire	PNP	Complementary	DC	100	10	30	Terminal compartment	-25	115			■
CBB10-30GKK-W	Flush	10	2-wire	2-wire	Normally open/close selectable	AC	50	20	250	Terminal compartment	-25	115			
CBN15-30GK60-A0	Non-flush	15	4-wire	NPN	Complementary	DC	10	10	30	Fixed cable	-25	60			■
CBN15-30GK60-A2	Non-flush	15	4-wire	PNP	Complementary	DC	10	10	30	Fixed cable	-25	60			■
CBN15-30GK60-E0	Non-flush	15	3-wire	NPN	Normally-open (NO)	DC	10	10	30	Fixed cable	-25	60			■
CBN15-30GK60-E2	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	10	10	30	Fixed cable	-25	60			■
CBN15-30GK60-E2-5M	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	10	10	30	Fixed cable	-25	60			■
CCB10-30GS55-N1	Flush	10	2-wire	NAMUR	Normally-open (NO)	DC	50	8.2	8.2	Fixed cable	-20	80		■	■
CCB10-30GS55-N1-V1	Flush	10	2-wire	NAMUR	Normally-open (NO)	DC	50	8.2	8.2	M12 connector plug	-20	80		■	■
CCN15-30GS60-A0	Non-flush	15	4-wire	NPN	Complementary	DC	10	10	60	Fixed cable	-25	60	■		■
CCN15-30GS60-A2	Non-flush	15	4-wire	PNP	Complementary	DC	10	10	60	Fixed cable	-25	60	■		■
CCN15-30GS60-A2-V1	Non-flush	15	4-wire	PNP	Complementary	DC	10	10	60	M12 connector plug	-25	60	■		■
CCN15-30GS60-E0	Non-flush	15	3-wire	NPN	Normally-open (NO)	DC	10	10	60	Fixed cable	-25	60	■		■
CCN15-30GS60-E2	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	10	10	60	Fixed cable	-25	60	■		■
CCN15-30GS60-E2-V1	Non-flush	15	3-wire	PNP	Normally-open (NO)	DC	10	10	60	M12 connector plug	-25	60	■		■
CJ10-30GK-WO	Non-flush	10	2-wire	2-wire	Normally-closed (NC)	AC	10	20	253	Fixed cable	-25	80	■		■
CJ10-30GK-WS	Non-flush	10	2-wire	2-wire	Normally-open (NO)	AC	10	20	253	Fixed cable	-25	80	■		■
CJ10-30GM-WO	Non-flush	10	2-wire	2-wire	Normally-closed (NC)	AC	10	20	253	Fixed cable	-25	80	■		■
CJ10-30GM-WS	Non-flush	10	2-wire	2-wire	Normally-open (NO)	AC	10	20	253	Fixed cable	-25	80	■		■



Accessories	
BF 30	Mounting adapter, 30 mm
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-N4-5M-PUR	Single-ended female cordset, M12, 4-pin, NAMUR, PUR cable
V1-G-N4-5M-PVC	Single-ended female cordset, M12, 4-pin, NAMUR, PVC cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-N4-2M-PVC	Single-ended female cordset, M12, 4-pin, NAMUR, PVC cable
V1-W-N4-5M-PUR	Single-ended female cordset, M12, 4-pin, NAMUR, PUR cable
V1-W-N4-5M-PVC	Single-ended female cordset, M12, 4-pin, NAMUR, PVC cable

Cybic-Style Capacitive Proximity Sensors

Contents

F104 Series
Page 125

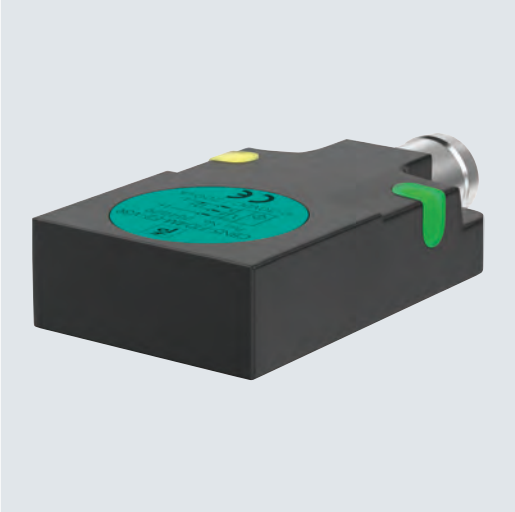
F46/F46A Series
Page 126

F64 Series
Page 127

FP Series
Page 128

VariKont Series
Page 129

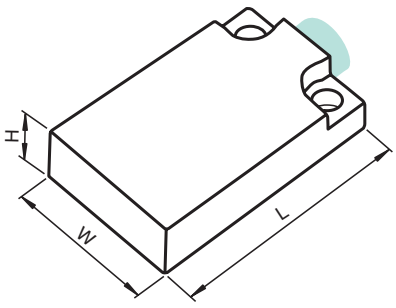
F104 Series



Standard Technical Data	
Type of installation	Non-flush
Detection range	5 mm
Output type	3-wire
Output type	PNP
Switching function	Normally-open (NO)
Voltage type	DC
Switching frequency	100 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	32 mm
Housing width W	20 mm
Housing height H	8 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Connection type	Cable length [mm]	Cable material
CBN5-F104M-E2	Fixed cable	2000	PUR
CBN5-F104M-E2-V3R	8 mm connector plug		



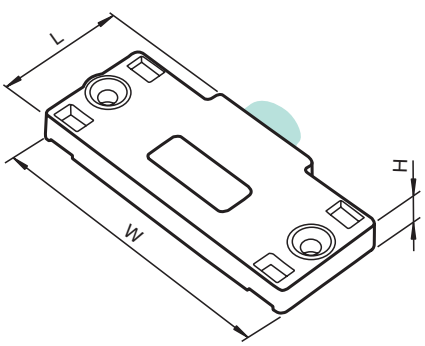
Accessories	
V3-WR-2M-PUR	Single-ended female cordset, M8 snap-locking, 3-pin, PUR cable

F46/F46A Series

Standard Technical Data	
Type of installation	Non-flush
Output type	3-wire
Voltage type	DC
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing width W	50 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Switching function	Switching frequency [Hz]	UB (min)	Cable length [mm]	Cable material	Ambient temperature (min)	Ambient temperature (max)	Length L	Height H	CSA	UL
CBN10-F46-E0	10	NPN	Normally-open (NO)	5	10	2000	PVC	-25	70	25	5	■	■
CBN10-F46-E2	10	PNP	Normally-open (NO)	5	10	2000	PVC	-25	70	25	5	■	■
CBN10-F46-E2-10M	10	PNP	Normally-open (NO)	5	10	10000	PVC	-25	70	25	5	■	■
CBN10-F46-E3	10	PNP	Normally-closed (NC)	5	10	2000	PVC	-25	70	25	5	■	■
CBN10-F46C-EI	7	Digital current output		5	9	2000	PUR	-40	85	30.4	10.5		
CBN2-F46-E0	2	NPN	Normally-open (NO)	10	10	2000	PVC	-25	70	25	5	■	■
CBN2-F46-E1	2	NPN	Normally-closed (NC)	10	10	2000	PVC	-25	70	25	5	■	■
CBN2-F46-E2	2	PNP	Normally-open (NO)	10	10	2000	PVC	-25	70	25	5	■	■
CBN2-F46-E3	2	PNP	Normally-closed (NC)	10	10	2000	PVC	-25	70	20	5	■	■
CBN5-F46-E0	5	NPN	Normally-open (NO)	10	10	2000	PVC	-25	70	25	5	■	■
CBN5-F46-E1	5	NPN	Normally-closed (NC)	10	10	2000	PVC	-25	70	25	5	■	■
CBN5-F46-E2	5	PNP	Normally-open (NO)	10	10	2000	PVC	-25	70	25	5	■	■
CBN5-F46-E3	5	PNP	Normally-closed (NC)	10	10	2000	PVC	-25	70	25	5	■	■
CCN5-F46A-E0	5	NPN	Normally-open (NO)	10	10	2000	FEP	-25	70	30.4	10.5	■	■
CCN5-F46A-E1	5	NPN	Normally-closed (NC)	10	10	2000	FEP	-25	70	30.4	10.5	■	■
CCN5-F46A-E2	5	PNP	Normally-open (NO)	10	10	2000	FEP	-25	70	30.4	10.5	■	■
CCN5-F46A-E3	5	PNP	Normally-closed (NC)	10	10	2000	FEP	-25	70	30.4	10.5	■	■



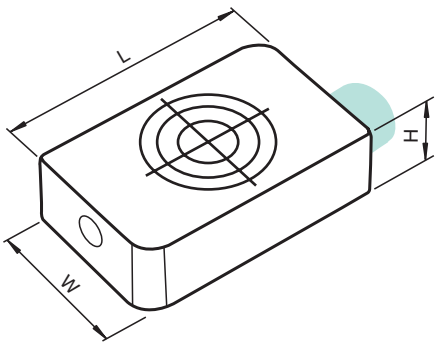
F64 Series

Standard Technical Data	
Special features	Magnetic field resistant
Type of installation	Non-flush
Detection range	15 mm
Output type	PNP
Voltage type	DC
Switching frequency	100 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable Length	2000 mm
Cable material	PUR
Housing length L	40 mm
Housing width W	25 mm
Housing height H	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Switching function
CBN15-F64-A2	4-wire	Complementary
CBN15-F64-E2	3-wire	Normally-open (NO)

Accessories	
MH-F64	Mounting base

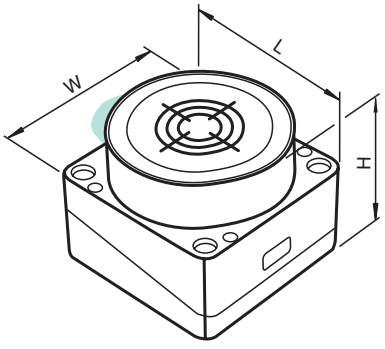


FP Series

Standard Technical Data	
Type of installation	Non-flush
Detection range	40 mm
Output type	4-wire
Switching function	Complementary
Voltage type	DC
Switching frequency	10 Hz
Operating voltage (min)	10 V
Operating voltage (max)	60 V
Connection type	Terminal compartment
Housing length L	40 mm
Housing width W	80 mm
Housing height H	80 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type
CJ40-FP-A0-P1	NPN
CJ40-FP-A2-P1	PNP

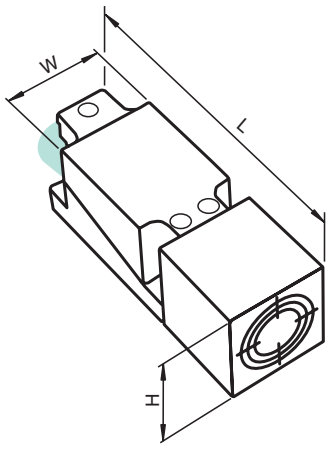


VariKont Series

Standard Technical Data	
Type of installation	Flush
Detection range	15 mm
Output type	4-wire
Output type	PNP
Switching function	Complementary
Voltage type	DC
Switching frequency	10 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Terminal compartment
Housing length L	118 mm
Housing width W	40 mm
Housing height H	40 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	
CJ15+U1+A2	
CJ15+U4+A2	



Accessories	
MHW 01	Modular mounting bracket

Photoelectric Sensors

Maximum Efficiency Through High-Performance Technology

Photoelectric sensors from Pepperl+Fuchs offer innovative sensor solutions advanced through extensive experience and continuous development. Powerful technologies such as Pulse Ranging Technology, Multi Pixel Technology, and end-to-end IO-Link integration guarantee highly efficient applications.

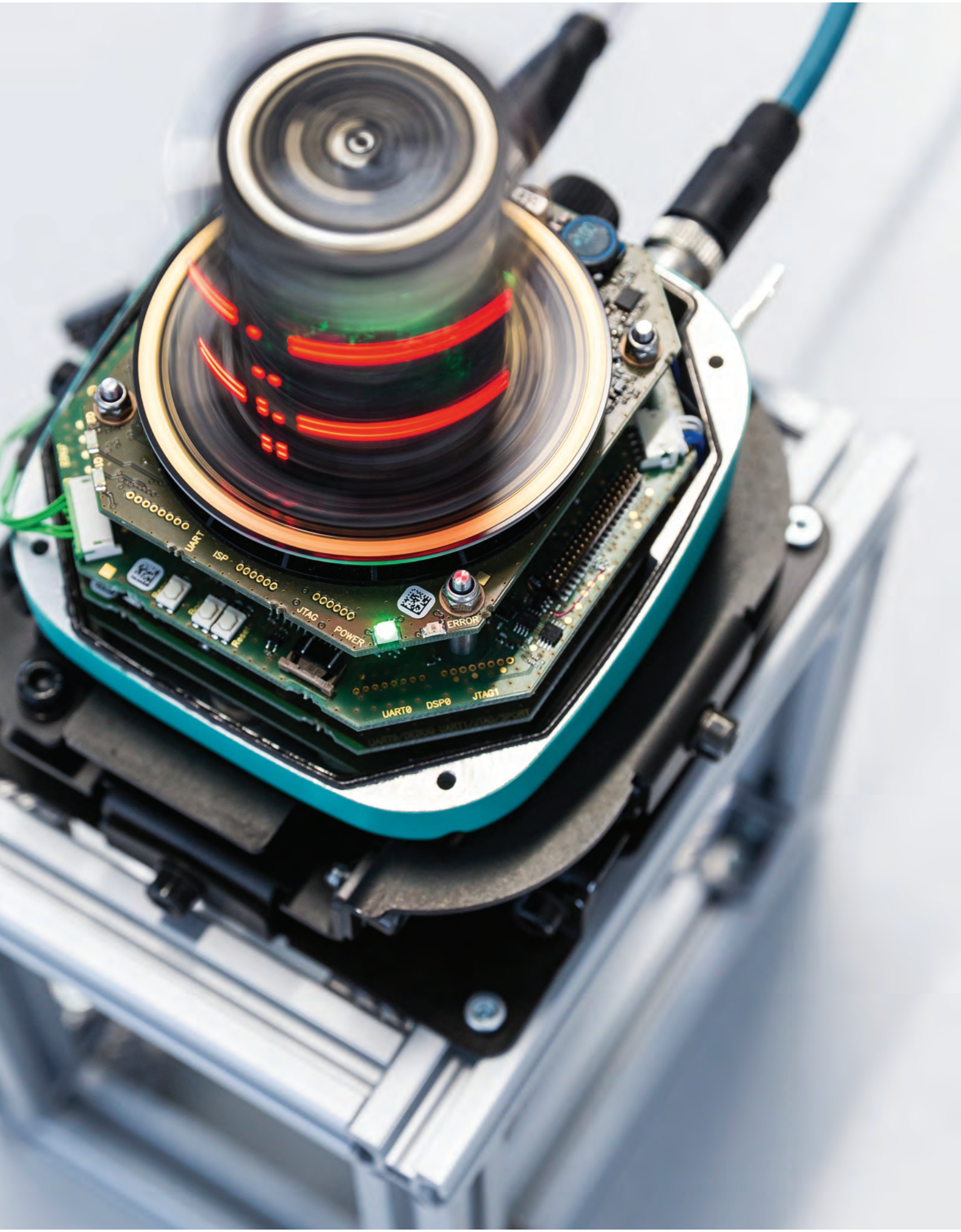
Innovations for Industrial Automation

With the development of its Pulse Ranging Technology (PRT), Pepperl+Fuchs unlocked the potential to use direct light runtime measurement in commercial industries for the first time. The world's first 360° 2-D laser scanner R2000 completely revolutionized the navigation of driverless transportation systems. With innovations such as these, Pepperl+Fuchs has shaped the world of automation from the very beginning. Continuous development enables you to carry on creating new, even more efficient application solutions, both now and in the future.

Outstanding Flexibility with a Coordinated Portfolio

Tailored to the requirements of industrial automation, the portfolio of photoelectric sensors delivers the right solution for every application, every time. Various function principles, from classic thru-beam sensors and diffuse mode sensors to high-performance distance sensors, are available in miniature, standard, and special designs.

More information is available at:
www.pepperl-fuchs.com/fa-opto


UART
ISP
JTAG
POWER
ERROR
UART0
DSP0
JTAG1

Light Barriers / Diffuse Mode Sensors

Flexibility Redefined

The overarching concept of optoelectronic standard light barriers is to integrate multiple function principles end-to-end into identical standard designs. This means that regardless of the installation situation, the right sensor is always available as a thru-beam sensor, retroreflective sensor, diffuse mode sensor, or switching sensor with measurement core.

Typical Applications

- Small part detection
- Component inspection for printed circuit boards
- Front edge detection on conveyor belts
- Detection of transparent objects
- Object positioning

Your Benefits at a Glance

- End-to-end integration of photoelectric function principles into identical standard designs for outstanding flexibility
- Choice of various cubic and cylindrical standard designs
- Innovative DuraBeam laser technology for extra-long service life and increased operating temperature range, even in especially small designs
- Communication down to sensor level with IO-Link

Technical Features

- A complete portfolio of function principles is available, from thru-beam sensors, retroreflective sensors, and diffuse mode sensors to special function principles such as switching sensors with measurement cores (available in the R10x series, among others)
- Various light sources (red light, infrared light, and laser) for optimal adaptation to the application
- Comprehensive range of accessories for mounting brackets, reflectors, and alignment aids
- Degree of protection of up to IP69K

MPT

Multi Pixel Technology (MPT) for Precise, Near-Range Distance Measurement

Distance sensors are also available in small to medium-sized standard designs. The compact size of the measurement core enables the most precise, reliable, and adaptable distance measurement for near-range applications.

More information is available at:
www.pepperl-fuchs.com/fa-mpt

Contents

R2 Series – Thru-Beam Sensors
Page 138

R2 Series – Retroreflective Sensors
Page 139

R2 Series – Diffuse Mode Sensors
Page 140

R2F Series – Thru-Beam Sensors
Page 141

R2F Series – Retroreflective Sensors
Page 142

R3F Series – Retroreflective Sensors
Page 148

R3F Series – Diffuse Mode Sensors
Page 149

R100 Series – Thru-Beam Sensors
Page 150

R100 Series – Retroreflective Sensors
Page 151

R100 Series – Diffuse Mode Sensors
Page 152

R102 Series – Diffuse Mode Sensors
Page 160

R103 Series – Thru-Beam Sensors
Page 161

R103 Series – Retroreflective Sensors
Page 162

R103 Series – Diffuse Mode Sensors
Page 164

R200 Series – Thru-Beam Sensors
Page 166

R2F Series – Diffuse Mode Sensors
Page 143

R3 Series – Thru-Beam Sensors
Page 144

R3 Series – Retroreflective Sensors
Page 145

R3 Series – Diffuse Mode Sensors
Page 146

R3F Series – Thru-Beam Sensors
Page 147

R101 Series – Thru-Beam Sensors
Page 154

R101 Series – Retroreflective Sensors
Page 155

R101 Series – Diffuse Mode Sensors
Page 156

R102 Series – Thru-Beam Sensors
Page 158

R102 Series – Retroreflective Sensors
Page 159

R200 Series – Retroreflective Sensors
Page 167

R200 Series – Diffuse Mode Sensors
Page 168

R201 Series – Thru-Beam Sensors
Page 170

R201 Series – Retroreflective Sensors
Page 171

R201 Series – Diffuse Mode Sensors
Page 172

Contents

RL28 Series – Thru-Beam Sensors
Page 174

RL28 Series – Retroreflective Sensors
Page 176

RL28 Series – Diffuse Mode Sensors
Page 178

RL29 Series
Page 180

RL31 Series – Thru-Beam Sensors
Page 181

ML17 Series – Retroreflective Sensors
Page 187

ML17 Series – Diffuse Mode Sensors
Page 188

ML29 Series
Page 189

ML100 Series – Thru-Beam Sensors
Page 190

ML100 Series – Retroreflective Sensors
Page 192

GLV18 Series – Thru-Beam Sensors
Page 200

GLV18 Series – Retroreflective Sensors
Page 202

GLV18 Series – Diffuse Mode Sensors
Page 204

12GM Series
Page 206

18GM Series
Page 207

RL31 Series – Retroreflective Sensors
Page 182

RL31 Series – Diffuse Mode Sensors
Page 183

MLV41 Series – Retroreflective Sensors
Page 184

MLV41 Series – Diffuse Mode Sensors
Page 185

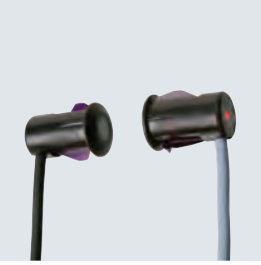
R300 Series
Page 186

ML100 Series – Diffuse Mode Sensors
Page 194

ML300 Series – Thru-Beam Sensors
Page 196

ML300 Series – Retroreflective Sensors
Page 197

ML300 Series – Diffuse Mode Sensors
Page 198



BB10 Series
Page 199

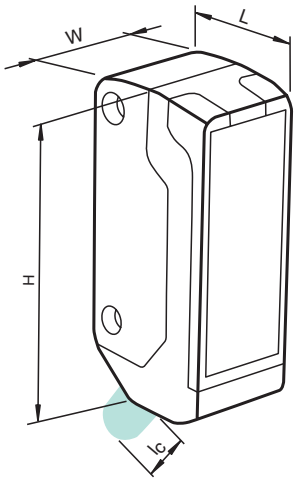
VL18 Series
Page 208

R2 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Voltage type	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBE1000-R2-SE0-L	1000	Red laser diode	NPN	12	24	Fixed cable
OBE1000-R2-SE2-0,2M-V31-L	1000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE1000-R2-SE2-L	1000	Red laser diode	PNP	12	24	Fixed cable
OBE2000-R2-SE0	2000	Red LED	NPN	10	30	Fixed cable
OBE2000-R2-SE0-0,2M-V31	2000	Red LED	NPN	10	30	Fixed cable with M8 plug
OBE2000-R2-SE2	2000	Red LED	PNP	10	30	Fixed cable
OBE2000-R2-SE2-0,2M-V31	2000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE2000-R2-SE3	2000	Red LED	PNP	10	30	Fixed cable
OBE10M-R2-SE0-L	10000	Red laser diode	NPN	12	24	Fixed cable
OBE10M-R2-SE2-0,2M-V31-L	10000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE10M-R2-SE2-L	10000	Red laser diode	PNP	12	24	Fixed cable



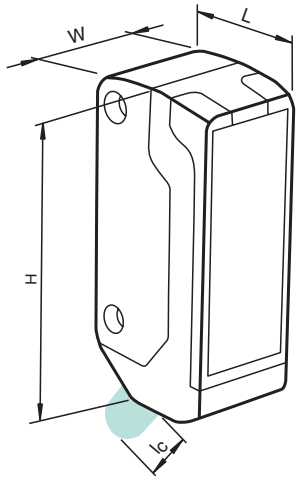
Accessories	
MH-R2-01	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-02	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-03	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-04	Mounting aid for sensors from the R2 series, mounting bracket
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R2 Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Voltage type	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBR1000-R2-E0	1000	Red LED	NPN	10	30	Fixed cable
OBR1000-R2-E0-0,4M-V3	1000	Red LED	NPN	10	30	Other
OBR1000-R2-E2	1000	Red LED	PNP	10	30	Fixed cable
OBR1000-R2-E2-0,2M-V3	1000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBR1000-R2-E2-0,2M-V31	1000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBR2000-R2-E0-L	2000	Red laser diode	NPN	12	24	Fixed cable
OBR2000-R2-E2-0,2M-V31-L	2000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBR2000-R2-E2-L	2000	Red laser diode	PNP	12	24	Fixed cable



Accessories	
MH-R2-02	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-03	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-04	Mounting aid for sensors from the R2 series, mounting bracket
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

R2 Series
Diffuse Mode Sensors

Standard Technical Data	
Voltage type	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

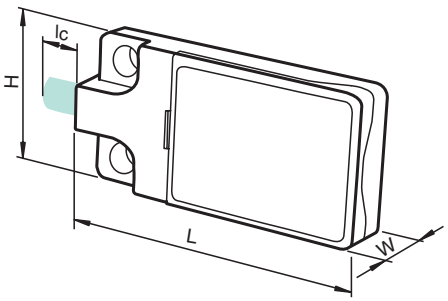
Model number	Function principle	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBT15-R2-E0	With background suppression	15	Red LED	NPN	10	30	Fixed cable
OBT15-R2-E0-1T	With background evaluation	15	Red LED	NPN	10	30	Fixed cable
OBT15-R2-E0-L	With background suppression	15	Red laser diode	NPN	12	24	Fixed cable
OBT15-R2-E2	With background suppression	15	Red LED	PNP	10	30	Fixed cable
OBT15-R2-E2-0,2M-V3	With background suppression	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R2-E2-0,2M-V31	With background suppression	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R2-E2-0,2M-V31-L	With background suppression	15	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT15-R2-E2-1T	With background evaluation	15	Red LED	PNP	10	30	Fixed cable
OBT15-R2-E2-L	With background suppression	15	Red laser diode	PNP	12	24	Fixed cable
OBT20-R2-E0	With background suppression	20	Red LED	NPN	10	30	Fixed cable
OBT20-R2-E2-0,2M-V31	With background suppression	20	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R2-E0	With background suppression	30	Red LED	NPN	10	30	Fixed cable
OBT30-R2-E0-0,4M-V3	With background suppression	30	Red LED	NPN	10	30	Other
OBT30-R2-E0-1T	With background evaluation	30	Red LED	NPN	10	30	Fixed cable
OBT30-R2-E0-L	With background suppression	30	Red laser diode	NPN	12	24	Fixed cable
OBT30-R2-E2	With background suppression	30	Red LED	PNP	10	30	Fixed cable
OBT30-R2-E2-0,2M-V3	With background suppression	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R2-E2-0,2M-V31	With background suppression	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R2-E2-0,2M-V31-L	With background suppression	30	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT30-R2-E2-1T	With background evaluation	30	Red LED	PNP	10	30	Fixed cable
OBT30-R2-E2-L	With background suppression	30	Red laser diode	PNP	12	24	Fixed cable
OBT40-R2-E0	With background suppression	40	Red LED	NPN	10	30	Fixed cable
OBT40-R2-E2-0,2M-V31	With background suppression	40	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT50-R2-E0	With background suppression	50	Red LED	NPN	10	30	Fixed cable
OBT50-R2-E0-1T	With background evaluation	50	Red LED	NPN	10	30	Fixed cable
OBT50-R2-E0-L	With background suppression	50	Red laser diode	NPN	12	24	Fixed cable
OBT50-R2-E2	With background suppression	50	Red LED	PNP	10	30	Fixed cable
OBT50-R2-E2-0,2M-V3	With background suppression	50	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT50-R2-E2-0,2M-V31	With background suppression	50	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT50-R2-E2-0,2M-V31-L	With background suppression	50	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT50-R2-E2-1T	With background evaluation	50	Red LED	PNP	10	30	Fixed cable
OBT50-R2-E2-L	With background suppression	50	Red laser diode	PNP	12	24	Fixed cable
OBT50-R2-E3-0,2M-V31	With background suppression	50	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT80-R2-E0	With background suppression	80	Red LED	NPN	10	30	Fixed cable
OBT80-R2-E0-L	With background suppression	80	Red laser diode	NPN	12	24	Fixed cable
OBT80-R2-E2	With background suppression	80	Red LED	PNP	10	30	Fixed cable
OBT80-R2-E2-0,2M-V3	With background suppression	80	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT80-R2-E2-0,2M-V31	With background suppression	80	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT80-R2-E2-0,2M-V31-L	With background suppression	80	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT80-R2-E2-L	With background suppression	80	Red laser diode	PNP	12	24	Fixed cable

R2F Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Voltage type	DC
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBE500-R2F-SE0	500	Red LED	NPN	10	30	Fixed cable
OBE500-R2F-SE0-L	500	Red laser diode	NPN	12	24	Fixed cable
OBE500-R2F-SE2	500	Red LED	PNP	10	30	Fixed cable
OBE500-R2F-SE2-0,2M-V31	500	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE500-R2F-SE2-0,2M-V31-L	500	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE500-R2F-SE2-L	500	Red laser diode	PNP	12	24	Fixed cable
OBE1500-R2F-SE0-L	1500	Red laser diode	NPN	12	24	Fixed cable
OBE1500-R2F-SE2-0,2M-V31-L	1500	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE1500-R2F-SE2-L	1500	Red laser diode	PNP	12	24	Fixed cable



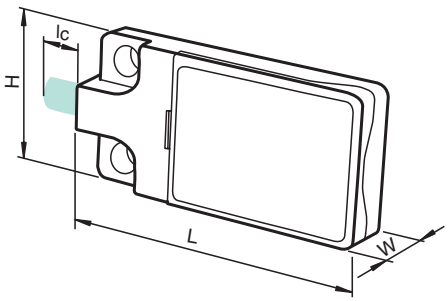
Accessories	
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R2F Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Detection range	1500 mm
Light type	Red laser diode
Voltage type	DC
Operating voltage (min)	12 V
Operating voltage (max)	24 V
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Connection type
OBR1500-R2F-E0-L	NPN	Fixed cable
OBR1500-R2F-E2-0,2M-V31-L	PNP	Fixed cable with M8 plug
OBR1500-R2F-E2-L	PNP	Fixed cable



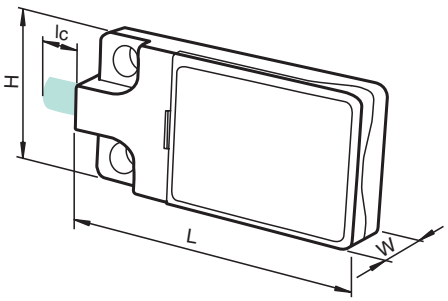
Accessories	
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R2F Series
Diffuse Mode Sensors

Standard Technical Data	
Function principle	Triangulation sensor with background suppression
Voltage type	DC
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBT15-R2F-E0	15	Red LED	NPN	10	30	Fixed cable
OBT15-R2F-E0-L	15	Red laser diode	NPN	12	24	Fixed cable
OBT15-R2F-E2	15	Red LED	PNP	10	30	Fixed cable
OBT15-R2F-E2-0,2M-V31	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R2F-E2-0,2M-V31-L	15	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT15-R2F-E2-L	15	Red laser diode	PNP	12	24	Fixed cable
OBT30-R2F-E0	30	Red LED	NPN	10	30	Fixed cable
OBT30-R2F-E0-L	30	Red laser diode	NPN	12	24	Fixed cable
OBT30-R2F-E2	30	Red LED	PNP	10	30	Fixed cable
OBT30-R2F-E2-0,2M-V31	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R2F-E2-0,2M-V31-L	30	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT30-R2F-E2-L	30	Red laser diode	PNP	12	24	Fixed cable



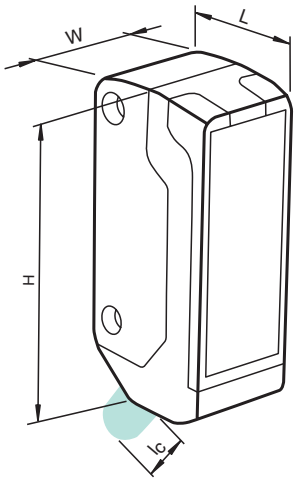
Accessories	
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R3 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Voltage type	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBE1000-R3-SE0-L	1000	Red laser diode	NPN	12	24	Fixed cable
OBE1000-R3-SE2-0,2M-V31-L	1000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE1000-R3-SE2-L	1000	Red laser diode	PNP	12	24	Fixed cable
OBE2000-R3-E2-0,2M-V3	2000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE2000-R3-E3-0,2M-V3	2000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE2000-R3-SE0	2000	Red LED	NPN	10	30	Fixed cable
OBE2000-R3-SE2	2000	Red LED	PNP	10	30	Fixed cable
OBE2000-R3-SE2-0,2M-V3	2000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE2000-R3-SE2-0,2M-V31	2000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE10M-R3-SE0-L	10000	Red laser diode	NPN	12	24	Fixed cable
OBE10M-R3-SE2-0,2M-V31-L	10000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE10M-R3-SE2-L	10000	Red laser diode	PNP	12	24	Fixed cable



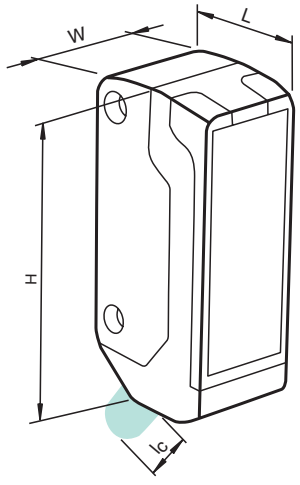
Accessories	
MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R3 Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Voltage type	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBR1000-R3-E0	1000	Red LED	NPN	10	30	Fixed cable
OBR1000-R3-E2	1000	Red LED	PNP	10	30	Fixed cable
OBR1000-R3-E2-0,2M-V3	1000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBR1000-R3-E2-0,2M-V31	1000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBR1000-R3-E3	1000	Red LED	PNP	10	30	Fixed cable
OBR1000-R3-E3-0,2M-V31	1000	Red LED	PNP	10	30	Fixed cable with M8 plug
OBR2000-R3-E0-L	2000	Red laser diode	NPN	12	24	Fixed cable
OBR2000-R3-E2-0,2M-V31-L	2000	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBR2000-R3-E2-L	2000	Red laser diode	PNP	12	24	Fixed cable



Accessories	
MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-03	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R3 Series
Diffuse Mode Sensors

Standard Technical Data	
Voltage type	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBT15-R3-E0	With background suppression	15	Red LED	NPN	10	30	Fixed cable
OBT15-R3-E0-1T	With background evaluation	15	Red LED	NPN	10	30	Fixed cable
OBT15-R3-E0-L	With background suppression	15	Red laser diode	NPN	12	24	Fixed cable
OBT15-R3-E2	With background suppression	15	Red LED	PNP	10	30	Fixed cable
OBT15-R3-E2-0,2M-V3	With background suppression	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R3-E2-0,2M-V31	With background suppression	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R3-E2-0,2M-V31-L	With background suppression	15	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT15-R3-E2-1T	With background evaluation	15	Red LED	PNP	10	30	Fixed cable
OBT15-R3-E2-L	With background suppression	15	Red laser diode	PNP	12	24	Fixed cable
OBT30-R3-E0	With background suppression	30	Red LED	NPN	10	30	Fixed cable
OBT30-R3-E0-1T	With background evaluation	30	Red LED	NPN	10	30	Fixed cable
OBT30-R3-E0-L	With background suppression	30	Red laser diode	NPN	12	24	Fixed cable
OBT30-R3-E2	With background suppression	30	Red LED	PNP	10	30	Fixed cable
OBT30-R3-E2-0,2M-V3	With background suppression	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R3-E2-0,2M-V31	With background suppression	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R3-E2-0,2M-V31-L	With background suppression	30	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT30-R3-E2-1T	With background evaluation	30	Red LED	PNP	10	30	Fixed cable
OBT30-R3-E2-2,5M-V3-L	With background suppression	30	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT30-R3-E2-5M	With background suppression	30	Red LED	PNP	10	30	Fixed cable
OBT30-R3-E2-L	With background suppression	30	Red laser diode	PNP	12	24	Fixed cable
OBT50-R3-E0	With background suppression	50	Red LED	NPN	10	30	Fixed cable
OBT50-R3-E0-1T	With background evaluation	50	Red LED	NPN	10	30	Fixed cable
OBT50-R3-E0-L	With background suppression	50	Red laser diode	NPN	12	24	Fixed cable
OBT50-R3-E2	With background suppression	50	Red LED	PNP	10	30	Fixed cable
OBT50-R3-E2-0,2M-V3	With background suppression	50	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT50-R3-E2-0,2M-V31	With background suppression	50	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT50-R3-E2-0,2M-V31-L	With background suppression	50	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT50-R3-E2-1T	With background evaluation	50	Red LED	PNP	10	30	Fixed cable
OBT50-R3-E2-3M	With background suppression	50	Red LED	PNP	10	30	Fixed cable
OBT50-R3-E2-5M	With background suppression	50	Red LED	PNP	10	30	Fixed cable
OBT50-R3-E2-L	With background suppression	50	Red laser diode	PNP	12	24	Fixed cable
OBT80-R3-E0	With background suppression	80	Red LED	NPN	10	30	Fixed cable
OBT80-R3-E0-L	With background suppression	80	Red laser diode	NPN	12	24	Fixed cable
OBT80-R3-E2	With background suppression	80	Red LED	PNP	10	30	Fixed cable
OBT80-R3-E2-0,2M-V3	With background suppression	80	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT80-R3-E2-0,2M-V31	With background suppression	80	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT80-R3-E2-0,2M-V31-L	With background suppression	80	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT80-R3-E2-L	With background suppression	80	Red laser diode	PNP	12	24	Fixed cable
OBT80-R3-E3-0,2M-V31	With background suppression	80	Red LED	PNP	10	30	Fixed cable with M8 plug

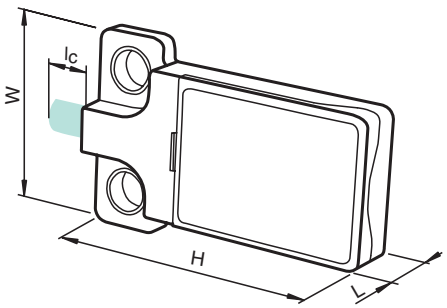
R3F Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Voltage type	DC
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBE500-R3F-SE0	500	Red LED	NPN	10	30	Fixed cable
OBE500-R3F-SE0-L	500	Red laser diode	NPN	12	24	Fixed cable
OBE500-R3F-SE2	500	Red LED	PNP	10	30	Fixed cable
OBE500-R3F-SE2-0,2M-V31	500	Red LED	PNP	10	30	Fixed cable with M8 plug
OBE500-R3F-SE2-0,2M-V31-L	500	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE500-R3F-SE2-L	500	Red laser diode	PNP	12	24	Fixed cable
OBE1500-R3F-SE0-L	1500	Red laser diode	NPN	12	24	Fixed cable
OBE1500-R3F-SE2-0,2M-V31-L	1500	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBE1500-R3F-SE2-L	1500	Red laser diode	PNP	12	24	Fixed cable

Accessories	
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

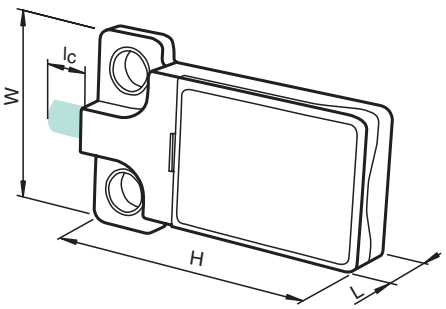


R3F Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Detection range	1500 mm
Light type	Red laser diode
Voltage type	DC
Operating voltage (min)	12 V
Operating voltage (max)	24 V
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Connection type
OBR1500-R3F-E0-L	NPN	Fixed cable
OBR1500-R3F-E1-0,2M-V31-L	NPN	Fixed cable with M8 plug
OBR1500-R3F-E2-0,2M-V31-L	PNP	Fixed cable with M8 plug
OBR1500-R3F-E2-L	PNP	Fixed cable



Accessories	
REF-H23	Reflector with mounting holes
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

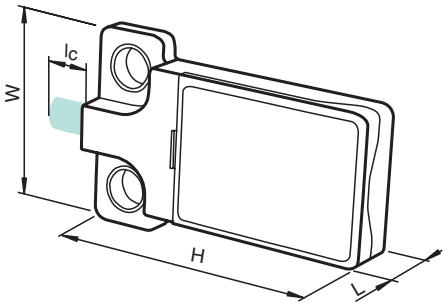
R3F Series
Diffuse Mode Sensors

Standard Technical Data	
Function principle	Triangulation sensor with background suppression
Voltage type	DC
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	UB (max)	Connection type
OBT15-R3F-E0	15	Red LED	NPN	10	30	Fixed cable
OBT15-R3F-E0-L	15	Red laser diode	NPN	12	24	Fixed cable
OBT15-R3F-E2	15	Red LED	PNP	10	30	Fixed cable
OBT15-R3F-E2-0,2M-V31	15	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT15-R3F-E2-0,2M-V31-L	15	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT15-R3F-E2-L	15	Red laser diode	PNP	12	24	Fixed cable
OBT30-R3F-E0	30	Red LED	NPN	10	30	Fixed cable
OBT30-R3F-E0-L	30	Red laser diode	NPN	12	24	Fixed cable
OBT30-R3F-E2	30	Red LED	PNP	10	30	Fixed cable
OBT30-R3F-E2-0,2M-V31	30	Red LED	PNP	10	30	Fixed cable with M8 plug
OBT30-R3F-E2-0,2M-V31-L	30	Red laser diode	PNP	12	24	Fixed cable with M8 plug
OBT30-R3F-E2-L	30	Red laser diode	PNP	12	24	Fixed cable

Accessories	
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

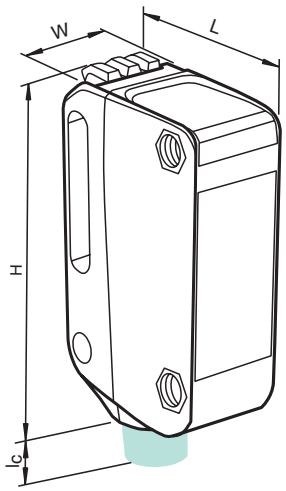


R100 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type	Height H
OBE12M-R100-S2EP-IO	12000	Red LED	2 x push-pull	Fixed cable	37.1
OBE12M-R100-S2EP-IO-0,3M-V1	12000	Red LED	2 x push-pull	Fixed cable with M12 plug	37.1
OBE12M-R100-S2EP-IO-0,3M-V31	12000	Red LED	2 x push-pull	Fixed cable with M8 plug	37.1
OBE12M-R100-S2EP-IO-V31	12000	Red LED	2 x push-pull	M8 connector plug	44.5
OBE12M-R100-SEP-IO-0,3M-V3	12000	Red LED	1 x push-pull	Fixed cable with M8 plug	37.1
OBE12M-R100-SEP-IO-V3	12000	Red LED	1 x push-pull	M8 connector plug	37.1
OBE20M-R100-S2EP-IO-0,3M-V1-L	20000	Red laser diode	2 x push-pull	Fixed cable with M12 plug	37.1
OBE20M-R100-S2EP-IO-0,3M-V31-L	20000	Red laser diode	2 x push-pull	Fixed cable with M8 plug	37.1
OBE20M-R100-S2EP-IO-IR	20000	Infrared LED	2 x push-pull	Fixed cable	37.1
OBE20M-R100-S2EP-IO-L	20000	Red laser diode	2 x push-pull	Fixed cable	37.1
OBE20M-R100-S2EP-IO-V31-IR	20000	Infrared LED	2 x push-pull	M8 connector plug	44.5
OBE20M-R100-S2EP-IO-V31-L	20000	Red laser diode	2 x push-pull	M8 connector plug	44.5
OBE20M-R100-SEP-IO-0,3M-V3-L	20000	Red laser diode	1 x push-pull	Fixed cable with M8 plug	37.1
OBE20M-R100-SEP-IO-V3-L	20000	Red laser diode	1 x push-pull	M8 connector plug	37.1



Accessories	
OMH-ML100-03	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm
OMH-ML100-031	Mounting aid for circular profile ø 10 mm … 14 mm or flat profile
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm
OMH-R10X-01	Mounting bracket
OMH-R10X-02	Mounting bracket
OMH-R10X-10	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R100 Series
Retroreflective Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OBG5000-R100-2EP-IO	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable	37.1
OBG5000-R100-2EP-IO-0,3M-V1	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	37.1
OBG5000-R100-2EP-IO-0,3M-V31	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	37.1
OBG5000-R100-2EP-IO-V31	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	44.5
OBG5000-R100-2EP1-IO	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable	37.1
OBG5000-R100-2EP1-IO-0,3M-V1	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	37.1
OBG5000-R100-2EP1-IO-V31	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	44.5
OBG5000-R100-E5-IO-V3	For clear object detection	3500	Red LED	Potentiometer, push-button	PNP	M8 connector plug	44.5
OBG5000-R100-EP-IO-0,3M-V3	For clear object detection	3500	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	37.1
OBG5000-R100-EP-IO-V3	For clear object detection	3500	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug	44.5
OBR7500-R100-EP-IO-V3	With polarization filter	7500	Red LED	Potentiometer	1 x push-pull	M8 connector plug	44.5
OBR7000-R100-2EP-IO-1R-IR	Without polarization filter	7000	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	37.1
OBR7000-R100-2EP-IO-V31-1R-IR	Without polarization filter	7000	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR7000-R100-2EP1-IO-V31-1R-IR	Without polarization filter	7000	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR7500-R100-2EP-IO	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable	37.1
OBR7500-R100-2EP-IO-0,3M-V1	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1
OBR7500-R100-2EP-IO-0,3M-V31	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1
OBR7500-R100-2EP-IO-V31	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR7500-R100-2EP1-IO	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable	37.1
OBR7500-R100-2EP1-IO-0,3M-V1	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1
OBR7500-R100-2EP1-IO-0,3M-V31	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1
OBR7500-R100-2EP1-IO-V31	With polarization filter	7500	Red LED	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR7500-R100-E2-IO-V31	With polarization filter	7500	Red LED		PNP	M8 connector plug	44.5
OBR7500-R100-EP-IO-0,3M-V3	With polarization filter	7500	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1
OBR10M-R100-2EP-IO-1R-IR	Without polarization filter	10000	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	37.1
OBR10M-R100-2EP-IO-V31-1R-IR	Without polarization filter	10000	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR12M-R100-2EP-IO-0,3M-V1-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1
OBR12M-R100-2EP-IO-0,3M-V31-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1
OBR12M-R100-2EP-IO-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	37.1
OBR12M-R100-2EP-IO-V31-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	44.5
OBR12M-R100-EP-IO-0,3M-V3-L	With polarization filter	12000	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1
OBR12M-R100-EP-IO-V3-L	With polarization filter	12000	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	44.5

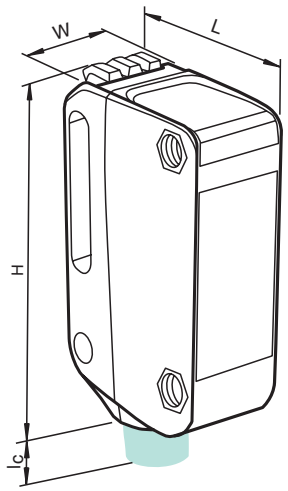
R100 Series
Diffuse Mode Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Interface	Operating elements	Output type	Connection type	Height H	EAC
OBT100-R100-2EP-IO-0,3M-V1-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT100-R100-2EP-IO-0,3M-V31-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT100-R100-2EP-IO-1T-L	With background evaluation	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT100-R100-2EP-IO-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT100-R100-2EP-IO-V31-1T-L	With background evaluation	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT100-R100-2EP-IO-V31-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT100-R100-EP-IO-0,3M-V3-1T-L	With background evaluation	100	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT100-R100-EP-IO-0,3M-V3-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT100-R100-EP-IO-V3-1T-L	With background evaluation	100	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBT100-R100-EP-IO-V3-L	With background suppression	100	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBT150-R100-2EP-IO	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT150-R100-2EP-IO-0,3M-V1	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT150-R100-2EP1-IO	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT150-R100-2EP1-IO-0,3M-V1	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT150-R100-2EP1-IO-0,3M-V1-IR	With background suppression	150	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	44.5	
OBT150-R100-2EP1-IO-0,3M-V31	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT150-R100-2EP1-IO-IR	With background suppression	150	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT150-R100-2EP1-IO-V31	With background suppression	150	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT150-R100-2EP1-IO-V31-IR	With background suppression	150	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OQT150-R100-2EP-IO	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable	37.1	
OQT150-R100-2EP-IO-0,3M-V1	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	37.1	
OQT150-R100-2EP-IO-0,3M-V1-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	37.1	
OQT150-R100-2EP-IO-0,3M-V31	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	37.1	
OQT150-R100-2EP-IO-0,3M-V31-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	37.1	
OQT150-R100-2EP-IO-IR	With multiple switch points	150	Infrared LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable	37.1	
OQT150-R100-2EP-IO-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable	37.1	
OQT150-R100-2EP-IO-V31	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	M8 connector plug	44.5	
OQT150-R100-2EP-IO-V31-IR	With multiple switch points	150	Infrared LED	IO-Link	Potentiometer, push-button	2 x push-pull	M8 connector plug	44.5	
OQT150-R100-2EP-IO-V31-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	2 x push-pull	M8 connector plug	44.5	
OQT150-R100-EP-IO-0,3M-V3	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	37.1	
OQT150-R100-EP-IO-0,3M-V3-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	37.1	

Model number	Function principle	Detection range [mm]	Light type	Interface	Operating elements	Output type	Connection type	Height H	EAC
OQT150-R100-EP-IO-V3	With multiple switch points	150	Red LED	IO-Link	Potentiometer, push-button	1 x push-pull	M8 connector plug	44.5	
OQT150-R100-EP-IO-V3-L	With multiple switch points	150	Red laser diode	IO-Link	Potentiometer, push-button	1 x push-pull	M8 connector plug	44.5	
OBT300-R100-2EP-IO-0,3M-V1-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT300-R100-2EP-IO-0,3M-V31-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT300-R100-2EP-IO-1T-L	With background evaluation	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT300-R100-2EP-IO-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT300-R100-2EP-IO-V31-1T-L	With background evaluation	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT300-R100-2EP-IO-V31-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT300-R100-E5-IO-0,3M-V3-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	PNP	Fixed cable with M8 plug	37.1	
OBT300-R100-E5-IO-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	PNP	Fixed cable	37.1	
OBT300-R100-E5-V31-L	With background suppression	300	Red laser diode		Potentiometer	PNP	M8 connector plug	44.5	■
OBT300-R100-EP-IO-0,3M-V3-1T-L	With background evaluation	300	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT300-R100-EP-IO-0,3M-V3-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT300-R100-EP-IO-V3-1T-L	With background evaluation	300	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBT300-R100-EP-IO-V3-L	With background suppression	300	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBT350-R100-2EP-IO	With background suppression	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT350-R100-2EP-IO-0,3M-V1	With background suppression	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT350-R100-2EP-IO-0,3M-V1-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT350-R100-2EP-IO-0,3M-V1-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBT350-R100-2EP-IO-0,3M-V31	With background suppression	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT350-R100-2EP-IO-0,3M-V31-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT350-R100-2EP-IO-0,3M-V31-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBT350-R100-2EP-IO-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT350-R100-2EP-IO-1T-IR	With background evaluation	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT350-R100-2EP-IO-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT350-R100-2EP-IO-V31	With background suppression	350	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT350-R100-2EP-IO-V31-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT350-R100-2EP-IO-V31-1T-IR	With background evaluation	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT350-R100-2EP-IO-V31-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT350-R100-2EP1-IO-0,3M-V1-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	44.5	
OBT350-R100-2EP1-IO-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBT350-R100-2EP1-IO-V31-IR	With background suppression	350	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBT350-R100-EP-IO-0,3M-V3	With background suppression	350	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT350-R100-EP-IO-0,3M-V3-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBT350-R100-EP-IO-V3	With background suppression	350	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBT350-R100-EP-IO-V3-1T	With background evaluation	350	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5	
OBD1000-R100-2EP-IO	Energetic	1000	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBD1000-R100-2EP-IO-0,3M-V1	Energetic	1000	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1	
OBD1000-R100-2EP-IO-0,3M-V31	Energetic	1000	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1	
OBD1000-R100-2EP-IO-V31	Energetic	1000	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	
OBD1000-R100-EP-IO-0,3M-V3	Energetic	1000	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1	
OBD1000-R100-EP-IO-V3	Energetic	1000	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	37.1	
OBD1100-R100-2EP-IO-IR	Energetic	1100	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1	
OBD1100-R100-2EP-IO-V31-IR	Energetic	1100	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5	



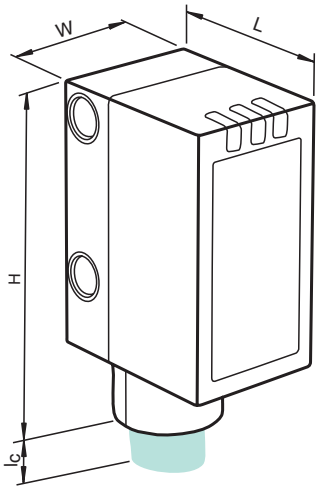
Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-ML100-03	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-ML100-031	Mounting aid for circular profile ø 10 mm … 14 mm or flat profile 1 mm … 5 mm
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R10X-01	Mounting bracket
OMH-R10X-02	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

R101 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type	Height H
OBE12M-R101-S2EP-IO	12000	Red LED	2 x push-pull	Fixed cable	33.8
OBE12M-R101-S2EP-IO-0,3M-V1	12000	Red LED	2 x push-pull	Fixed cable with M12 plug	33.8
OBE12M-R101-S2EP-IO-0,3M-V31	12000	Red LED	2 x push-pull	Fixed cable with M8 plug	33.8
OBE12M-R101-S2EP-IO-V31	12000	Red LED	2 x push-pull	M8 connector plug	41.4
OBE12M-R101-SEP-IO-0,3M-V3	12000	Red LED	1 x push-pull	Fixed cable with M8 plug	33.8
OBE12M-R101-SEP-IO-V3	12000	Red LED	1 x push-pull	M8 connector plug	33.8
OBE20M-R101-S2EP-IO-0,3M-V1-L	20000	Red laser diode	2 x push-pull	Fixed cable with M12 plug	33.8
OBE20M-R101-S2EP-IO-0,3M-V31-L	20000	Red laser diode	2 x push-pull	Fixed cable with M8 plug	33.8
OBE20M-R101-S2EP-IO-IR	20000	Infrared LED	2 x push-pull	Fixed cable	33.8
OBE20M-R101-S2EP-IO-L	20000	Red laser diode	2 x push-pull	Fixed cable	33.8
OBE20M-R101-S2EP-IO-V31-IR	20000	Infrared LED	2 x push-pull	M8 connector plug	41.4
OBE20M-R101-S2EP-IO-V31-L	20000	Red laser diode	2 x push-pull	M8 connector plug	41.4
OBE20M-R101-SEP-IO-0,3M-V3-L	20000	Red laser diode	1 x push-pull	Fixed cable with M8 plug	33.8
OBE20M-R101-SEP-IO-V3-L	20000	Red laser diode	1 x push-pull	M8 connector plug	33.8



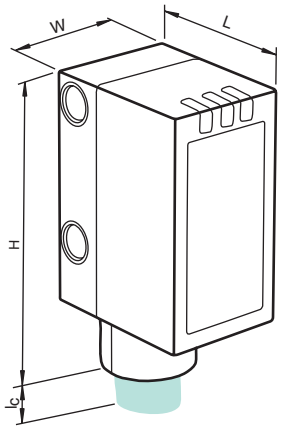
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R101 Series
Retroreflective Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Interface	Operating elements	Output type	Connection type	Height H
OBG5000-R101-2EP-IO	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable	33.8
OBG5000-R101-2EP-IO-0,3M-V1	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	33.8
OBG5000-R101-2EP-IO-0,3M-V31	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	33.8
OBG5000-R101-2EP-IO-V31	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	M8 connector plug	41.4
OBG5000-R101-2EP1-IO	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	Fixed cable	33.8
OBG5000-R101-2EP1-IO-V31	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	2 x push-pull	M8 connector plug	41.4
OBG5000-R101-2P1-IO	With polarization filter	5000	Red LED	IO-Link		2 x push-pull	Fixed cable	31.9
OBG5000-R101-2P1-IO-V31	With polarization filter	5000	Red LED	IO-Link		2 x push-pull	M8 connector plug	39.5
OBG5000-R101-EP-IO-0,3M-V3	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	33.8
OBG5000-R101-EP-IO-V3	For clear object detection	3500	Red LED	IO-Link	Potentiometer, push-button	1 x push-pull	M8 connector plug	41.4
OBR7000-R101-2EP-IO-1R-IR	Without polarization filter	7000	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8
OBR7000-R101-2EP-IO-V31-1R-IR	Without polarization filter	7000	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBR7500-R101-2EP-IO	With polarization filter	7500	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8
OBR7500-R101-2EP-IO-0,3M-V1	With polarization filter	7500	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBR7500-R101-2EP-IO-0,3M-V31	With polarization filter	7500	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBR7500-R101-2EP-IO-V31	With polarization filter	7500	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBR7500-R101-E5-0,3M-V1	With polarization filter	7500	Red LED		Potentiometer	PNP	Fixed cable with M12 plug	33.8
OBR7500-R101-EP-IO-0,3M-V3	With polarization filter	7500	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBR7500-R101-EP-IO-V3	With polarization filter	7500	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBR7500-R101-P1-Y0447	With polarization filter	7500	Red LED			1 x push-pull	M8 connector plug	39.5
OBR10M-R101-2EP-IO-1R-IR	Without polarization filter	10000	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8
OBR10M-R101-2EP-IO-V31-1R-IR	Without polarization filter	10000	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBR12M-R101-2EP-IO-0,3M-V1-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBR12M-R101-2EP-IO-0,3M-V31-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBR12M-R101-2EP-IO-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8
OBR12M-R101-2EP-IO-V31-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBR12M-R101-EP-IO-0,3M-V3-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBR12M-R101-EP-IO-V3-L	With polarization filter	12000	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	41.4



Accessories	
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
REF-H32G-2	Reflector
REF-H33	Reflector with screw fixing
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm
REF-MVR10	Rectangular reflector with microstructure, 60 mm x 19 mm
REF-ORR50G-2	Reflector

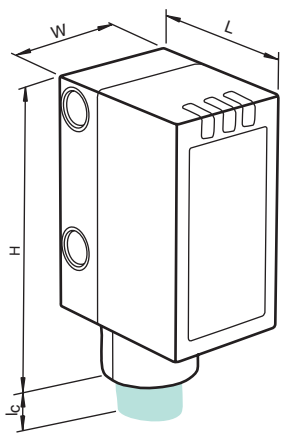
R101 Series
Diffuse Mode Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OBT20-R101-2P1-IO	With background suppression	20	Red LED		2 x push-pull	Fixed cable	31.9
OBT20-R101-2P1-IO-0,3M-V1	With background suppression	20	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9
OBT20-R101-2P1-IO-0,3M-V31	With background suppression	20	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9
OBT20-R101-2P1-IO-V31	With background suppression	20	Red LED		2 x push-pull	M8 connector plug	31.9
OBT20-R101-2P1-IO-V31-IR	With background suppression	20	Infrared LED		2 x push-pull	M8 connector plug	31.9
OBT40-R101-2P1-IO	With background suppression	40	Red LED		2 x push-pull	Fixed cable	31.9
OBT40-R101-2P1-IO-0,3M-V1	With background suppression	40	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9
OBT40-R101-2P1-IO-V31	With background suppression	40	Red LED		2 x push-pull	M8 connector plug	31.9
OBT40-R101-2P1-IO-V31-IR	With background suppression	40	Infrared LED		2 x push-pull	M8 connector plug	31.9
OBT60-R101-2P1-IO	With background suppression	60	Red LED		2 x push-pull	Fixed cable	31.9
OBT60-R101-2P1-IO-0,3M-V1	With background suppression	60	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9
OBT60-R101-2P1-IO-0,3M-V31	With background suppression	60	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9
OBT60-R101-2P1-IO-IR	With background suppression	60	Infrared LED		2 x push-pull	Fixed cable	31.9
OBT60-R101-2P1-IO-V31	With background suppression	60	Red LED		2 x push-pull	M8 connector plug	31.9
OBT60-R101-2P1-IO-V31-IR	With background suppression	60	Infrared LED		2 x push-pull	M8 connector plug	31.9
OBT80-R101-2P1-IO	With background suppression	80	Red LED		2 x push-pull	Fixed cable	31.9
OBT80-R101-2P1-IO-0,3M-V1	With background suppression	80	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9
OBT80-R101-2P1-IO-0,3M-V31	With background suppression	80	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9
OBT80-R101-2P1-IO-V31	With background suppression	80	Red LED		2 x push-pull	M8 connector plug	31.9
OBT80-R101-2P1-IO-V31-IR	With background suppression	80	Infrared LED		2 x push-pull	M8 connector plug	31.9
OBT100-R101-2EP-IO-0,3M-V1-L	With background suppression	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT100-R101-2EP-IO-0,3M-V31-L	With background suppression	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT100-R101-2EP-IO-1T-L	With background evaluation	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT100-R101-2EP-IO-1T-L-Y0244	With background evaluation	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT100-R101-2EP-IO-1T-L-Y0245	With background evaluation	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT100-R101-2EP-IO-L	With background suppression	100	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT100-R101-2EP-IO-V31-1T-L	With background evaluation	100	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT100-R101-2EP-IO-V31-L	With background suppression	100	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT100-R101-EP-IO-0,3M-V3-1T-L	With background evaluation	100	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT100-R101-EP-IO-0,3M-V3-L	With background suppression	100	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT100-R101-EP-IO-V3-1T-L	With background evaluation	100	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBT100-R101-EP-IO-V3-L	With background suppression	100	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBT150-R101-2EP1-IO	With background suppression	150	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT150-R101-2EP1-IO-0,3M-V1	With background suppression	150	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT150-R101-2EP1-IO-V31	With background suppression	150	Red LED	Potentiometer	2 x push-pull	M8 connector plug	33.8
OBT150-R101-2EP1-IO-V31-IR	With background suppression	150	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	33.8
OQT150-R101-2EP-IO	With multiple switch points	150	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable	33.8
OQT150-R101-2EP-IO-0,3M-V1	With multiple switch points	150	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	33.8
OQT150-R101-2EP-IO-0,3M-V1-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	33.8
OQT150-R101-2EP-IO-0,3M-V31	With multiple switch points	150	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	33.8

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OQT150-R101-2EP-IO-0,3M-V31-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	33.8
OQT150-R101-2EP-IO-IR	With multiple switch points	150	Infrared LED	Potentiometer, push-button	2 x push-pull	Fixed cable	33.8
OQT150-R101-2EP-IO-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable	33.8
OQT150-R101-2EP-IO-V31	With multiple switch points	150	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	41.4
OQT150-R101-2EP-IO-V31-IR	With multiple switch points	150	Infrared LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	41.4
OQT150-R101-2EP-IO-V31-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	2 x push-pull	M8 connector plug	41.4
OQT150-R101-EP-IO-0,3M-V3	With multiple switch points	150	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	33.8
OQT150-R101-EP-IO-0,3M-V3-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	33.8
OQT150-R101-EP-IO-V3	With multiple switch points	150	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug	41.4
OQT150-R101-EP-IO-V3-L	With multiple switch points	150	Red laser diode	Potentiometer, push-button	1 x push-pull	M8 connector plug	41.4
OBT300-R101-2EP-IO-0,3M-V1-L	With background suppression	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT300-R101-2EP-IO-0,3M-V31-L	With background suppression	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT300-R101-2EP-IO-1T-L	With background evaluation	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT300-R101-IO-1T-L-Y0112	With background evaluation	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT300-R101-IO-1T-L-Y0113	With background evaluation	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT300-R101-2EP-IO-L	With background suppression	300	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT300-R101-2EP-IO-V31-1T-L	With background evaluation	300	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT300-R101-2EP-IO-V31-L	With background suppression	300	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT300-R101-EP-IO-0,3M-V3-1T-L	With background evaluation	300	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT300-R101-EP-IO-0,3M-V3-L	With background suppression	300	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT300-R101-EP-IO-V3-1T-L	With background evaluation	300	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBT300-R101-EP-IO-V3-L	With background suppression	300	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBT350-R101-2EP-IO	With background suppression	350	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT350-R101-2EP-IO-0,3M-V1	With background suppression	350	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT350-R101-2EP-IO-0,3M-V1-1T	With background evaluation	350	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBT350-R101-2EP-IO-0,3M-V31	With background suppression	350	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT350-R101-2EP-IO-0,3M-V31-1T	With background evaluation	350	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBT350-R101-2EP-IO-1T	With background evaluation	350	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT350-R101-2EP-IO-1T-IR	With background evaluation	350	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT350-R101-2EP-IO-IR	With background suppression	350	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBT350-R101-2EP-IO-V31	With background suppression	350	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT350-R101-2EP-IO-V31-1T	With background evaluation	350	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT350-R101-2EP-IO-V31-1T-IR	With background evaluation	350	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT350-R101-2EP-IO-V31-IR	With background suppression	350	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBT350-R101-EP-IO-0,3M-V3	With background suppression	350	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT350-R101-EP-IO-0,3M-V3-1T	With background evaluation	350	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBT350-R101-EP-IO-V3	With background suppression	350	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBT350-R101-EP-IO-V3-1T	With background evaluation	350	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBD1000-R101-2EP-IO	Energetic	1000	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBD1000-R101-2EP-IO-0,3M-V1	Energetic	1000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8
OBD1000-R101-2EP-IO-0,3M-V31	Energetic	1000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8
OBD1000-R101-2EP-IO-V31	Energetic	1000	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4
OBD1000-R101-EP-IO-0,3M-V3	Energetic	1000	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8
OBD1000-R101-EP-IO-V3	Energetic	1000	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4
OBD1100-R101-2EP-IO-IR	Energetic	1100	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8
OBD1100-R101-2EP-IO-V31-IR	Energetic	1100	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4



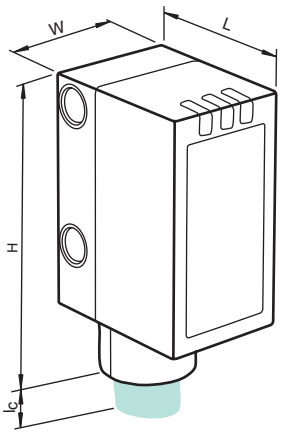
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R102 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	33.8 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type
OBE12M-R102-S2EP-IO	12000	Red LED	2 x push-pull	Fixed cable
OBE12M-R102-S2EP-IO-V31	12000	Red LED	2 x push-pull	M8 connector plug
OBE12M-R102-SEP-IO-V31	12000	Red LED	1 x push-pull	M8 connector plug
OBE20M-R102-S2EP-IO-V31-L	20000	Red laser diode	2 x push-pull	M8 connector plug



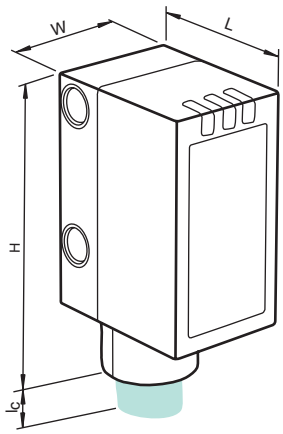
Accessories	
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R102 Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor for clear object detection
Detection range	3500 mm
Light type	Red LED
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	41.4 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type
OBG5000-R102-2EP-IO-V31	2 x push-pull
OBG5000-R102-2EP1-IO-V31	2 x push-pull
OBG5000-R102-EP-IO-V31	1 x push-pull



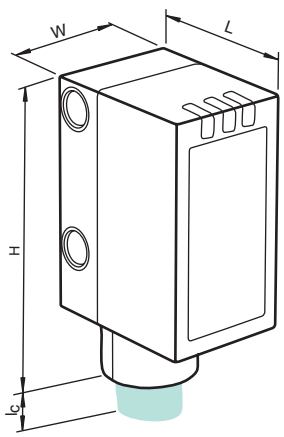
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
REF-H33	Reflector with screw fixing
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R102 Series
Diffuse Mode Sensors

Standard Technical Data	
Function principle	Triangulation sensor with background suppression
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	31.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Interface	Output type	Connection type
OBT20-R102-2P1-IO	20	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT20-R102-2P1-IO-0,3M-V1	20	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT20-R102-2P1-IO-IR	20	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT20-R102-2P1-IO-V31	20	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT20-R102-2P1-IO-V31-IR	20	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT20-R102-P1-IO-V31	20	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT40-R102-2P1-IO	40	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT40-R102-2P1-IO-0,3M-V1	40	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT40-R102-2P1-IO-IR	40	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT40-R102-2P1-IO-V31	40	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT40-R102-2P1-IO-V31-IR	40	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT40-R102-A0-V31	40	Red LED		NPN	M8 connector plug
OBT40-R102-P1-IO-V31	40	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT40-R102-P1-IO-V31-IR	40	Infrared LED	IO-Link	1 x push-pull	M8 connector plug
OBT60-R102-2P1-IO	60	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT60-R102-2P1-IO-0,3M-V1	60	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT60-R102-2P1-IO-V31	60	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT60-R102-2P1-IO-V31-IR	60	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT60-R102-P1-IO-V31	60	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT80-R102-2P1-IO	80	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT80-R102-2P1-IO-0,3M-V1	80	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT80-R102-2P1-IO-IR	80	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT80-R102-2P1-IO-V31	80	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT80-R102-2P1-IO-V31-IR	80	Infrared LED	IO-Link	2 x push-pull	M8 connector plug



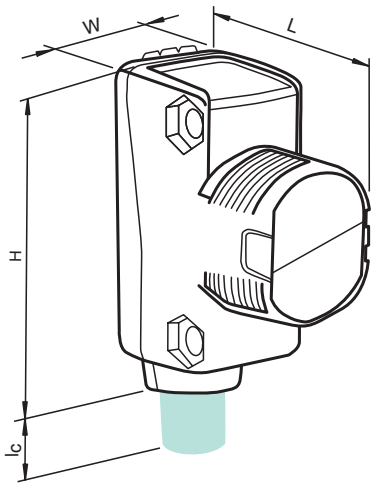
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R103 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type	Height H
OBE10M-R103-S2EP-IO	10000	Red LED	2 x push-pull	Fixed cable	36.5
OBE10M-R103-S2EP-IO-0,3M-V1	10000	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5
OBE10M-R103-S2EP-IO-0,3M-V31	10000	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5
OBE10M-R103-S2EP-IO-V31	10000	Red LED	2 x push-pull	M8 connector plug	43.9
OBE10M-R103-SEP-IO-0,3M-V3	10000	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5
OBE10M-R103-SEP-IO-V3	10000	Red LED	1 x push-pull	M8 connector plug	43.9
OBE20M-R103-S2EP-IO-0,3M-V1-L	20000	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5
OBE20M-R103-S2EP-IO-0,3M-V31-L	20000	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5
OBE20M-R103-S2EP-IO-L	20000	Red laser diode	2 x push-pull	Fixed cable	36.5
OBE20M-R103-S2EP-IO-V31-L	20000	Red laser diode	2 x push-pull	M8 connector plug	43.9
OBE20M-R103-SEP-IO-0,3M-V3-L	20000	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5
OBE20M-R103-SEP-IO-V3-L	20000	Red laser diode	1 x push-pull	M8 connector plug	43.9



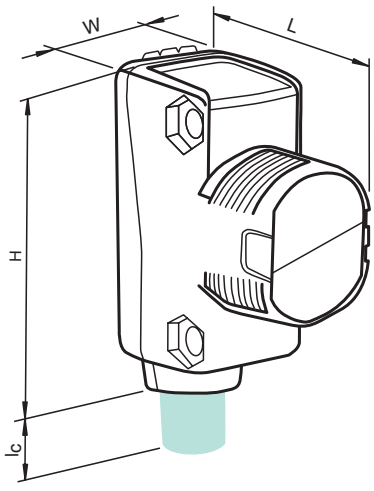
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-ML100-03	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-ML100-031	Mounting aid for circular profile ø 10 mm … 14 mm or flat profile 1 mm … 5 mm
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R103 Series
Retroreflective Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OBG4000-R103-2EP-IO	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable	36.5
OBG4000-R103-2EP-IO-0,3M-V1	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	36.5
OBG4000-R103-2EP-IO-0,3M-V31	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	36.5
OBG4000-R103-2EP-IO-V31	For clear object detection	3500	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	43.9
OBG4000-R103-EP-IO-0,3M-V3	For clear object detection	3500	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	36.5
OBG4000-R103-EP-IO-V3	For clear object detection	3500	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug	43.9
OBR6000-R103-EP-IO-V3	With polarization filter	6000	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBR6000-R103-2EP-IO	With polarization filter	6000	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5
OBR6000-R103-2EP-IO-0,3M-V1	With polarization filter	6000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBR6000-R103-2EP-IO-0,3M-V31	With polarization filter	6000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBR6000-R103-2EP-IO-V31	With polarization filter	6000	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBR6000-R103-EP-IO-0,3M-V3	With polarization filter	6000	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBR12M-R103-2EP-IO-0,3M-V1-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBR12M-R103-2EP-IO-0,3M-V31-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBR12M-R103-2EP-IO-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5
OBR12M-R103-2EP-IO-V31-L	With polarization filter	12000	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBR12M-R103-EP-IO-0,3M-V3-L	With polarization filter	12000	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBR12M-R103-EP-IO-V3-L	With polarization filter	12000	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9



Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-ML100-031	Mounting aid for circular profile ø 10 mm … 14 mm or flat profile 1 mm … 5 mm
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
REF-H33	Reflector with screw fixing
REF-MVR10	Rectangular reflector with microstructure, 60 mm x 19 mm, mounting holes
REF-ORR50G-2	Ambient temperature: 0 °C … 50 °C (32 °F … 122 °F)
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

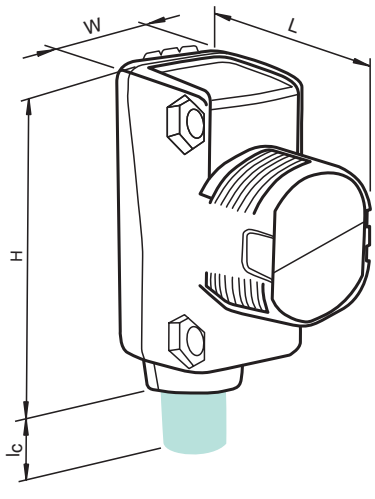
R103 Series
Diffuse Mode Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OBT80-R103-2EP-IO-0,3M-V1-1T-L	With background evaluation	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT80-R103-2EP-IO-0,3M-V1-L	With background suppression	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT80-R103-2EP-IO-0,3M-V31-L	With background suppression	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT80-R103-2EP-IO-1T-L	With background evaluation	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT80-R103-2EP-IO-1T-L-Y0351	With background evaluation	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT80-R103-2EP-IO-L	With background suppression	80	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT80-R103-2EP-IO-V31-1T-L	With background evaluation	80	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBT80-R103-2EP-IO-V31-L	With background suppression	80	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBT80-R103-EP-IO-0,3M-V3-1T-L	With background evaluation	80	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT80-R103-EP-IO-0,3M-V3-L	With background suppression	80	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT80-R103-EP-IO-V3-1T-L	With background evaluation	80	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBT80-R103-EP-IO-V3-L	With background suppression	80	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9
OQT120-R103-2EP-IO	With multiple switch points	120	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable	36.5
OQT120-R103-2EP-IO-0,3M-V1	With multiple switch points	120	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	36.5
OQT120-R103-2EP-IO-0,3M-V1-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug	36.5
OQT120-R103-2EP-IO-0,3M-V31	With multiple switch points	120	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	36.5
OQT120-R103-2EP-IO-0,3M-V31-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug	36.5
OQT120-R103-2EP-IO-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable	36.5
OQT120-R103-2EP-IO-V31	With multiple switch points	120	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug	43.9
OQT120-R103-2EP-IO-V31-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	2 x push-pull	M8 connector plug	43.9
OQT120-R103-EP-IO-0,3M-V3	With multiple switch points	120	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	36.5
OQT120-R103-EP-IO-0,3M-V3-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug	36.5
OQT120-R103-EP-IO-V3	With multiple switch points	120	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug	43.9
OQT120-R103-EP-IO-V3-L	With multiple switch points	120	Red laser diode	Potentiometer, push-button	1 x push-pull	M8 connector plug	43.9
OBT250-R103-2EP-IO-0,3M-V1-L	With background suppression	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT250-R103-2EP-IO-0,3M-V31-L	With background suppression	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT250-R103-2EP-IO-1T-L	With background evaluation	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT250-R103-2EP-IO-1T-L-Y0329	With background evaluation	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT250-R103-2EP-IO-1T-L-Y0330	With background evaluation	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT250-R103-2EP-IO-L	With background suppression	250	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT250-R103-2EP-IO-V31-1T-L	With background evaluation	250	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBT250-R103-2EP-IO-V31-L	With background suppression	250	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	Height H
OBT250-R103-EP-IO-0,3M-V3-1T-L	With background evaluation	250	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT250-R103-EP-IO-0,3M-V3-L	With background suppression	250	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT250-R103-EP-IO-V3-1T-L	With background evaluation	250	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBT250-R103-EP-IO-V3-L	With background suppression	250	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBT300-R103-2EP-IO	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT300-R103-2EP-IO-0,3M-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT300-R103-2EP-IO-0,3M-V1-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT300-R103-2EP-IO-0,3M-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT300-R103-2EP-IO-0,3M-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBT300-R103-2EP-IO-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5
OBT300-R103-2EP-IO-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBT300-R103-2EP-IO-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBT300-R103-2EP1-IO-0,3M-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBT300-R103-EP-IO-0,3M-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT300-R103-EP-IO-0,3M-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBT300-R103-EP-IO-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBT300-R103-EP-IO-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9
OBD800-R103-2EP-IO	Energetic	800	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5
OBD800-R103-2EP-IO-0,3M-V1	Energetic	800	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5
OBD800-R103-2EP-IO-0,3M-V31	Energetic	800	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5
OBD800-R103-2EP-IO-V31	Energetic	800	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9
OBD800-R103-EP-IO-0,3M-V3	Energetic	800	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5
OBD800-R103-EP-IO-V3	Energetic	800	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9



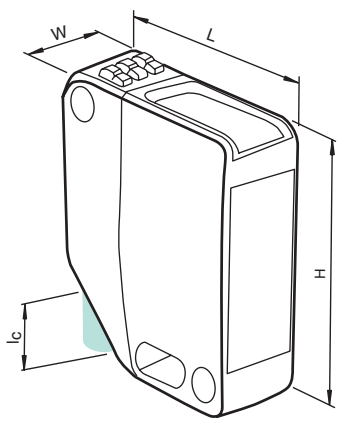
Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-ML100-03	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-ML100-031	Mounting aid for circular profile ø 10 mm … 14 mm or flat profile 1 mm … 5 mm
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R103-01	Mounting bracket
OMH-R10X-01	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

R200 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type
OBE25M-R200-S2EP-IO	25000	Red LED	2 x push-pull	Fixed cable
OBE25M-R200-S2EP-IO-0,3M-V1	25000	Red LED	2 x push-pull	Fixed cable with M12 plug
OBE25M-R200-S2EP-IO-0,3M-V31	25000	Red LED	2 x push-pull	Fixed cable with M8 plug
OBE25M-R200-S2EP-IO-V1	25000	Red LED	2 x push-pull	M12 connector plug
OBE25M-R200-S2EP-IO-V31	25000	Red LED	2 x push-pull	M8 connector plug
OBE25M-R200-SEP-IO-0,3M-V3	25000	Red LED	1 x push-pull	Fixed cable with M8 plug
OBE25M-R200-SEP-IO-V3	25000	Red LED	1 x push-pull	M8 connector plug
OBE40M-R200-S2EP-IO-0,3M-V1-L	40000	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OBE40M-R200-S2EP-IO-0,3M-V31-L	40000	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OBE40M-R200-S2EP-IO-L	40000	Red laser diode	2 x push-pull	Fixed cable
OBE40M-R200-S2EP-IO-V1-L	40000	Red laser diode	2 x push-pull	M12 connector plug
OBE40M-R200-S2EP-IO-V31-L	40000	Red laser diode	2 x push-pull	M8 connector plug
OBE40M-R200-SEP-IO-0,3M-V3-L	40000	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OBE40M-R200-SEP-IO-V3-L	40000	Red laser diode	1 x push-pull	M8 connector plug



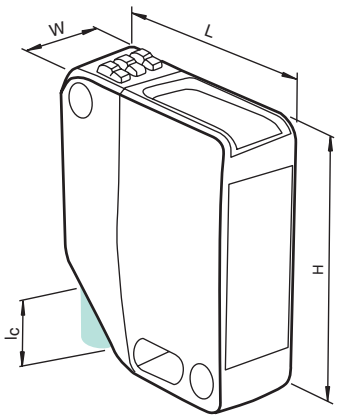
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R20x-Quick-Mount	Quick-mounting aid
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R200 Series
Retroreflective Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBG8000-R200-EP-IO-V3	For clear object detection	5600	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug
OBG8000-R200-2EP-IO	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable
OBG8000-R200-2EP-IO-0,3M-V1	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R200-2EP-IO-0,3M-V15	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R200-2EP-IO-0,3M-V31	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OBG8000-R200-2EP-IO-V1	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OBG8000-R200-2EP-IO-V15	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OBG8000-R200-2EP-IO-V31	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug
OBG8000-R200-EP-IO-0,3M-V3	For clear object detection	5600	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OBR15M-R200-2EP-IO	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBR15M-R200-2EP-IO-0,3M-V1	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R200-2EP-IO-0,3M-V15	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R200-2EP-IO-0,3M-V31	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR15M-R200-2EP-IO-V1	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R200-2EP-IO-V15	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R200-2EP-IO-V31	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBR15M-R200-EP-IO-0,3M-V3	With polarization filter	15000	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR15M-R200-EP-IO-V3	With polarization filter	15000	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBR25M-R200-2EP-IO-0,3M-V1-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R200-2EP-IO-0,3M-V15-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R200-2EP-IO-0,3M-V31-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR25M-R200-2EP-IO-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBR25M-R200-2EP-IO-V1-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R200-2EP-IO-V15-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R200-2EP-IO-V31-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBR25M-R200-A5-IO-V1-L	With polarization filter	25000	Red laser diode	Potentiometer	PNP	M12 connector plug
OBR25M-R200-EP-IO-0,3M-V3-L	With polarization filter	25000	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR25M-R200-EP-IO-V3-L	With polarization filter	25000	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug



Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profile ø 12 mm or flat profile
OMH-R20x-Quick-Mount	Quick-mounting aid
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H32G-2	Ambient temperature: -20 °C … 60 °C (-4 °F … 140 °F)
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes

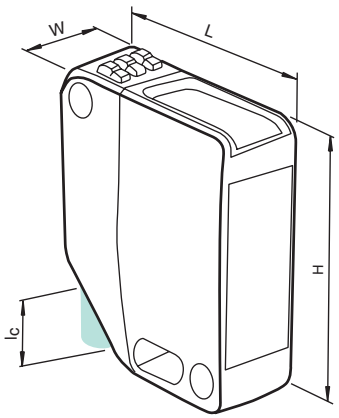
R200 Series
Diffuse Mode Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBT300-R200-2EP-IO	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R200-2EP-IO-0,3M-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R200-2EP-IO-0,3M-V1-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R200-2EP-IO-0,3M-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R200-2EP-IO-0,3M-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R200-2EP-IO-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R200-2EP-IO-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R200-2EP-IO-V1-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R200-2EP-IO-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R200-2EP-IO-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R200-EP-IO-0,3M-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R200-EP-IO-0,3M-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R200-EP-IO-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT300-R200-EP-IO-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OQT350-R200-2EP-IO-0,3M-V1-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OQT350-R200-2EP-IO-0,3M-V31-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OQT350-R200-2EP-IO-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable
OQT350-R200-2EP-IO-V1-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	M12 connector plug
OQT350-R200-2EP-IO-V31-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	M8 connector plug
OQT350-R200-EP-IO-0,3M-V3-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OQT350-R200-EP-IO-V3-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	1 x push-pull	M8 connector plug
OQT400-R200-EP-IO-V3	With multiple switch points	400	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug
OQT400-R200-2EP-IO	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable
OQT400-R200-2EP-IO-0,3M-V1	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OQT400-R200-2EP-IO-0,3M-V31	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OQT400-R200-2EP-IO-V1	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OQT400-R200-2EP-IO-V31	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug
OQT400-R200-EP-IO-0,3M-V3	With multiple switch points	400	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-0,3M-V1-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R200-2EP-IO-0,3M-V31-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R200-2EP-IO-1T-L-Y0233	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-1T-L-Y0236	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R200-2EP-IO-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R200-2EP-IO-V1-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R200-2EP-IO-V1-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R200-2EP-IO-V31-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R200-2EP-IO-V31-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R200-EP-IO-0,3M-V3-1T-L	With background evaluation	600	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT600-R200-EP-IO-0,3M-V3-L	With background suppression	600	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBT600-R200-EP-IO-V3-1T-L	With background evaluation	600	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT600-R200-EP-IO-V3-L	With background suppression	600	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R200-2EP-IO	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R200-2EP-IO-0,3M-V1	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R200-2EP-IO-0,3M-V1-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R200-2EP-IO-0,3M-V31	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R200-2EP-IO-0,3M-V31-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R200-2EP-IO-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R200-2EP-IO-V1	With background suppression	650	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R200-2EP-IO-V1-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R200-2EP-IO-V31	With background suppression	650	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R200-2EP-IO-V31-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R200-EP-IO-0,3M-V3	With background suppression	650	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R200-EP-IO-0,3M-V3-1T	With background evaluation	650	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R200-EP-IO-V3	With background suppression	650	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R200-EP-IO-V3-1T	With background evaluation	650	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBD1400-R200-2EP-IO	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBD1400-R200-2EP-IO-0,3M-V1	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBD1400-R200-2EP-IO-0,3M-V31	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBD1400-R200-2EP-IO-V1	Energetic	1400	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBD1400-R200-2EP-IO-V31	Energetic	1400	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBD1400-R200-EP-IO-0,3M-V3	Energetic	1400	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBD1400-R200-EP-IO-V3	Energetic	1400	Red LED	Potentiometer	1 x push-pull	M8 connector plug



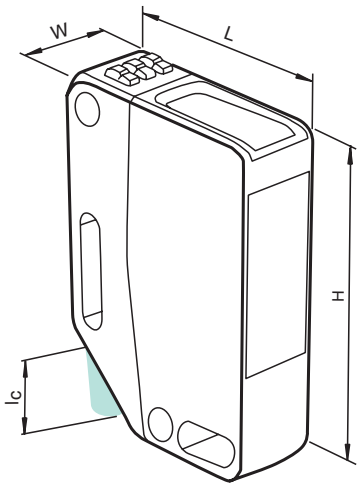
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-R20x-Quick-Mount	Quick-mounting aid
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R201 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type
OBE25M-R201-S2EP-IO	25000	Red LED	2 x push-pull	Fixed cable
OBE25M-R201-S2EP-IO-0,3M-V1	25000	Red LED	2 x push-pull	Fixed cable with M12 plug
OBE25M-R201-S2EP-IO-0,3M-V31	25000	Red LED	2 x push-pull	Fixed cable with M8 plug
OBE25M-R201-S2EP-IO-V1	25000	Red LED	2 x push-pull	M12 connector plug
OBE25M-R201-S2EP-IO-V31	25000	Red LED	2 x push-pull	M8 connector plug
OBE25M-R201-SEP-IO-0,3M-V3	25000	Red LED	1 x push-pull	Fixed cable with M8 plug
OBE25M-R201-SEP-IO-V3	25000	Red LED	1 x push-pull	M8 connector plug
OBE40M-R201-S2EP-IO-0,3M-V1-L	40000	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OBE40M-R201-S2EP-IO-0,3M-V31-L	40000	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OBE40M-R201-S2EP-IO-L	40000	Red laser diode	2 x push-pull	Fixed cable
OBE40M-R201-S2EP-IO-V1-L	40000	Red laser diode	2 x push-pull	M12 connector plug
OBE40M-R201-S2EP-IO-V31-L	40000	Red laser diode	2 x push-pull	M8 connector plug
OBE40M-R201-SEP-IO-0,3M-V3-L	40000	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OBE40M-R201-SEP-IO-V3-L	40000	Red laser diode	1 x push-pull	M8 connector plug



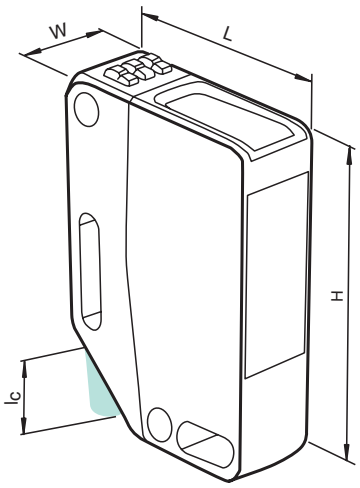
Accessories	
OMH-R20x-Quick-Mount	Quick-mounting aid
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
OMH-RL31-08	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R201 Series
Retroreflective Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBG8000-R201-2EP-IO	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable
OBG8000-R201-2EP-IO-0,3M-V1	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R201-2EP-IO-0,3M-V15	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R201-2EP-IO-0,3M-V31	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OBG8000-R201-2EP-IO-V1	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OBG8000-R201-2EP-IO-V15	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OBG8000-R201-2EP-IO-V31	For clear object detection	5600	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug
OBG8000-R201-EP-IO-0,3M-V3	For clear object detection	5600	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OBG8000-R201-EP-IO-V3	For clear object detection	5600	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug
OBR15M-R201-2EP-IO	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBR15M-R201-2EP-IO-0,3M-V1	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R201-2EP-IO-0,3M-V15	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R201-2EP-IO-0,3M-V31	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR15M-R201-2EP-IO-V1	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R201-2EP-IO-V15	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R201-2EP-IO-V31	With polarization filter	15000	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBR15M-R201-EP-IO-0,3M-V3	With polarization filter	15000	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR15M-R201-EP-IO-V3	With polarization filter	15000	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBR25M-R201-2EP-IO-0,3M-V1-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R201-2EP-IO-0,3M-V15-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R201-2EP-IO-0,3M-V31-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR25M-R201-2EP-IO-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBR25M-R201-2EP-IO-V1-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R201-2EP-IO-V15-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R201-2EP-IO-V31-L	With polarization filter	25000	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBR25M-R201-EP-IO-0,3M-V3-L	With polarization filter	25000	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR25M-R201-EP-IO-V3-L	With polarization filter	25000	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug



Accessories	
FE-RR1	Round reflector ø 80.87 mm, mounting hole
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-R20x-Quick-Mount	Quick-mounting aid
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
OMH-RL31-08	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H32G-2	Reflector

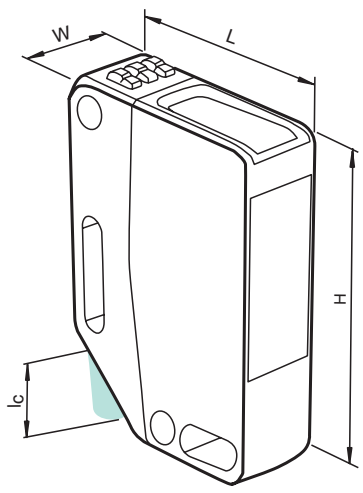
R201 Series
Diffuse Mode Sensors

Standard Technical Data	
Interface	IO-Link
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBT300-R201-2EP-IO	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R201-2EP-IO-0,3M-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R201-2EP-IO-0,3M-V1-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R201-2EP-IO-0,3M-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R201-2EP-IO-0,3M-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R201-2EP-IO-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R201-2EP-IO-V1	With background suppression	300	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R201-2EP-IO-V1-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R201-2EP-IO-V31	With background suppression	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R201-2EP-IO-V31-1T	With background evaluation	300	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R201-EP-IO-0,3M-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R201-EP-IO-0,3M-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R201-EP-IO-V3	With background suppression	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT300-R201-EP-IO-V3-1T	With background evaluation	300	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OQT350-R201-2EP-IO-0,3M-V1-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OQT350-R201-2EP-IO-0,3M-V31-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OQT350-R201-2EP-IO-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	Fixed cable
OQT350-R201-2EP-IO-V1-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	M12 connector plug
OQT350-R201-2EP-IO-V31-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	2 x push-pull	M8 connector plug
OQT350-R201-EP-IO-0,3M-V3-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OQT350-R201-EP-IO-V3-L	With multiple switch points	350	Red laser diode	Potentiometer, push-button	1 x push-pull	M8 connector plug
OQT400-R201-2EP-IO	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable
OQT400-R201-2EP-IO-0,3M-V1	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
OQT400-R201-2EP-IO-0,3M-V31	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	Fixed cable with M8 plug
OQT400-R201-2EP-IO-V1	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	M12 connector plug
OQT400-R201-2EP-IO-V31	With multiple switch points	400	Red LED	Potentiometer, push-button	2 x push-pull	M8 connector plug
OQT400-R201-EP-IO-0,3M-V3	With multiple switch points	400	Red LED	Potentiometer, push-button	1 x push-pull	Fixed cable with M8 plug
OQT400-R201-EP-IO-V3	With multiple switch points	400	Red LED	Potentiometer, push-button	1 x push-pull	M8 connector plug
OBT600-R201-2EP-IO-0,3M-V1-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R201-2EP-IO-0,3M-V31-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R201-2EP-IO-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R201-2EP-IO-1T-L-Y0247	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R201-2EP-IO-1T-L-Y0250	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R201-2EP-IO-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R201-2EP-IO-V1-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R201-2EP-IO-V1-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R201-2EP-IO-V31-1T-L	With background evaluation	600	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R201-2EP-IO-V31-L	With background suppression	600	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R201-EP-IO-0,3M-V3-1T-L	With background evaluation	600	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type
OBT600-R201-EP-IO-0,3M-V3-L	With background suppression	600	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT600-R201-EP-IO-V3-1T-L	With background evaluation	600	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT600-R201-EP-IO-V3-L	With background suppression	600	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R201-2EP-IO	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R201-2EP-IO-0,3M-V1	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R201-2EP-IO-0,3M-V1-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R201-2EP-IO-0,3M-V31	With background suppression	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R201-2EP-IO-0,3M-V31-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R201-2EP-IO-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R201-2EP-IO-V1	With background suppression	650	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R201-2EP-IO-V1-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R201-2EP-IO-V31	With background suppression	650	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R201-2EP-IO-V31-1T	With background evaluation	650	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R201-EP-IO-0,3M-V3	With background suppression	650	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R201-EP-IO-0,3M-V3-1T	With background evaluation	650	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R201-EP-IO-V3	With background suppression	650	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R201-EP-IO-V3-1T	With background evaluation	650	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBD1400-R201-2EP-IO	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBD1400-R201-2EP-IO-0,3M-V1	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBD1400-R201-2EP-IO-0,3M-V31	Energetic	1400	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBD1400-R201-2EP-IO-V1	Energetic	1400	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBD1400-R201-2EP-IO-V31	Energetic	1400	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBD1400-R201-EP-IO-0,3M-V3	Energetic	1400	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBD1400-R201-EP-IO-V3	Energetic	1400	Red LED	Potentiometer	1 x push-pull	M8 connector plug



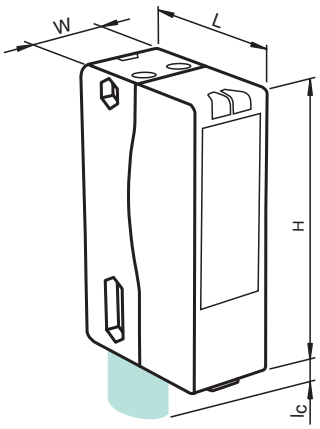
Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-R20x-Quick-Mount	Quick-mounting aid
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
OMH-RL31-08	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

RL28 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL	VdS
LA28/LK28-FC-Z/31/116	10000	Infrared LED, red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■		■
LD28/LV28-F1-3974/47/82b/112	30000	Red LED	PNP	DC	10	30	M12 connector plug	65.5		■	■	
LA28/LK28-Z-F1/31/116	65000	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■	
LA28/LK28-LAS-F1-7675	120000	Red laser diode	Relay	AC/DC	12	240	Terminal compartment	65.5			■	
LD28/LV28-LAS-F1-7675	120000	Red laser diode	1 x push-pull	DC	10	30	M12 connector plug	54.3			■	
LD28/LV28-LAS-F1-7675/47	120000	Red laser diode	PNP	DC	10	30	M12 connector plug	54.3			■	



Accessories	
OMH-05	Mounting aid for circular profile ø 12 mm or flat profiles 1.5 mm … 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket

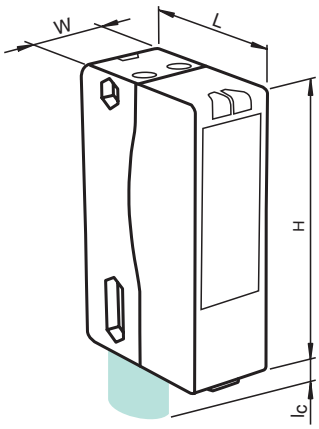
RL28 Series
Retroreflective Sensors

Standard Technical Data	
Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL	VdS
RL28-54-G-Z/47/112	For clear object detection	5600	Red LED	PNP	DC	10	30	M12 connector plug	65.5			■	
RL28-54-G-Z/47/116	For clear object detection	5600	Red LED	PNP	DC	10	30	Terminal compartment	65.5			■	
RL28-54-G-Z/49/116	For clear object detection	5600	Red LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■	
RL28-54-G-Z/76a/110/116	For clear object detection	5600	Red LED	1 x push-pull	DC	10	30	Terminal compartment	65.5			■	
RL28-54-G/47/105	For clear object detection	5600	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-54-G/47/115	For clear object detection	5600	Red LED	PNP	DC	10	30	Fixed cable	54.3			■	
RL28-54-G/49/105	For clear object detection	5600	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■	
RL28-54-G/76a/110/115	For clear object detection	5600	Red LED	1 x push-pull	DC	10	30	Fixed cable	54.3			■	
RLK28-54-G/31/116	For clear object detection	5600	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■		■	
RLK28-FC-55-Z/31/116	Without polarization filter	3000	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■		■
RL28-55-V-Z/47/82b/112	With polarization filter	13000	Red LED	PNP	DC	10	30	M12 connector plug	65.5			■	
RL28-55-V-Z/47/82b/116	With polarization filter	13000	Red LED	PNP	DC	10	30	Terminal compartment	65.5			■	
RL28-55-V-Z/49/76a/82b/116	With polarization filter	13000	Red LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■	
RL28-55-V/47/82b/105	With polarization filter	13000	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-55-V/49/74	With polarization filter	13000	Red LED	PNP/NPN	DC	10	30	M18 connector plug	54.3			■	
RL28-55-V/49/82b/105	With polarization filter	13000	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■	
RL28-55-V/82b/105/110	With polarization filter	13000	Red LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■	
RL28-55-Z/47/76a/82b/116	With polarization filter	17000	Red LED	PNP	DC	10	30	Terminal compartment	65.5			■	
RL28-55-Z/47/82b/112	With polarization filter	17000	Red LED	PNP	DC	10	30	M12 connector plug	65.5			■	
RL28-55-Z/49/76a/82b/116	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■	
RL28-55-Z/49/82b/112	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	M12 connector plug	65.5			■	
RL28-55-Z/76a/82b/110/116	With polarization filter	17000	Red LED	1 x push-pull	DC	10	30	Terminal compartment	65.5			■	
RL28-55-Z/82b/110/112	With polarization filter	17000	Red LED	1 x push-pull	DC	10	30	M12 connector plug	65.5			■	
RL28-55/47/73c	With polarization filter	17000	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-55/47/74	With polarization filter	17000	Red LED	PNP	DC	10	30	M18 connector plug	54.3			■	
RL28-55/47/76a/105	With polarization filter	17000	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-55/47/82b/105	With polarization filter	17000	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-55/47/82b/105/106	With polarization filter	17000	Red LED	PNP	DC	19.2	28.8	M12 connector plug	54.3			■	
RL28-55/47/82b/115	With polarization filter	17000	Red LED	PNP	DC	10	30	Fixed cable	54.3			■	
RL28-55/49/74	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	M18 connector plug	54.3			■	
RL28-55/49/76b/105	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■	
RL28-55/49/82b/105	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■	
RL28-55/49/82b/115	With polarization filter	17000	Red LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■	
RL28-55/82b/105/110	With polarization filter	17000	Red LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■	
RL28-55/82b/110/115	With polarization filter	17000	Red LED	1 x push-pull	DC	10	30	Fixed cable	54.3			■	
RLK28-55-V-Z/31/116	With polarization filter	13000	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■	
RLK28-55-Z/31/116	With polarization filter	17000	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■	
RLK28-55/31/116	With polarization filter	17000	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■	

Model number	Function principle	Detection range [mm]	Light type	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL	VdS
RL28-55/35/47/115b	With polarization filter	20000	Red LED	PNP	DC	10	30	Fixed cable with M12 plug	54.3			■	
RL28-55-LAS/47/82b/105	With polarization filter	30000	Red laser diode	PNP	DC	10	30	M12 connector plug	54.3			■	
RL28-55-LAS/47/82b/115	With polarization filter	30000	Red laser diode	PNP	DC	10	30	Fixed cable	54.3			■	
RL28-55-LAS/49/82b/105	With polarization filter	30000	Red laser diode	PNP/NPN	DC	10	30	M12 connector plug	54.3			■	
RL28-55-LAS/76a/82b/105/110	With polarization filter	30000	Red laser diode	1 x push-pull	DC	10	30	M12 connector plug	54.3			■	
RL28-55-LAS/76a/82b/110/115	With polarization filter	30000	Red laser diode	1 x push-pull	DC	10	30	Fixed cable	54.3			■	
RLK28-55-LAS-Z/31/116	With polarization filter	30000	Red laser diode	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■	



Accessories	
OMH-05	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
REF-MH82	Rectangular reflector with microstructure, 82 mm x 60 mm, mounting holes

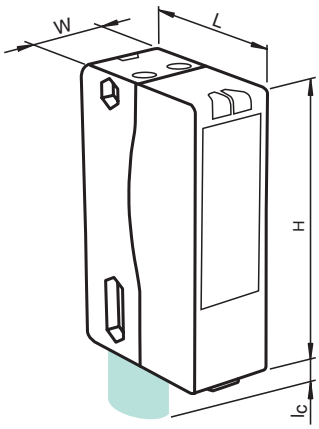
RL28 Series
Diffuse Mode Sensors

Standard Technical Data	
Function principle	Triangulation sensor with background suppression
Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL
RL28-8-H-400-FFP-RT/47/105	400	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-IR-Z/110/116	400	Infrared LED	1 x push-pull	DC	10	30	Terminal compartment	54.3			■
RL28-8-H-400-IR-Z/47/116	400	Infrared LED	PNP	DC	10	30	Terminal compartment	54.3			■
RL28-8-H-400-IR-Z/49/116	400	Infrared LED	PNP/NPN	DC	10	30	Terminal compartment	54.3			■
RL28-8-H-400-IR/105/110	400	Infrared LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-IR/47/105	400	Infrared LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-IR/49/105	400	Infrared LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-IR/49/115	400	Infrared LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■
RL28-8-H-400-RT-Z/110/116	400	Red LED	1 x push-pull	DC	10	30	Terminal compartment	54.3			■
RL28-8-H-400-RT-Z/49/116	400	Red LED	PNP/NPN	DC	10	30	Terminal compartment	54.3			■
RL28-8-H-400-RT/105/110	400	Red LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-RT/47/105	400	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-RT/47/115	400	Red LED	PNP	DC	10	30	Fixed cable	54.3			■
RL28-8-H-400-RT/47/73c	400	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-RT/49/105	400	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-400-RT/49/115	400	Red LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■
RLK28-8-H-400-IR-Z/31/116	400	Infrared LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■
RLK28-8-H-400-RT-Z/31/116	400	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■
RL28-8-H-700-IR-Z/47/116	700	Infrared LED	PNP	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-700-IR-Z/49/116	700	Infrared LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-700-IR/105/110	700	Infrared LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-IR/110/115	700	Infrared LED	1 x push-pull	DC	10	30	Fixed cable	54.3			■
RL28-8-H-700-IR/47/105	700	Infrared LED	PNP	DC	10	30	M12 connector plug	54.3		■	■
RL28-8-H-700-IR/47/105/106	700	Infrared LED	PNP	DC	19.2	28.8	M12 connector plug	54.3			
RL28-8-H-700-IR/47/115	700	Infrared LED	PNP	DC	10	30	Fixed cable	54.3			■
RL28-8-H-700-IR/47/74	700	Infrared LED	PNP	DC	10	30	M18 connector plug	54.3			■
RL28-8-H-700-IR/49/105	700	Infrared LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-IR/49/115	700	Infrared LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■
RL28-8-H-700-RT-Z/47/112	700	Red LED	PNP	DC	10	30	M12 connector plug	65.5			■
RL28-8-H-700-RT-Z/47/116	700	Red LED	PNP	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-700-RT-Z/49/116	700	Red LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-700-RT/105/110	700	Red LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-RT/47/105	700	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-RT/47/115	700	Red LED	PNP	DC	10	30	Fixed cable	54.3			■
RL28-8-H-700-RT/47/73c	700	Red LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-RT/47/74	700	Red LED	PNP	DC	10	30	M18 connector plug	54.3			■
RL28-8-H-700-RT/49/105	700	Red LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-700-RT/49/115	700	Red LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■
RLK28-8-H-700-IR-Z/31/116	700	Infrared LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■
RLK28-8-H-700-RT-Z/31/116	700	Red LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■

Model number	Detection range [mm]	Light type	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL
RL28-8-H-1500-LAS/105/110	1500	Red laser diode	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-1500-LAS/47/105	1500	Red laser diode	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-1500-LAS/47/115b	1500	Red laser diode	PNP	DC	10	30	Fixed cable with M12 plug	54.3			■
RL28-8-H-2000-IR-Z/110/116	2000	Infrared LED	1 x push-pull	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-2000-IR-Z/47/112	2000	Infrared LED	PNP	DC	10	30	M12 connector plug	65.5			■
RL28-8-H-2000-IR-Z/47/116	2000	Infrared LED	PNP	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-2000-IR-Z/49/112	2000	Infrared LED	PNP/NPN	DC	10	30	M12 connector plug	65.5			■
RL28-8-H-2000-IR-Z/49/116	2000	Infrared LED	PNP/NPN	DC	10	30	Terminal compartment	65.5			■
RL28-8-H-2000-IR/105/110	2000	Infrared LED	1 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-2000-IR/110/115	2000	Infrared LED	1 x push-pull	DC	10	30	Fixed cable	54.3			■
RL28-8-H-2000-IR/47/105	2000	Infrared LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-2000-IR/47/105/106	2000	Infrared LED	PNP	DC	19.2	28.8	M12 connector plug	54.3			
RL28-8-H-2000-IR/47/115	2000	Infrared LED	PNP	DC	10	30	Fixed cable	54.3			■
RL28-8-H-2000-IR/47/73c	2000	Infrared LED	PNP	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-2000-IR/47/74	2000	Infrared LED	PNP	DC	10	30	M18 connector plug	54.3			■
RL28-8-H-2000-IR/49/105	2000	Infrared LED	PNP/NPN	DC	10	30	M12 connector plug	54.3			■
RL28-8-H-2000-IR/49/115	2000	Infrared LED	PNP/NPN	DC	10	30	Fixed cable	54.3			■
RL28-8-H-2000-IR/49/74	2000	Infrared LED	PNP/NPN	DC	10	30	M18 connector plug	54.3			■
RLK28-8-H-2000-IR-Z/31/116	2000	Infrared LED	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	■



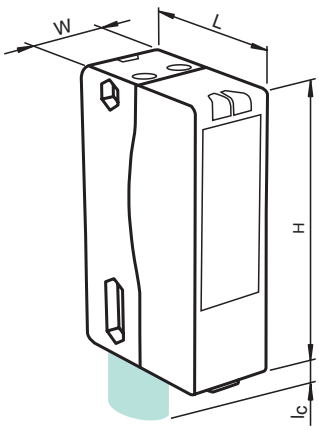
Accessories	
OMH-05	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting

RL29 Series

Standard Technical Data	
Light type	Red LED
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Operating elements	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC	UL
RL29-8-H-1200-RT/115/136	Triangulation sensor with background suppression	1200	Potentiometer	2 x push-pull	DC	10	30	Fixed cable	54.3			■
RL29-8-H-1200-RT/115b/136	Triangulation sensor with background suppression	1200	Potentiometer	2 x push-pull	DC	10	30	Fixed cable with M12 plug	54.3			■
RL29-8-H-1200-RT/59/73c/136	Triangulation sensor with background suppression	1200	Potentiometer	2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-8-H-1200-RT/73c/136	Triangulation sensor with background suppression	1200	Potentiometer	2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-8-2000/115b/136	Diffuse mode sensor, energetic	2000	Potentiometer	2 x push-pull	DC	10	30	Fixed cable with M12 plug	54.3			■
RL29-8-2000/59/73c/136	Diffuse mode sensor, energetic	2000	Potentiometer	2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-8-2000/73c/136	Diffuse mode sensor, energetic	2000	Potentiometer	2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-55-V/115b/136	Retroreflective sensor with polarization filter	6000		2 x push-pull	DC	10	30	Fixed cable with M12 plug	54.3			■
RL29-55-V/25/73c/136	Retroreflective sensor with polarization filter	6000		2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-55-V/73c/136	Retroreflective sensor with polarization filter	6000		2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-55/115b/136	Retroreflective sensor with polarization filter	7000		2 x push-pull	DC	10	30	Fixed cable with M12 plug	54.3			■
RL29-55/25/73c/136	Retroreflective sensor with polarization filter	7000		2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RL29-55/73c/136	Retroreflective sensor with polarization filter	7000		2 x push-pull	DC	10	30	M12 connector plug	54.3			■
RLK29-55/25/116	Retroreflective sensor with polarization filter	12000		Relay	AC/DC	24	230	Terminal compartment	65.5	■	■	■
RLK29-55/25/116-Set	Retroreflective sensor with polarization filter	12000		Relay	AC/DC	24	230	Terminal compartment	65.5	■	■	■
RLK29-55/59/116	Retroreflective sensor with polarization filter	12000		Relay	AC/DC	24	230	Terminal compartment	65.5	■	■	■
RLK29-55/59/116-Set	Retroreflective sensor with polarization filter	12000		Relay	AC/DC	24	230	Terminal compartment	65.5	■	■	■
LA29/LK29-Z-F1/31/116-SET	Thru-beam sensor	65000	Potentiometer	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	
LA29/LK29-Z-F2/31/116-SET	Thru-beam sensor	65000	Potentiometer	Relay	AC/DC	12	240	Terminal compartment	65.5	■	■	



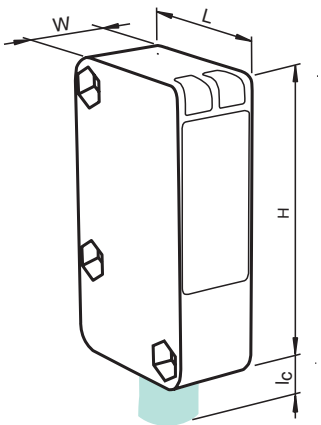
Accessories	
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-05	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
OMH-RLK29-HW-120	Mounting bracket for rear wall mounting
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

RL31 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	43000 mm
Light type	Red LED
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Operating elements	Output type	Voltage type	UB (min)	UB (max)	Connection type	CCC	EAC	UL
LA31/LK31/16/25/31/115	Potentiometer	Relay	AC/DC	24	240	Fixed cable	■	■	
LA31/LK31/25/31/115		Relay	AC/DC	24	240	Fixed cable	■	■	
LA31/LK31/25/31/115 SET		Relay	AC/DC	24	240	Fixed cable	■	■	
LA31/LK31/25/31/115 SET2		Relay	AC/DC	24	240	Fixed cable	■	■	
LA31/LK31/31/115		Relay	AC/DC	24	240	Fixed cable	■	■	
LD31/LV31/25/73c/76a/136		2 x push-pull	DC	10	30	M12 connector plug		■	■
LD31/LV31/73c/76a/136		2 x push-pull	DC	10	30	M12 connector plug		■	■
LD31/LV31/76a/115/136		2 x push-pull	DC	10	30	Fixed cable			■



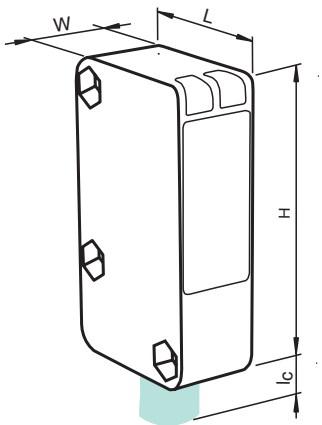
Accessories	
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws

RL31 Series
Retroreflective Sensors

Standard Technical Data	
Light type	Red LED
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Output type	Voltage type	UB (min)	UB (max)	Connection type	CCC	EAC	UL
RL31-54/115/136	With polarization filter	9000	2 x push-pull	DC	10	30	Fixed cable			■
RL31-54/115/136-5M	With polarization filter	9000	2 x push-pull	DC	10	30	Fixed cable			■
RL31-54/115b/136	With polarization filter	9000	2 x push-pull	DC	10	30	Fixed cable with M12 plug			■
RL31-54/25/73c/136	With polarization filter	9000	2 x push-pull	DC	10	30	M12 connector plug		■	■
RL31-54/73c/136	With polarization filter	9000	2 x push-pull	DC	10	30	M12 connector plug		■	■
RLK31-54/25/31/115	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/25/31/115 SET	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/25/31/115 SET2	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/25/31/33/115-15M	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/25/31/33/115-15M SET	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/25/31/33/115-5M	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/31/115	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-54/31/33/115	With polarization filter	9000	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-6/25/31/115	Without polarization filter	16,500	Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-6/31/115	Without polarization filter	16,500	Relay	AC/DC	24	240	Fixed cable	■	■	



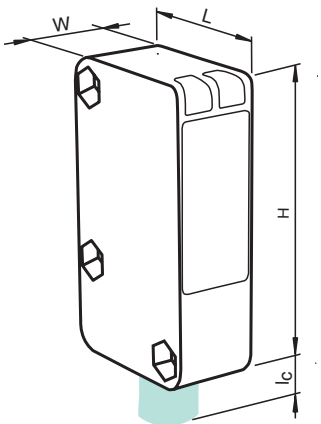
Accessories	
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-RL31-01	Mounting bracket
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws
OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

RL31 Series
Diffuse Mode Sensors

Standard Technical Data	
Operating elements	Potentiometer
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Interface	Output type	Voltage type	UB (min)	UB (max)	Connection type	CCC	EAC	UL
RL31-8-H-800-IR/73c/136	With background suppression	800	Infrared LED		2 x push-pull	DC	10	30	M12 connector plug			■
RL31-8-H-800-RT-IO/59/115/136	With measurement core	800	Red LED	IO-Link	2 x push-pull	DC	10	30	Fixed cable			■
RL31-8-H-800-RT-IO/59/73c/136	With measurement core	800	Red LED	IO-Link	2 x push-pull	DC	10	30	M12 connector plug			■
RL31-8-H-800-RT/115/136	With background suppression	800	Red LED		2 x push-pull	DC	10	30	Fixed cable			■
RL31-8-H-800-RT/73c/136	With background suppression	800	Red LED		2 x push-pull	DC	10	30	M12 connector plug		■	■
RLK31-8-1200-RT/31/115	Energetic	1200	Red LED		Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-8-1200-RT/31/59/115	Energetic	1200	Red LED		Relay	AC/DC	24	240	Fixed cable	■	■	
RL31-8-1200-RT/59/73c/136	Energetic	1200	Red LED		2 x push-pull	DC	10	30	M12 connector plug			■
RL31-8-1200-RT/73c/136	Energetic	1200	Red LED		2 x push-pull	DC	10	30	M12 connector plug		■	■
RL31-8-2500-IR/115/136	Energetic	2500	Infrared LED		2 x push-pull	DC	10	30	Fixed cable			■
RL31-8-2500-IR/59/73c/136	Energetic	2500	Infrared LED		2 x push-pull	DC	10	30	M12 connector plug			■
RL31-8-2500-IR/73c/136	Energetic	2500	Infrared LED		2 x push-pull	DC	10	30	M12 connector plug		■	■
RLK31-8-2500-IR-3953/31	Energetic	2500	Infrared LED		Relay	AC/DC	24	240	Fixed cable		■	
RLK31-8-2500-IR/31/115	Energetic	2500	Infrared LED		Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-8-2500-IR/31/33/115-5M	Energetic	2500	Infrared LED		Relay	AC/DC	24	240	Fixed cable	■	■	
RLK31-8-2500-IR/31/59/115	Energetic	2500	Infrared LED		Relay	AC/DC	24	240	Fixed cable	■	■	



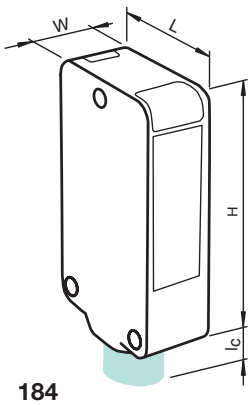
Accessories	
OMH-RL31-01	Mounting bracket
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws
OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

MLV41 Series
Retroreflective Sensors

Standard Technical Data	
Light type	Red LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Interface	Operating elements	Output type	Connection type	EAC
MLV41-54-G-IO/25/92/136	For clear object detection	4000	IO-Link		2 x push-pull	M12 connector plug	
MLV41-54-G/102/123/124/126g	For clear object detection	4000		Potentiometer	NPN	M12 connector plug	
MLV41-54-G/25/115/123/136	For clear object detection	4000			2 x push-pull	Fixed cable	
MLV41-54-G/25/123/124/136	For clear object detection	4000			2 x push-pull	M12 connector plug	
MLV41-54-G/25/70/123/136	For clear object detection	4000			2 x push-pull	M9 connector plug	
MLV41-54-G/25/76a/124/136	For clear object detection	4000			2 x push-pull	M12 connector plug	
MLV41-54-G/25/95/136	For clear object detection	4000			2 x push-pull	M8 connector plug	
MLV41-54-G/82b/103/123/124	For clear object detection	4000		Potentiometer	PNP	M12 connector plug	
MLV41-54-G/98/110	For clear object detection	4000		Potentiometer	1 x push-pull	M8 connector plug	
MLV41-55-IO/98/103	With polarization filter	7000	IO-Link		PNP	M8 connector plug	
MLV41-55-IO/92/136	With polarization filter	8000	IO-Link		2 x push-pull	M12 connector plug	
MLV41-55-IO/95/136	With polarization filter	8000	IO-Link		2 x push-pull	M8 connector plug	
MLV41-55/25/115/136	With polarization filter	8000			2 x push-pull	Fixed cable	■
MLV41-55/25/70/136	With polarization filter	8000			2 x push-pull	M9 connector plug	
MLV41-55/25/92/136	With polarization filter	8000			2 x push-pull	M12 connector plug	
MLV41-55/25/95/136	With polarization filter	8000			2 x push-pull	M8 connector plug	
MLV41-55/40a/82b/92/103	With polarization filter	8000		Potentiometer	PNP	M12 connector plug	
MLV41-55/40a/92/102/126b	With polarization filter	8000		Potentiometer	NPN	M12 connector plug	
MLV41-6-IO/92/136	Without polarization filter	9500	IO-Link		2 x push-pull	M12 connector plug	
MLV41-6-IO/95/136	Without polarization filter	9500	IO-Link		2 x push-pull	M8 connector plug	
MLV41-6-IO/98/103	Without polarization filter	9500	IO-Link		PNP	M8 connector plug	
MLV41-6/25/115/136	Without polarization filter	9500			2 x push-pull	Fixed cable	
MLV41-6/25/70/136	Without polarization filter	9500			2 x push-pull	M9 connector plug	
MLV41-6/25/82a/95/103	Without polarization filter	9500			PNP	M8 connector plug	
MLV41-6/25/92/136	Without polarization filter	9500			2 x push-pull	M12 connector plug	
MLV41-6/25/95/136	Without polarization filter	9500			2 x push-pull	M8 connector plug	
MLV41-6/82b/92/103	Without polarization filter	9500			PNP	M12 connector plug	
MLV41-6/92/102/126b	Without polarization filter	9500			NPN	M12 connector plug	



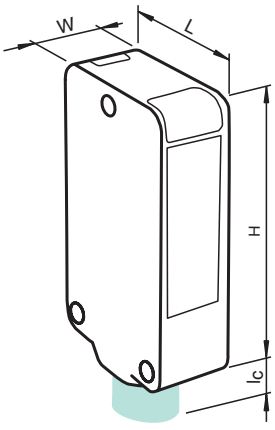
Accessories	
OMH-09	Mounting bracket for MLV41 series sensors for mounting on M12 round bar
OMH-40	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

MLV41 Series
Diffuse Mode Sensors

Standard Technical Data	
Function principle	Triangulation sensor with background suppression
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Interface	Operating elements	Output type	Connection type	UL
MLV41-8-HV-60-IR/110/124/167	60	Infrared LED			1 x push-pull	M12 connector plug	
MLV41-8-H-120-RT-IO/65b/92/136	120	Red LED	IO-Link	Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-120-RT-IO/65b/95/136	120	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	■
MLV41-8-H-120-RT-IO/65b/98/103	120	Red LED	IO-Link	Potentiometer	PNP	M8 connector plug	■
MLV41-8-H-120-RT/65b/92/136	120	Red LED		Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-120-RT/65b/95/136	120	Red LED		Potentiometer	2 x push-pull	M8 connector plug	■
MLV41-8-H-350-IR/25/98/110	350	Infrared LED		Potentiometer	1 x push-pull	M8 connector plug	■
MLV41-8-H-350-IR/59/115/136	350	Infrared LED		Potentiometer	2 x push-pull	Fixed cable	■
MLV41-8-H-350-IR/59/115b/136	350	Infrared LED		Potentiometer	2 x push-pull	Fixed cable with M12 plug	■
MLV41-8-H-350-IR/59/92/136	350	Infrared LED		Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-350-IR/59/95/136	350	Infrared LED		Potentiometer	2 x push-pull	M8 connector plug	■
MLV41-8-H-350-RT/25/115/136	350	Red LED		Potentiometer	2 x push-pull	Fixed cable	■
MLV41-8-H-350-RT/25/92/136	350	Red LED		Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-350-RT/40a/98/110	350	Red LED		Potentiometer	1 x push-pull	M8 connector plug	■
MLV41-8-H-350-RT/59/115/136	350	Red LED		Potentiometer	2 x push-pull	Fixed cable	■
MLV41-8-H-350-RT/59/115b/136	350	Red LED		Potentiometer	2 x push-pull	Fixed cable with M12 plug	■
MLV41-8-H-350-RT/59/70/136	350	Red LED		Potentiometer	2 x push-pull	M9 connector plug	■
MLV41-8-H-350-RT/59/71/136	350	Red LED		Potentiometer	2 x push-pull	M9 connector plug	■
MLV41-8-H-350-RT/59/92/136	350	Red LED		Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-350-RT/59/95/136	350	Red LED		Potentiometer	2 x push-pull	M8 connector plug	■
MLV41-8-H-500-RT-IO/65b/92/136	500	Red LED	IO-Link	Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-500-RT-IO/65b/95/136	500	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	■
MLV41-8-H-500-RT/65b/92/136	500	Red LED		Potentiometer	2 x push-pull	M12 connector plug	■
MLV41-8-H-500-RT/65b/95/136	500	Red LED		Potentiometer	2 x push-pull	M8 connector plug	■



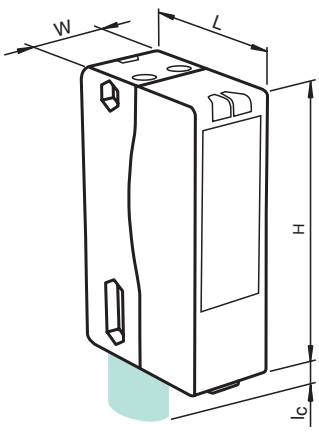
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-09	Mounting bracket for MLV41 series sensors for mounting on M12 round bar
OMH-40	Mounting bracket
OMH-MLV41-8-HV-U	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

R300 Series

Standard Technical Data	
Light type	Red LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	54.3 mm
Housing width W	25.8 mm
Housing height H	88 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Operating elements	Output type
OBR50M-R300-2P1-V1	Distance sensor	50000	Push-button	2 x push-pull
OBR50M-R300-2PP-V1	Distance sensor	50000	Push-button	2 x push-pull
OMR50M-R300-IEP-V1	Distance sensor	50000	Potentiometer, push-button	1 x push-pull, 1 x analog
OMR50M-R300-UEP-V1	Distance sensor	50000	Potentiometer, push-button	1 x push-pull, 1 x analog
OQR50M-R300-2EP-V1	Distance sensor	50000	Potentiometer, push-button	2 x push-pull
OBD8000-R300-2P1-V1-L	Diffuse mode sensor, energetic	8000	Push-button	2 x push-pull
OBD8000-R300-2PP-V1-L	Diffuse mode sensor, energetic	8000	Potentiometer	2 x push-pull
OMD8000-R300-IEP-V1-L	Distance sensor	8000	Potentiometer, push-button	1 x push-pull, 1 x analog
OMD8000-R300-UEP-V1-L	Distance sensor	8000	Potentiometer, push-button	1 x push-pull, 1 x analog
OQD8000-R300-2EP-V1-L	Distance sensor	8000	Potentiometer, push-button	2 x push-pull



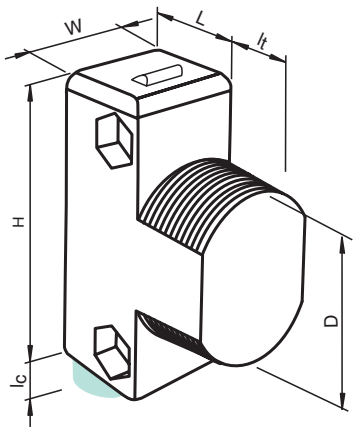
Accessories	
OMH-05	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-07-01	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-22	Mounting bracket
OMH-K03	Mounting clamp for sensors with dovetail groove
OMH-RLK29-HW	Mounting bracket for rear wall mounting
OMH-VDM28-01	Metal enclosure for inserting protective screens or apertures
OMH-VDM28-02	Mounting and fine adjustment device
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

ML17 Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Detection range	3500 mm
Light type	Red LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	29.3 mm
Housing width W	15 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Operating elements	Output type	Connection type
ML17-54/115/136	Potentiometer	2 x push-pull	Fixed cable
ML17-54/115b/120	Potentiometer	PNP	Fixed cable with M12 plug
ML17-54/115b/136	Potentiometer	2 x push-pull	Fixed cable with M12 plug
ML17-54/136/143	Potentiometer	2 x push-pull	M8 connector plug
ML17-54/25/103/115/154		PNP	Fixed cable
ML17-54/73/136	Potentiometer	2 x push-pull	M12 connector plug



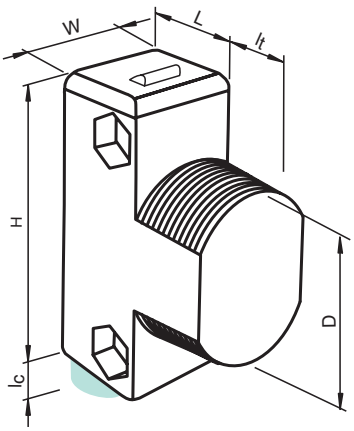
Accessories	
OMH-ML17	Mounting bracket
OMH-ML17-1	Mounting bracket
OMH-ML17-EZ	Mounting bracket
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

ML17 Series
Diffuse Mode Sensors

Standard Technical Data	
Output type	2 x push-pull
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	29.3 mm
Housing width W	15 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Connection type
ML17-8-H-50-RT/115/136	Triangulation sensor with background suppression	50	Red LED		Fixed cable
ML17-8-H-50-RT/115b/136	Triangulation sensor with background suppression	50	Red LED		Fixed cable with M12 plug
ML17-8-H-50-RT/136/143	Triangulation sensor with background suppression	50	Red LED		M8 connector plug
ML17-8-H-50-RT/73/136	Triangulation sensor with background suppression	50	Red LED		M12 connector plug
ML17-8-H-100-RT/115/136	Triangulation sensor with background suppression	100	Red LED		Fixed cable
ML17-8-H-100-RT/115b/136	Triangulation sensor with background suppression	100	Red LED		Fixed cable with M12 plug
ML17-8-H-100-RT/136/143	Triangulation sensor with background suppression	100	Red LED		M8 connector plug
ML17-8-H-100-RT/73/136	Triangulation sensor with background suppression	100	Red LED		M12 connector plug
ML17-8-450/115/136	Diffuse mode sensor, energetic	450	Infrared LED	Potentiometer	Fixed cable
ML17-8-450/115b/136	Diffuse mode sensor, energetic	450	Infrared LED	Potentiometer	Fixed cable with M12 plug
ML17-8-450/136/143	Diffuse mode sensor, energetic	450	Infrared LED	Potentiometer	M8 connector plug
ML17-8-450/73/136	Diffuse mode sensor, energetic	450	Infrared LED	Potentiometer	M12 connector plug



Accessories	
OMH-ML17	Mounting bracket
OMH-ML17-1	Mounting bracket
OMH-ML17-EZ	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

ML29 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Voltage type	DC
Housing length L	9.2 mm
Housing width W	11.6 mm
Housing height H	85.2 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	UB (min)	UB (max)	Connection type	EAC
ML29T-P/32/59/115 100mm	2500	PNP	10	32	Fixed cable	
ML29-2P/25/103/143	5000	PNP	11	30	Other	
ML29-P/25/102/115	6000	NPN	11	30	Fixed cable	
ML29-P/25/102/143	6000	NPN	11	30	Other	
ML29-P/25/103/115	6000	PNP	11	30	Fixed cable	■
ML29-P/25/103/143	6000	PNP	11	30	Other	
ML29-P/59/102/115	6000	NPN	11	30	Fixed cable	
ML29-P/59/102/143	6000	NPN	11	30	Other	
ML29-P/59/103/115	6000	PNP	11	30	Fixed cable	
ML29-P/59/103/143	6000	PNP	11	30	Other	

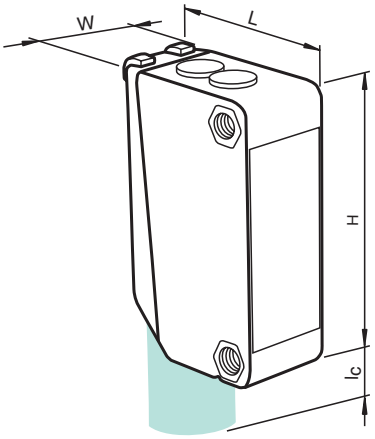
Accessories	
ML29 Front Plate	Front panel for ML29 series thru-beam sensors

ML100 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Operating elements	Output type	Connection type	E1 type approval
M100/MV100-RT/76a/103/115	10000	Red LED	Potentiometer	PNP	Fixed cable	
M100/MV100-RT/76a/103/115a	10000	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	
M100/MV100-RT/76a/95/103	10000	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/76a/98/103	10000	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/76b/102/115	10000	Red LED	Potentiometer	NPN	Fixed cable	
M100/MV100-RT/76b/102/115a	10000	Red LED	Potentiometer	NPN	Fixed cable with M8 plug	
M100/MV100-RT/76b/95/102	10000	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-RT/76b/98/102	10000	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-IR/76a/103/115	15000	Infrared LED	Potentiometer	PNP	Fixed cable	
M100/MV100-IR/76a/95/103	15000	Infrared LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-IR/76b/102/115	15000	Infrared LED	Potentiometer	NPN	Fixed cable	
M100/MV100-IR/95/120/154	15000	Infrared LED		PNP	M8 connector plug	■
M100/MV100-RT/35/102/115/154	20000	Red LED		NPN	Fixed cable	
M100/MV100-RT/35/103/115/154	20000	Red LED		PNP	Fixed cable	
M100/MV100-RT/35/76a/103/115	20000	Red LED	Potentiometer	PNP	Fixed cable	
M100/MV100-RT/35/76a/95/103	20000	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/35/76a/98/103	20000	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/35/76b/102/115	20000	Red LED	Potentiometer	NPN	Fixed cable	
M100/MV100-RT/35/76b/95/102	20000	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-RT/35/76b/98/102	20000	Red LED	Potentiometer	NPN	M8 connector plug	



Accessories	
OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid
OMH-ML100-01	Mounting aid, mounting bracket
OMH-ML100-02	Mounting aid, mounting bracket
OMH-ML100-04	Mounting aid, mounting bracket
OMH-ML100-05	Mounting aid, mounting bracket
OMH-ML100-09	Mounting aid for circular profile ø 12 mm or flat profile 1.5 mm … 3 mm
OMH-ML100-S1	Mounting bracket
OMH-ML100-S2	Mounting aid, mounting bracket
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

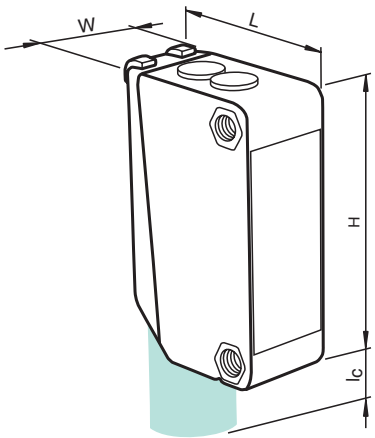
ML100 Series
Retroreflective Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	EAC	UL	E1
ML100-55-G/102/115	With polarization filter	2500	Red LED	Potentiometer	NPN	Fixed cable		■	
ML100-55-G/103/115	With polarization filter	2500	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-55-G/95/102	With polarization filter	2500	Red LED	Potentiometer	NPN	M8 connector plug		■	
ML100-55-G/95/103	With polarization filter	2500	Red LED	Potentiometer	PNP	M8 connector plug		■	
ML100-54-F/102/115	With polarization filter	2700	Red LED	Potentiometer	NPN	Fixed cable		■	
ML100-54-F/103/115	With polarization filter	2700	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-54-F/103/115b	With polarization filter	2700	Red LED	Potentiometer	PNP	Fixed cable with M12 plug		■	
ML100-54-F/25/102/115/154	With polarization filter	2700	Red LED		NPN	Fixed cable		■	
ML100-54-F/25/103/115/154	With polarization filter	2700	Red LED		PNP	Fixed cable		■	
ML100-54-F/25/103/115a/154	With polarization filter	2700	Red LED		PNP	Fixed cable with M8 plug		■	
ML100-54-F/25/103/115b/154	With polarization filter	2700	Red LED		PNP	Fixed cable with M12 plug		■	
ML100-54-F/25/95/102/154	With polarization filter	2700	Red LED		NPN	M8 connector plug		■	
ML100-54-F/25/95/103/154	With polarization filter	2700	Red LED		PNP	M8 connector plug		■	
ML100-54-F/95/102	With polarization filter	2700	Red LED	Potentiometer	NPN	M8 connector plug		■	
ML100-54-F/95/103	With polarization filter	2700	Red LED	Potentiometer	PNP	M8 connector plug		■	
ML100-54/102/115	With polarization filter	3500	Red LED	Potentiometer	NPN	Fixed cable		■	
ML100-54/103/115	With polarization filter	3500	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-54/59/82a/103/115a/154	With polarization filter	3500	Red LED		PNP	Fixed cable with M8 plug		■	
ML100-54/95/102	With polarization filter	3500	Red LED	Potentiometer	NPN	M8 connector plug		■	
ML100-54/95/103	With polarization filter	3500	Red LED	Potentiometer	PNP	M8 connector plug		■	
ML100-55/102/115	With polarization filter	5000	Red LED	Potentiometer	NPN	Fixed cable		■	
ML100-55/103/115	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-55/103/115a	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	■	■	
ML100-55/103/115b	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M12 plug	■	■	
ML100-55/115b/120	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M12 plug		■	
ML100-55/25/103/115b/154	With polarization filter	5000	Red LED		PNP	Fixed cable with M12 plug		■	
ML100-55/25/115b/120/154	With polarization filter	5000	Red LED		PNP	Fixed cable with M12 plug		■	
ML100-55/25/95/103/154	With polarization filter	5000	Red LED		PNP	M8 connector plug		■	
ML100-55/33/103/115-5M	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-55/33/103/115a	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M8 plug		■	
ML100-55/59/103/115	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable		■	
ML100-55/59/103/115a/154	With polarization filter	5000	Red LED		PNP	Fixed cable with M8 plug		■	
ML100-55/59/103/115b	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M12 plug		■	
ML100-55/59/95/103	With polarization filter	5000	Red LED	Potentiometer	PNP	M8 connector plug	■	■	
ML100-55/59/95/103/154	With polarization filter	5000	Red LED		PNP	M8 connector plug		■	
ML100-55/59/98/103/154	With polarization filter	5000	Red LED		PNP	M8 connector plug		■	
ML100-55/82a/103/115a	With polarization filter	5000	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	■	■	
ML100-55/95/102	With polarization filter	5000	Red LED	Potentiometer	NPN	M8 connector plug		■	
ML100-55/95/103	With polarization filter	5000	Red LED	Potentiometer	PNP	M8 connector plug	■	■	
ML100-55/98/102	With polarization filter	5000	Red LED	Potentiometer	NPN	M8 connector plug		■	

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Connection type	EAC	UL	E1
ML100-55/98/103	With polarization filter	5000	Red LED	Potentiometer	PNP	M8 connector plug		■	
ML100-6-IR/102/115	Without polarization filter	5000	Infrared LED	Potentiometer	NPN	Fixed cable		■	■
ML100-6-IR/103/115	Without polarization filter	5000	Infrared LED	Potentiometer	PNP	Fixed cable		■	■
ML100-6-IR/33/102/115	Without polarization filter	5000	Infrared LED	Potentiometer	NPN	Fixed cable		■	■
ML100-6-IR/95/102	Without polarization filter	5000	Infrared LED	Potentiometer	NPN	M8 connector plug		■	■
ML100-6-IR/95/103	Without polarization filter	5000	Infrared LED	Potentiometer	PNP	M8 connector plug		■	■



Accessories	
OFR-70-2	Optical reflective film, 70 mm x 70 mm
OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid
OMH-ML100-01	Mounting aid, mounting bracket
OMH-ML100-03	Mounting bracket for circular profiles ø 12 mm or flat profiles 1.5 mm
OMH-ML100-04	Mounting aid, mounting bracket
OMH-ML100-05	Mounting aid, mounting bracket
OMH-ML100-08	Mounting aid, snap-on mounting
OMH-ML100-09	Mounting bracket for circular profiles ø 12 mm or flat profiles 1.5 mm
OMH-ML100-S1	Mounting bracket

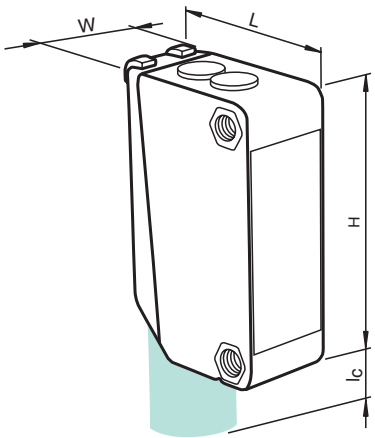
ML100 Series
Diffuse Mode Sensors

Standard Technical Data	
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

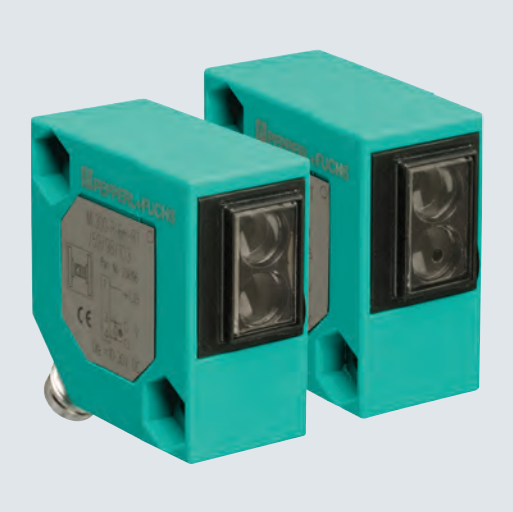
Model number	Function principle	Detection range [mm]	Light type	Output type	Connection type	EAC
ML100-8-HW-350-RT/95/103	With background evaluation	350	Red LED	PNP	M8 connector plug	
ML100-8-H-100-RT/102/115	With background suppression	100	Red LED	NPN	Fixed cable	
ML100-8-H-100-RT/103/115	With background suppression	100	Red LED	PNP	Fixed cable	
ML100-8-H-100-RT/103/115a	With background suppression	100	Red LED	PNP	Fixed cable with M8 plug	
ML100-8-H-100-RT/95/102	With background suppression	100	Red LED	NPN	M8 connector plug	
ML100-8-H-100-RT/95/103	With background suppression	100	Red LED	PNP	M8 connector plug	
ML100-8-H-100/115/120/162	With background suppression	100	Red LED	PNP	Fixed cable	
ML100-8-H-100/115/127/162	With background suppression	100	Red LED	NPN	Fixed cable	
ML100-8-H-100/95/120/162	With background suppression	100	Red LED	PNP	M8 connector plug	
ML100-8-H-100/95/127/162	With background suppression	100	Red LED	NPN	M8 connector plug	
ML100-8-HGU-100-RT/102/115/162	With convergent beam	100	Red LED	NPN	Fixed cable	
ML100-8-HGU-100-RT/103/115/162	With convergent beam	100	Red LED	PNP	Fixed cable	
ML100-8-HGU-100-RT/95/102/162	With convergent beam	100	Red LED	NPN	M8 connector plug	
ML100-8-HGU-100-RT/95/103/162	With convergent beam	100	Red LED	PNP	M8 connector plug	
ML100-8-H-200-IR/102/115	With background suppression	200	Infrared LED	NPN	Fixed cable	
ML100-8-H-200-IR/103/115	With background suppression	200	Infrared LED	PNP	Fixed cable	
ML100-8-H-200-IR/95/102	With background suppression	200	Infrared LED	NPN	M8 connector plug	
ML100-8-H-200-IR/95/103	With background suppression	200	Infrared LED	PNP	M8 connector plug	
ML100-8-W-200-RT/95/103	Energetic	200	Red LED	PNP	M8 connector plug	
ML100-8-W-200-RT/102/115	Energetic	200	Red LED	NPN	Fixed cable	
ML100-8-W-200-RT/102/115b	Energetic	200	Red LED	NPN	Fixed cable with M12 plug	
ML100-8-W-200-RT/103/115	Energetic	200	Red LED	PNP	Fixed cable	
ML100-8-W-200-RT/103/115b	Energetic	200	Red LED	PNP	Fixed cable with M12 plug	
ML100-8-W-200-RT/95/102	Energetic	200	Red LED	NPN	M8 connector plug	
ML100-8-H-350-RT/102/115	With background suppression	350	Red LED	NPN	Fixed cable	
ML100-8-H-350-RT/102/115a	With background suppression	350	Red LED	NPN	Fixed cable with M8 plug	
ML100-8-H-350-RT/103/115	With background suppression	350	Red LED	PNP	Fixed cable	
ML100-8-H-350-RT/103/115a	With background suppression	350	Red LED	PNP	Fixed cable with M8 plug	
ML100-8-H-350-RT/103/115b	With background suppression	350	Red LED	PNP	Fixed cable with M12 plug	
ML100-8-H-350-RT/33/103/115a	With background suppression	350	Red LED	PNP	Fixed cable with M8 plug	
ML100-8-H-350-RT/33/103/115b	With background suppression	350	Red LED	PNP	Fixed cable with M12 plug	
ML100-8-H-350-RT/95/102	With background suppression	350	Red LED	NPN	M8 connector plug	
ML100-8-H-350-RT/95/103	With background suppression	350	Red LED	PNP	M8 connector plug	
ML100-8-H-350-RT/98/102	With background suppression	350	Red LED	NPN	M8 connector plug	
ML100-8-H-350-RT/98/103	With background suppression	350	Red LED	PNP	M8 connector plug	
ML100-8-HW-350-RT/102/115	With background evaluation	350	Red LED	NPN	Fixed cable	
ML100-8-HW-350-RT/103/115	With background evaluation	350	Red LED	PNP	Fixed cable	
ML100-8-HW-350-RT/95/102	With background evaluation	350	Red LED	NPN	M8 connector plug	
ML100-8-1000-RT/102/115	Energetic	1000	Red LED	NPN	Fixed cable	
ML100-8-1000-RT/103/115	Energetic	1000	Red LED	PNP	Fixed cable	

Model number	Function principle	Detection range [mm]	Light type	Output type	Connection type	EAC
ML100-8-1000-RT/103/115a-1M	Energetic	1000	Red LED	PNP	Fixed cable with M8 plug	■
ML100-8-1000-RT/103/115b	Energetic	1000	Red LED	PNP	Fixed cable with M12 plug	■
ML100-8-1000-RT/95/102	Energetic	1000	Red LED	NPN	M8 connector plug	
ML100-8-1000-RT/95/103	Energetic	1000	Red LED	PNP	M8 connector plug	
ML100-8-1000-RT/98/102	Energetic	1000	Red LED	NPN	M8 connector plug	
ML100-8-1000-RT/98/103	Energetic	1000	Red LED	PNP	M8 connector plug	



Accessories	
OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid
OMH-ML100-01	Mounting aid, mounting bracket
OMH-ML100-02	Mounting aid, mounting bracket
OMH-ML100-03	Mounting aid for circular profile ø 12 mm or flat profiles 1.5 mm … 3 mm
OMH-ML100-04	Mounting aid, mounting bracket
OMH-ML100-05	Mounting aid, mounting bracket
OMH-ML100-09	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-S1	Mounting bracket
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

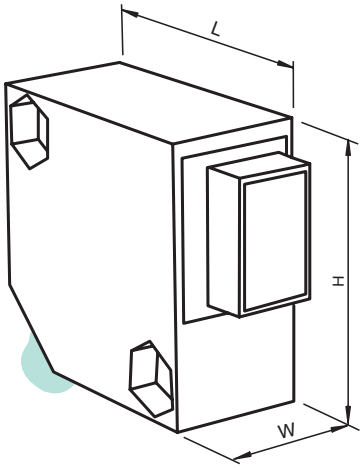
ML300 Series
Thru-Beam Sensors



Standard Technical Data	
Function principle	Thru-beam sensor
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	15 mm
Housing width W	30 mm
Housing height H	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type	EAC
ML300-P-6m-RT/25/102/115	6000	Red LED	NPN	Fixed cable	
ML300-P-6m-RT/25/103/115	6000	Red LED	PNP	Fixed cable	
ML300-P-6m-RT/25/98/102	6000	Red LED	NPN	M8 connector plug	
ML300-P-6m-RT/25/98/103	6000	Red LED	PNP	M8 connector plug	■
ML300-P-6m-RT/59/102/115	6000	Red LED	NPN	Fixed cable	
ML300-P-6m-RT/59/103/115	6000	Red LED	PNP	Fixed cable	
ML300-P-6m-RT/59/98/102	6000	Red LED	NPN	M8 connector plug	
ML300-P-6m-RT/59/98/103	6000	Red LED	PNP	M8 connector plug	
ML300-P-12m-IR/76b/115/120	12000	Infrared LED	PNP	Fixed cable	
ML300-P-12m-IR/76b/115/127	12000	Infrared LED	NPN	Fixed cable	
ML300-P-12m-IR/76b/82d/103/115	12000	Infrared LED	PNP	Fixed cable	
ML300-P-12m-IR/76b/82d/95/103	12000	Infrared LED	PNP	M8 connector plug	
ML300-P-12m-IR/76b/95/120	12000	Infrared LED	PNP	M8 connector plug	
ML300-P-12m-IR/76b/95/127	12000	Infrared LED	NPN	M8 connector plug	



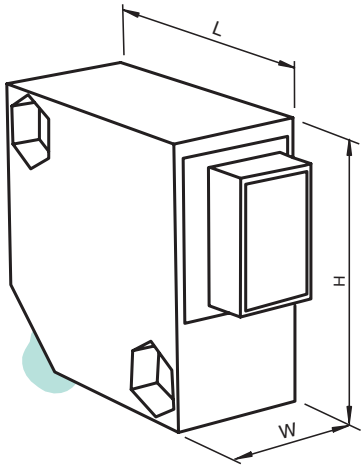
Accessories	
OMH-ML300-01	Mounting bracket for ML300 series sensors
OMH-ML300-02	Mounting bracket for ML300 series sensors
V3-GM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V31-GM-2M-PVC	Single-ended female cordset, M8, 4-pin, PVC cable
V31-WM-5M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

ML300 Series
Retroreflective Sensors

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Light type	Red LED
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	15 mm
Housing width W	30 mm
Housing height H	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Connection type
ML300-55-2m-RT/25/102/115	2000	NPN	Fixed cable
ML300-55-2m-RT/25/103/115	2000	PNP	Fixed cable
ML300-55-2m-RT/25/98/102	2000	NPN	M8 connector plug
ML300-55-2m-RT/25/98/103	2000	PNP	M8 connector plug
ML300-55-2m-RT/59/102/115	2000	NPN	Fixed cable
ML300-55-2m-RT/59/103/115	2000	PNP	Fixed cable
ML300-55-2m-RT/59/98/102	2000	NPN	M8 connector plug
ML300-55-2m-RT/59/98/103	2000	PNP	M8 connector plug
ML300-55-6m-RT/25/115/120	6000	PNP	Fixed cable
ML300-55-6m-RT/25/115/127	6000	NPN	Fixed cable
ML300-55-6m-RT/25/82d/103/115	6000	PNP	Fixed cable
ML300-55-6m-RT/25/82d/95/103	6000	PNP	M8 connector plug
ML300-55-6m-RT/25/95/120	6000	PNP	M8 connector plug
ML300-55-6m-RT/25/95/127	6000	NPN	M8 connector plug



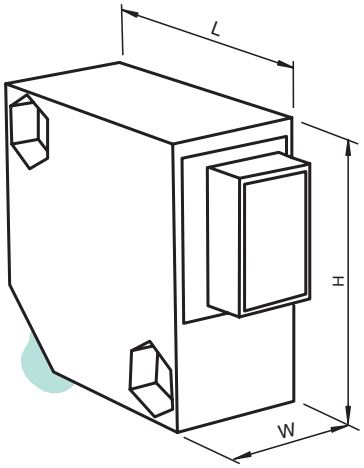
Accessories	
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-ML300-01	Mounting bracket
OMH-ML300-02	Mounting bracket on 35 mm DIN mounting rail
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H60-2	Reflector with mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V3-GM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V3-WM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V31-GM-2M-PVC	Single-ended female cordset, M8, 4-pin, PVC cable

ML300 Series
Diffuse Mode Sensors

Standard Technical Data	
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	15 mm
Housing width W	30 mm
Housing height H	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	UB (min)	Connection type
ML300-8-100-RT/79a/115/122	Energetic	100	Red LED		Analog output	15	Fixed cable
ML300-8-100-RT/79a/95/122	Energetic	100	Red LED		Analog output	15	M8 connector plug
ML300-8-H-200-RT/59/98/103	With background suppression	200	Red LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-H-200-RT/25/115/120	With background suppression	200	Red LED	Potentiometer	PNP	10	Fixed cable
ML300-8-H-200-RT/25/115/127	With background suppression	200	Red LED	Potentiometer	NPN	10	Fixed cable
ML300-8-H-200-RT/25/95/120	With background suppression	200	Red LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-H-200-RT/25/95/127	With background suppression	200	Red LED	Potentiometer	NPN	10	M8 connector plug
ML300-8-H-200-RT/25/98/102	With background suppression	200	Red LED	Potentiometer	NPN	10	M8 connector plug
ML300-8-H-200-RT/25/98/103	With background suppression	200	Red LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-600-RT/59/98/103	Energetic	600	Red LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-600-RT/25/102/115	Energetic	600	Red LED	Potentiometer	NPN	10	Fixed cable
ML300-8-600-RT/25/103/115	Energetic	600	Red LED	Potentiometer	PNP	10	Fixed cable
ML300-8-600-RT/25/98/102	Energetic	600	Red LED	Potentiometer	NPN	10	M8 connector plug
ML300-8-600-RT/25/98/103	Energetic	600	Red LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-600-RT/59/102/115	Energetic	600	Red LED	Potentiometer	NPN	10	Fixed cable
ML300-8-600-RT/59/103/115	Energetic	600	Red LED	Potentiometer	PNP	10	Fixed cable
ML300-8-600-RT/59/98/102	Energetic	600	Red LED	Potentiometer	NPN	10	M8 connector plug
ML300-8-1200-IR/25/115/120	Energetic	1200	Infrared LED	Potentiometer	PNP	10	Fixed cable
ML300-8-1200-IR/25/115/127	Energetic	1200	Infrared LED	Potentiometer	NPN	10	Fixed cable
ML300-8-1200-IR/25/82d/103/115	Energetic	1200	Infrared LED	Potentiometer	PNP	10	Fixed cable
ML300-8-1200-IR/25/82d/95/103	Energetic	1200	Infrared LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-1200-IR/25/95/120	Energetic	1200	Infrared LED	Potentiometer	PNP	10	M8 connector plug
ML300-8-1200-IR/25/95/127	Energetic	1200	Infrared LED	Potentiometer	NPN	10	M8 connector plug



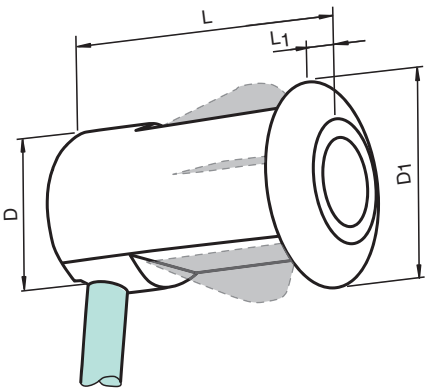
Accessories	
OMH-ML300-01	Mounting bracket
OMH-ML300-02	Mounting bracket on 35 mm DIN mounting rail
V3-GM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PVC	Single-ended female cordset, M8, 3-pin, PVC cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PVC	Single-ended female cordset, M8, 4-pin, PVC cable

BB10 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	22 mm
Housing diameter D	12.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Connection type	E1 type approval
BB10-P-F1/25/33/35/102/115-7m	3000	NPN	Fixed cable	■
BB10-P-F1/25/33/35/103/115-7m	3000	PNP	Fixed cable	■
BB10-P-F1/33/35/59/102/115-7m	3000	NPN	Fixed cable	■
BB10-P-F1/33/35/59/103/115-7m	3000	PNP	Fixed cable	■
BB10-P-F2/25/33/35/102/115-7m	3000	NPN	Fixed cable	■
BB10-P-F2/25/33/35/103/115-7m	3000	PNP	Fixed cable	■
BB10-P-F2/33/35/59/102/115-7m	3000	NPN	Fixed cable	■
BB10-P-F2/33/35/59/103/115-7m	3000	PNP	Fixed cable	■
BB10-P/25/33/76b/102/115-7m	6000	NPN	Fixed cable	■
BB10-P/25/33/76b/102/115e	6000	NPN	Fixed cable with JST plug	■
BB10-P/25/33/76b/103/115-10m	6000	PNP	Fixed cable	■
BB10-P/25/33/76b/103/115-7m	6000	PNP	Fixed cable	■
BB10-P/25/33/76b/103/115a	6000	PNP	Fixed cable with M8 plug	
BB10-P/25/33/76b/103/115e	6000	PNP	Fixed cable with JST plug	■
BB10-P/33/59/76b/102/115-7m	6000	NPN	Fixed cable	■
BB10-P/33/59/76b/103/115-7m	6000	PNP	Fixed cable	■

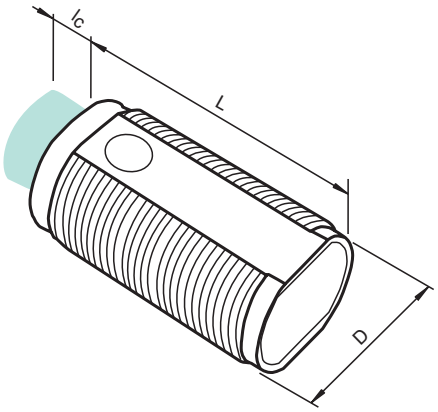


GLV18 Series
Thru-Beam Sensors

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Red LED
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC
GA18-S/GK18-S/25/115/161	12000	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GA18-S/GK18-S/59/115/161	12000	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GA18-S/GK18-S/59/161/166	12000	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GD18-S/GV18-S/115/120	12000	PNP	DC	10	30	Fixed cable	39.8		
GD18-S/GV18-S/25/102/115	12000	NPN	DC	10	30	Fixed cable	39.8		
GD18-S/GV18-S/59/102/115	12000	NPN	DC	10	30	Fixed cable	39.8		
GD18-S/GV18-S/59/102/159	12000	NPN	DC	10	30	M12 connector plug	43.9		
GD18-S/GV18-S/73/120	12000	PNP	DC	10	30	M12 connector plug	43.9		
GA18/GK18/25/115/161	20000	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GA18/GK18/25/161/166	20000	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GA18/GK18/59/115/161	20000	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GA18/GK18/59/161/166	20000	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GD18/GV18/115/120	20000	PNP	DC	10	30	Fixed cable	39.8		
GD18/GV18/25/102/115	20000	NPN	DC	10	30	Fixed cable	39.8		
GD18/GV18/25/102/159	20000	NPN	DC	10	30	M12 connector plug	43.9		
GD18/GV18/25/103/115	20000	PNP	DC	10	30	Fixed cable	39.8		
GD18/GV18/25/103/159	20000	PNP	DC	10	30	M12 connector plug	43.9		
GD18/GV18/59/102/115	20000	NPN	DC	10	30	Fixed cable	39.8		
GD18/GV18/59/102/159	20000	NPN	DC	10	30	M12 connector plug	43.9		
GD18/GV18/73/120	20000	PNP	DC	10	30	M12 connector plug	43.9		



Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
CPZ18B03	Mounting aid with swivel nut

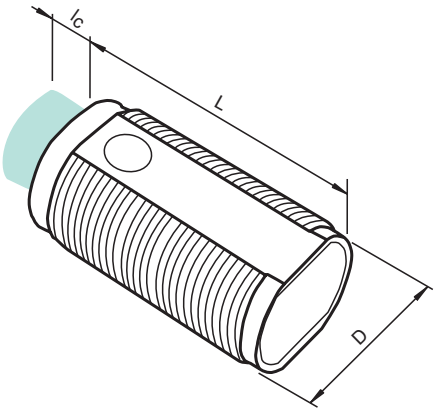
GLV18 Series
Retroreflective Sensors

Standard Technical Data	
Light type	Red LED
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC
GLV18-55-G/115/120	With polarization filter	2500	PNP	DC	10	30	Fixed cable	39.8		
GLV18-55-G/25/102/115	With polarization filter	2500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55-G/25/102/159	With polarization filter	2500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55-G/59/102/115	With polarization filter	2500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55-G/59/102/159	With polarization filter	2500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55-G/73/120	With polarization filter	2500	PNP	DC	10	30	M12 connector plug	43.9		
GLK18-55-S/25/115/161	With polarization filter	3500	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-55-S/25/161/166	With polarization filter	3500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-55-S/59/115/161	With polarization filter	3500	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-55-S/59/161/166	With polarization filter	3500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-55/25/115/161	With polarization filter	4000	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-55/25/161/166	With polarization filter	4000	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-55/59/115/161	With polarization filter	4000	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-55/59/161/166	With polarization filter	4000	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-6-S/25/115/161	Without polarization filter	5500	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-6-S/25/161/166	Without polarization filter	5500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-6-S/59/115/161	Without polarization filter	5500	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-6-S/59/161/166	Without polarization filter	5500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-6/25/115/161	Without polarization filter	6500	N-MOSFET	AC/DC	20	250	Fixed cable	60	■	■
GLK18-6/25/161/166	Without polarization filter	6500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-6/59/115/161	Without polarization filter	6500	N-MOSFET	AC/DC	20	250	Fixed cable	60	■	■
GLK18-6/59/161/166	Without polarization filter	6500	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLV18-55-S/115/120	With polarization filter	3500	PNP	DC	10	30	Fixed cable	39.8		
GLV18-55-S/25/102/115	With polarization filter	3500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55-S/25/102/159	With polarization filter	3500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55-S/25/103/159	With polarization filter	3500	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-55-S/59/102/115	With polarization filter	3500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55-S/59/102/159	With polarization filter	3500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55-S/73/120	With polarization filter	3500	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-55/115/120	With polarization filter	4000	PNP	DC	10	30	Fixed cable	39.8		
GLV18-55/115b/120	With polarization filter	4000	PNP	DC	10	30	Fixed cable with M12 plug	39.8		
GLV18-55/25/102/115	With polarization filter	4000	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55/25/102/159	With polarization filter	4000	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55/25/103/115	With polarization filter	4000	PNP	DC	10	30	Fixed cable	39.8		
GLV18-55/25/103/159	With polarization filter	4000	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-55/33/115/120 C=3,5m	With polarization filter	4000	PNP	DC	10	30	Fixed cable	39.8		
GLV18-55/59/102/115	With polarization filter	4000	NPN	DC	10	30	Fixed cable	39.8		
GLV18-55/59/102/159	With polarization filter	4000	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-55/59/103/159	With polarization filter	4000	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-55/73/120	With polarization filter	4000	PNP	DC	10	30	M12 connector plug	43.9		

Model number	Function principle	Detection range [mm]	Output type	Voltage type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC
GLV18-6-S/115/120	Without polarization filter	5500	PNP	DC	10	30	Fixed cable	39.8		
GLV18-6-S/25/102/115	Without polarization filter	5500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-6-S/59/102/115	Without polarization filter	5500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-6-S/59/102/159	Without polarization filter	5500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-6-S/73/120	Without polarization filter	5500	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-6/115/120	Without polarization filter	6500	PNP	DC	10	30	Fixed cable	39.8		
GLV18-6/25/102/115	Without polarization filter	6500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-6/25/102/159	Without polarization filter	6500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-6/25/103/115	Without polarization filter	6500	PNP	DC	10	30	Fixed cable	39.8		
GLV18-6/25/103/159	Without polarization filter	6500	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-6/59/102/115	Without polarization filter	6500	NPN	DC	10	30	Fixed cable	39.8		
GLV18-6/59/102/159	Without polarization filter	6500	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-6/73/120	Without polarization filter	6500	PNP	DC	10	30	M12 connector plug	43.9		■



Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
CPZ18B03	Mounting aid with swivel nut
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V11-G-2M-PUR	Single-ended female cordset, M12, 3-pin, PUR cable

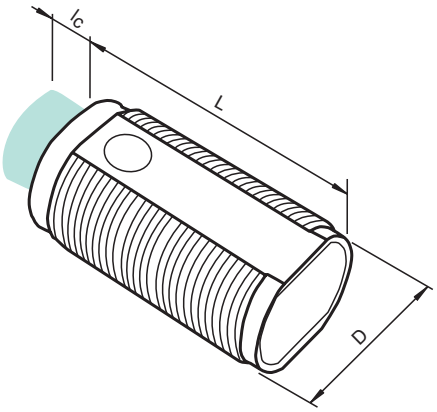
GLV18 Series
Diffuse Mode Sensors

Standard Technical Data	
Operating elements	Potentiometer
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Output type	Volt-age type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC
GLV18-8-H-120/73/120	With background suppression	120	Red LED	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-8-H-120/115/120	With background suppression	120	Red LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-H-120/25/102/115	With background suppression	120	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-H-120/25/102/159	With background suppression	120	Red LED	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-8-H-120/59/102/115	With background suppression	120	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-H-120/59/102/159	With background suppression	120	Red LED	NPN	DC	10	30	M12 connector plug	43.9		
GLK18-8-200-S/25/115/161	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-8-200-S/25/161/166	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-8-200-S/59/115/161	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-8-200/25/115/161	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-8-200/25/161/166	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-8-200/59/115/161	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-8-200/59/161/166	Energetic	200	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-8-400-S/25/115/161	Energetic	400	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	69	■	■
GLK18-8-400-S/25/161/166	Energetic	400	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	73	■	■
GLK18-8-450/25/115/161	Energetic	450	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-8-450/25/161/166	Energetic	450	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLK18-8-450/59/115/161	Energetic	450	Red LED	N-MOSFET	AC/DC	20	250	Fixed cable	56	■	■
GLK18-8-450/59/161/166	Energetic	450	Red LED	N-MOSFET	AC/DC	20	250	Micro AC connector plug	60	■	■
GLV18-8-200-S/115/120	Energetic	200	Red LED	PNP	DC	10	30	Fixed cable	53.2		
GLV18-8-200-S/25/102/115	Energetic	200	Red LED	NPN	DC	10	30	Fixed cable	53.2		
GLV18-8-200-S/25/102/159	Energetic	200	Red LED	NPN	DC	10	30	M12 connector plug	57.3		
GLV18-8-200-S/73/120	Energetic	200	Red LED	PNP	DC	10	30	M12 connector plug	57.3		
GLV18-8-200/115/120	Energetic	200	Red LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-200/25/102/115	Energetic	200	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-200/25/102/159	Energetic	200	Red LED	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-8-200/25/33/102/115 K=5m	Energetic	200	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-200/33/115/120 C=5m	Energetic	200	Red LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-200/59/102/115	Energetic	200	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-200/59/103/115	Energetic	200	Red LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-200/59/103/159	Energetic	200	Red LED	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-8-200/73/120	Energetic	200	Red LED	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-8-400-S/115/120	Energetic	400	Red LED	PNP	DC	10	30	Fixed cable	53.2		
GLV18-8-400-S/25/102/115	Energetic	400	Red LED	NPN	DC	10	30	Fixed cable	53.2		
GLV18-8-400-S/25/102/159	Energetic	400	Red LED	NPN	DC	10	30	M12 connector plug	57.3		
GLV18-8-400-S/59/102/159	Energetic	400	Red LED	NPN	DC	10	30	M12 connector plug	57.3		
GLV18-8-400-S/73/120	Energetic	400	Red LED	PNP	DC	10	30	M12 connector plug	57.3		
GLV18-8-450/115/120	Energetic	450	Red LED	PNP	DC	10	30	Fixed cable	39.8		

Model number	Function principle	Detection range [mm]	Light type	Output type	Volt-age type	UB (min)	UB (max)	Connection type	Length L	CCC	EAC
GLV18-8-450/25/102/115	Energetic	450	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-450/25/102/159	Energetic	450	Red LED	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-8-450/59/102/115	Energetic	450	Red LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-450/59/102/159	Energetic	450	Red LED	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-8-450/59/103/115	Energetic	450	Red LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-450/59/103/159	Energetic	450	Red LED	PNP	DC	10	30	M12 connector plug	43.9		
GLV18-8-450/73/120	Energetic	450	Red LED	PNP	DC	10	30	M12 connector plug	43.9		■
GLV18-8-600-IR/115/120	Energetic	600	Infrared LED	PNP	DC	10	30	Fixed cable	39.8		
GLV18-8-600-IR/25/102/115	Energetic	600	Infrared LED	NPN	DC	10	30	Fixed cable	39.8		
GLV18-8-600-IR/25/102/159	Energetic	600	Infrared LED	NPN	DC	10	30	M12 connector plug	43.9		
GLV18-8-600-IR/73/120	Energetic	600	Infrared LED	PNP	DC	10	30	M12 connector plug	43.9		



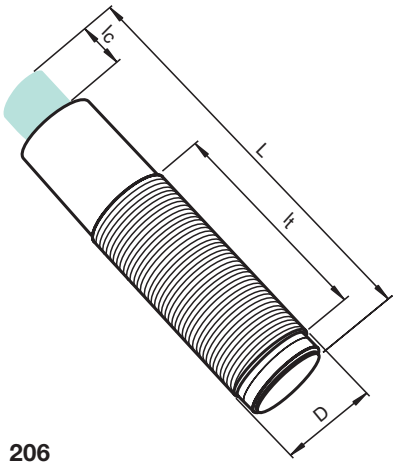
Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
CPZ18B03	Mounting aid with swivel nut
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V11-G-2M-PUR	Single-ended female cordset, M12, 3-pin, PUR cable

12GM Series

Standard Technical Data	
Light type	Red LED
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Output type	Connection type	Length L
OBD300-12GM40-E4	Diffuse mode sensor, energetic	300	NPN	Fixed cable	45
OBD300-12GM40-E4-V1	Diffuse mode sensor, energetic	300	NPN	M12 connector plug	55
OBD300-12GM40-E5	Diffuse mode sensor, energetic	300	PNP	Fixed cable	45
OBD300-12GM40-E5-V1	Diffuse mode sensor, energetic	300	PNP	M12 connector plug	55
OBR2500-12GM40-E5-V1	Retroreflective sensor with polarization filter	2500	PNP	M12 connector plug	55
OBR2500-12GM40-E4	Retroreflective sensor with polarization filter	2500	NPN	Fixed cable	45
OBR2500-12GM40-E4-V1	Retroreflective sensor with polarization filter	2500	NPN	M12 connector plug	55
OBR2500-12GM40-E5	Retroreflective sensor with polarization filter	2500	PNP	Fixed cable	45
OBE6000-12GM40-SE4	Thru-beam sensor	6000	NPN	Fixed cable	45
OBE6000-12GM40-SE4-V1	Thru-beam sensor	6000	NPN	M12 connector plug	55
OBE6000-12GM40-SE5	Thru-beam sensor	6000	PNP	Fixed cable	45
OBE6000-12GM40-SE5-V1	Thru-beam sensor	6000	PNP	M12 connector plug	55



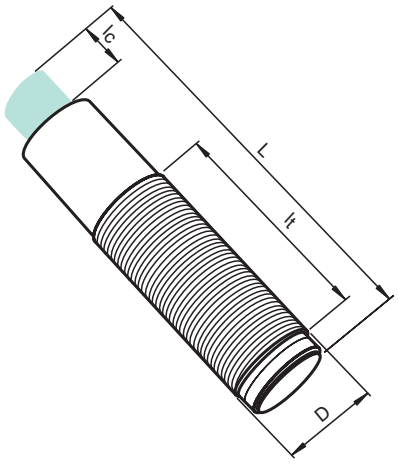
Accessories	
BF 12	Mounting adapter, 12 mm
BF 12-F	Plastic mounting adapter, 12 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-VR10	Rectangular reflector, 60 mm x 19 mm, mounting holes
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

18GM Series

Standard Technical Data	
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	60 mm
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Output type	Connection type	EAC
OBT200-18GM60-E4	Diffuse mode sensor, energetic	200	Infrared LED	NPN	Fixed cable	
OBT200-18GM60-E4-V1	Diffuse mode sensor, energetic	200	Infrared LED	NPN	M12 connector plug	
OBT200-18GM60-E5	Diffuse mode sensor, energetic	200	Infrared LED	PNP	Fixed cable	
OBT200-18GM60-E5-V1	Diffuse mode sensor, energetic	200	Infrared LED	PNP	M12 connector plug	
OBT500-18GM60-E4	Diffuse mode sensor, energetic	500	Infrared LED	NPN	Fixed cable	
OBT500-18GM60-E4-V1	Diffuse mode sensor, energetic	500	Infrared LED	NPN	M12 connector plug	
OBT500-18GM60-E5	Diffuse mode sensor, energetic	500	Infrared LED	PNP	Fixed cable	
OBT500-18GM60-E5-V1	Diffuse mode sensor, energetic	500	Infrared LED	PNP	M12 connector plug	■
OBS4000-18GM60-E5-V1	Retroreflective sensor with polarization filter	4000	Red LED	PNP	M12 connector plug	■
OBS4000-18GM60-E4	Retroreflective sensor with polarization filter	4000	Red LED	NPN	Fixed cable	
OBS4000-18GM60-E4-V1	Retroreflective sensor with polarization filter	4000	Red LED	NPN	M12 connector plug	
OBS4000-18GM60-E5	Retroreflective sensor with polarization filter	4000	Red LED	PNP	Fixed cable	
OBE10M-18GM60-RT-SE4	Thru-beam sensor	10000	Red LED	NPN	Fixed cable	
OBE10M-18GM60-RT-SE4-V1	Thru-beam sensor	10000	Red LED	NPN	M12 connector plug	
OBE10M-18GM60-RT-SE5-V1	Thru-beam sensor	10000	Red LED	PNP	M12 connector plug	
OBE10M-18GM60-SE4	Thru-beam sensor	10000	Infrared LED	NPN	Fixed cable	
OBE10M-18GM60-SE4-V1	Thru-beam sensor	10000	Infrared LED	NPN	M12 connector plug	
OBE10M-18GM60-SE5	Thru-beam sensor	10000	Infrared LED	PNP	Fixed cable	
OBE10M-18GM60-SE5-V1	Thru-beam sensor	10000	Infrared LED	PNP	M12 connector plug	



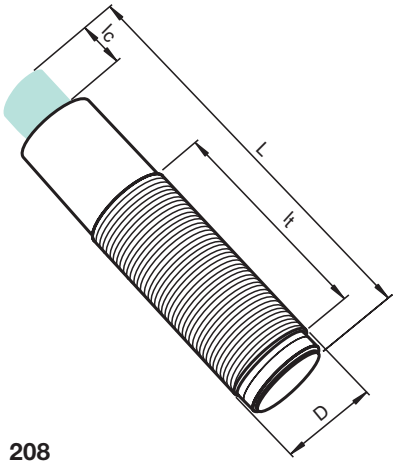
Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
CPZ18B03	Mounting aid with swivel nut
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

VL18 Series

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Function principle	Detection range [mm]	Light type	Operating elements	Output type	Length L	UL
VT18-8-H-120-M/40a/65b/118/128	Triangulation sensor with background suppression	120	Red LED	Potentiometer	1 x push-pull	65	■
VT18-8-H-120-M/30/40a/65b/118	Triangulation sensor with background suppression	120	Red LED	Potentiometer	NPN	65	■
VT18-8-H-120-M/32/40a/65b/118	Triangulation sensor with background suppression	120	Red LED	Potentiometer	PNP	65	■
VT18-8-400-M/40a/118/128	Diffuse mode sensor, energetic	400	Red LED	Potentiometer	1 x push-pull	65	■
VT18-8-400-M-LAS/30/40a/118	Diffuse mode sensor, energetic	400	Red laser diode	Potentiometer	NPN	65	■
VT18-8-400-M-LAS/32/40a/118	Diffuse mode sensor, energetic	400	Red laser diode	Potentiometer	PNP	65	■
VT18-8-400-M-LAS/40a/118/128	Diffuse mode sensor, energetic	400	Red laser diode	Potentiometer	1 x push-pull	65	■
VT18-8-400-M/30/40a/118	Diffuse mode sensor, energetic	400	Red LED	Potentiometer	NPN	65	■
VT18-8-400-M/32/40a/118	Diffuse mode sensor, energetic	400	Red LED	Potentiometer	PNP	65	■
VL18-54-MS/40a/118/128	Retroreflective sensor with polarization filter	3500	Red LED	Potentiometer	1 x push-pull	65	■
VL18-54-M/32/40a/82b/118	Retroreflective sensor with polarization filter	3500	Red LED	Potentiometer	PNP	65	■
VL18-54-M/40a/118/128	Retroreflective sensor with polarization filter	3500	Red LED	Potentiometer	1 x push-pull	65	■
VL18-54-MS/32/40a/82b/118	Retroreflective sensor with polarization filter	3500	Red LED	Potentiometer	PNP	65	■
E18-LAS/EV18-LAS/25/32/76a/92	Thru-beam sensor	10000	Red laser diode		PNP	80	
E18/EV18-LAS/32/59/76a/92	Thru-beam sensor	10000	Red laser diode		PNP	80	
VL18-54-M-LAS/30/40a/118/126b	Retroreflective sensor with polarization filter	18000	Red laser diode	Potentiometer	NPN	65	■
VL18-54-M-LAS/32/40a/82b/118	Retroreflective sensor with polarization filter	18000	Red laser diode	Potentiometer	PNP	65	■
VL18-54-M-LAS/40a/118/128	Retroreflective sensor with polarization filter	18000	Red laser diode	Potentiometer	1 x push-pull	65	■
VS18/VSE18-M-LAS/32/40a/76a/82b/118	Thru-beam sensor	60000	Red laser diode	Potentiometer	PNP	65	■
VS18/VSE18-M-LAS/40a/76a/118/128	Thru-beam sensor	60000	Red laser diode	Potentiometer	1 x push-pull	65	■



Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
OMH-VL18	Mounting aid with swivel nut
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

68307 Mannheim, Germany

Photoelectric Distance Sensors

Intelligent Functionality for Incredible Precision

Extensive knowledge of engineering enables Pepperl+Fuchs to produce distance-based photoelectric sensors that use the innovative PRT (Pulse Ranging Technology) and MPT (Multi Pixel Technology) measuring principles. This integrated intelligence ensures the highest levels of precision and safety during object detection.

2-D LiDAR Sensors

The R2000 series 2-D laser scanners with 360° measuring angle achieve maximum power in the most compact housing design. The R2100 multi-ray LED scanner guarantees maximum robustness and cost efficiency. The optimized portfolio of 2-D LiDAR sensors from Pepperl+Fuchs thus offers solutions from basic to high-end applications.

Typical Applications

- Navigation of driverless transport systems
- Profile detection in robotics applications
- Collision avoidance in automated storage and retrieval systems or suspended conveyor systems
- Detection of overhangs, e.g., for pallets
- Highly precise monitoring of large areas

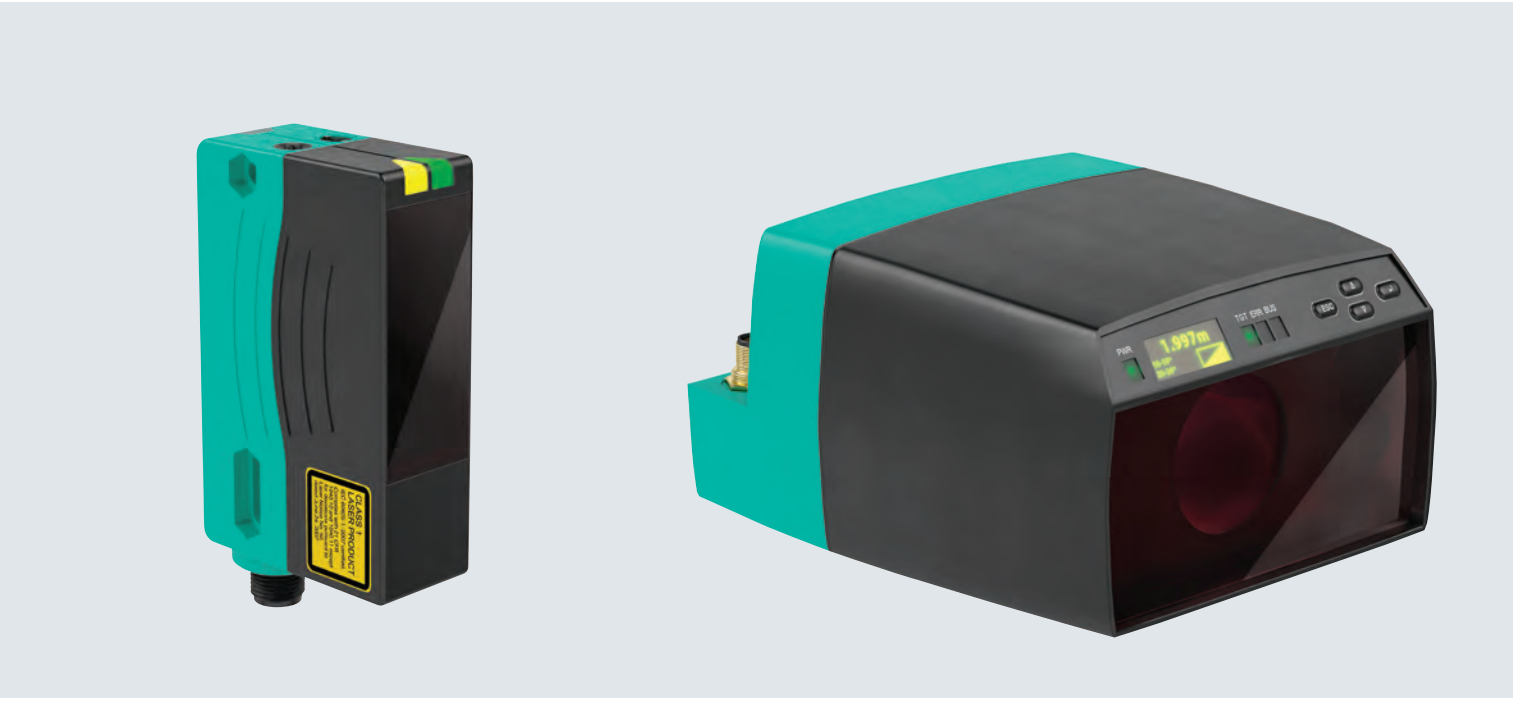
The Benefits of Selected 2-D LiDAR Sensors at a Glance

R2000 UHD 2-D laser scanner:

- Small light spot for detecting the smallest of objects and precise edge detection
- All-round visibility thanks to 360° measuring angle and up to 100 m detection range
- Optimized for quick measurement applications with a high scan rate of 100 Hz
- Highest angular resolution of 0.014° for highly precise navigation and positioning tasks

R2100 multi-ray LED scanner:

- LED measurement guarantees a long service life
- Ideal for mechanically demanding applications as there are no moving parts in the sensor
- 2-D measurement over 11 individual beams
- Large light spots tolerate different surface structures



Pulse Ranging Technology (PRT) for Medium to Very Long Ranges

Equipped with the innovative Pulse ranging Technology (PRT), the distance sensors from Pepperl+Fuchs detect objects at distances from a few centimeters to several hundred meters with millimeter precision. Thanks to intelligent sensor electronics, PRT allows highly accurate, reliable, and clear measurements with high repeatability and fast response times, even with difficult environmental conditions and object properties. The VDM28 series offers stable production processes thanks to high immunity and resistance to environmental influences. It offers a wide range of applications thanks to the availability of switching and measuring sensors, including with IO-Link. The VDM100 distance measurement devices offer increased productivity with ultra-fast, continuous measurement and high reliability with a measuring range of up to 300 m and an accuracy of 0.5 mm.

Typical Applications

- Positioning of automated storage and retrieval systems, portal cranes, or moving carriages
- Level measurement
- Compartment occupied check in high-bay warehouses
- Stack height control
- Thickness measurement of coils

Multi Pixel Technology (MPT) for Near-Range Applications

Multi Pixel Technology from Pepperl+Fuchs uses the proven triangulation principle for the precise measurement of distances to shorter distances. Target objects are clearly distinguished from the background, while adjustable operating modes allow interfering objects in the foreground or background to be reliably suppressed. No other technology provides greater reliability in object detection at short distances.

The R10x and R20x series offer an end-to-end solution of photoelectric functional principles and innovative technologies in an identical housing. Equipped with IO-Link, the series meet all the requirements of Sensorik4.0.

Typical Applications

- Well suited for simple and complex applications
- Detection of objects with changing object surface and structure
- Evaluation of multiple switching thresholds or switching windows
- Suitable for applications in highly fluctuating ambient conditions

Distance Sensors

Contents

R100 Series
Page 213

R101 Series
Page 214

R103 Series
Page 215

R200 Series
Page 216

R201 Series
Page 218

VDM18 Series
Page 220

VDM28 Series
Page 221

VDM100 Series
Page 222

R2100 Series
Page 223

R2100 Series
Page 224

R100 Series

Standard Technical Data	
Function principle	Distance sensor
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
Housing height H	44.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type
OMT50-R100-2EP-IO	50	Red LED	2 x push-pull	Fixed cable
OMT50-R100-2EP-IO-0,3M-V1	50	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT50-R100-2EP-IO-0,3M-V1-L	50	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT50-R100-2EP-IO-0,3M-V31	50	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT50-R100-2EP-IO-0,3M-V31-L	50	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT50-R100-2EP-IO-L	50	Red laser diode	2 x push-pull	Fixed cable
OMT50-R100-2EP-IO-V31	50	Red LED	2 x push-pull	M8 connector plug
OMT50-R100-2EP-IO-V31-L	50	Red laser diode	2 x push-pull	M8 connector plug
OMT50-R100-EP-IO-0,3M-V3	50	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT50-R100-EP-IO-0,3M-V3-L	50	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT50-R100-EP-IO-V3	50	Red LED	1 x push-pull	M8 connector plug
OMT50-R100-EP-IO-V3-L	50	Red laser diode	1 x push-pull	M8 connector plug
OMT100-R100-2EP-IO	100	Red LED	2 x push-pull	Fixed cable
OMT100-R100-2EP-IO-0,3M-V1	100	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT100-R100-2EP-IO-0,3M-V1-L	100	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT100-R100-2EP-IO-0,3M-V31	100	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT100-R100-2EP-IO-0,3M-V31-L	100	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT100-R100-2EP-IO-L	100	Red laser diode	2 x push-pull	Fixed cable
OMT100-R100-2EP-IO-V31	100	Red LED	2 x push-pull	M8 connector plug
OMT100-R100-2EP-IO-V31-L	100	Red laser diode	2 x push-pull	M8 connector plug
OMT100-R100-EP-IO-0,3M-V3	100	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT100-R100-EP-IO-0,3M-V3-L	100	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT100-R100-EP-IO-V3	100	Red LED	1 x push-pull	M8 connector plug
OMT100-R100-EP-IO-V3-L	100	Red laser diode	1 x push-pull	M8 connector plug
OMT150-R100-2EP-IO-0,3M-V1-L	150	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT150-R100-2EP-IO-0,3M-V31-L	150	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT150-R100-2EP-IO-L	150	Red laser diode	2 x push-pull	Fixed cable
OMT150-R100-2EP-IO-V31-L	150	Red laser diode	2 x push-pull	M8 connector plug
OMT150-R100-EP-IO-0,3M-V3-L	150	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT150-R100-EP-IO-V3-L	150	Red laser diode	1 x push-pull	M8 connector plug
OMT200-R100-2EP-IO	200	Red LED	2 x push-pull	Fixed cable
OMT200-R100-2EP-IO-0,3M-V1	200	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT200-R100-2EP-IO-0,3M-V31	200	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT200-R100-2EP-IO-V31	200	Red LED	2 x push-pull	M8 connector plug
OMT200-R100-EP-IO-0,3M-V3	200	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT200-R100-EP-IO-V3	200	Red LED	1 x push-pull	M8 connector plug

R101 Series

Standard Technical Data	
Function principle	Distance sensor
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	41.4 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

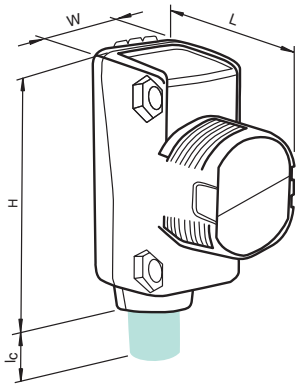
Model number	Detection range [mm]	Light type	Output type	Connection type
OMT50-R101-2EP-IO	50	Red LED	2 x push-pull	Fixed cable
OMT50-R101-2EP-IO-0,3M-V1	50	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT50-R101-2EP-IO-0,3M-V1-L	50	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT50-R101-2EP-IO-0,3M-V31	50	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT50-R101-2EP-IO-0,3M-V31-L	50	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT50-R101-2EP-IO-L	50	Red laser diode	2 x push-pull	Fixed cable
OMT50-R101-2EP-IO-V31	50	Red LED	2 x push-pull	M8 connector plug
OMT50-R101-2EP-IO-V31-L	50	Red laser diode	2 x push-pull	M8 connector plug
OMT50-R101-EP-IO-0,3M-V3	50	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT50-R101-EP-IO-0,3M-V3-L	50	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT50-R101-EP-IO-V3	50	Red LED	1 x push-pull	M8 connector plug
OMT50-R101-EP-IO-V3-L	50	Red laser diode	1 x push-pull	M8 connector plug
OMT100-R101-2EP-IO	100	Red LED	2 x push-pull	Fixed cable
OMT100-R101-2EP-IO-0,3M-V1	100	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT100-R101-2EP-IO-0,3M-V1-L	100	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT100-R101-2EP-IO-0,3M-V31	100	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT100-R101-2EP-IO-0,3M-V31-L	100	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT100-R101-2EP-IO-L	100	Red laser diode	2 x push-pull	Fixed cable
OMT100-R101-2EP-IO-V31	100	Red LED	2 x push-pull	M8 connector plug
OMT100-R101-2EP-IO-V31-L	100	Red laser diode	2 x push-pull	M8 connector plug
OMT100-R101-EP-IO-0,3M-V3	100	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT100-R101-EP-IO-0,3M-V3-L	100	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT100-R101-EP-IO-V3	100	Red LED	1 x push-pull	M8 connector plug
OMT100-R101-EP-IO-V3-L	100	Red laser diode	1 x push-pull	M8 connector plug
OMT150-R101-2EP-IO-0,3M-V1-L	150	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT150-R101-2EP-IO-0,3M-V31-L	150	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT150-R101-2EP-IO-L	150	Red laser diode	2 x push-pull	Fixed cable
OMT150-R101-2EP-IO-V31-L	150	Red laser diode	2 x push-pull	M8 connector plug
OMT150-R101-EP-IO-0,3M-V3-L	150	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT150-R101-EP-IO-V3-L	150	Red laser diode	1 x push-pull	M8 connector plug
OMT200-R101-2EP-IO	200	Red LED	2 x push-pull	Fixed cable
OMT200-R101-2EP-IO-0,3M-V1	200	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT200-R101-2EP-IO-0,3M-V31	200	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT200-R101-2EP-IO-V31	200	Red LED	2 x push-pull	M8 connector plug
OMT200-R101-EP-IO-0,3M-V3	200	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT200-R101-EP-IO-V3	200	Red LED	1 x push-pull	M8 connector plug

R103 Series

Standard Technical Data	
Function principle	Distance sensor
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	Connection type	Height H
OMT45-R103-EP-IO-V3-L	45	Red laser diode	1 x push-pull	M8 connector plug	43.9
OMT45-R103-2EP-IO	45	Red LED	2 x push-pull	Fixed cable	36.5
OMT45-R103-2EP-IO-0,3M-V1	45	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5
OMT45-R103-2EP-IO-0,3M-V1-L	45	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5
OMT45-R103-2EP-IO-0,3M-V31	45	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5
OMT45-R103-2EP-IO-0,3M-V31-L	45	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5
OMT45-R103-2EP-IO-L	45	Red laser diode	2 x push-pull	Fixed cable	36.5
OMT45-R103-2EP-IO-V31	45	Red LED	2 x push-pull	M8 connector plug	43.9
OMT45-R103-2EP-IO-V31-L	45	Red laser diode	2 x push-pull	M8 connector plug	43.9
OMT45-R103-EP-IO-0,3M-V3	45	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5
OMT45-R103-EP-IO-0,3M-V3-L	45	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5
OMT45-R103-EP-IO-V3	45	Red LED	1 x push-pull	M8 connector plug	43.9
OMT100-R103-2EP-IO	100	Red LED	2 x push-pull	Fixed cable	36.5
OMT100-R103-2EP-IO-0,3M-V1	100	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5
OMT100-R103-2EP-IO-0,3M-V31	100	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5
OMT100-R103-2EP-IO-V31	100	Red LED	2 x push-pull	M8 connector plug	43.9
OMT100-R103-EP-IO-0,3M-V3	100	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5
OMT100-R103-EP-IO-V3	100	Red LED	1 x push-pull	M8 connector plug	43.9
OMT120-R103-2EP-IO-0,3M-V1-L	120	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5
OMT120-R103-2EP-IO-0,3M-V31-L	120	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5
OMT120-R103-2EP-IO-L	120	Red laser diode	2 x push-pull	Fixed cable	36.5
OMT120-R103-2EP-IO-V31-L	120	Red laser diode	2 x push-pull	M8 connector plug	43.9
OMT120-R103-EP-IO-0,3M-V3-L	120	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5
OMT120-R103-EP-IO-V3-L	120	Red laser diode	1 x push-pull	M8 connector plug	43.9
OMT150-R103-2EP-IO	150	Red LED	2 x push-pull	Fixed cable	36.5
OMT150-R103-2EP-IO-0,3M-V1	150	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5
OMT150-R103-2EP-IO-0,3M-V31	150	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5
OMT150-R103-2EP-IO-V31	150	Red LED	2 x push-pull	M8 connector plug	43.9
OMT150-R103-EP-IO-0,3M-V3	150	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5
OMT150-R103-EP-IO-V3	150	Red LED	1 x push-pull	M8 connector plug	43.9



Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-ML100-031	Mounting aid for circular profiles, ø 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

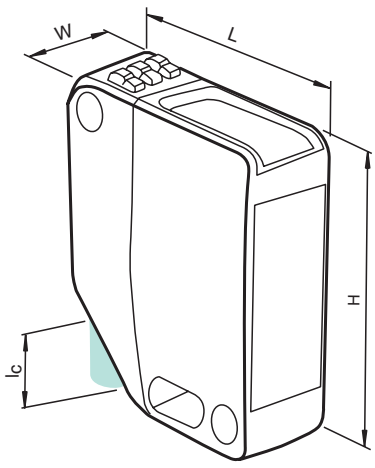
R200 Series

Standard Technical Data	
Function principle	Distance sensor
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	Connection type
OMT300-R200-2EP-IO	300	Red LED	2 x push-pull	10	Fixed cable
OMT300-R200-2EP-IO-0,3M-V1	300	Red LED	2 x push-pull	10	Fixed cable with M12 plug
OMT300-R200-2EP-IO-0,3M-V1-L	300	Red laser diode	2 x push-pull	10	Fixed cable with M12 plug
OMT300-R200-2EP-IO-0,3M-V31	300	Red LED	2 x push-pull	10	Fixed cable with M8 plug
OMT300-R200-2EP-IO-0,3M-V31-L	300	Red laser diode	2 x push-pull	10	Fixed cable with M8 plug
OMT300-R200-2EP-IO-L	300	Red laser diode	2 x push-pull	10	Fixed cable
OMT300-R200-2EP-IO-V1	300	Red LED	2 x push-pull	10	M12 connector plug
OMT300-R200-2EP-IO-V1-L	300	Red laser diode	2 x push-pull	10	M12 connector plug
OMT300-R200-2EP-IO-V31	300	Red LED	2 x push-pull	10	M8 connector plug
OMT300-R200-2EP-IO-V31-L	300	Red laser diode	2 x push-pull	10	M8 connector plug
OMT300-R200-EP-IO-0,3M-V3	300	Red LED	1 x push-pull	10	Fixed cable with M8 plug
OMT300-R200-EP-IO-0,3M-V3-L	300	Red laser diode	1 x push-pull	10	Fixed cable with M8 plug
OMT300-R200-EP-IO-V3	300	Red LED	1 x push-pull	10	M8 connector plug
OMT300-R200-EP-IO-V3-L	300	Red laser diode	1 x push-pull	10	M8 connector plug
OMT300-R200-IEP-IO-0,3M-V1	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R200-IEP-IO-0,3M-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R200-IEP-IO-0,3M-V31	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R200-IEP-IO-0,3M-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R200-IEP-IO-V1	300	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R200-IEP-IO-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R200-IEP-IO-V31	300	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R200-IEP-IO-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R200-UEP-IO-0,3M-V1	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R200-UEP-IO-0,3M-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R200-UEP-IO-0,3M-V31	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R200-UEP-IO-0,3M-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R200-UEP-IO-V1	300	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R200-UEP-IO-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R200-UEP-IO-V31	300	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R200-UEP-IO-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT550-R200-2EP-IO	550	Red LED	2 x push-pull	10	Fixed cable
OMT550-R200-2EP-IO-0,3M-V1	550	Red LED	2 x push-pull	10	Fixed cable with M12 plug
OMT550-R200-2EP-IO-0,3M-V31	550	Red LED	2 x push-pull	10	Fixed cable with M8 plug
OMT550-R200-2EP-IO-V1	550	Red LED	2 x push-pull	10	M12 connector plug
OMT550-R200-2EP-IO-V31	550	Red LED	2 x push-pull	10	M8 connector plug
OMT550-R200-EP-IO-0,3M-V3	550	Red LED	1 x push-pull	10	Fixed cable with M8 plug
OMT550-R200-EP-IO-V3	550	Red LED	1 x push-pull	10	M8 connector plug
OMT550-R200-IEP-IO-0,3M-V1	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT550-R200-IEP-IO-0,3M-V31	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT550-R200-IEP-IO-V1	550	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug

Model number	Detection range [mm]	Light type	Output type	UB (min)	Connection type
OMT550-R200-IEP-IO-V31	550	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT550-R200-UEP-IO-0,3M-V1	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT550-R200-UEP-IO-0,3M-V31	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT550-R200-UEP-IO-V1	550	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT550-R200-UEP-IO-V31	550	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT600-R200-2EP-IO-0,3M-V1-L	600	Red laser diode	2 x push-pull	10	Fixed cable with M12 plug
OMT600-R200-2EP-IO-0,3M-V31-L	600	Red laser diode	2 x push-pull	10	Fixed cable with M8 plug
OMT600-R200-2EP-IO-L	600	Red laser diode	2 x push-pull	10	Fixed cable
OMT600-R200-2EP-IO-V1-L	600	Red laser diode	2 x push-pull	10	M12 connector plug
OMT600-R200-2EP-IO-V31-L	600	Red laser diode	2 x push-pull	10	M8 connector plug
OMT600-R200-EP-IO-0,3M-V3-L	600	Red laser diode	1 x push-pull	10	Fixed cable with M8 plug
OMT600-R200-EP-IO-V3-L	600	Red laser diode	1 x push-pull	10	M8 connector plug
OMT600-R200-IEP-IO-0,3M-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT600-R200-IEP-IO-0,3M-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT600-R200-IEP-IO-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT600-R200-IEP-IO-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT600-R200-UEP-IO-0,3M-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT600-R200-UEP-IO-0,3M-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT600-R200-UEP-IO-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT600-R200-UEP-IO-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug



Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R20x-Quick-Mount	Quick-mounting aid
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

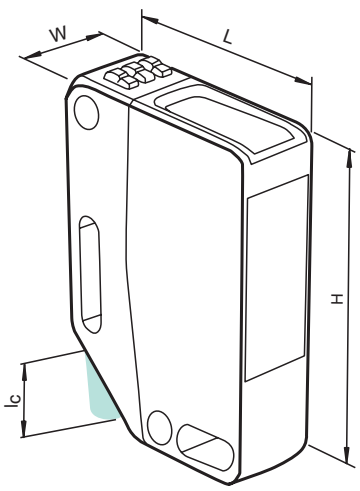
R201 Series

Standard Technical Data	
Function principle	Distance sensor
Interface	IO-Link
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UB (min)	Connection type
OMT300-R201-2EP-IO	300	Red LED	2 x push-pull	10	Fixed cable
OMT300-R201-2EP-IO-L	300	Red laser diode	2 x push-pull	10	Fixed cable
OMT300-R201-2EP-IO-V1	300	Red LED	2 x push-pull	10	M12 connector plug
OMT300-R201-2EP-IO-0,3M-V1	300	Red LED	2 x push-pull	10	Fixed cable with M12 plug
OMT300-R201-2EP-IO-V31	300	Red LED	2 x push-pull	10	M8 connector plug
OMT300-R201-2EP-IO-0,3M-V31	300	Red LED	2 x push-pull	10	Fixed cable with M8 plug
OMT300-R201-EP-IO-V3	300	Red LED	1 x push-pull	10	M8 connector plug
OMT300-R201-EP-IO-0,3M-V3	300	Red LED	1 x push-pull	10	Fixed cable with M8 plug
OMT300-R201-IEP-IO-V1	300	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R201-IEP-IO-0,3M-V1	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R201-IEP-IO-V31	300	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R201-IEP-IO-0,3M-V31	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R201-UEP-IO-V1	300	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R201-UEP-IO-0,3M-V1	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R201-UEP-IO-V31	300	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R201-UEP-IO-0,3M-V31	300	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R201-2EP-IO-V1-L	300	Red laser diode	2 x push-pull	10	M12 connector plug
OMT300-R201-2EP-IO-0,3M-V1-L	300	Red laser diode	2 x push-pull	10	Fixed cable with M12 plug
OMT300-R201-2EP-IO-0,3M-V31-L	300	Red laser diode	2 x push-pull	10	Fixed cable with M8 plug
OMT300-R201-2EP-IO-V31-L	300	Red laser diode	2 x push-pull	10	M8 connector plug
OMT300-R201-EP-IO-0,3M-V3-L	300	Red laser diode	1 x push-pull	10	Fixed cable with M8 plug
OMT300-R201-EP-IO-V3-L	300	Red laser diode	1 x push-pull	10	M8 connector plug
OMT300-R201-IEP-IO-0,3M-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R201-IEP-IO-0,3M-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R201-IEP-IO-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R201-IEP-IO-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT300-R201-UEP-IO-0,3M-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT300-R201-UEP-IO-0,3M-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT300-R201-UEP-IO-V1-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT300-R201-UEP-IO-V31-L	300	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT550-R201-2EP-IO	550	Red LED	2 x push-pull	10	Fixed cable
OMT550-R201-2EP-IO-V1	550	Red LED	2 x push-pull	10	M12 connector plug
OMT550-R201-2EP-IO-0,3M-V1	550	Red LED	2 x push-pull	10	Fixed cable with M12 plug
OMT550-R201-2EP-IO-V31	550	Red LED	2 x push-pull	10	M8 connector plug
OMT550-R201-2EP-IO-0,3M-V31	550	Red LED	2 x push-pull	10	Fixed cable with M8 plug
OMT550-R201-EP-IO-V3	550	Red LED	1 x push-pull	10	M8 connector plug
OMT550-R201-EP-IO-0,3M-V3	550	Red LED	1 x push-pull	10	Fixed cable with M8 plug
OMT550-R201-IEP-IO-V1	550	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT550-R201-IEP-IO-0,3M-V1	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT550-R201-IEP-IO-V31	550	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug

Model number	Detection range [mm]	Light type	Output type	UB (min)	Connection type
OMT550-R201-IEP-IO-0,3M-V31	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT550-R201-UEP-IO-V1	550	Red LED	1 x push-pull, 1 x analog	18	M12 connector plug
OMT550-R201-UEP-IO-0,3M-V1	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT550-R201-UEP-IO-V31	550	Red LED	1 x push-pull, 1 x analog	18	M8 connector plug
OMT550-R201-UEP-IO-0,3M-V31	550	Red LED	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT600-R201-2EP-IO-0,3M-V1-L	600	Red laser diode	2 x push-pull	10	Fixed cable with M12 plug
OMT600-R201-2EP-IO-0,3M-V31-L	600	Red laser diode	2 x push-pull	10	Fixed cable with M8 plug
OMT600-R201-2EP-IO-L	600	Red laser diode	2 x push-pull	10	Fixed cable
OMT600-R201-2EP-IO-V1-L	600	Red laser diode	2 x push-pull	10	M12 connector plug
OMT600-R201-2EP-IO-V31-L	600	Red laser diode	2 x push-pull	10	M8 connector plug
OMT600-R201-EP-IO-0,3M-V3-L	600	Red laser diode	1 x push-pull	10	Fixed cable with M8 plug
OMT600-R201-EP-IO-V3-L	600	Red laser diode	1 x push-pull	10	M8 connector plug
OMT600-R201-IEP-IO-0,3M-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT600-R201-IEP-IO-0,3M-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT600-R201-IEP-IO-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT600-R201-IEP-IO-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug
OMT600-R201-UEP-IO-0,3M-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M12 plug
OMT600-R201-UEP-IO-0,3M-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	Fixed cable with M8 plug
OMT600-R201-UEP-IO-V1-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M12 connector plug
OMT600-R201-UEP-IO-V31-L	600	Red laser diode	1 x push-pull, 1 x analog	18	M8 connector plug



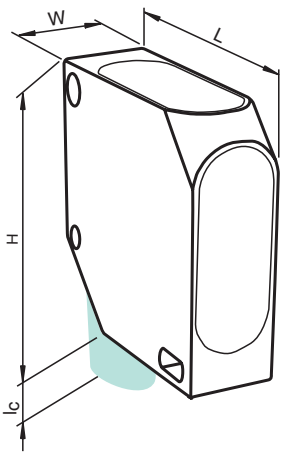
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-R20x-Quick-Mount	Quick-mounting aid
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V3-GM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable

VDM18 Series

Standard Technical Data	
Function principle	Distance sensor
Light type	Red laser diode
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	50 mm
Housing width W	17 mm
Housing height H	50 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type
VDM18-100/20/122/151	100	PNP
VDM18-100/20/88/122/151	100	PNP
VDM18-100/32/105/122	100	PNP
VDM18-300/20/122/151	300	PNP
VDM18-300/20/88/122/151	300	PNP
VDM18-300/21/122/151	300	NPN
VDM18-300/32/105/122	300	PNP



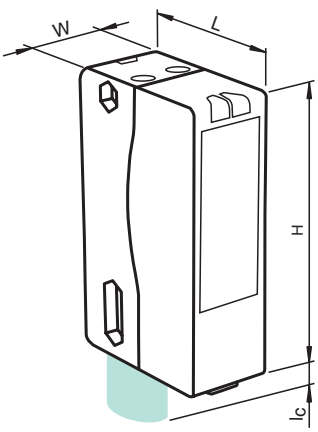
Accessories	
OMH-VDM18-01	Mounting aid for series VDM18 distance measurement devices
OMH-VDM18-02	Mounting aid for series VDM18 distance measurement devices

VDM28 Series

Standard Technical Data	
Function principle	Distance sensor
Operating elements	Potentiometer, push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing width W	25.8 mm
Housing height H	88 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Interface	Output type	Connection type	Length L	EAC
VDM28-8-L1-IO/110/115b/122	8000	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6	
VDM28-8-L1-IO/115b/136	8000	Red laser diode	IO-Link	2 x push-pull	Fixed cable with M12 plug	54.6	
VDM28-8-L1-IO/33/110/115b/122	8000	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6	
VDM28-8-L1-IO/73c/110/122	8000	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6	
VDM28-8-L1-IO/73c/136	8000	Red laser diode	IO-Link	2 x push-pull	M12 connector plug	54.6	
VDM28-8-L1-IR-IO/73C/110/122	8000	Infrared laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6	
VDM28-8-L1/73c/136	8000	Red laser diode		2 x push-pull	M12 connector plug	54.3	
VDM28-15-L1-IO/110/115b/122	15000	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6	
VDM28-15-L1-IO/73c/110/122	15000	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6	■
VDM28-15-L1/73c/136	15000	Red laser diode		2 x push-pull	M12 connector plug	54.3	
VDM28-50-R1-IO/73c/110/122	50000	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6	
VDM28-50-R1-IO/73c/136	50000	Red laser diode		2 x push-pull	M12 connector plug	54.6	
VDM28-50-R1-IR-IO/73c/110/122	50000	Infrared laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6	
VDM28-50-R1/73c/136	50000	Red laser diode		2 x push-pull	M12 connector plug	54.6	



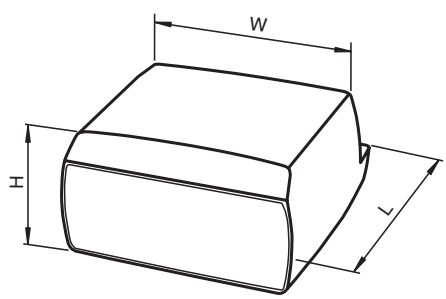
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Optical reflective film, 100 mm x 100 mm
OMH-05	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-07-01	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-K01	Mounting clamp for sensors with dovetail groove
OMH-K03	Mounting clamp for sensors with dovetail groove
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29-HW	Mounting bracket for rear wall mounting

VDM100 Series

Standard Technical Data	
Function principle	Distance sensor
Light type	Infrared laser diode, red laser diode
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	170 mm
Housing width W	140 mm
Housing height H	100 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Interface	EAC
VDM100-50-EIP/G2	50000	Ethernet	
VDM100-50-IBS/G2	50000	INTERBUS	
VDM100-50-P/G2	50000	PROFIBUS	
VDM100-50-P/G2/146	50000	PROFIBUS	
VDM100-50-SSI/G2	50000	RS-422, SSI	■
VDM100-50-SSI/G2/146	50000	RS-422, SSI	
VDM100-150-EIP/G2	150000	Ethernet	
VDM100-150-IBS/G2	150000	INTERBUS	
VDM100-150-P/G2	150000	PROFIBUS	
VDM100-150-P/G2/146	150000	PROFIBUS	
VDM100-150-SSI/G2	150000	RS-422, SSI	
VDM100-150-SSI/G2/146	150000	RS-422, SSI	
VDM100-300-EIP/G2	300000	Ethernet	
VDM100-300-IBS/G2	300000	INTERBUS	
VDM100-300-P/G2	300000	PROFIBUS	
VDM100-300-SSI/G2	300000	RS-422, SSI	



Accessories	
Funktionserdung	Functional grounding for LS610/LS611/VDM100 series
ICZ-TR-V15B	Terminator for PROFIBUS
OFR-500/500	Optical reflective film
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers
OMH-VDM100-01	Mounting bracket with deviation mirror for distance measurement devices
REF-VDM02	Reflector for distance measurement devices
Schutzkappe	M12 protective cap set (plug + socket) for LS610/LS611 series
V15-G-PG9	Single-ended female cordset, M12, 5-pin, field-attachable

R2100 Series

Standard Technical Data	
Function principle	2-D LIDAR sensor
Detection range	8000 mm
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	157 mm
Housing width W	81 mm
Housing height H	45 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

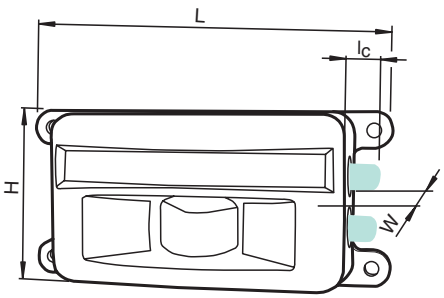
Model number	Interface
OMD8000-R2100-B16-2V15	CAN
OMD8000-R2100-R2-2V15	

Highlights

- Development of the PRT ensures reliable and clear measurement
- Long service life due to measurement using LEDs
- Ideal for mechanically demanding applications as there are no moving parts in the sensor
- 2D measurement using 11 individual rays
- Large light spots tolerate different surface textures
- Reduced energy consumption for greater cost efficiency
- High speed of response for faster processes

Brief Description

The unique development of PRT offers the user unprecedented flexibility. Impressive sensor performance and durability make the R2100 a cost-effective solution with an outstanding performance.



Accessories	
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, 4-pin, PUR cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

R2000 Series

Standard Technical Data	
Function principle	2-D LIDAR sensor
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	106 mm
Housing width W	106 mm
Housing height H	116.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

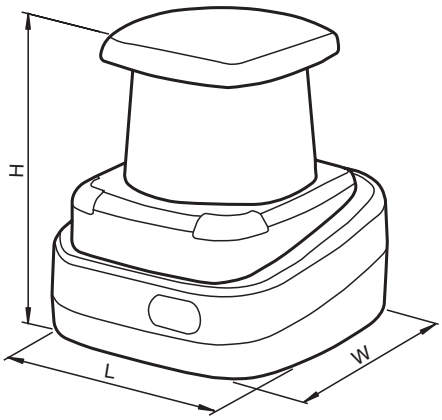
Model number	Detection range [mm]	Light type	Repeat rate [kHz]	Resolution
OBD10M-R2000-4EP-V1V17	10000	Red laser diode	54	
OMD10M-R2000-B23-V1V1D	10000	Red laser diode	250	1 mm
OMD12M-R2000-B23-V1V1D-HD-1L	12000	Infrared laser diode	84	1 mm
OBD30M-R2000-4EP-V1V17-1L	30000	Infrared laser diode	54	
OBD30M-R2000-4EP-V1V17-T-1L	30000	Infrared laser diode	54	
OMD30M-R2000-B23-V1V1D-1L	30000	Infrared laser diode	250	1 mm
OMD30M-R2000-B23-V1V1D-HD-1L	30000	Infrared laser diode	84	1 mm
OMD30M-R2000-B23-V1V1D-T-1L	30000	Infrared laser diode	250	1 mm
OMD60M-R2000-B23-V1V1D-1L	60000	Infrared laser diode	250	1 mm
OMD60M-R2000-B23-V1V1D-T-1L	60000	Infrared laser diode	250	1 mm

Highlights

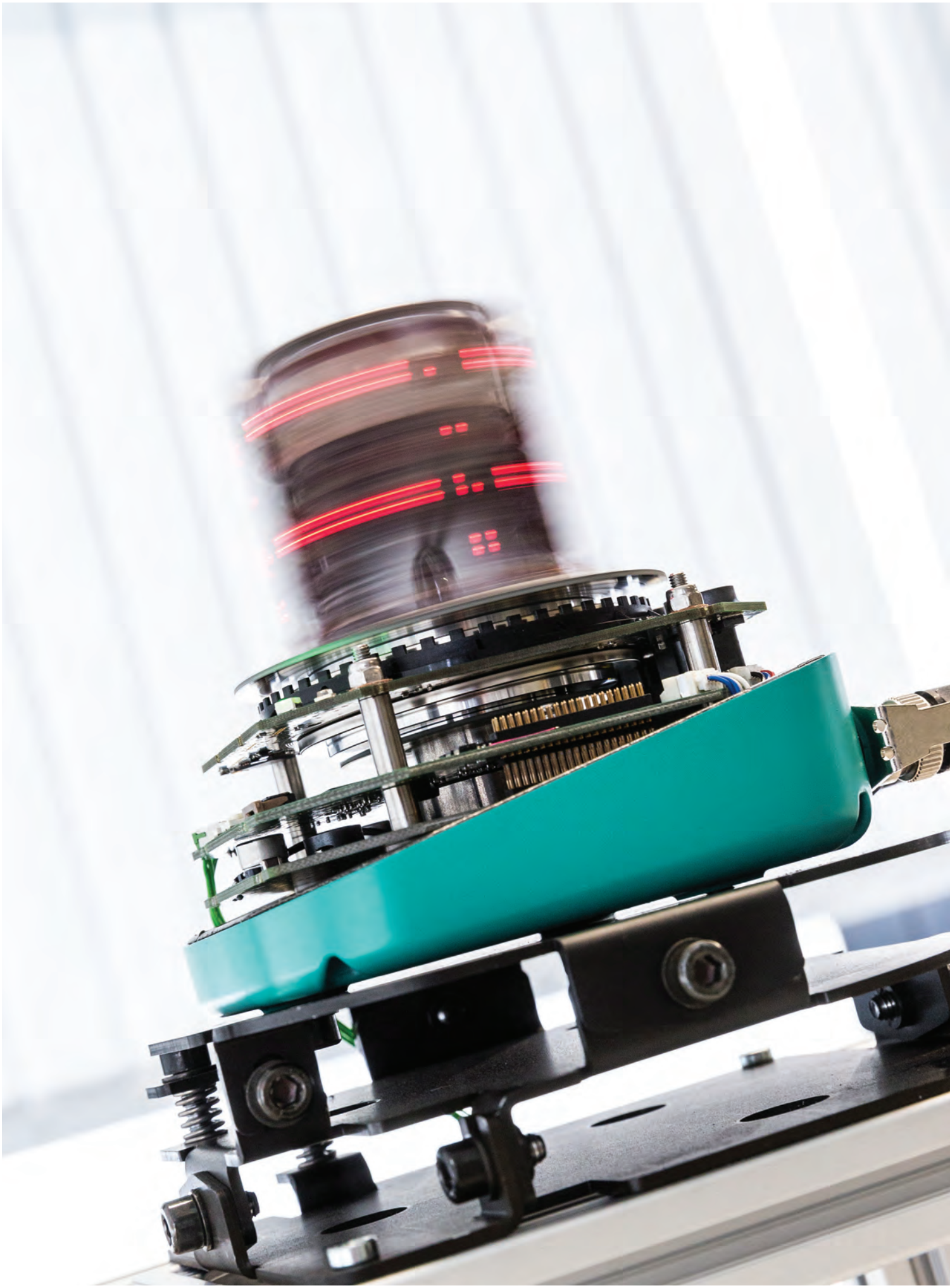
- Innovative Pulse Ranging Technology (PRT) ensures reliable and clear measurements
- Sharp light spot for small-object detection and precise edge detection
- All-round visibility with 360° measuring angle
- Compact design for simple mechanical integration
- Interactive wrap-around display facilitates commissioning

Brief Description

The R2000 series offers a wide range of unique functionalities that make object detection safer than ever before, ever under the most challenging of conditions. A small light spot combined with a high angular resolution makes it possible to detect even the smallest of objects. The all-round visibility and measuring angle of 360° eliminate the need for multiple sensors. The R2000 series is very compact, for straightforward and space-saving integration into the application. The interactive display makes it possible to show text and graphic messages. Basic settings can be configured directly on the device.



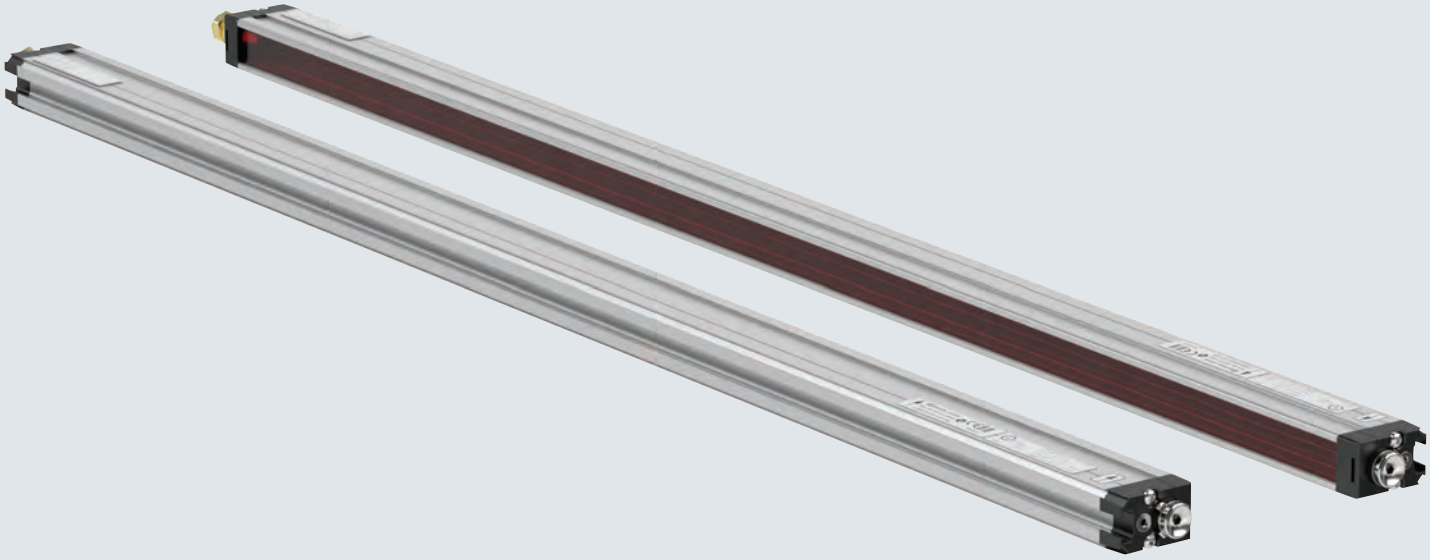
Accessories	
Funktionserdung	Functional grounding for LS610/LS611/VDM100 series
MH-R2000	Mounting aid for R2000 series sensors, quick-lock and adjustment device
Schutzkappe	M12 protective cap set (plug + socket) for LS610/LS611 series
V1-G-5M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, 4-pin, PUR cable
V1SD-G-2M-PUR-ABG-V45-G	Cordset, M12 to RJ-45, PUR cable, 4-pin, CAT5e
V1SD-G-5M-PUR-ABG-V45-G	Cordset, M12 to RJ-45, PUR cable, 4-pin, CAT5e
V1SD-G-ABG-PG9	Single-ended male cordset, M12, 4-pin, D-coded, shielded, field-attachable



Light Grid

Easy Integration of Object Detection

Light grids from Pepperl+Fuchs are supremely user-friendly thanks to simple plug-and-play installation and commissioning. The software-free parameterization via touch field and the free choice of 16 integrated measuring functions (LGM) make integration simpler than ever before.



Typical Applications

- Height and object detection in the packaging industry and in warehousing and material handling
- Detecting and counting irregular objects
- Positioning and object measurement
- Detects any shape of object
- Object identification

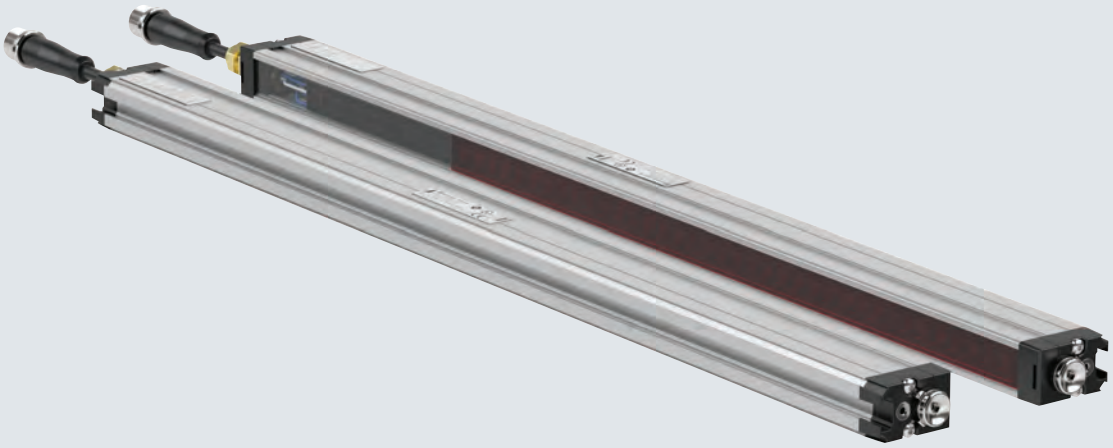
The Benefits of Selected Products at a Glance

LGS light grid:

- Simple, software-free parameterization via touchpad or external input
- Extremely fast object detection—even with three-way crossover
- IO-Link interface for servicing and process data
- Object identification through integrated object detection

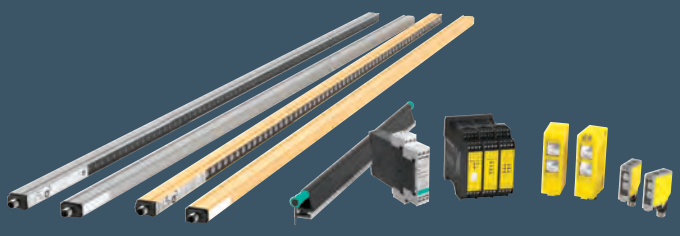
LGM measuring light grid:

- Very user-friendly thanks to 16 integrated, freely selectable measuring functions
- Convenient integration by direct measured value output in millimeters—without complex single-beam evaluation
- Simple adjustment and evaluation via IO-Link standard interface
- Especially robust due to IP67 degree of protection



Sensors for Safety Applications

Safety-certified Pepperl+Fuchs sensors offer the highest quality standards and reliability for protecting people and machines. The portfolio, which has been specifically tailored to functional safety requirements, also offers excellent investment security and outstanding plant availability.



More information is available at
www.pepperl-fuchs.com/fa-safety

Light Grids

Contents

Series LGM
Page 229

Series LGS
Page 230

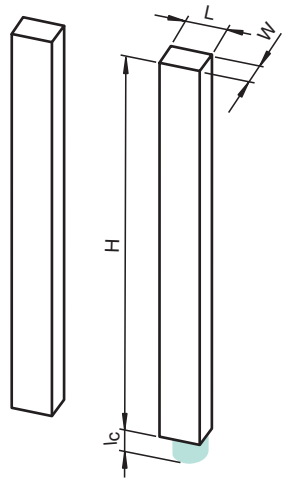
Series RLG28
Page 231

LGM Series

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	6000 mm
Light type	Infrared LED
Interface	IO-Link
Output type	1 x push-pull
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable with M12 plug
Housing length L	30.5 mm
Housing width W	20 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Beam spacing
LGM8	8 mm
LGM17	17 mm
LGM25	25 mm
LGM50	50 mm



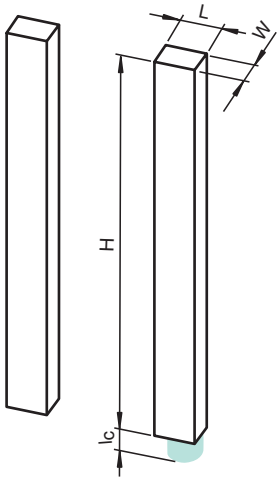
Accessories	
AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
OMH-SLCT-01	Quick-release and adjustment device
OMH-SLCT-03	Mounting bracket complete with adjustment component
OMH-SLCT-05	Mounting bracket complete with adjustment component
V1-G-BK10M-PUR-U	Single-ended female cordset, M12, 4-pin, PUR cable
V19-G-EMV-BK0,3M-PVC-V19-G	Cordset, M12 to M12, with EMC filter, 8-pin, PVC cable

LGS Series

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	6000 mm
Light type	Infrared LED
Interface	IO-Link
Output type	1 x push-pull
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable with M12 plug
Housing length L	30.5 mm
Housing width W	20 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Beam spacing
LGS8	8 mm
LGS17	17 mm
LGS25	25 mm
LGS50	50 mm
LGS100	100 mm



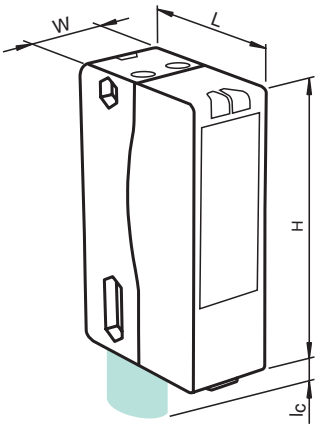
Accessories	
AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
OMH-LGS-01	Mounting aid for LGS/LGM series light grids
OMH-SLCT-03	Mounting bracket complete with adjustment component
V1-G-BK0,6M-PUR-U-V1-G-LGS25T	Cordset, LGS25 light grids to ICE modules/WIS 2, M12 to M12, PUR cable, 4-pin
V1-G-BK10M-PUR-U	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, 4-pin, PUR cable
V19-G-BK2M-PUR-U-V1-G	Cordset, M12 to M12, 8/4-pin, PUR cable
V19-G-BK5M-PUR-IEC	Single-ended female cordset, M12, 8-pin, PUR cable
V19-G-EMV-BK0,3M-PVC-V19-G	Cordset, M12 to M12, with EMC filter, 8-pin, PVC cable

RLG28 Series

Standard Technical Data	
Function principle	Retroreflective sensor with polarization filter
Light type	Red LED
Voltage type	DC
Operating voltage (min)	12 V
Operating voltage (max)	30 V
Housing length L	54.3 mm
Housing width W	25.8 mm
Housing height H	88 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Operating elements	Output type	Connection type
RLG28-55-7226	600	Push-button	2 x push-pull	Fixed cable with M12 plug
RLG28-55-7462	4000	Potentiometer, push-button	1 x push-pull	M12 connector plug
RLG28-55/115b/136	4000	Push-button	2 x push-pull	Fixed cable with M12 plug
RLG28-55/40a/115b/136	4000	Potentiometer, push-button	2 x push-pull	Fixed cable with M12 plug
RLG28-55/40a/73c/136	4000	Potentiometer, push-button	2 x push-pull	M12 connector plug



Accessories	
OMH-21	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
REF-A80	Rectangular reflector, 80 mm x 50 mm, self-adhesive
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

Special Photoelectric Sensors
Optimized for Specific Applications

In addition to standard applications, the Pepperl+Fuchs portfolio also offers highly specialized sensors. These are designed for specific applications, so you can benefit from an optimal solution in the usual high quality.

Fiber Optic Sensors

Typical Applications
- Detection of objects in very harsh ambient conditions, such as high temperatures, mechanical vibrations or contact with highly corrosive
  cleaning agents
- Object detection in particularly cramped mounting conditions

Your Benefits at a Glance
- Reliable operation under all ambient conditions
- Simple commissioning: choice of teach-in or potentiometer
- IO-Link interface available for user-friendly parameterization (MLV41)
- Fiber optic sensors with particularly high power (High Power versions)

Technical Features
- Degree of protection of up to IP67
- Suitable for plastic and glass fiber optics
- Narrow designs available for DIN rail mounting

Print Mark Contrast Sensor

Typical Applications
- Detection of contrast marks for controlling printing, labeling, or packaging plants
- Applications in the printing, packaging, and food industries

Your Benefits at a Glance
- Reliable detection of even weak contrast marks by active three-range method with three emitters (R, G, B) or separate teach-in for mark and background
- High switching point accuracy thanks to light spot that is aligned to contrast marks
- Suitable for extremely fast scanning processes due to short response time

Technical Features
- IO-Link interface available for service and process data
- Contrast sensors available in standard industrial housings
- Static or dynamic teach-in

Slot and Slot Grid Sensors

Typical Applications
- Presence monitoring on feed devices
- Ejection control of small parts
- Counting of bulk material on vibration conveyors
- Small part detection

Your Benefits at a Glance
- Fast mounting through adjustment of the optical axes at the factory
- Easier mounting with a single connection
- Flexible product choice thanks to a variety of designs
- High switch point accuracy for the most precise positioning tasks

Technical Features
- Miniature designs available—optimized for small part detection to 0.8 mm
- Slot widths up to 220 mm
- Rugged metal versions available
- Degree of protection of up to IP67

Special Photoelectric Sensors

Contents

DAD15 Series
Page 236

LS610 Series
Page 237

LS682 Series
Page 238

LS684 Series
Page 239

GL2/GL3/GL5 Series
Page 240

DK12 Series
Page 246

DK20 Series
Page 247

DK21 Series
Page 248

DK34 Series
Page 249

DF12 Series
Page 250

Glass fiber optic
Page 256

Plastic fiber optic
Page 257

GL Series
Page 241

GLP Series
Page 242

GL-ES Series
Page 243

RAL Series
Page 244

DK10 Series
Page 245

DF20 Series
Page 251

SU18 Series
Page 252

SU19 Series
Page 253

MLV41-LL Series
Page 254

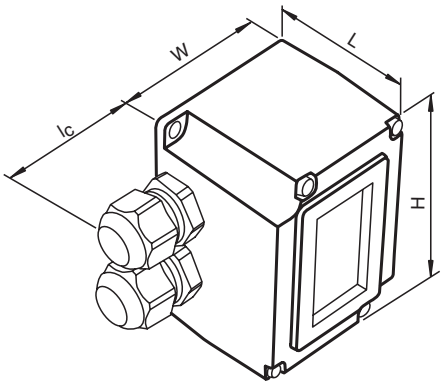
VL18-LL Series
Page 255

DAD15 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Interface	8-bit parallel
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Connection type	Terminal compartment
Housing length L	76 mm
Housing width W	53 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	UB (max)
DAD15-8P	1500	60
DAD15-8P-R-2388	1500	60
DAD15-8P-NPN	1500	30
DAD15-8P/35	2500	60
DAD15-8P-NPN/35	2500	30



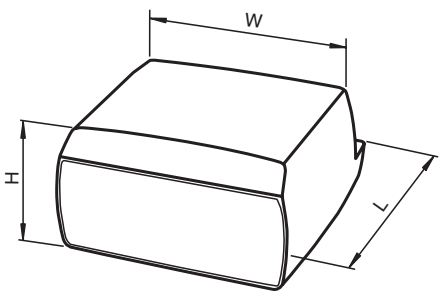
Accessories	
OMH-DAD10	Mounting bracket

LS610 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Interface	Operating elements
LS610-DA-P/F1	120000	PROFIBUS	Push-button
LS610-DA-P/F2	120000	PROFIBUS	Push-button
LS610-DA-P/F1/35	240000	PROFIBUS	Push-button
LS610-DA-P/F2/35	240000	PROFIBUS	Push-button
LS610-DA-P/F1/146	120000	PROFIBUS	Push-button
LS610-DA-P/F2/146	120000	PROFIBUS	Push-button
LS610-DA-IBS/F1	120000	RS-422	
LS610-DA-IBS/F2	120000	RS-422	
LS610-DA-IBS/F1/35	240000	RS-422	
LS610-DA-IBS/F2/35	240000	RS-422	
LS610-DA-IBS/F1/146	120000	RS-422	
LS610-DA-IBS/F2/146	120000	RS-422	
LS610-DA-IBS/F1/35/146	240000	RS-422	
LS610-DA-IBS/F2/35/146	240000	RS-422	



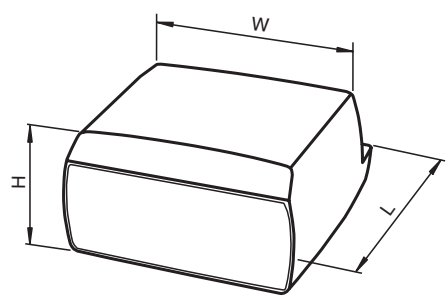
Accessories	
ICZ-TR-V15B	Terminator for PROFIBUS
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers
OMH-LS610-32	Mounting bracket for optical data couplers and distance measurement devices
V15-G-PG9	Single-ended female cordset, M12, 5-pin, field-attachable

LS682 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	Ethernet
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type
LS682-DA-EN/F1	150000	Infrared laser diode
LS682-DA-EN/F2	150000	Red laser diode
LS682-DA-EN/F1/146	150000	Infrared laser diode
LS682-DA-EN/F2/146	150000	Red laser diode
LS682-DA-EN/F1/35	300000	Infrared laser diode
LS682-DA-EN/F2/35	300000	Red laser diode
LS682-DA-EN/F1/35/146	300000	Infrared laser diode
LS682-DA-EN/F2/35/146	300000	Red laser diode



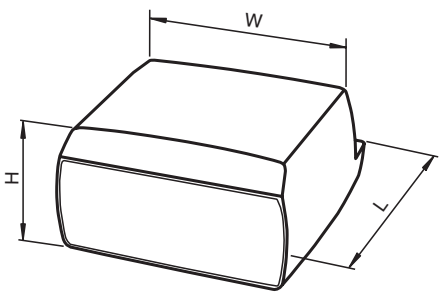
Accessories	
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers

LS684 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Interface	Ethernet
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type
LS684-DA-EN/F1	150000	Infrared laser diode
LS684-DA-EN/F2	150000	Red laser diode
LS684-DA-EN/F2/146	150000	Red laser diode
LS684-DA-EN/F1/146	150000	Infrared laser diode
LS684-DA-EN/F1/35	300000	Infrared laser diode
LS684-DA-EN/F2/35	300000	Red laser diode
LS684-DA-EN/F1/35/146	300000	Infrared laser diode
LS684-DA-EN/F2/35/146	300000	Red laser diode



Accessories	
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers

GL2/GL3/GL5 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	5 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

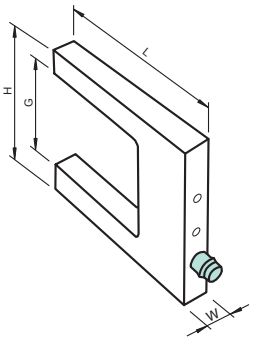
Model number	Detection range [mm]	Output type	UB (max)	Connection type	Length L	Width W	Height H	EAC	UL
GL2-P/153	1.8	NPN	30	Fixed cable	9.1	6.3	15.2		
GL3-L/153	3.1	NPN	30	Fixed cable	18.4	6.3	15.9		
GL3-P/153	3.1	NPN	30	Fixed cable	15.9	6.3	18.4		
GL3-T/153	3.1	NPN	30	Fixed cable	15.9	23.6	12.9		
GL3-U/153	3.1	NPN	30	Fixed cable	24.7	6.3	15.9		
GL5-F/28a/115	5	NPN	24	Fixed cable	26.2	13.2	13.4		■
GL5-F/43a/115	5	PNP	24	Fixed cable	26.2	13.2	13.4		■
GL5-F/43a/155	5	PNP	24	Plug connector	27.2	13.2	13.4		■
GL5-J/28a/155	5	NPN	24	Plug connector	27.2	13.2	13.4		■
GL5-J/43a/115	5	PNP	24	Fixed cable	26.2	13.2	13.4		■
GL5-J/43a/155	5	PNP	24	Plug connector	27.2	13.2	13.4		■
GL5-L/28a/115	5	NPN	24	Fixed cable	15.5	18.5	26		■
GL5-L/28a/155	5	NPN	24	Plug connector	15.5	19.5	26		■
GL5-L/43a/115	5	PNP	24	Fixed cable	15.5	18.5	26		■
GL5-L/43a/115-5M	5	PNP	24	Fixed cable	15.5	18.5	26		■
GL5-L/43a/115a	5	PNP	24	Fixed cable with M8 plug	15.5	18.5	26		■
GL5-L/43a/155	5	PNP	24	Plug connector	15.5	19.5	26	■	■
GL5-R/28a/115	5	NPN	24	Fixed cable	26.2	13.2	13.4		■
GL5-R/43a/115	5	PNP	24	Fixed cable	26.2	13.2	13.4		■
GL5-R/43a/115-5M	5	PNP	24	Fixed cable	26.2	13.2	13.4		■
GL5-R/43a/155	5	PNP	24	Plug connector	27.2	13.2	13.4		■
GL5-T/28a/115	5	NPN	24	Fixed cable	26.2	26	13.4		■
GL5-T/28a/155	5	NPN	24	Plug connector	27.2	26	13.4		■
GL5-T/43a/115	5	PNP	24	Fixed cable	26.2	26	13.4		■
GL5-T/43a/155	5	PNP	24	Plug connector	27.2	26	13.4		■
GL5-U/28a/115	5	NPN	24	Fixed cable	26.2	7	25.4		■
GL5-U/28a/155	5	NPN	24	Plug connector	27.2	7	25.4		■
GL5-U/43a/115	5	PNP	24	Fixed cable	26.2	7	25.4		■
GL5-U/43a/155	5	PNP	24	Plug connector	27.2	7	25.4		■
GL5-Y/25/46a/115e	5	PNP	24	Fixed cable with JST plug	15.5	25.5	13.4		■
GL5-Y/28a/115	5	NPN	24	Fixed cable	15.5	25.5	13.4		■
GL5-Y/28a/155	5	NPN	24	Plug connector	15.5	26.6	13.4		■
GL5-Y/43a/115	5	PNP	24	Fixed cable	15.5	25.5	13.4		■
GL5-Y/43a/115-5M	5	PNP	24	Fixed cable	15.5	25.5	13.4		■
GL5-Y/43a/155	5	PNP	24	Plug connector	15.5	26.6	13.4		■

GL Series

Standard Technical Data	
Function principle	Thru-beam sensor
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type	UL
GL10-IR/32/40a/98a	10	Infrared LED	PNP	■
GL10-RT/30/40a/98a	10	Red LED	NPN	■
GL10-RT/32/40a/98a	10	Red LED	PNP	■
GL20-IR/32/40a/98a	20	Infrared LED	PNP	■
GL20-LAS/32/40a/98a	20	Red laser diode	PNP	
GL20-RT/30/40a/98a	20	Red LED	NPN	■
GL20-RT/32/40a/98a	20	Red LED	PNP	■
GL30-IR/32/40a/98a	30	Infrared LED	PNP	■
GL30-LAS/32/40a/98a	30	Red laser diode	PNP	
GL30-RT/30/40a/98a	30	Red LED	NPN	■
GL30-RT/32/40a/95	30	Red LED	PNP	■
GL30-RT/32/40a/98a	30	Red LED	PNP	■
GL40-IR/32/40a/98a	40	Infrared LED	PNP	■
GL40-RT/32/40a/98a	40	Red LED	PNP	■
GL50-IR/32/40a/98a	50	Infrared LED	PNP	■
GL50-LAS/32/40a/98a	50	Red laser diode	PNP	
GL50-RT/30/40a/98a	50	Red LED	NPN	■
GL50-RT/32/40a/98a	50	Red LED	PNP	■
GL80-IR/32/40a/98a	80	Infrared LED	PNP	■
GL80-LAS/32/40a/98a	80	Red laser diode	PNP	
GL80-RT/30/40a/98a	80	Red LED	NPN	■
GL80-RT/32/40a/98a	80	Red LED	PNP	■
GL120-LAS/32/40a/98a	120	Red laser diode	PNP	
GL121-IR/32/40a/98a	121	Infrared LED	PNP	■
GL121-RT/30/40a/98a	121	Red LED	NPN	■
GL121-RT/32/40a/98a	121	Red LED	PNP	■
GL220-IR/32/40a/98a	220	Infrared LED	PNP	■
GL220-LAS/32/40a/98a	220	Red laser diode	PNP	
GL220-RT/30/40a/98a	220	Red LED	NPN	■
GL220-RT/32/40a/98a	220	Red LED	PNP	■



GLP Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Red LED
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type
GLP30-RT/40b/102/123/143	30	NPN
GLP30-RT/40b/102/156	30	NPN
GLP30-RT/40b/103/123/143	30	PNP
GLP30-RT/40b/103/156	30	PNP
GLP50-RT/40b/102/123/143	50	NPN
GLP50-RT/40b/102/156	50	NPN
GLP50-RT/40b/103/123/143	50	PNP
GLP50-RT/40b/103/156	50	PNP
GLP80-RT/40b/102/123/143	80	NPN
GLP80-RT/40b/102/156	80	NPN
GLP80-RT/40b/103/123/143	80	PNP
GLP80-RT/40b/103/156	80	PNP
GLP120-RT/40b/102/123/143	120	NPN
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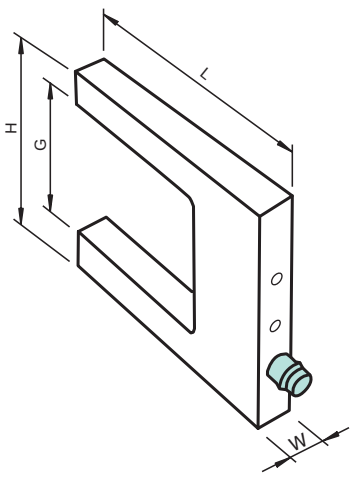
GLP120-RT/40b/103/123/143	120	PNP
GLP120-RT/40b/103/156	120	PNP



Accessories	
OMH-K03	Mounting clamp for sensors with dovetail groove
V3-GM-BK2M-PUR-U	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V3-WM-BK2M-PUR-U	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-GM-BK2M-PUR-U	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-2M-PUR	Single-ended female cordset, M8, 4-pin, PUR cable
V31-WM-BK2M-PUR-U	Single-ended female cordset, M8, 4-pin, PUR cable

GL-ES Series

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	24 mm
Light type	Infrared LED
Output type	PNP
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

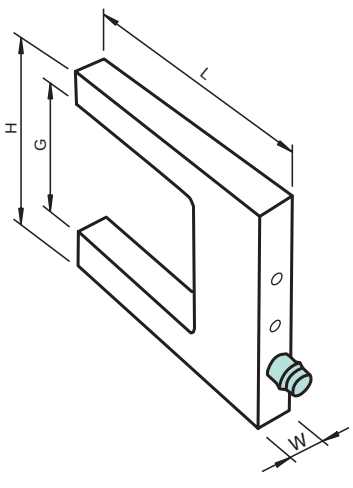
Model number	
GL-ES-IR/115/120	

RAL Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Output type	PNP
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M8 connector plug
Housing width W	20 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Length L	Height H
RAL50-IR/32/98	50	81	90
RAL70-IR/32/98	70	105	110
RAL100-IR/32/98	100	135	140
RAL150-IR/32/98	150	185	190



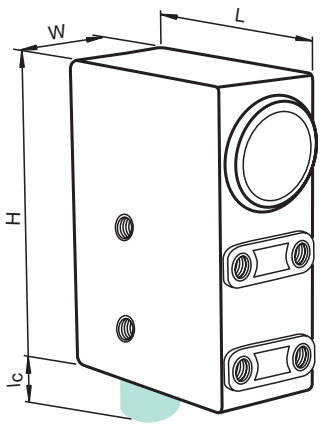
Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable

DK10 Series

Standard Technical Data	
Light type	Red laser diode
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type
DK10-LAS/9S50/76a/110/124	300	1 x push-pull
DK10-LAS/49	300	PNP/NPN
DK10-LAS/76a/110/124	300	1 x push-pull
DK10-LAS/76a/79b/110/124	300	1 x push-pull
DK10-LAS/9S20	300	1 x push-pull
DK10-LAS/35/79b	800	1 x push-pull
DK10-LAS/35/49	800	PNP/NPN
DK10-LAS-54/76/110/124	10000	1 x push-pull



Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

DK12 Series

Standard Technical Data	
Detection range	11 mm
Light type	Green/red/blue LED
Output type	2 x push-pull
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	15 mm
Housing width W	41.5 mm
Housing height H	49 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Interface
DK12-11-IO/92/136	IO-Link
DK12-11-IO/A/92/136	IO-Link
DK12-11/124/136	
DK12-11/A/124/136	

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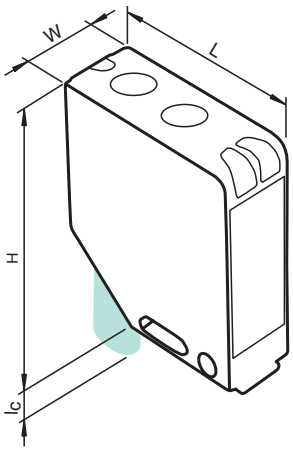


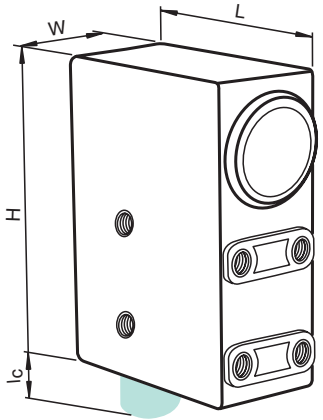
Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

DK20 Series

Standard Technical Data	
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Output type
DK20/9S50	9.5	Green/red/blue LED	1 x push-pull
DK20/49	9.5	Green/red/blue LED	PNP/NPN
DK20-9,5/B/110/124	9.5	Green/red/blue LED	1 x push-pull
DK20-9,5/A/110/124	9.5	Green/red/blue LED	1 x push-pull
DK20-9,5/9S20/110/124	9.5	Green/red/blue LED	1 x push-pull
DK20-9,5/79B/110/124	9.5	Green/red/blue LED	1 x push-pull
DK20-9,5/110/124	9.5	Green/red/blue LED	1 x push-pull
DK20-25/110/124	25	Green/red/blue LED	1 x push-pull
DK20-25/A/110/124	25	Green/red/blue LED	1 x push-pull
DK20/35A/9S20	25	Green/red/blue LED	1 x push-pull
DK20/35B	50	Red LED	1 x push-pull
DK20/35B/79B	50	Red LED	1 x push-pull



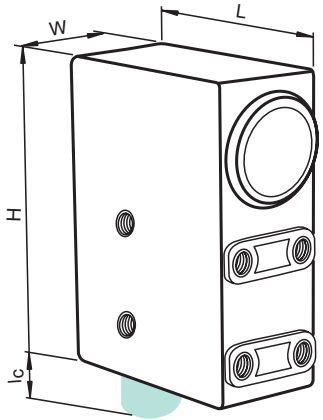
Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

DK21 Series

Standard Technical Data	
Light type	Green/red/blue LED
Output type	1 x push-pull
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]
DK21-9,5/A/110/124	9.5
DK21-9,5/110/124	9.5
DK21-9,5/9S50/110/124	9.5
DK21-25/110/124	25



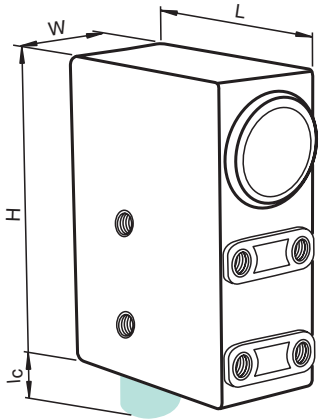
Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-W-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

DK34 Series

Standard Technical Data	
Detection range	9.5 mm
Light type	Green/red/blue LED
Output type	1 x push-pull
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	
DK34-9,5/110/124	



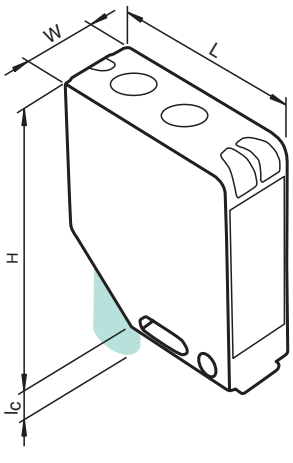
Accessories	
V15-W-5M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

DF12 Series

Standard Technical Data	
Detection range	11 mm
Light type	Green/red/blue LED
Output type	3 x push-pull
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	15 mm
Housing width W	41.5 mm
Housing height H	49 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Timer function
DF12-11-3K/145/151	
DF12-11-3K/9s20/145/151	Impulse-type switch-off delay time relay, 20 ms



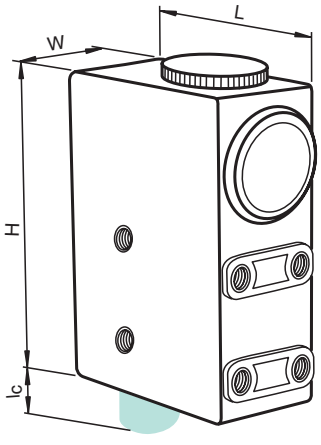
Accessories	
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable

DF20 Series

Standard Technical Data	
Light type	Green/red/blue LED
Output type	PNP/NPN
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]
DF20/B/49/124	9.5
DF20/49/124	9.5
DF20/9S20/49/124	9.5
DF20/35A/49/124	25



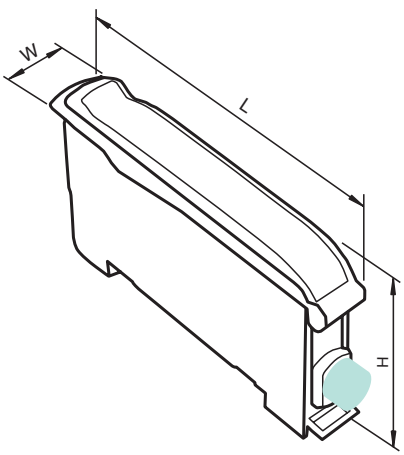
Accessories	
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable

SU18 Series

Standard Technical Data	
Light type	Red LED
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	62.3 mm
Housing width W	9 mm
Housing height H	34.5 mm
UL	■

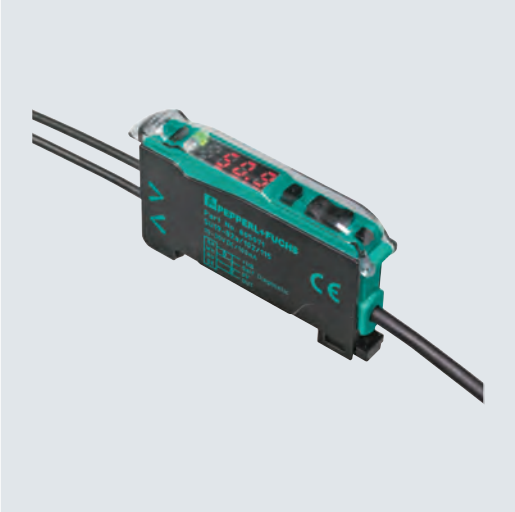
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Operating elements	Output type	Connection type
SU18-16/40a/102/115/126a	150	Potentiometer	NPN	Fixed cable
SU18-16/40a/102/115a/126a	150	Potentiometer	NPN	Fixed cable with M8 plug
SU18-16/40a/110/115/126a	150	Potentiometer	1 x push-pull	Fixed cable
SU18-16/40a/110/115a	150	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18-16/40a/110/115a/126a	150	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18-16/40a/115a/120	150	Potentiometer	PNP	Fixed cable with M8 plug
SU18-40a/102/115/123	150	Push-button	NPN	Fixed cable
SU18-40a/102/115/126a	150	Push-button	NPN	Fixed cable
SU18-40a/102/115a/123	150	Push-button	NPN	Fixed cable with M8 plug
SU18-40a/110/115/123	150	Push-button	1 x push-pull	Fixed cable
SU18-40a/110/115/126a	150	Push-button	1 x push-pull	Fixed cable
SU18-40a/110/115a	150	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18-40a/110/115a/123	150	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18-40a/110/115a/126a	150	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18/16/35/40a/102/115/126a	460	Potentiometer	NPN	Fixed cable
SU18/16/35/40a/110/115/126a	460	Potentiometer	1 x push-pull	Fixed cable
SU18/16/35/40a/110/115a	460	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18/16/35/40a/110/115a/126a	460	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18/35/40a/102/115/123	460	Push-button	NPN	Fixed cable
SU18/35/40a/102/115/126a	460	Push-button	NPN	Fixed cable
SU18/35/40a/110/115/123	460	Push-button	1 x push-pull	Fixed cable
SU18/35/40a/110/115/126a	460	Push-button	1 x push-pull	Fixed cable
SU18/35/40a/110/115a/126a	460	Push-button	1 x push-pull	Fixed cable with M8 plug



Accessories
Suitable optical fibers can be found in the relevant product datasheet

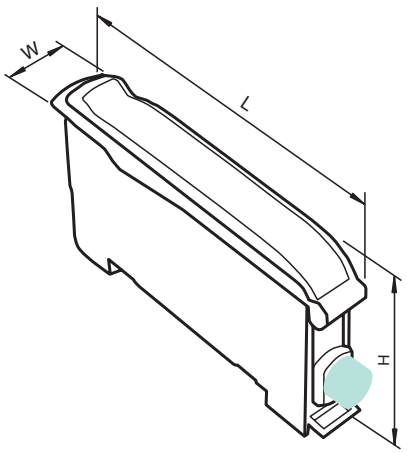
SU19 Series



Standard Technical Data	
Detection range	150 mm
Light type	Red LED
Output type	1 x push-pull
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	62.3 mm
Housing width W	9 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Connection type
SU19.1/110/115	Fixed cable
SU19.1/110/115a	Fixed cable with M8 plug
SU19/110/115/123	Fixed cable
SU19/110/115a/126a	Fixed cable with M8 plug



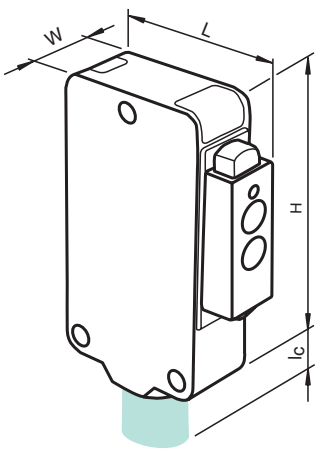
Accessories
Suitable optical fibers can be found in the relevant product datasheet

MLV41-LL Series

Standard Technical Data	
Output type	2 x push-pull
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Light type	Interface	Connection type
MLV41-LL-RT/95/136	36	Red LED		M8 connector plug
MLV41-LL-RT-IO/115/136	36	Red LED	IO-Link	Fixed cable
MLV41-LL-RT-IO/92/136	36	Red LED	IO-Link	M12 connector plug
MLV41-LL-RT-IO/95/136	36	Red LED	IO-Link	M8 connector plug
MLV41-LL-RT/115/136	36	Red LED		Fixed cable
MLV41-LL-RT/92/136	36	Red LED		M12 connector plug
MLV41-LL-IR-IO/115/136	55	Infrared LED	IO-Link	Fixed cable
MLV41-LL-IR-IO/92/136	55	Infrared LED	IO-Link	M12 connector plug
MLV41-LL-IR-IO/95/136	55	Infrared LED	IO-Link	M8 connector plug
MLV41-LL-IR/115/136	55	Infrared LED		Fixed cable
MLV41-LL-IR/92/136	55	Infrared LED		M12 connector plug
MLV41-LL-IR/95/136	55	Infrared LED		M8 connector plug
MLV41-LL-IR/70/136	55	Infrared LED		M9 connector plug



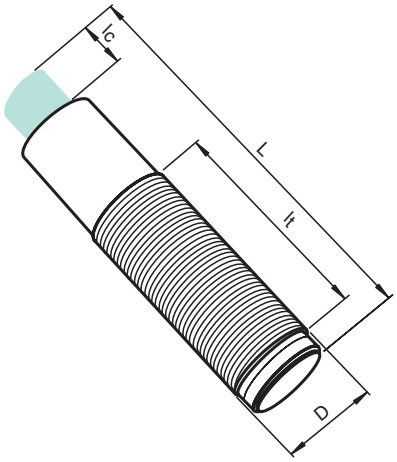
Accessories	
Suitable optical fibers can be found in the relevant product datasheet	
V1-G-2M-PUR	Single-ended female cordset
V1-W-2M-PUR	Single-ended female cordset

VL18-LL Series

Standard Technical Data	
Detection range	70 mm
Light type	Red LED
Operating elements	Potentiometer
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	65 mm
Housing diameter D	18 mm
UL	■

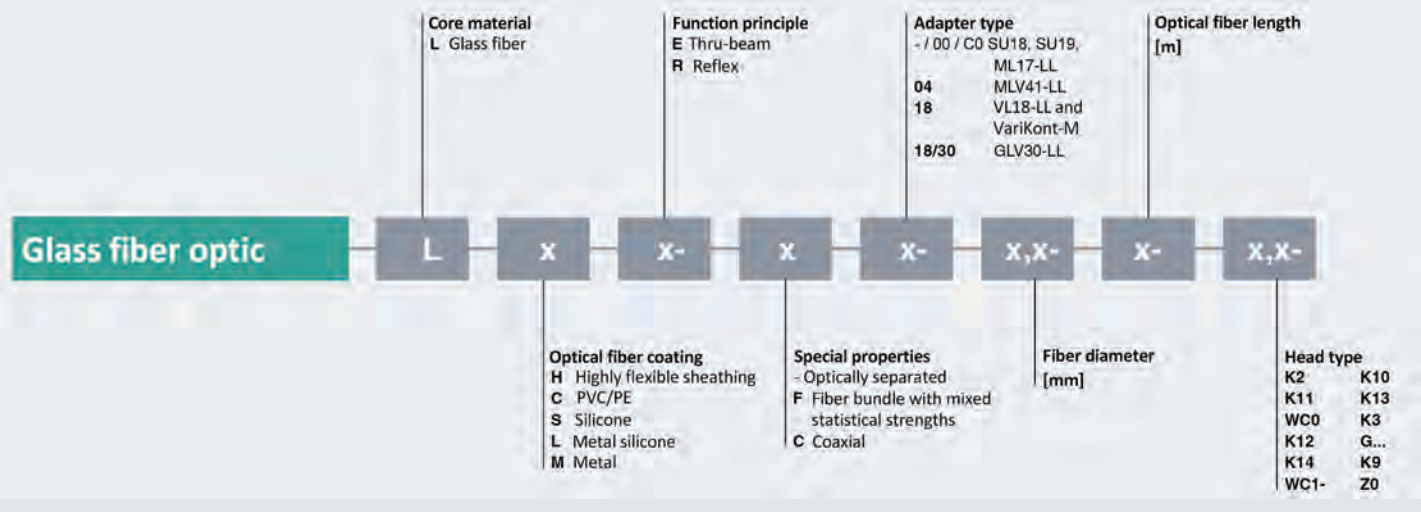
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type
VL18LL-M/30/40a/118	NPN
VL18LL-M/32/40a/118	PNP
VL18LL-M/40a/118/128	1 x push-pull



Accessories	
Suitable optical fibers can be found in the relevant product datasheet	
V1-G-2M-PUR	Single-ended female cordset

Glass Fiber Optic



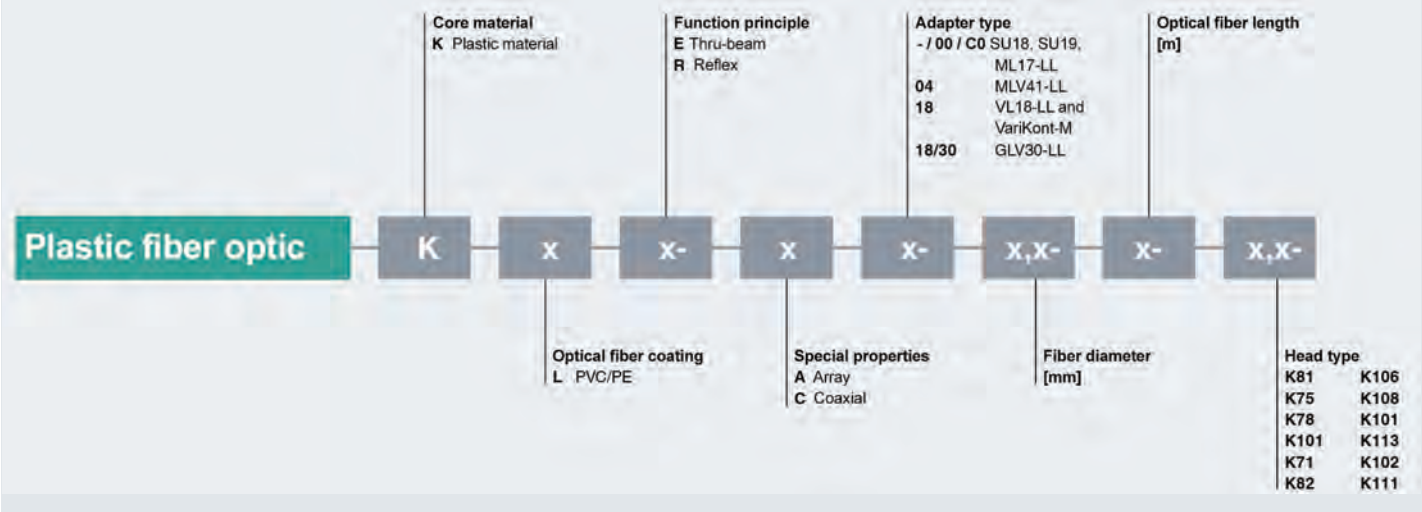
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Brief Description

Glass fiber optics are made up of multiple individual fibers with a diameter of approximately 50 µm each. Stainless steel, PVC, metal and silicone, or silicone sheathing can be selected depending on the application. The low optical attenuation of glass fibers compared to plastic fibers enables greater sensing and detection ranges. The rugged mechanical design of the stainless steel sheathing means the cables can be used at temperatures of up to 200 °C.

Accessories	
K-LA01	Collimating lens, up to four times higher detection range, M2.6 thread
K-LA02	Collimating lens, side optical face, M2.6 thread
OMH-LL-M6	Mounting bracket for optical fiber, M6 thread

Plastic Fiber Optic



For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Brief Description

Plastic fiber optics are made up of PVC-sheathed fibers. The fiber optic material is lightweight and very flexible, so it can be used on machines with fast-moving parts. One great advantage is that the fibers can be cut to length individually.

Accessories	
K-LA02	Collimating lens, side optical face, M2.6 thread
K-LA03	Focusing lens, light spot size approx. 0.5 mm at 8 mm, M3 thread
K-LA06	Collimating lens, up to eight times higher detection range, M4 thread
KM4-0,5	Metal protection for plastic fiber optic M4 x 0.5 m.
KM4-1,0	Metal protection for plastic fiber optic M4 x 1.0 m.
KM6-0,5	Metal protection for plastic fiber optic M6 x 0.5 m.
KM6-1,0	Metal protection for plastic fiber optic M6 x 1.0 m.
OMH-LL-M6	Mounting bracket for optical fiber, M6 thread

Sensors for Safety Applications

Application-Oriented with Uncompromising Safety

Safety-certified Pepperl+Fuchs sensors offer the highest quality standards and reliability for protecting people and machines. The portfolio, which has been specifically tailored to functional safety requirements, also offers excellent investment security and outstanding plant availability.

Optimal Protection for over 30 Years

Our optimized product portfolio—which is application oriented and focused on the essentials—is based on more than three decades of experience, a high level of application expertise, and continuous dialog with our customers.

Perfectly coordinated to meet the requirements of automated processes, Pepperl+Fuchs safety sensors always combine safety and productivity. Fast and easy commissioning across the entire portfolio allows for particularly cost-efficient solutions. At the same time, the high reliability of the sensors not only ensures that the operator is optimally protected, but also ensures that processes continue uninterrupted and therefore leads to increased plant availability.

Traditional Connection Technology for Outstanding Investment Security

In the field of safety engineering, Pepperl+Fuchs has consistently focused on solutions with traditional connection technology. This reduces not only potential sources of fault, but also provides for a future-proof supply of spare parts and thus a high level of investment and future security.

Furthermore, Pepperl+Fuchs safety sensors meet the highest safety requirements, up to and including PL e, Cat. 4 and SIL 3. With approvals such as cULus, they are also certified for international use.

Safety Sensors from Pepperl+Fuchs

Single-beam safety light barriers

Multi-beam safety light barriers

Safety control units

Sensors for Safety Applications

Contents

SLA12 Series
Page 260

SLA29 Series
Page 261

SLCS Series
Page 262

SLCT Series
Page 263

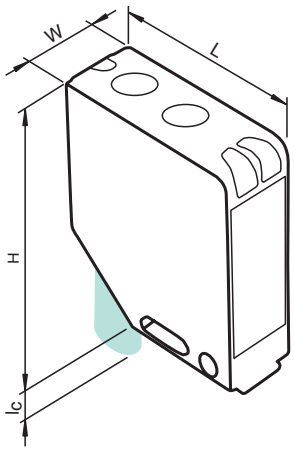
SB4 Series
Page 264

SLA12 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Red laser diode
SIL	3
Connection type	M12 connector plug
Housing length L	41.5 mm
Housing width W	15 mm
Housing height H	49 mm
TÜV	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]
SLA12-LAS-T/124	12000
SLA12-LAS-T/35/124	30000



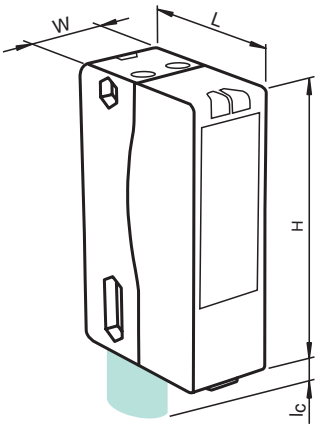
Accessories	
OMH-K01	Mounting clamp for sensors with dovetail groove
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
SB4-OR-4CP	Safety control unit
SB4-OR-4CP-4C	Safety control unit
SB4-OR-4CP-4M	Safety control unit

SLA29 Series

Standard Technical Data	
Function principle	Thru-beam sensor
Light type	Red LED
SIL	3
Housing width W	25.8 mm
Housing height H	88 mm
TÜV	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Connection type	Length L	UL
SLA29/105/106	30000	M12 connector plug	54.3	■
SLA29/116	30000	Terminal compartment	65.5	
SLA29/73c	30000	M12 connector plug	54.3	
SLA29/35/105/106	65000	M12 connector plug	54.3	■
SLA29/35/116 R=65m	65000	Terminal compartment	65.5	
SLA29/35/73c R=65m	65000	M12 connector plug	54.3	



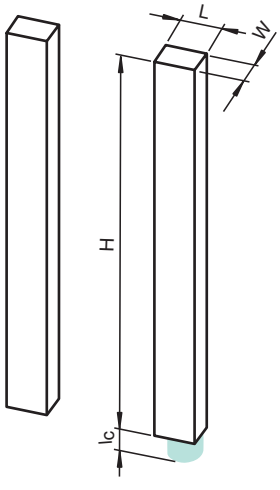
Accessories	
OMH-05	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-22	Mounting bracket
SB4-OR-4CP	Safety control unit
SB4-OR-4CP-4C	Safety control unit
SB4-OR-4CP-4M	Safety control unit

SLCS Series

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	8000 mm
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	31.2 V
SIL	3
Connection type	M12 connector plug
Housing length L	30 mm
Housing width W	20 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Optical resolution	UL
SLCS14	14 mm	■
SLCS30	30 mm	■
SLCS60	60 mm	■
SLCS90	90 mm	■



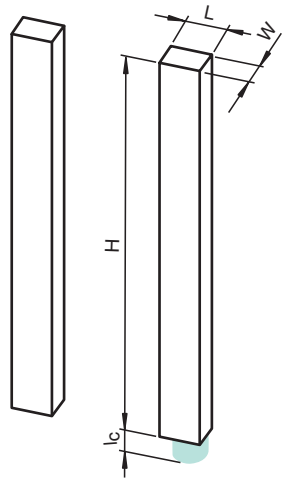
Accessories	
AA SLCT-01	Alignment aid
OMH-SLCT-03	Mounting aid
OMH-SLCT-05	Mounting aid
OMH-SLCT-10	Mounting aid
OMH-SLCT-11	Mounting aid
OMH-SLCT-120-2100	Safety accessories
SB4-OR-4XP	Safety control unit
SB4-OR-4XP-4M	Safety control unit

SLCT Series

Standard Technical Data	
Function principle	Thru-beam sensor
Detection range	8000 mm
Light type	Infrared LED
Voltage type	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	31.2 V
SIL	1
Connection type	M12 connector plug
Housing length L	30 mm
Housing width W	20 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Optical resolution
SLCT14	14 mm
SLCT30	30 mm
SLCT60	60 mm
SLCT90	90 mm



Accessories	
OMH-SLCT-03	Mounting aid
OMH-SLCT-06	Mounting aid
OMH-SLCT-10	Mounting aid
OMH-SLCT-100-2100	Safety accessories
OMH-SLCT-120-2100	Safety accessories
OMH-SLCT-120-2500	Safety accessories
OMH-SLCT-200	Safety accessories
SB4-OR-4XP	Safety control unit

SB4 Series

Standard Technical Data	
Voltage type	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
SIL	3
Connection type	Terminal compartment
Housing height H	99 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Output type	Length L	Width W
SB4 Module 2E	Relay	100.5	22.6
SB4 Module 2E/165	Relay	100.5	22.6
SB4 Module 4C		100.5	22.6
SB4 Module 4C/165		100.5	22.6
SB4 Module 4CO		100.5	22.6
SB4 Module 4COP		100.5	22.6
SB4 Module 4CP		100.5	22.6
SB4 Module 4CP/165		100.5	22.6
SB4 Module 4M		100.5	22.6
SB4 Module 4M/165		100.5	22.6
SB4 Module 4MD		100.5	22.6
SB4 Module 4MD/165		100.5	22.6
SB4 Module 4X		100.5	22.6
SB4 Module 4X/165		100.5	22.6
SB4 Module 4XP		100.5	22.6
SB4 Module 4XP/165		100.5	22.6
SB4 Module 6C		100.5	22.6
SB4 Module OR	Relay	100.5	22.6
SB4 Module OR/165	Relay	100.5	22.6
SB4-OR-4CP	Relay	112.7	45
SB4-OR-4CP-4C	Relay	112.7	45
SB4-OR-4CP-4M	PNP	112.7	45
SB4-OR-4XP	Relay	112.7	45
SB4-OR-4XP-4M	PNP	112.7	45
SB4-OR-4XP-4X	Relay	112.7	45

Accessories	
SB4 Cape	Cover
SB4 Housing 2	Empty housing for SB4 control unit
SB4 Housing 3	Empty housing for SB4 control unit
SB4 Housing 6	Empty housing for SB4 control unit
SB4 Housing 8	Empty housing for SB4 control unit
SLA12-LAS-T/124	Safety light barrier with laser light
SLA12-LAS-T/35/124	Safety light barrier with laser light
SLA12/115	Safety light barrier with laser light
SLA12/124	Safety light barrier with laser light
SLA29/105/106	Safety light barrier with laser light

BUS LINK
BUS TX / RX
BUS ERR
PWR / ADJ
SYSERR / NO CENTER
OUT1 / ADJ Y
OUT2 / ADJ Z
INTERNAL
DIAGNOSTIC

Ultrasonic Sensors

Innovation and Expertise Right from the Outset

The ultrasonic portfolio from Pepperl+Fuchs combines the advantages of decades of development expertise with a high degree of vertical integration in the field of ultrasonic sensors. The Pepperl+Fuchs technology center, in-house transducer production and comprehensive expert knowledge offer future-proof and application-oriented sensor solutions.

Top Quality and Performance—Ultrasonic Sensors from the In-House Technology Center

Ultrasonic sensors from Pepperl+Fuchs are built in the company's own technology center with associated transducer development and manufacturing. For more than 30 years, our forward-thinking team of experts has been working continually on further developing ultrasound technology for the solutions of tomorrow. That means our customers always receive the most powerful products on the market.

This approach has led to the widest standard portfolio in the industry, supported by numerous patents and innovations for the highest level of flexibility in product selection, and an optimal application solution. In addition to the standard portfolio, Pepperl+Fuchs has the knowledge and infrastructure to respond to customer requirements with speed and flexibility and to implement individual solutions.

Ultrasound Technology for Any Industrial Application

Ultrasonic sensors are used in industry to detect objects and measure distance. Versatility and availability are key user requirements.

With its ultrasonic portfolio, Pepperl+Fuchs provides a variety of sensors that offer benefits such as minimized dead band, large measuring ranges of up to 10 m, adjustable sound beams, and much more—and all in a variety of housing designs and materials. This means we can always offer technically reliable and efficient solutions.

More information is available at
www.pepperl-fuchs.com/fa-ultrasonic

PEPPERL+FU
Germany
UBE1000-18GM40A-
Part No. 205349

Ultrasonic Sensors for Standard Applications

Complete Portfolio for Industrial Applications

With unique features such as minimal dead band, outstanding detection ranges and particularly robust sensor solutions, the broad portfolio of standard ultrasonic sensors from Pepperl+Fuchs combines a wide variety of housing designs and offers the right sensor principle for every industrial application.

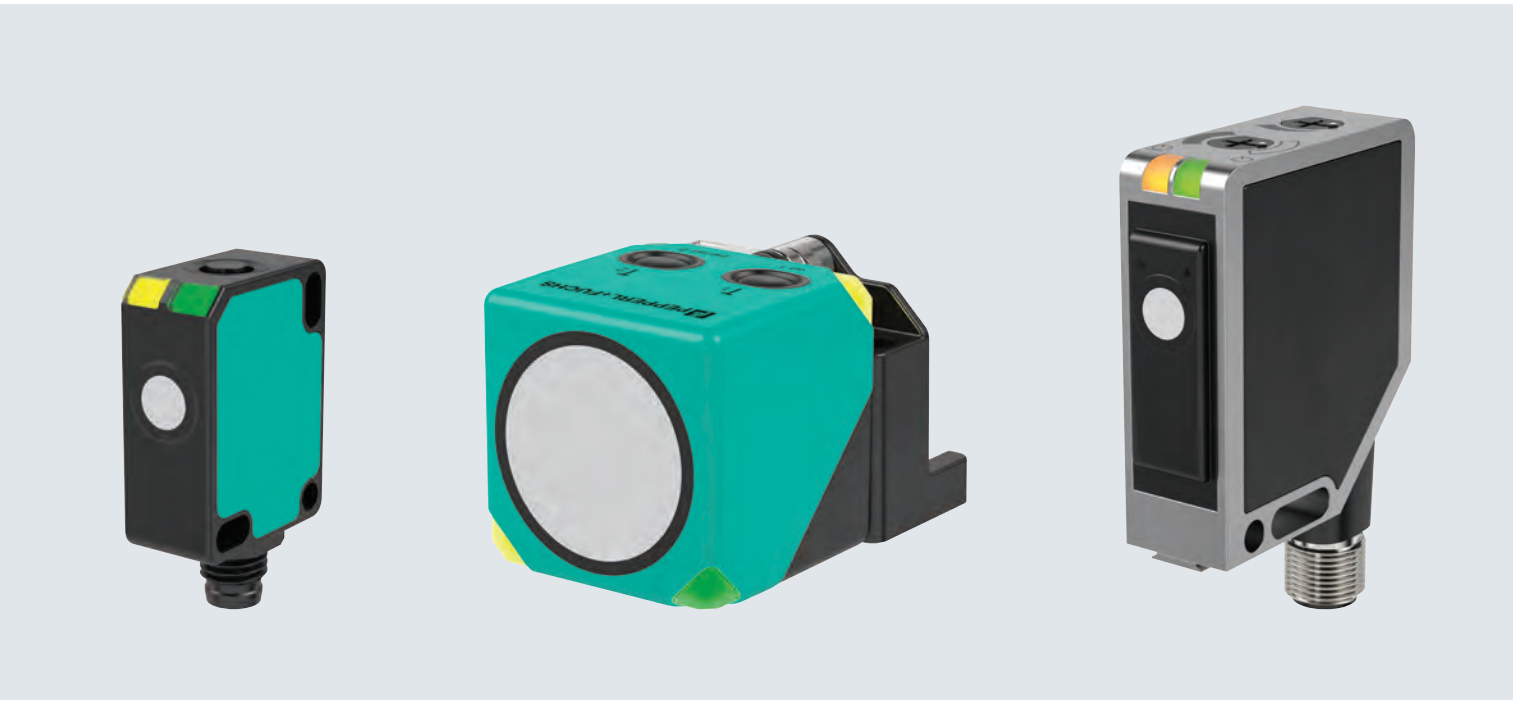
Typical Applications

The potential applications of ultrasonic technology are almost limitless. The wide range of applications is demonstrated by the technology's insensitivity to countless materials, surface structures, and colors.
Typical applications include:

- Level measurement and monitoring in containers, tanks, or silos
- Use on mobile vehicles such as aerial work platforms, forklift trucks, and agricultural or waste disposal vehicles
- Detection of a wide range of objects such as printed circuit boards, bottles, metal, granules, film, paints, and coatings

Your Benefits at a Glance

- Excellent flexibility in the application solution thanks to a comprehensive portfolio of cubic and cylindrical ultrasonic sensors
- Wide range of sizes and detection ranges, with especially compact and space-saving housing designs and detection ranges of up to 10 m.
- Intuitive operating concepts and adjustment options directly on the device or via an interface or parameterization software
- Special designs, various transducer versions and comprehensive accessories are available for optimum integration
- Features such as minimized dead band, the option for synchronization, interference suppression, and IO-Link for reliable processes



Technical Features

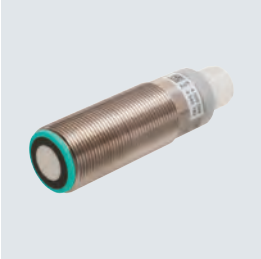
- Independent sensor synchronization: Multiplex or common mode for optimal functional safety during the operation of multiple neighboring sensors
- Individually adjustable sound beam for fault-free performance
- Wide range of output types for maximum flexibility in measured value output
- High degree of vibration resistance for use in harsh and mobile applications
- Maximum process reliability through direct access to process data and diagnostic data thanks to IO-Link

Cylindrical Ultrasonic Sensors

Contents

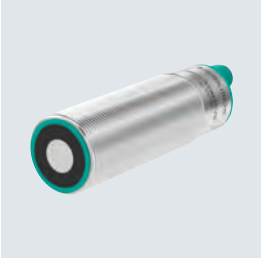
12GM Series
Page 271

18GM40 Series
Page 272



18GM60 Series
Page 273

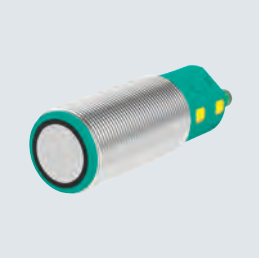
18GM75 Series
Page 274



UB-30GM Series
Page 275

UC-30GM Series
Page 276

30GM70 Series
Page 277



30GM-IO Series
Page 278

12GM Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	70 mm
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

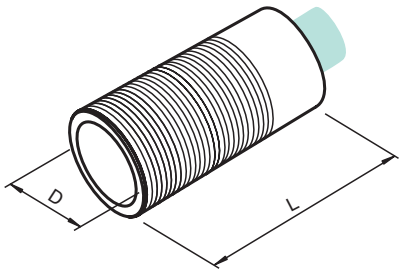
Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)
UB120-12GM-E4-V1	120	15	NPN	Normally open/close selectable	9	52	10
UB120-12GM-E5-V1	120	15	PNP	Normally open/close selectable	9	52	10
UB120-12GM-I-V1	120	15	Analog current output	Analog	27		10
UB120-12GM-U-V1	120	15	Analog voltage output	Analog	27		15
UB200-12GM-E4-V1	200	15	NPN	Normally open/close selectable	30	13	10
UB200-12GM-E5-V1	200	15	PNP	Normally open/close selectable	30	13	10
UB200-12GM-I-V1	200	15	Analog current output	Analog	30		10
UB200-12GM-U-V1	200	15	Analog voltage output	Analog	30		15
UB400-12GM-E4-V1	400	30	NPN	Normally open/close selectable	50	8	10
UB400-12GM-E5-V1	400	30	PNP	Normally open/close selectable	50	8	10
UB400-12GM-I-V1	400	30	Analog current output	Analog	50		10
UB400-12GM-U-V1	400	30	Analog voltage output	Analog	50		15

Highlights

- Little space required, small dead band, ideal for tight installation situations
- IP67 degree of protection for excellent availability in harsh environments
- Teach-in process for simple configuration
- Three detection ranges, switching or analog output—the right solution for every requirement

Brief Description

The highly compact cylindrical M12 housing in combination with the extra-small dead band make 12GM series ultrasonic sensors the ideal solution for tight installation situations, e.g., in the ink tanks of printing machines. For applications in harsh environments, the IP67 degree of protection guarantees the ultimate in robust construction and availability. The diffuse mode sensors—available either with switching or analog output—are impressively user-friendly as they can be configured via teach-in.



Accessories	
BF 12	Mounting adapter, 12 mm
BF 12-F	Plastic mounting adapter, 12 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
UB-PROG2	Programming unit
UVW90-M12	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

18GM40 Series
Thru-Beam Sensor and Diffuse Mode Sensor

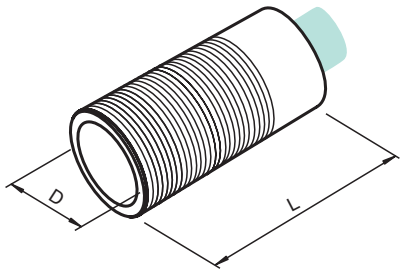
Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)	Length L	EAC
UB300-18GM40-E4-V1	Straight head	300	35	NPN	Normally open/close selectable	50	13	10	40	■
UB300-18GM40-E5-V1	Straight head	300	35	PNP	Normally open/close selectable	50	13	10	40	
UB300-18GM40-I-V1	Straight head	300	35	Analog current output	Analog	50		10	40	
UB300-18GM40-U-V1	Straight head	300	35	Analog voltage output	Analog	50		15	40	
UB300-18GM40A-E4-V1	Angled head	300	35	NPN	Normally open/close selectable	50	13	10	57	
UB300-18GM40A-E5-V1	Angled head	300	35	PNP	Normally open/close selectable	50	13	10	57	
UB300-18GM40A-I-V1	Angled head	300	35	Analog current output	Analog	50		10	40	
UB300-18GM40A-U-V1	Angled head	300	35	Analog voltage output	Analog	50		15	40	
UB800-18GM40-E4-V1	Straight head	800	50	NPN	Normally open/close selectable	100	4	10	40	
UB800-18GM40-E5-V1	Straight head	800	50	PNP	Normally open/close selectable	100	4	10	40	■
UB800-18GM40-I-V1	Straight head	800	50	Analog current output	Analog	100		10	40	■
UB800-18GM40-U-V1	Straight head	800	50	Analog voltage output	Analog	100		15	40	
UB800-18GM40A-E4-V1	Angled head	800	50	NPN	Normally open/close selectable	100	4	10	57	
UB800-18GM40A-E5-V1	Angled head	800	50	PNP	Normally open/close selectable	100	4	10	57	
UB800-18GM40A-I-V1	Angled head	800	50	Analog current output	Analog	100		10	57	
UB800-18GM40A-U-V1	Angled head	800	50	Analog voltage output	Analog	100		15	57	
UBE1000-18GM40-SE2-V1	Straight head	1000		PNP	Normally-open (NO)		100	10	40	
UBE1000-18GM40A-SE2-V1	Angled head	1000		PNP	Normally-open (NO)		100	10	40	

Highlights

- Wide variety of integration options through special design and graduated detection areas
- Different output versions offer flexible solutions for measuring or switching applications
- IP67 degree of protection for maximum reliability and availability under tough operational conditions



Brief Description

The 18GM40 series of thru-beam sensors and diffuse mode sensors are the ideal solution for tough installation conditions. Their extremely short design saves space, while the versions with right-angled ultrasonic transducers offer an additional level of freedom during integration, such as in profiles or angled machine structures. Their application areas are just as demanding and varied: They can count bottles in filling lines, detect containers on waste collection vehicles, and much more besides.

Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M18K-VE	Plastic nuts with centering ring
OMH-04	Mounting aid for circular profile ø 12 mm or flat profile
UB-PROG2	Programming unit
UVW90-K18	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable

18GM60 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cylindrical
Output type	PNP
Switching function	Normally open/close selectable
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
CSA	■
UL	■
E1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

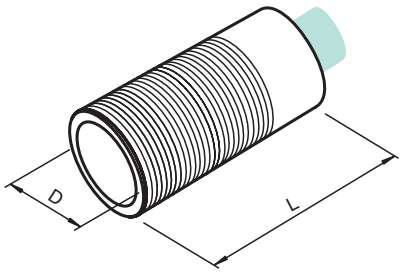
Model number	Version	Detection range [mm]	Dead band	Response delay [ms]	Switching frequency [Hz]	Length L
UB300-18GM60-E5-V1-M	Straight head	300	35	50	13	51
UB300-18GM60A-E5-V1-M	Angled head	300	35	50	13	69
UB800-18GM60-E5-V1-M	Straight head	800	50	100	4	51
UB800-18GM60A-E5-V1-M	Angled head	800	50	100	4	69

Highlights

- Different sensing ranges for different object distances

Brief Description

The 18GM60 ultrasonic diffuse mode sensor has proven itself in a number of applications. The five different output stages mean that it can be used for a wide variety of purposes. The teach-in input and temperature compensation are added bonuses. E1 type approval means that the sensor is also suitable for automotive engineering.



Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
OMH-04	Mounting aid for circular profile ø 12 mm or flat profile
UB-PROG2	Programming unit
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable

18GM75 Series
Diffuse Mode Sensor

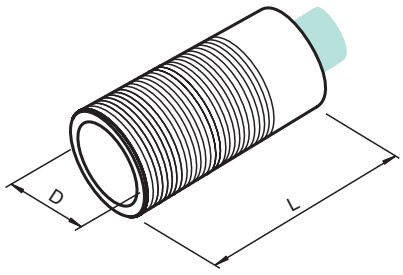
Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)	Length L	EAC
UB500-18GM75-E01-V15	Straight head	500	30	2 * NPN, NPN	Normally open/close selectable	50	8	10	85	
UB500-18GM75-E23-V15	Straight head	500	30	2 * PNP, PNP	Normally open/close selectable	50	8	10	85	
UB500-18GM75-E4-V15	Straight head	500	30	NPN	Normally open/close selectable	50	8	10	85	
UB500-18GM75-E5-V15	Straight head	500	30	PNP	Normally open/close selectable	50	8	10	85	■
UB500-18GM75-E6-V15	Straight head	500	30	2 * PNP, PNP	Normally open/close selectable	50	8	10	85	
UB500-18GM75-E7-V15	Straight head	500	30	2 * NPN, NPN	Normally open/close selectable	50	8	10	85	
UB500-18GM75-I-V15	Straight head	500	30	Analog current output	Analog	50		10	85	
UB500-18GM75-U-V15	Straight head	500	30	Analog voltage output	Analog	50		15	85	
UB1000-18GM75-E01-V15	Straight head	1000	70	2 * NPN, NPN	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-E23-V15	Straight head	1000	70	2 * PNP, PNP	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-E4-V15	Straight head	1000	70	NPN	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-E5-V15	Straight head	1000	70	PNP	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-E6-V15	Straight head	1000	70	2 * PNP, PNP	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-E7-V15	Straight head	1000	70	2 * NPN, NPN	Normally open/close selectable	125	3	10	75	
UB1000-18GM75-F-V15	Straight head	1000	80	Frequency output		150		10	75	
UB1000-18GM75-I-V15	Straight head	1000	70	Analog current output	Analog	125		10	75	
UB1000-18GM75-U-V15	Straight head	1000	70	Analog voltage output	Analog	125		15	75	
UB1000-18GM75A-E5-V15	Angled head	1000	70	PNP	Normally open/close selectable	125	3	10	102.5	
UB1000-18GM75A-I-V15	Angled head	1000	70	Analog current output	Analog	125		10	102.5	

Highlights

- Different sensing ranges for different object distances
- Adjustable sound beam increases range of possible sensor applications
- Output variability in the series enables a wide variety of automation solutions

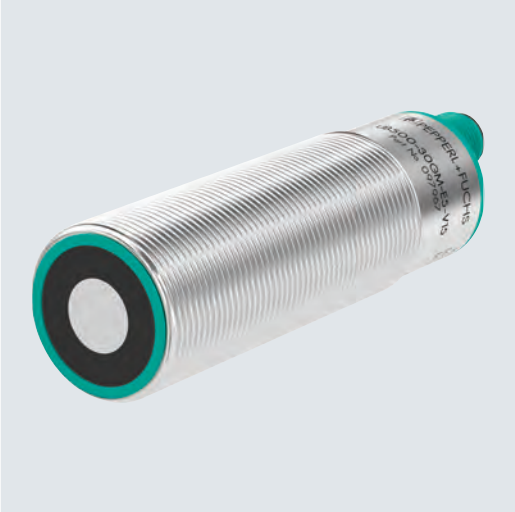


Brief Description

The 18GM75 ultrasonic diffuse mode sensor has proven itself in a multitude of applications. The width of the sound beam can be easily adapted to any detection situation. In addition, the synchronization option avoids cross-talk between sensors that are installed close together, guaranteeing a reliable measurement function.

Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M18K-VE	Plastic nuts with centering ring
MHW 11	Mounting bracket for sensors
OMH-04	Mounting aid for circular profile ø 12 mm or flat profile
UB-PROG2	Programming unit
UB-PROG3	Programming unit

UB-30GM Series
Thru-Beam Sensor and Diffuse Mode Sensor



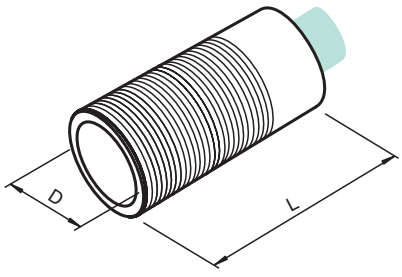
Standard Technical Data	
Version	Straight head
Design	Cylindrical
Voltage type	DC
Operating voltage (max)	30 V
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)	Connection type	Length L	Diameter D	EAC
UB500-30GM-E4-V15	500	30	NPN	Normally open/close selectable	50	10	10	M12 connector plug	94	30	
UB500-30GM-E5-V15	500	30	PNP	Normally open/close selectable	50	10	10	M12 connector plug	94	30	■
UB500-30GM-H3-V1	500	30	Pulse output, PNP				10	M12 connector plug	80	30	
UB2000-30GM-E4-V15	2000	80	NPN	Normally open/close selectable	150	3	10	M12 connector plug	94	30	
UB2000-30GM-E5-V15	2000	80	PNP	Normally open/close selectable	150	3	10	M12 connector plug	94	30	■
UB2000-30GM-H3	2000	80	Pulse output, PNP				10	Fixed cable	80	30	
UB2000-30GM-H3-V1	2000	80	Pulse output, PNP				10	M12 connector plug	80	30	
UB4000-30GM-E4-V15	4000	200	NPN	Normally open/close selectable	325	2	10	M12 connector plug	108	40	
UB4000-30GM-E5-V15	4000	200	PNP	Normally open/close selectable	325	2	10	M12 connector plug	108	40	■
UB4000-30GM-H3-V1	4000	200	Pulse output, PNP				10	M12 connector plug	93	40	
UB6000-30GM-E4-V15	6000	350	NPN	Normally open/close selectable	650	1	10	M12 connector plug	112	73	
UB6000-30GM-E5-V15	6000	350	PNP	Normally open/close selectable	650	1	10	M12 connector plug	112	73	
UB6000-30GM-H3-V1	6000	350	Pulse output, PNP				10	M12 connector plug	102	74	
UBE4000-30GM-SA2-V15	4000		2 * PNP, PNP	Normally open/close selectable		15	18	M12 connector plug	90	40	

Highlights

- Sensing ranges in practical graduation for a variety of detection applications
- Synchronization and IP65 degree of protection for outstanding operational reliability
- High degree of vibration resistance for use in harsh and mobile applications



Brief Description

UB-30GM series diffuse mode sensors are easy to adjust via the teach-in input. They can be synchronized to guarantee impressive detection and switching reliability even in installation situations with multiple ultrasonic sensors. The sensors are extremely robust and vibration-resistant, and deliver reliable measurements at all times while resisting interference such as compressed air. The diversity of detection ranges makes this series the ideal solution for monitoring bulk goods in silos of varying sizes, for example.

Accessories	
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UB-PROG2	Programming unit
UVW90-K30	Ultrasonic deviation reflector
UVW90-M30	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable

UC-30GM Series
Diffuse Mode Sensor

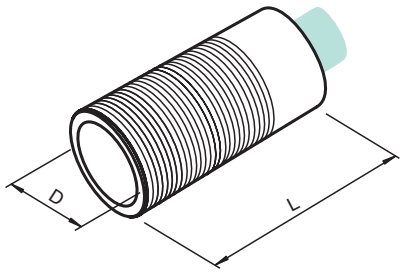
Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Switching function	Switching frequency [Hz]	Length L	Diameter D	EAC
UC300-30GM-E6R2-K-V15	Angled head	300	30	2 * PNP, PNP	Normally open/close selectable	7	25	18	
UC300-30GM-IUR2-K-V15	Angled head	300	30	Analog voltage output, analog current output	Analog		25	18	
UC300-30GM-IUR2-V15	Straight head	300	15	Analog voltage output, analog current output	Analog		114	30	■
UC500-30GM-E6R2-V15	Straight head	500	30	2 * PNP, PNP	Normally open/close selectable	7	94	30	
UC500-30GM-E7R2-V15	Straight head	500	30	2 * NPN, NPN	Normally open/close selectable	7	94	30	
UC500-30GM-IUR2-V15	Straight head	500	30	Analog voltage output, analog current output	Analog		114	30	
UC1000-30GM-E6R2-K-V15	Angled head	1000	80	2 * PNP, PNP	Normally open/close selectable	2	27	30	
UC1000-30GM-IUR2-K-V15	Angled head	1000	80	Analog voltage output, analog current output	Analog		27	30	
UC2000-30GM-E6R2-T-V15	Straight head	2000	80	2 * PNP, PNP	Normally open/close selectable	2	94	30	
UC2000-30GM-E6R2-V15	Straight head	2000	80	2 * PNP, PNP	Normally open/close selectable	2	94	30	■
UC2000-30GM-E7R2-V15	Straight head	2000	80	2 * NPN, NPN	Normally open/close selectable	2	94	30	
UC2000-30GM-IUR2-T-V15	Straight head	2000	80	Analog voltage output, analog current output	Analog		114	30	
UC2000-30GM-IUR2-V15	Straight head	2000	80	Analog voltage output, analog current output	Analog		114	30	■
UC4000-30GM-E6R2-V15	Straight head	4000	200	2 * PNP, PNP	Normally open/close selectable	1	108	40	
UC4000-30GM-E7R2-V15	Straight head	4000	200	2 * NPN, NPN	Normally open/close selectable	1	108	40	
UC4000-30GM-IUR2-V15	Straight head	4000	200	Analog voltage output, analog current output	Analog		128	40	
UC6000-30GM-E6R2-V15	Straight head	6000	350	2 * PNP, PNP	Normally open/close selectable	0	112	73	
UC6000-30GM-E7R2-V15	Straight head	6000	350	2 * NPN, NPN	Normally open/close selectable	0	112	73	
UC6000-30GM-IUR2-V15	Straight head	6000	350	Analog voltage output, analog current output	Analog		132	73	

Highlights

- Comprehensive parameterization for customized sensor adjustment
- Intuitive programming and configuration for easy commissioning
- Versions with offset transducers increase installation flexibility



Brief Description

With a variety of parameterization options, the diffuse mode sensors are versatile and can be deployed individually. They are easy to configure via the integrated programming plug. Sensor versions with offset transducers offer an additional level of freedom during machine integration in special installation situations. With these characteristics, they offer an impressive array of potential solutions, such as distance measurement in container spreaders.

Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M-105	Protective cap
M30K-VE	Plastic nuts with centering ring
OMH-04	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm

30GM70 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cylindrical
Switching function	Normally open/close selectable
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	30 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Response delay [ms]	UB (min)	Length L
UC500-30GM70-2E2R2-K-V15	Straight head	500	45	2 * PNP	60	12	111.3
UC500-30GM70-2E2R2-V15	Straight head	500	45	2 * PNP	60	12	99.3
UC500-30GM70-IE2R2-K-V15	Straight head	500	45	Analog current output, PNP	60	20	111.3
UC500-30GM70-IE2R2-V15	Straight head	500	45	Analog current output, PNP	60	20	99.3
UC500-30GM70-UE2R2-K-V15	Straight head	500	45	Analog voltage output, PNP	60	20	111.3
UC500-30GM70-UE2R2-V15	Straight head	500	45	Analog voltage output, PNP	60	20	99.3
UC500-30GM70S-2E2R2-V15	Angled head	500	45	2 * PNP	60	12	126
UC500-30GM70S-IE2R2-V15	Angled head	500	45	Analog current output, PNP	60	20	126
UC500-30GM70S-UE2R2-V15	Angled head	500	45	Analog voltage output, PNP	60	20	126
UC2000-30GM70-2E2R2-K-V15	Straight head	2000	100	2 * PNP	100	12	111.3
UC2000-30GM70-2E2R2-V15	Straight head	2000	100	2 * PNP	100	12	99.3
UC2000-30GM70-IE2R2-K-V15	Straight head	2000	100	Analog current output, PNP	100	20	111.3
UC2000-30GM70-IE2R2-V15	Straight head	2000	100	Analog current output, PNP	100	20	99.3
UC2000-30GM70-UE2R2-K-V15	Straight head	2000	100	Analog voltage output, PNP	100	20	111.3
UC2000-30GM70-UE2R2-V15	Straight head	2000	100	Analog voltage output, PNP	100	20	99.3
UC2000-30GM70S-2E2R2-V15	Angled head	2000	100	2 * PNP	100	12	126
UC2000-30GM70S-IE2R2-V15	Angled head	2000	100	Analog current output, PNP	100	20	126
UC2000-30GM70S-UE2R2-V15	Angled head	2000	100	Analog voltage output, PNP	100	20	126
UC3500-30GM70-2E2R2-V15	Straight head	3500	200	2 * PNP	150	12	99.3
UC3500-30GM70-IE2R2-V15	Straight head	3500	200	Analog current output, PNP	150	20	99.3
UC3500-30GM70-UE2R2-V15	Straight head	3500	200	Analog voltage output, PNP	150	20	99.3
UC3500-30GM70S-2E2R2-V15	Angled head	3500	200	2 * PNP	150	12	126
UC3500-30GM70S-IE2R2-V15	Angled head	3500	200	Analog current output, PNP	150	20	126
UC3500-30GM70S-UE2R2-V15	Angled head	3500	200	Analog voltage output, PNP	150	20	126
UC6000-30GM70-2E2R2-V15	Straight head	6000	350	2 * PNP	275	12	121.2
UC6000-30GM70-IE2R2-V15	Straight head	6000	350	Analog current output, PNP	275	20	121.2
UC6000-30GM70-UE2R2-V15	Straight head	6000	350	Analog voltage output, PNP	275	20	121.2
UC6000-30GM70S-2E2R2-V15	Angled head	6000	350	2 * PNP	275	12	143.5
UC6000-30GM70S-IE2R2-V15	Angled head	6000	350	Analog current output, PNP	275	20	143.5
UC6000-30GM70S-UE2R2-V15	Angled head	6000	350	Analog voltage output, PNP	275	20	143.5

Highlights

- Graduated detection ranges for different object distances
- Infrared interface allows direct sensor access for parameterization or diagnosis
- Reaction-free parameterization during operation avoids process interruptions
- Various transducer versions to handle any installation situation

Accessories	
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
UC-30GM-R2	Connection: sub-D socket, 9-pin
UC-PROG-IR-USB	Interface cable
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable

30GM-IO Series
Diffuse Mode Sensor

Standard Technical Data	
Version	Straight head
Design	Cylindrical
Switching function	Push-pull output
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

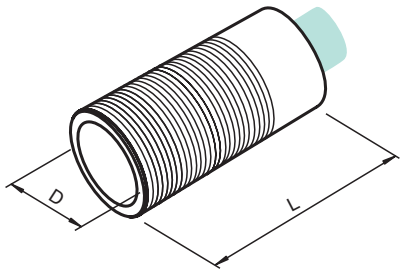
Model number	Detection range [mm]	Dead band	Output type	Response delay [ms]	Switching frequency [Hz]	Length L	Diameter D
UC500-30GM-2EP-IO-V15	500	30	IO-Link, PNP/NPN	25	11	93	30
UC500-30GM-IUEP-IO-V15	500	30	Analog current output, IO-Link, PNP/NPN	25	11	93	30
UC2000-30GM-2EP-IO-V15	2000	90	IO-Link, PNP/NPN	65	4	93	30
UC2000-30GM-IUEP-IO-V15	2000	90	Analog current output, IO-Link, PNP/NPN	65	4	93	30
UC4000-30GM-2EP-IO-V15	4000	200	IO-Link, PNP/NPN	115	2	108	40
UC4000-30GM-IUEP-IO-V15	4000	200	Analog current output, IO-Link, PNP/NPN	115	2	100	40
UC6000-30GM-2EP-IO-V15	6000	350	IO-Link, PNP/NPN	140	2	112	73
UC6000-30GM-IUEP-IO-V15	6000	350	Analog current output, IO-Link, PNP/NPN	140	2	106	73

Highlights

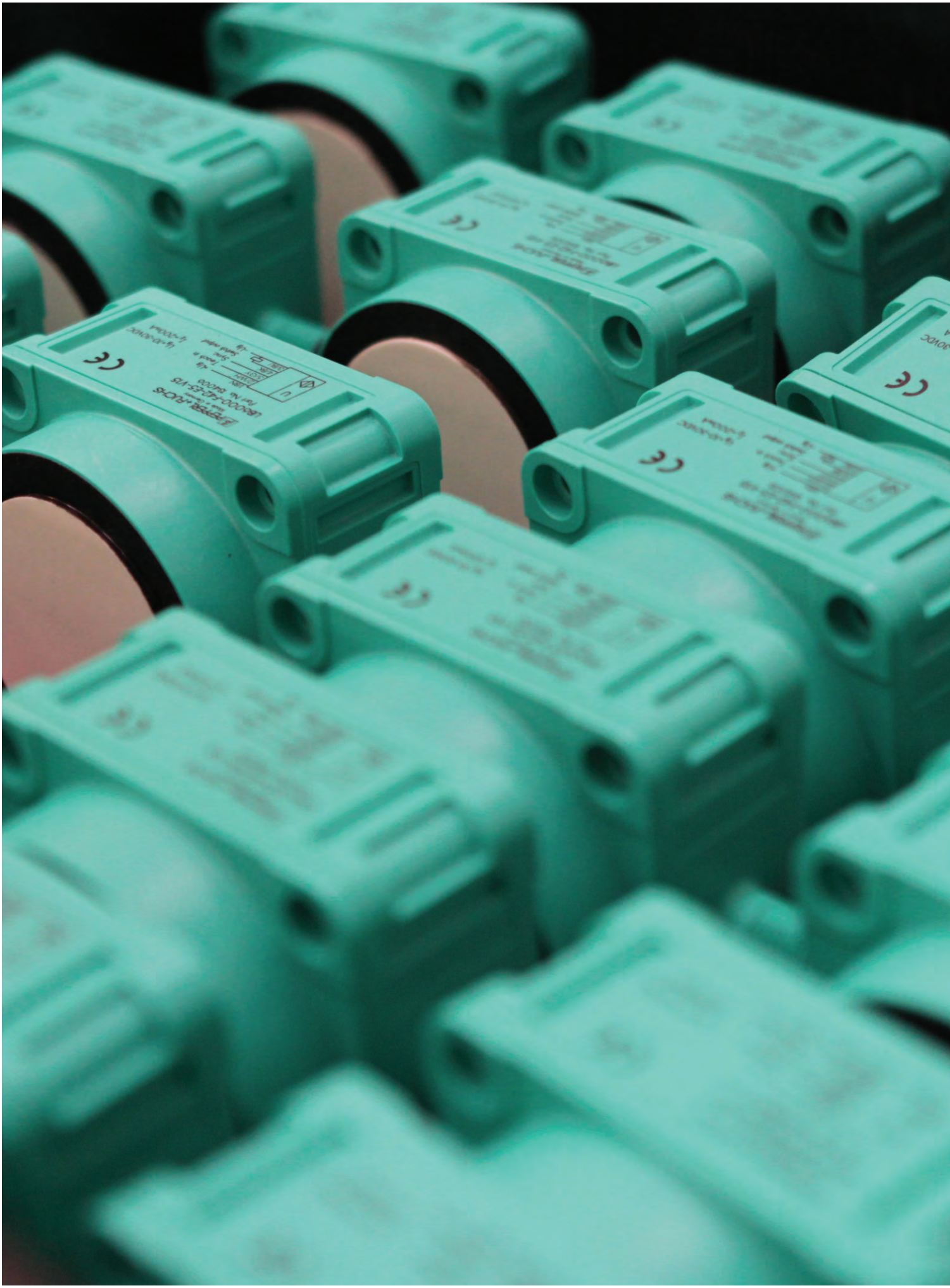
- Simple integration in the control panel via IO-Link
- Integrated diagnostics and flexible parameterization
- Outstanding process reliability through direct access to process data and diagnostic data
- Wide array of graduated detection ranges

Brief Description

The 30GM-IO series diffuse mode sensors are the multifunctional solutions for a range of application scenarios, from fill level measurement and presence detection to object counting and distance measurement. They are incredibly simple to parameterize, either using the buttons on the sensor or via the IO-Link interface. The sensors can be integrated easily into the control environment via this communication channel to exchange both process and service data. Various sound beam widths can be set via teach-in to suit the respective detection application. The IP67 degree of protection ensures optimal availability at all times.



Accessories	
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UC-30GM-R2	Connection: sub-D socket, 9-pin
UVW90-K30	Ultrasonic deviation reflector
UVW90-M30	Ultrasonic deviation reflector



Cubic Ultrasonic Sensors

Contents

F77 Series
Page 281

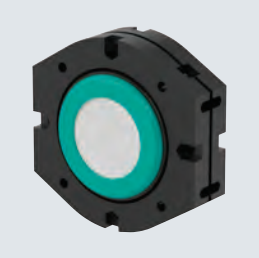
F12 Series
Page 282

L2 Series
Page 283

F54 Series
Page 284

F42 Series
Page 285

F65 Series
Page 286



F260 Series
Page 287

F77 Series
Thru-Beam Sensor and Diffuse Mode Sensor

Standard Technical Data	
Design	Cuboid shape
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	23 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Switching function	UB (min)	Connection type	Width W
UB100-F77-E0-V31	Frontlooker	100	10	NPN	Normally-open (NO)	20	M8 connector plug	12
UB100-F77-E1-V31	Frontlooker	100	10	NPN	Normally-closed (NC)	20	M8 connector plug	12
UB100-F77-E2-V31	Frontlooker	100	10	PNP	Normally-open (NO)	20	M8 connector plug	12
UB100-F77-E3-V31	Frontlooker	100	10	PNP	Normally-closed (NC)	20	M8 connector plug	12
UB250-F77-E0-V31	Frontlooker	250	20	NPN	Normally-open (NO)	20	M8 connector plug	12
UB250-F77-E1-V31	Frontlooker	250	20	NPN	Normally-closed (NC)	20	M8 connector plug	12
UB250-F77-E2-V31	Frontlooker	250	20	PNP	Normally-open (NO)	20	M8 connector plug	12
UB250-F77-E3-V31	Frontlooker	250	20	PNP	Normally-closed (NC)	20	M8 connector plug	12
UB250-F77-F-V31	Frontlooker	250	35	Frequency output, PNP		20	M8 connector plug	12
UBR250-F77-E0-V31	Frontlooker	250		NPN	Normally-open (NO)	20	M8 connector plug	12
UBR250-F77-E2-V31	Frontlooker	250		PNP	Normally-open (NO)	20	M8 connector plug	12
UBR250-F77-E3-V31	Frontlooker	250		PNP	Normally-closed (NC)	20	M8 connector plug	12
UC250-F77-EP-IO-V31	Frontlooker	250	20	IO-Link, PNP/NPN	Push-pull output	10	M8 connector plug	12
UC250-F77-IU-IO-2M	Frontlooker	250	20	Analog voltage output, analog current output, IO-Link	Analog	18	Fixed cable	12
UC250-F77-IU-IO-5M	Frontlooker	250	20	Analog voltage output, analog current output, IO-Link	Analog	18	Fixed cable	12
UC250-F77-IU-IO-V31	Frontlooker	250	20	Analog voltage output, analog current output, IO-Link	Analog	18	M8 connector plug	12
UB400-F77-E0-V31	Frontlooker	400	25	NPN	Normally-open (NO)	20	M8 connector plug	12
UB400-F77-E1-V31	Frontlooker	400	25	NPN	Normally-closed (NC)	20	M8 connector plug	12
UB400-F77-E2-V31	Frontlooker	400	25	PNP	Normally-open (NO)	20	M8 connector plug	12
UB400-F77-E3-V31	Frontlooker	400	25	PNP	Normally-closed (NC)	20	M8 connector plug	12
UB400-F77-F-V31	Frontlooker	400	40	Frequency output, PNP		20	M8 connector plug	12
UBR400-F77-E0-V31	Frontlooker	400		NPN	Normally-open (NO)	20	M8 connector plug	12
UBR400-F77-E2-V31	Frontlooker	400		PNP	Normally-open (NO)	20	M8 connector plug	12
UBR400-F77-E3-V31	Frontlooker	400		PNP	Normally-closed (NC)	20	M8 connector plug	12
UC400-F77-EP-IO-V31	Frontlooker	400	30	IO-Link, PNP/NPN	Push-pull output	10	M8 connector plug	12
UC400-F77-IU-IO-0,2M-V1	Frontlooker	400	30	Analog voltage output, analog current output, IO-Link	Analog	18	Fixed cable with M12 plug	12
UC400-F77-IU-IO-V31	Frontlooker	400	30	Analog voltage output, analog current output, IO-Link	Analog	18	M8 connector plug	12
UBE800-F77-SE2-V31	Frontlooker	800		PNP	Normally-open (NO)	20	M8 connector plug	12
UBE800-F77-SE3-V31	Frontlooker	800		PNP	Normally-closed (NC)	20	M8 connector plug	12
UC800-F77S-EP-IO-V31	Sidelooker	800	60	IO-Link, PNP/NPN	Push-pull output	10	M8 connector plug	21
UC800-F77S-IU-IO-V31	Sidelooker	800	60	Analog voltage output, analog current output, IO-Link	Analog	18	M8 connector plug	21

Highlights

- An optimal application solution using a single sensor due to a wide range of customization options
- Sensor-based synchronization and interference suppression for excellent detection reliability
- Compact, space-saving housing design in standard and sidelooker versions
- Communication down to sensor level with IO-Link

Accessories	
IO-Link-Master02-USB	IO-Link master, power supply via USB port
UB-PROG4-V31	Programming unit for ultrasonic sensors
V1-G-1M-PVC-V1-G	Cordset, M12 to M12, PVC cable, 4-pin
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-G-PG9	Single-ended female cordset, M12, 5-pin, field-attachable
V31-GM-1M-PVC-V1-G	Cordset, M8 to M12
V31-GM-2M-PVC	Single-ended female cordset, M8, 4-pin, PVC cable
V31-WM-2M-PVC	Single-ended female cordset, M8, 4-pin, PVC cable

F12 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cuboid shape
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	41.5 mm
Housing width W	15 mm
Housing height H	49 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

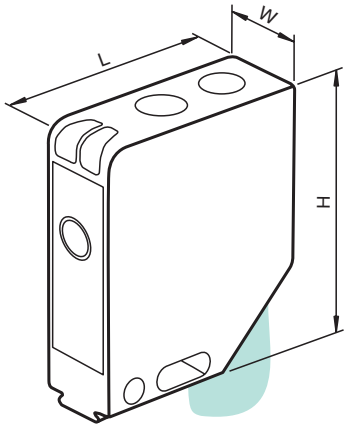
Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)
UB120-F12P-EP-V15	150	15	PNP/NPN	Push-pull output	10	50	10
UB250-F12-EP-V15	250	20	PNP/NPN	Push-pull output	20	20	10
UB250-F12-I-V15	250	20	Analog current output	Analog	20		10
UB250-F12-U-V15	250	20	Analog voltage output	Analog	20		12
UB250-F12P-EP-V15	250	20	PNP/NPN	Push-pull output	20	20	10
UB800-F12-EP-V15	800	30	PNP/NPN	Push-pull output	100	6	10
UB800-F12-I-V15	800	30	Analog current output	Analog	100		10
UB800-F12-U-V15	800	30	Analog voltage output	Analog	100		12
UB800-F12P-EP-V15	800	30	PNP/NPN	Push-pull output	100	4	10

Highlights

- Choice of switching output or analog output
- Configuration and operation via potentiometer (F12P) and button on the device
- Sound beam switching for rapid, individual adjustment to the detection application
- Synchronization prevents cross-talk

Brief Description

The ultrasonic diffuse mode sensors in the F12 series are suitable for a wide range of applications and offer special sensor functions. They are available with either a switching output or analog output. The potentiometer and button on the device are used for configuration and operation. The sound beam can be quickly and easily switched between three widths. This also allows measurement in especially narrow feeds such as in bottling machines and vibrating conveyors. Sensors mounted close together can be synchronized autonomously so they do not interrupted by cross-talk. This ensures excellent detection reliability in these applications.



Accessories	
OMH-01	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-06	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-K01	Mounting clamp for sensors with dovetail groove
OMH-K02	Mounting clamp for sensors with dovetail groove
OMH-K03	Mounting clamp for sensors with dovetail groove
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

L2 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cuboid shape
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	40 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

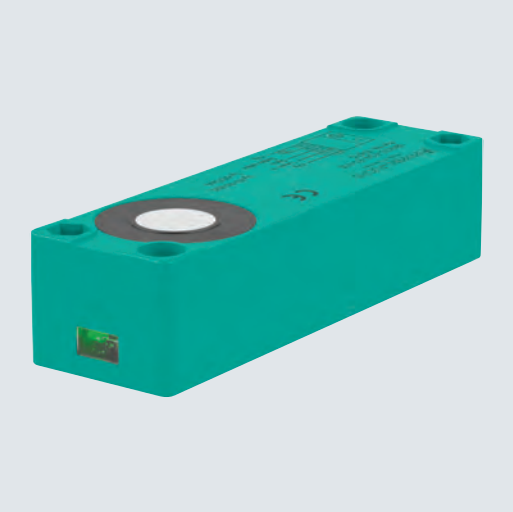
Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)	Connection type	EAC	UL
UC500-L2-E4-V15	500	35	NPN	Normally open/close selectable	20	14	10	M12 connector plug		■
UC500-L2-E5-V15	500	35	PNP	Normally open/close selectable	20	14	10	M12 connector plug		■
UC500-L2-E6-V15	500	35	2 * PNP, PNP	Normally open/close selectable	20	14	10	M12 connector plug		■
UC500-L2-E7-V15	500	35	2 * NPN, NPN	Normally open/close selectable	20	14	10	M12 connector plug		■
UC500-L2-I-V15	500	35	Analog current output	Analog	20		10	M12 connector plug		■
UC500-L2-U-V15	500	35	Analog voltage output	Analog	20		12	M12 connector plug		■
UC500-L2M-E6-T-2M	500	35	2 * PNP, PNP	Normally open/close selectable	20	14	10	Fixed cable	■	■
UC500-L2M-E7-T-2M	500	35	2 * NPN, NPN	Normally open/close selectable	20	14	10	Fixed cable	■	■
UC500-L2M-I-T-2M	500	35	Analog current output	Analog	20		10	Fixed cable	■	■
UC500-L2M-U-T-2M	500	35	Analog voltage output	Analog	20		12	Fixed cable	■	■
UC2000-L2-E4-V15	2000	60	NPN	Normally open/close selectable	60	5	10	M12 connector plug		■
UC2000-L2-E5-V15	2000	60	PNP	Normally open/close selectable	60	5	10	M12 connector plug		■
UC2000-L2-E6-V15	2000	60	2 * PNP, PNP	Normally open/close selectable	60	5	10	M12 connector plug	■	■
UC2000-L2-E7-V15	2000	60	2 * NPN, NPN	Normally open/close selectable	60	5	10	M12 connector plug		■
UC2000-L2-I-V15	2000	60	Analog current output	Analog	60		10	M12 connector plug		■
UC2000-L2-U-V15	2000	60	Analog voltage output	Analog	60		12	M12 connector plug		■
UC2000-L2M-E6-T-2M	2000	60	2 * PNP, PNP	Normally open/close selectable	60	5	10	Fixed cable	■	■
UC2000-L2M-E7-T-2M	2000	60	2 * NPN, NPN	Normally open/close selectable	60	5	10	Fixed cable	■	■
UC2000-L2M-I-T-2M	2000	60	Analog current output	Analog	60		10	Fixed cable	■	■
UC2000-L2M-U-T-2M	2000	60	Analog voltage output	Analog	60		12	Fixed cable	■	■
UC2000-L2M-E5-V15	2000	60	PNP	Normally open/close selectable	60	5	10	M12 connector plug		■
UC4000-L2-E4-V15	4000	200	NPN	Normally open/close selectable	110	3	10	M12 connector plug		■
UC4000-L2-E5-V15	4000	200	PNP	Normally open/close selectable	110	3	10	M12 connector plug		■
UC4000-L2-E6-V15	4000	200	2 * PNP, PNP	Normally open/close selectable	110	3	10	M12 connector plug		■
UC4000-L2-I-V15	4000	200	Analog current output	Analog	110		10	M12 connector plug		■
UC4000-L2-U-V15	4000	200	Analog voltage output	Analog	110		12	M12 connector plug		■
UC4000-L2M-E6-T-2M	4000	200	2 * PNP, PNP	Normally open/close selectable	110	3	10	Fixed cable	■	■
UC4000-L2M-E7-T-2M	4000	200	2 * NPN, NPN	Normally open/close selectable	110	3	10	Fixed cable	■	■
UC4000-L2M-I-T-2M	4000	200	Analog current output	Analog	110		10	Fixed cable	■	■
UC4000-L2M-U-T-2M	4000	200	Analog voltage output	Analog	110		12	Fixed cable	■	■

Highlights

- A wide spectrum of detection ranges also enables use in wide-range applications
- Variable, rotating sensor head for installation in special conditions
- Mounting and connections are compatible with the equivalent inductive proximity switches in the VariKont L series
- -T models have an extended temperature range

Accessories	
UB-PROG2	Programming unit
UC-PROG1-USB	Programming device
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals

F54 Series
Thru-Beam Sensor and Diffuse Mode Sensor



Standard Technical Data	
Design	Cuboid shape
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	25 mm
Housing width W	105 mm
Housing height H	31 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

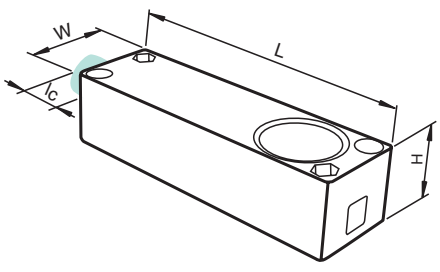
Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	UB (min)	EAC
UB500-F54-E4-V15	500	30	NPN	Normally open/close selectable	50	10	10	
UB500-F54-E5-V15	500	30	PNP	Normally open/close selectable	50	10	10	
UB500-F54-I-V15	500	30	Analog current output	Analog	50		10	
UB500-F54-U-V15	500	30	Analog voltage output	Analog	50		15	■
UB2000-F54-E4-V15	2000	80	NPN	Normally open/close selectable	150	3	10	
UB2000-F54-E5-V15	2000	80	PNP	Normally open/close selectable	150	3	10	
UB2000-F54-I-V15	2000	80	Analog current output	Analog	150		10	
UB2000-F54-U-V15	2000	80	Analog voltage output	Analog	150		15	
UBE15M-F54-H1-V1	15000		Pulse output, NPN				16	
UBE15M-F54-H2-V1	15000		Pulse output, NPN				10	

Highlights

- High measurement density with a detection range of up to 2 m in an especially space-saving housing design
- User-friendly teach-in input
- Highly robust with IP65 degree of protection for excellent availability
- Autonomous sensor synchronization prevents cross-talk between multiple sensors

Brief Description

The F54 diffuse mode sensor really shows its strengths in narrow mounting spaces, while offering synchronization capabilities and a long detection range of up to two meters. The teach-in input makes configuration especially user friendly. The F54 can be used in applications such as bottle return machines and in the detection of roll diameters, for example when handling continuous roll materials such as aluminum, film, and nonwoven fabrics. The sensor continuously detects the diameter and gives the user early warning when the roller falls below the minimum diameter and must be changed.



Accessories	
UB-PROG2	Programming unit
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

F42 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cuboid shape
Housing height H	80 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Dead band	Output type	Switching function	Voltage type	UB (min)	UB (max)	Connection type	Length L	Width W	CSA	EAC	UL
UB400-F42-UK-V95	400	40	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	34	80		■	
UB400-F42S-UK-V95	400	40	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	80	34		■	
UB500-F42-E4-V15	500	30	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB500-F42-E5-V15	500	30	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB500-F42-E6-V15	500	30	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB500-F42-E7-V15	500	30	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB500-F42-I-V15	500	30	Analog current output	Analog	DC	10	30	M12 connector plug	34	80	■		■
UB500-F42-U-V15	500	30	Analog voltage output	Analog	DC	17	30	M12 connector plug	34	80	■		■
UB500-F42S-E4-V15	500	30	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB500-F42S-E5-V15	500	30	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB500-F42S-E6-V15	500	30	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB500-F42S-E7-V15	500	30	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB500-F42S-I-V15	500	30	Analog current output	Analog	DC	10	30	M12 connector plug	80	34	■		■
UB500-F42S-U-V15	500	30	Analog voltage output	Analog	DC	17	30	M12 connector plug	80	34	■		■
UB1500-F42-UK-V95	1500	70	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	34	80		■	
UB1500-F42S-UK-V95	1500	70	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	80	34		■	
UB2000-F42-E4-V15	2000	60	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB2000-F42-E5-V15	2000	60	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB2000-F42-E6-V15	2000	60	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■	■	■
UB2000-F42-E7-V15	2000	60	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB2000-F42-I-V15	2000	60	Analog current output	Analog	DC	10	30	M12 connector plug	34	80	■	■	■
UB2000-F42-U-V15	2000	60	Analog voltage output	Analog	DC	17	30	M12 connector plug	34	80	■		■
UB2000-F42S-E4-V15	2000	60	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB2000-F42S-E5-V15	2000	60	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB2000-F42S-E6-V15	2000	60	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB2000-F42S-E7-V15	2000	60	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	80	34	■		■
UB2000-F42S-I-V15	2000	60	Analog current output	Analog	DC	10	30	M12 connector plug	80	34	■		■
UB2000-F42S-U-V15	2000	60	Analog voltage output	Analog	DC	17	30	M12 connector plug	80	34	■		■
UB3000-F42-UK-V95	3000	200	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	34	80		■	
UB4000-F42-E4-V15	4000	200	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB4000-F42-E5-V15	4000	200	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB4000-F42-E6-V15	4000	200	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB4000-F42-E7-V15	4000	200	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	34	80	■		■
UB4000-F42-I-V15	4000	200	Analog current output	Analog	DC	10	30	M12 connector plug	34	80	■		■
UB4000-F42-U-V15	4000	200	Analog voltage output	Analog	DC	17	30	M12 connector plug	34	80	■		■
UB5000-F42-UK-V95	5000	350	Relay	Normally-open (NO)	AC/DC	22	253	7/8 inch connector plug	50	80		■	
UB6000-F42-E4-V15	6000	350	NPN	Normally open/close selectable	DC	10	30	M12 connector plug	50	80	■		■
UB6000-F42-E5-V15	6000	350	PNP	Normally open/close selectable	DC	10	30	M12 connector plug	50	80	■		■
UB6000-F42-E6-V15	6000	350	2 * PNP, PNP	Normally open/close selectable	DC	10	30	M12 connector plug	50	80	■		■
UB6000-F42-E7-V15	6000	350	2 * NPN, NPN	Normally open/close selectable	DC	10	30	M12 connector plug	50	80	■		■
UB6000-F42-I-V15	6000	350	Analog current output	Analog	DC	10	30	M12 connector plug	50	80	■		■
UB6000-F42-U-V15	6000	350	Analog voltage output	Analog	DC	17	30	M12 connector plug	50	80	■		■

F65 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cuboid shape
Switching function	Normally-open (NO)
Voltage type	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	64.4 mm
Housing width W	125 mm
Housing height H	30 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

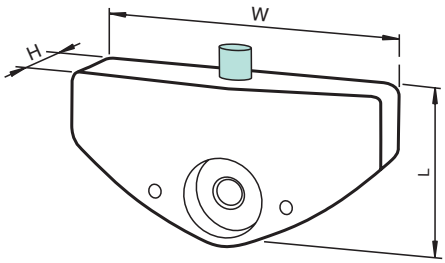
Model number	Detection range [mm]	Dead band	Output type	UB (min)
UC500-F65-E8R2-V15	500	60	2 * PNP, PNP	12
UC500-F65-UE2R2-V15	500	60	Analog voltage output, PNP	15
UC500-F65-IE2R2-V15	500	60	Analog current output, PNP	15
UC1500-F65-E8R2-V15	1500	200	2 * PNP, PNP	12
UC1500-F65-IE2R2-V15	1500	200	Analog current output, PNP	15
UC1500-F65-UE2R2-V15	1500	200	Analog voltage output, PNP	15
UC2500-F65-E8R2-V15	2500	250	2 * PNP, PNP	12
UC2500-F65-IE2R2-V15	2500	250	Analog current output, PNP	15
UC2500-F65-UE2R2-V15	2500	250	Analog voltage output, PNP	15

Highlights

- Special sensor design seals the measurement opening in the tank to prevent water and odor leakage
- Variety of potential applications with a range of up to 2.5 m
- Teach-in at the sensor or via parameterization software for rapid configuration
- Analog and switching output in one device for impressive flexibility in the measured value output
- Highly robust with IP65 degree of protection

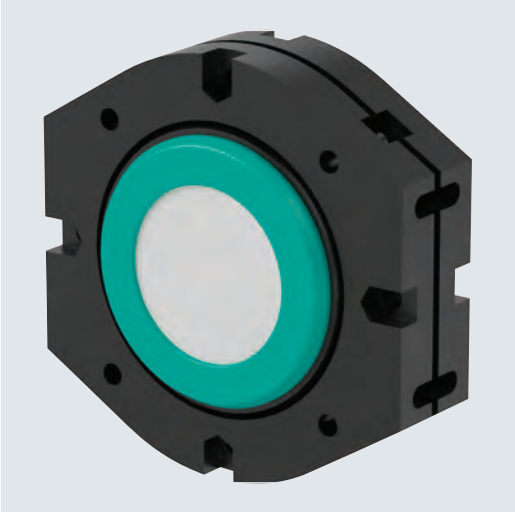
Brief Description

From the housing design to the mounting technology and measured value output, the sophisticated, application-specific concept of the F65 series ultrasonic diffuse mode sensors makes them the ideal solution for fill level detection in containers. The rounded housing design has no protruding elements, allowing it to be installed near the container side wall. The sensor seals the tank opening with its integrated O-ring, preventing water and odor leakage from the container. One single device provides the user with both a digital and an analog output, meaning the fill level can be continually measured in the container and limit levels can be detected.



Accessories	
3RX4000-PF	PC interface
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

F260 Series
Diffuse Mode Sensor



Standard Technical Data	
Design	Cuboid shape
Detection range	10000 mm
Dead band	800 mm
Voltage type	DC
Operating voltage (min)	15 V
Operating voltage (max)	30 V
Connection type	Terminal compartment
Housing length L	112 mm
Housing diameter D	160 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

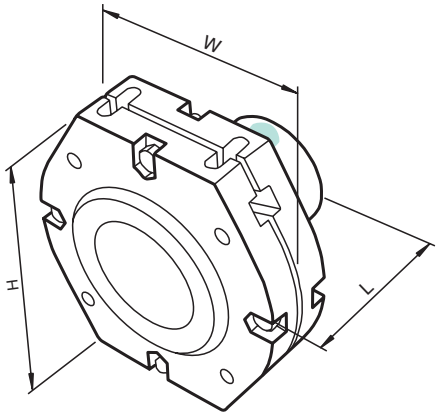
Model number	Output type	Switching function
UC10000-F260-IE8R2	2 * PNP, analog current output	Normally-open (NO)
UC10000-F260-IE9R2	2 * PNP, analog current output	Normally-closed (NC)
UC10000-F260-UE8R2	2 * PNP, analog voltage output	Normally-open (NO)
UC10000-F260-UE9R2	2 * PNP, analog voltage output	Normally-closed (NC)

Highlights

- Rugged design ensures highest level of availability in heavy-duty applications
- Detection range of up to 10 m enables reliable long-range detection
- Simple adjustment via potentiometer and user-friendly software
- One analog output and two switching outputs in the sensor allow application-specific measured value output

Brief Description

Heavy-duty applications push many sensors past their limits—but not the F260 series. Whether facing shocks and vibrations, like those in construction machinery applications, excavators, and cranes, or the dust of a gravel works or cement silo, these challenges are no problem for this extra-robust ultrasonic diffuse mode sensor. The sensor can be parameterized via the software, and the switching points can be configured using the potentiometer. The extra-long detection range of up to 10 m is ideal for outdoor use in bunkers and silos, and the F260 is perfect for collision protection of crane booms.



Accessories	
3RX4000-PF	PC interface
V1-M20-80	Receptacle, M12/M20; plastic version
V15S-G-2M-PVC	Single-ended male cordset, M12, 5-pin, PVC cable

Ultrasonic Sensors for Special Applications
Robust Design for Extreme Conditions

In addition to solutions for standard industrial applications, the ultrasonic portfolio stands out with its application-specific solutions, offering the user excellent flexibility for an optimal application solution—including in wet or hygienic applications, in chemically aggressive environments or in double-material detection.

Hygienic Ultrasonic Sensors

With its fully stainless steel design, hermetically sealed construction, and food-safe materials in accordance with FDA, ECOLAB, and EHEDG regulations, the hygienic ultrasonic sensors are ideal for the food and pharmaceutical industry.

Typical Applications
- Food industry: performing presence and content checks on thermoformed trays for foods such as meat, fish, and vegetables
- Pharmaceutical industry: level monitoring during the manufacture and packaging of medical products

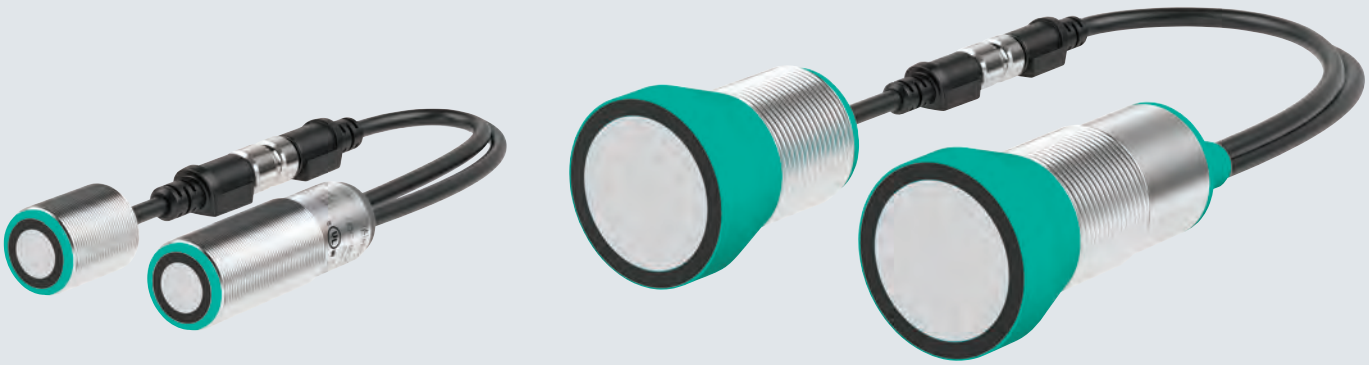
Your Benefits at a Glance
- Fully encapsulated stainless steel housing AISI 316L (1.4404) withstands steam jets and permanently high temperatures up to +85 °C (IP68/IP69K degree of protection)
- EHEDG certificate for sensor and bracket in hygienic design for use in product-contact zones
- Split-free construction and chemical resistance to aggressive substances and cleaning agents (ECOLAB certified)

Chemically Resistant Ultrasonic Sensors

The chemically resistant ultrasonic sensors offer outstanding material resistance for ultimate availability even in the toughest operational conditions. They are hermetically sealed against the ingress of aggressive media and are exceptionally easy to parameterize.

Typical Applications
- Level measurement of chemicals such as acids and alkalis
- Presence check in processes with corrosive fumes/aggressive vapors, e.g., in tire production

Your Benefits at a Glance
- High level of chemical resistance for excellent availability and durability
- Housing made of high-quality stainless steel (V2A or V4A) and coated ultrasonic transducer
- Very high degree of protection; IP68/IP69K for the harshest applications
- Also suitable for long-range applications of up to 6 m



Double Material Detection

Ultrasonic sensors for double material detection protect against a faulty material feed and ensure reliable processes and a high level of plant availability. This technology can be used in the detection of double sheets, labels, and splices.

Typical Applications

- Double sheet control: on printing machines, in sheet metal processing, and when applying veneer to chipboard to prevent the infeed of double sheets or incorrect sheets
- Splice control: detection of material transitions in paper, sheet metal, or textile rolls
- Label control: detection and counting of labels in labeling systems

Your Benefits at a Glance

- Flexible deployment due to wide range of materials and thicknesses
- Extremely short response delay for excellent detection reliability even at high process speeds
- Specially adapted splice detection available for especially inhomogeneous materials

Download the Ultrasound Technology Guide

Detailed information on how ultrasound technology works, its advantages, and a wide range of sample applications can be found in the comprehensive Technology Guide by Pepperl+Fuchs.

www.pepperl-fuchs.com/fa-technology-guide

Ultrasonic Sensors for Special Applications

Contents

UMC3000 Series
Page 291

UMB800 Series
Page 292

UCC Series
Page 293

UBC Series
Page 294

UDC-18GM50 Series
Page 295

UDC(M)-30GM Series
Page 296

ULB/UGB-18GM50 Series
Page 297

UMC3000 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cylindrical
Detection range	3000 mm
Dead band	200 mm
Response delay	200 ms
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	100 mm
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

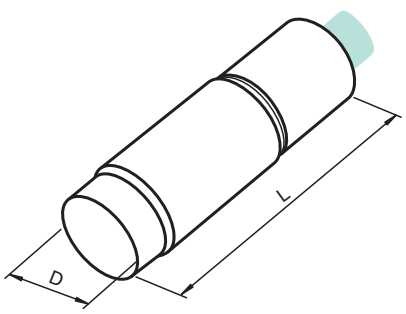
Model number	Output type	Switching function	Switching frequency [Hz]	ATEX
UMC3000-30H-E5-5M-3G-3D	PNP	Normally open/close selectable	3	■
UMC3000-30H-E5-5M-FA	PNP	Normally open/close selectable	3	
UMC3000-30H-I-5M-3G-3D	Analog current output	Analog		■
UMC3000-30H-I-5M-FA	Analog current output	Analog		

Highlights

- Product and process reliability through hygienic design and FDA-compliant materials
- Flexible parameterization via teach-in input or serial interface for easy commissioning
- EHEDG certificate for sensor and bracket (hygienic design), ideal for use in product-contact zones
- Chemically resistant to aggressive substances and cleaning agents (ECOLAB certified)
- Very high degree of protection IP68/IP69K

Brief Description

Like the compact UMB800, the UMC3000 series impresses with its fully stainless steel design, hermetically sealed construction, and food-safe materials in accordance with FDA, ECOLAB, and EHEDG regulations. In addition, this series can be used for measuring ranges of up to three meters and offers extensive parameterization options. The sensor is especially simple and flexible to commission via the teach-in input or serial interface. These properties ensure perfect adaptation to a wide variety of detection and measuring applications, for example in content control for thermoformed trays in the food industry, or fill level monitoring when packaging medical products.



Accessories	
MH-30H-01-FA	Mounting aid, 30 mm in accordance with EHEDG
UC-PROG1-USB	Programming device
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals

UMB800 Series
Diffuse Mode Sensor

Standard Technical Data	
Design	Cylindrical
Detection range	800 mm
Dead band	70 mm
Response delay	100 ms
Voltage type	DC
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	55 mm
Housing diameter D	18 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

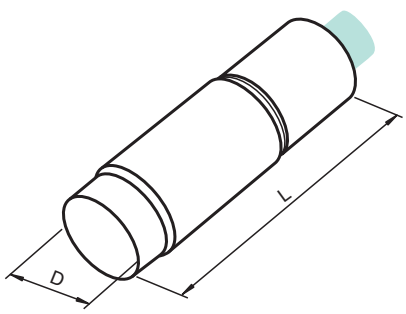
Model number	Output type	Switching function	Switching frequency [Hz]	UB (min)
UMB800-18H40-E4-2M-FA	NPN	Normally open/close selectable	4	10
UMB800-18H40-E5-2M-FA	PNP	Normally open/close selectable	4	10
UMB800-18H40-I-2M-FA	Analog current output	Analog		10
UMB800-18H40-U-2M-FA	Analog voltage output	Analog		15

Highlights

- Compact ultrasonic sensor in fully encapsulated stainless steel housing AISI 316L (1.4404)
- EHEDG certificate for sensor and bracket (hygienic design), ideal for use in product-contact zones
- Chemically resistant to aggressive substances and cleaning agents (ECOLAB certified)
- IP68/IP69K degree of protection to withstand jets of steam and continuous high temperatures of up to +85 °C

Brief Description

As proven by certification from EHEDG and ECOLAB, the UMB800 meets the highest standards of hygienic design and easy cleaning. The sensor is made exclusively of FDA-compliant materials, such as high-grade stainless steel. The sensor head and all housing parts are laser-welded and thus hermetically sealed against the ingress of steam or fluids. The gap-free design ensures that no traces of cleaning media remain on the component and that there is nowhere for bacteria to build up. With this design, the UMB800 series satisfies the highest standards of product and process safety for food and medication filling and packaging applications. The highly resistant materials also make it ideal for the chemical industry and process engineering.



Accessories	
MH-18H-01-FA	Mounting aid, 18 mm in accordance with EHEDG

UCC Series
Diffuse Mode Sensor

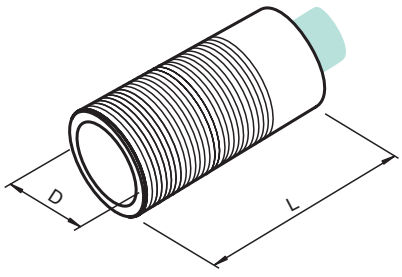
Standard Technical Data	
Design	Cylindrical
Voltage type	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Version	Detection range [mm]	Dead band	Output type	Switching function	UB (min)	UB (max)	Connection type	Length L	Diameter D	CSA	UL
UCC500-30GH70-IE2R2-K-V15	Straight head	500	45	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	111.3	30	■	■
UCC500-30GH70-IE2R2-V15	Straight head	500	45	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	99.3	30	■	■
UCC500-30GH70S-IE2R2-V15	Angled head	500	45	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	126	30	■	■
UCC1000-18GH90-E2-IO-V1		1000	100	IO-Link, PNP	Normally-open (NO)	12	30	M12 connector plug	90	18		
UCC1000-30GM-E6R2-V15	Straight head	1000	80	2 * PNP, PNP	Normally open/close selectable	10	30	M12 connector plug	96	30	■	■
UCC1000-30GM-IUR2-V15	Straight head	1000	80	Analog voltage output, analog current output	Analog	10	30	M12 connector plug	115	30	■	■
UCC2000-30GH70-IE2R2-K-V15	Straight head	2000	100	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	111.3	30	■	■
UCC2000-30GH70-IE2R2-V15	Straight head	2000	100	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	99.3	30	■	■
UCC2000-30GH70S-IE2R2-V15	Angled head	2000	100	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	126	30	■	■
UCC3500-30GH70-IE2R2-V15	Straight head	3500	200	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	99.3	30	■	■
UCC3500-30GH70S-IE2R2-V15	Angled head	3500	200	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	126	30	■	■
UCC6000-30GH70-IE2R2-V15	Straight head	6000	350	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	121.2	30	■	■
UCC6000-30GH70S-IE2R2-V15	Angled head	6000	350	Analog current output, PNP	Normally open/close selectable	20	30	M12 connector plug	143.5	30	■	■

Highlights

- Detection ranges of up to 6 m open up a wide range of application options
- Simple parameterization allows optimal adaptation to detection and measuring applications
- High chemical resistance for highest availability and durability thanks to housing made of high-quality stainless steel (V2A or V4A) and coated ultrasonic transducer



Brief Description

Complementing the UBC series, these sensors offer impressive adaptability to a wide range of applications. All surfaces that are exposed to aggressive media and atmospheres exhibit a high degree of resistance to chemical agents. Comprehensive, easy-to-use parameterization functions allow the sensors to be adapted to any application, and synchronized if necessary. The diffuse mode sensors are available with graduated detection ranges of up to six meters.

Accessories	
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
OMH-04	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
UC-30GM-R2	Connection: sub-D socket, 9-pin

UBC Series
Thru-Beam Sensors and Diffuse Mode Sensors

Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

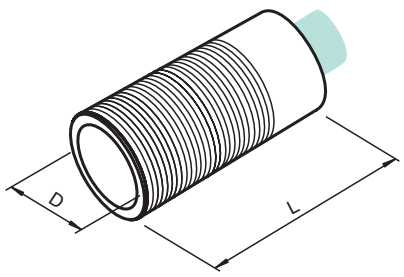
Model number	Detection range [mm]	Dead band	Output type	Switching function	Response delay [ms]	Switching frequency [Hz]	Length L	Diameter D	CSA
UBC250-12GM-E5-V1	250	30	PNP	Normally open/close selectable	50	8	70	12	
UBC250-12GM-I-V1	250	30	Analog current output	Analog	50		70	12	
UBEC300-18GH40-SE2-V1	300		PNP	Normally-open (NO)		100	40	18	■
UBC400-18GH40-I-V1	400	40	Analog current output	Analog	100		40	18	■

Highlights

- High level of chemical resistance for excellent availability and durability
- Housing made of high-quality stainless steel (V4A)
- PTFE-coated ultrasonic transducer
- Very high degree of protection IP68/IP69K
- Easy to configure via teach-in input

Brief Description

The UBC series ultrasonic sensors offer outstanding material resistance for excellent availability even in the toughest operational conditions. The thru-beam sensor and diffuse mode sensor come with the highest degree of protection and are hermetically sealed against aggressive atmospheres, for example when measuring the fill level of acids and alkaline solutions. The different detection ranges and output configurations make these durable sensors very versatile. Configuration via the teach-in input is especially quick and easy.



Accessories	
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M12K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
OMH-04	Mounting aid for circular profile ø 12 mm or flat profile
UB-PROG2	Programming unit
UVW90-M12	Ultrasonic deviation reflector

UDC-18GM50 Series Thru-Beam Sensor

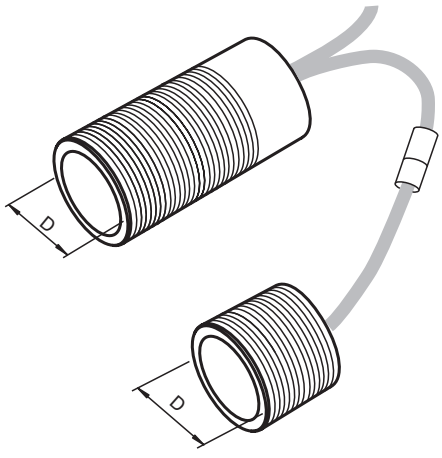
Standard Technical Data	
Design	Cylindrical
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing diameter D	18 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Output type	Switching function	Length L
UDC-18GM50-255-3E0	60	NPN	Normally-open (NO)	50
UDC-18GM50-255-3E1	60	NPN	Normally-closed (NC)	50
UDC-18GM50-255-3E3	60	PNP	Normally-closed (NC)	50
UDC-18GM50-255S-3E0	100	NPN	Normally-open (NO)	50
UDC-18GM50-255S-3E1	100	NPN	Normally-closed (NC)	50
UDC-18GM50-255S-3E3	100	PNP	Normally-closed (NC)	50
UDC-18GM50-400-3E0	60	NPN	Normally-open (NO)	50
UDC-18GM50-400-3E1	60	NPN	Normally-closed (NC)	50
UDC-18GM50-400-3E2	60	PNP	Normally-open (NO)	50
UDC-18GM50-400-3E3	60	PNP	Normally-closed (NC)	50
UDC-18GMA-400-3E1	60	NPN	Normally-closed (NC)	74
UDC-18GMA-400-3E3	60	PNP	Normally-closed (NC)	74

Highlights

- Flexible deployment due to wide range of materials and thicknesses
- Two different transmission frequencies (400 kHz and 255 kHz) for the best possible coverage of the respective material spectrum in the application
- Immediately ready for use with no teach-in required
- Easily visible LED for quick indication of status



Brief Description

The UDC-18GM50 series double sheet sensors are ideal for monitoring the material feed on printing and paper machines. Whether it is thin tissue paper or thick cardboard, the sensors can handle a wide variety of material thicknesses thanks to their selectable transducer frequency. With their short housing design and a choice of straight or angled ultrasonic transducers, they are suitable for a variety of mounting options. If necessary, the devices can be adapted to the application via the programming input or, with the help of software, via the serial interface. For extra-fast applications, the sensors are also available with a response time of just 1.5 ms.

Accessories	
M18K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
MH-UDB01	Mounting bracket for ultrasonic double sheet detection
UC-PROG1-USB	Programming device
UDB-Cable-1M	Connection: M8 x 1 plug, M8 x 1 single-ended female cordset, 3-pin
UDB-Cable-2M	Connection: M8 x 1 plug, M8 x 1 single-ended female cordset, 3-pin
UVW90-K18	Ultrasonic deviation reflector
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals

UDC(M)-30GM Series Thru-Beam Sensor

Standard Technical Data	
Version	Straight head
Design	Cylindrical
Detection range	150 mm
Output type	PNP
Switching function	Normally-closed (NC)
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	90 mm
Housing diameter D	40 mm
CSA	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

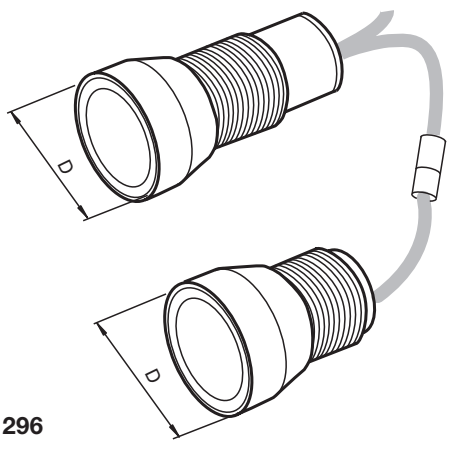
Model number	
UDC-30GM-085-3E3	Ultrasonic system for the reliable detection of no, one, or two surface materials lying on top of each other
UDCM-30GM-085-3E3	Ultrasonic system for the reliable detection of no, one or two surface materials lying on top of each other, especially sheet metal

Highlights

- Ideally suited for thick materials: single sheets, duplex corrugated paper, parquet, wooden boards, or oriented strand board
- Easy operation with no teach-in required
- User-friendly adjustment via programming input or serial interface

Brief Description

Double sheet sensors in the UDC(M)-30GM series ensure process reliability when feeding especially thick materials. For example, double sheet detection allows individual sheets up to a thickness of 3.5 mm to be appropriately prepared for metal-forming presses. When processing solid and multi-layer parquet in a sawmill, these sensors reliably detect incorrect or double sheets, avoiding machine downtime and material waste. The devices have a short response delay of just 30 ms, which means that they can also be used in applications with high infeed rates.



Accessories	
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
MH-UDB02	Mounting bracket for ultrasonic double sheet detection
UC-PROG1-USB	Programming device
UDB-Cable-1M	Connection: M8 x 1 plug, M8 x 1 single-ended female cordset, 3-pin
UDB-Cable-2M	Connection: M8 x 1 plug, M8 x 1 single-ended female cordset, 3-pin
UVW90-K30	Ultrasonic deviation reflector
UVW90-M30	Ultrasonic deviation reflector
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals

ULB/UGB-18GM50 Series Thru-Beam Sensor

Standard Technical Data	
Design	Cylindrical
Detection range	60 mm
Switching function	Normally-closed (NC)
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	53 mm
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

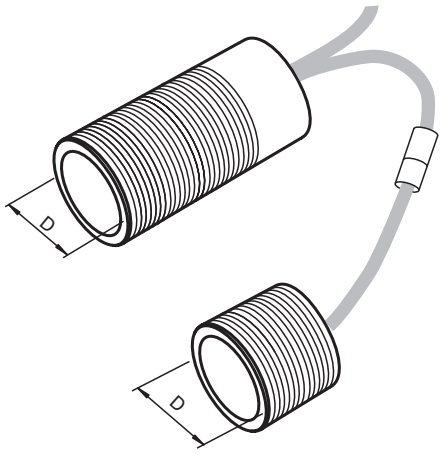
Model number	Output type	CSA
UGB-18GM50-255-2E1	2 * NPN, NPN	■
UGB-18GM50-255-2E3	2 * PNP, PNP	■
ULB-18GM50-255-2E1	2 * NPN, NPN	
ULB-18GM50-255-2E3	2 * PNP, PNP	

Highlights

- Compact design, ideal for confined installation situations
- Extremely short response delay for excellent detection reliability even at high process speeds
- Easy operation through teach-in of the roll material
- Ideal for transparent materials
- Specially adapted splice detection available for especially inhomogeneous materials

Brief Description

The sensor solutions in the ULB-18GM50 and ULG-18GM50 series have been specially developed to reliably detect materials that have been glued together. The label sensors can very precisely determine the transition points between the carrier material and the label and detect, position, or count these reliably. The roll material should be fed to the packaging and roll printing machines without interruption. For this reason, when changing a roll, the roll that is running out and the initial material on the new roll are glued together. In the subsequent process, the ULG-18GM50 splice detection sensors detect this transition point and enable the targeted removal of this double layer.



Accessories	
M18K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
MH-UDB01	Mounting bracket for ultrasonic double sheet detection
UVW90-K18	Ultrasonic deviation reflector

Identification Systems

Versatile Technologies for Impressive Transparency

Identification systems guarantee reliable, transparent processes and offer the user a decisive competitive advantage. Depending on your requirements, you can opt for camera-based or wireless systems from Pepperl+Fuchs and benefit from the specific advantages of both technologies. Our experts will help you to find the perfect identification solution for every situation.

RFID—Flexible System Solution for End-To-End Process Transparency

If your application demands the highest level of flexibility, RFID (radio frequency identification) is the clear choice. Wireless technology makes it possible not only to read object information, but to adapt this information as required. Furthermore, there is no need for visual contact between the reader and tag.

With Pepperl+Fuchs, you receive a system solution that includes perfectly coordinated components across all frequency ranges. Decades of application expertise combined with an extensive portfolio of control interfaces, read/write heads, and tags in the standard LF, HF, and UHF frequency ranges enable us to guarantee the perfect solution for every identification task.

Optical Identification—Cost-Effective Solution for Track-and-Trace Applications

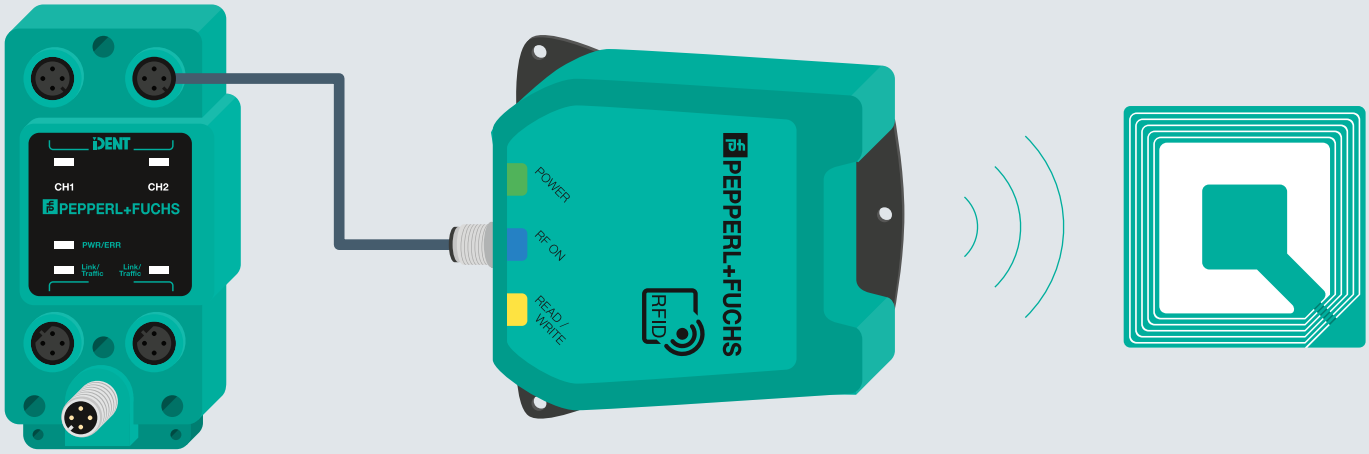
Optical identification systems are the perfect solution for applications that focus on cost-effectiveness. DPM (direct part marking) codes that are printed and directly marked are a highly economical solution.

The optical identification systems from Pepperl+Fuchs guarantee an impressive reading performance and operate at a high level of reliability, even under difficult conditions. Whether they are used for stationary reading or high-speed reading, mobile identification, or in applications with extreme conditions such as high temperature, these powerful devices always provide optimal transparency.

More information is available at
www.pepperl-fuchs.com/fa-ident

IDENTControl: One System for Outstanding Compatibility

The control interfaces in the IDENTControl system are perfect for integrating into almost any system environment. Integration is simple and incredibly flexible. Furthermore, the control interfaces can be combined with a variety of read/write heads and tags, and are therefore ideal for global use. In addition, the system's wide-ranging compatibility grants the user complete freedom when expanding their own system.



Multiple read/write heads of varying frequencies from the Pepperl+Fuchs IDENT-Control product family can be connected to the IDENTControl and IDENTControl Compact control interfaces. Connecting the devices is simple and hassle-free, ensuring the highest level of compatibility.

When a read/write head receives the data stored in a tag via its electromagnetic field, this data is automatically forwarded to the control interface and processed.

RFID Identification Systems

Contents

IDENTControl control interfaces
Page 302

Frequency range LF
Page 303

Frequency range HF
Page 304

Frequency range UHF
Page 305

Tags – frequency range LF
Page 306

Tags – frequency range HF
Page 307

Tags – frequency range UHF
Page 308

Handhelds – series HH27
Page 309

IDENTControl Control Interfaces

Standard Technical Data	
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Number of read/ write heads	Interface	Connection type	Degree of protection	Length L	Width W	Height H	UL
IC-KP-B17-AIDA1	Max. 4	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	AIDA	IP67	148	105	73	■
IC-KP-B6-2V15B	Max. 4	PROFIBUS	M12 connector plug	IP67	148	105	73	■
IC-KP-B6-SUBD	Max. 4	PROFIBUS	M12 connector plug, sub-D 9-pin	IP40	148	105	73	■
IC-KP-B6-V15B	Max. 4	PROFIBUS	M12 connector plug	IP67	148	105	73	■
IC-KP-B7-V95	Max. 4	DeviceNet	M12 connector plug, mini style	IP67	148	105	73	■
IC-KP-R2-V1	Max. 4	RS-232	M12 connector plug	IP67	148	105	73	■
IC-KP2-1HB17-2V1D	Max. 1	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	M12 connector plug	IP67	137	62	42	■
IC-KP2-1HB6-2V15B	Max. 1	PROFIBUS	M12 connector plug	IP67	137	62	42	■
IC-KP2-1HB6-V15B	Max. 1	PROFIBUS	M12 connector plug	IP67	137	62	42	■
IC-KP2-1HRX-2V1	Max. 1	RS-232, RS-485	M12 connector plug	IP67	137	62	42	■
IC-KP2-2HB17-2V1D	Max. 2	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	M12 connector plug	IP67	137	62	42	■
IC-KP2-2HB18-2V1	Max. 2	CC-Link	M12 connector plug	IP67	142	62	42	
IC-KP2-2HB21-2V1D	Max. 2	EtherCAT	M12 connector plug	IP67	142	62	42	■
IC-KP2-2HB6-V15B	Max. 2	PROFIBUS	M12 connector plug	IP67	137	62	42	■
IC-KP2-2HRX-2V1	Max. 2	RS-232, RS-485	M12 connector plug	IP67	137	62	42	■

Highlights

- Connection/evaluation of all RFID frequencies on a single device
- EMC protection and sturdy, fully encapsulated metal housing for total noise immunity
- Simple system integration—can be connected to all standard fieldbuses
- Compact version for decentralized field mounting
- Display and function keys for easy commissioning
- Plug-in connections for simple handling

Brief Description

The control interfaces in the IDENTControl series allow up to four read/write heads of varying RFID frequencies to be connected at the same time. In addition, it is possible to operate the separate devices jointly and connect trigger sensors. The devices are available for all standard fieldbus types and Ethernet protocols (PROFIBUS, PROFINET, EtherNet/IP, TCP/IP, MODBUS TCP), and can therefore be used around the world.

Accessories	
CBL-PUR-PN-GN-04x034-100M	Cable, PROFINET, PUR/PE, 4-wire, shielded
ICZ-2T/TR-0,2M-PUR ABG-V15B-G	Terminal cable for PROFIBUS with terminator
ICZ-3T-0,3M-PUR ABG-V15B-G	Y-splitter cordset for PROFIBUS
ICZ-3T-0,3M-PVC-CCL-V1-G	Y-splitter cordset for CC-Link
ICZ-AIDA1-B	Stopping plug for IC-KP-B17-AIDA1
ICZ-AIDA1-V45	Connector for RJ-45
ICZ-AIDA2-V45	Connector for RJ-45
ICZ-AIDA2-V45-0,2M-PUR-V1D-G	Cordset, RJ-45 to M12

Read/Write Heads—Frequency Range LF

Standard Technical Data	
Frequency	LF (125 kHz)
Ambient temperature (min)	-25 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Max. read distance	Connection type	Degree of protection	Ambient temperature (max)	Length L	Width W	Height H	Diameter D	CSA	EAC	UL
IPH-18GM-V1	50	M12 connector plug	IP67	70	66			18	■		■
IPH-30GM-V1	65	M12 connector plug	IP67	70	66			30	■		■
IPH-F15-V1	155	M12 connector plug	IP67	70	190	140	40.5		■		■
IPH-F61-V1	45	M12 connector plug	IP67	70	80	28	12		■		■
IPH-F90A-V1	90	M12 connector plug	IP67	55	144.5	43.5	21				■
IPH-F97-V1	70	M12 connector plug	IP67	55	540	50	34				■
IPH-FP-V1	100	M12 connector plug	IP67	70	113	80	40		■		■
IPH-FP7V4A	100	Terminals	IP69K	70	103	80	40				■
IPH-L2-V1	75	M12 connector plug	IP67	70	55.5	40	40		■	■	■

Highlights

- Wide variety of housing designs (cubic/cylindrical) for optimal integration
- Smaller designs with minimal space requirements
- Extra-compact versions for flush mounting on metal
- Special designs, optimized for integration into roller conveyor systems
- For demanding applications (e.g., in the food industry)

Brief Description

For applications with an operating distance of 0 millimeters to 100 millimeters, read/write heads in the low frequency range (125 kHz) are the perfect solution. Pepperl+Fuchs offers a complete portfolio of devices for such applications. These devices boast an impressively high level of reliability, even when used in metallic environments. The wide variety of cylindrical or cubic designs are available in various sizes and housing designs and are guaranteed to bring the highest degree of flexibility to any application. In addition, Pepperl+Fuchs offers a number of special designs that have been optimized to meet requirements specific to each industry. The portfolio includes solutions such as the LF systems in cylindrical designs with an M18/30 thread, specially designed to be flush mounted on metal.

Accessories	
IC-KP-B17-AIDA1	IDENTControl control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP-B6-V15B	IDENTControl control interface with PROFIBUS-DP interface
IC-KP2-2HB17-2V1D	IDENTControl Compact control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP2-2HB21-2V1D	IDENTControl Compact control interface with EtherCAT interface
IC-KP2-2HB6-V15B	IDENTControl Compact control interface with interface for PROFIBUS DP
IC-KP2-2HRX-2V1	IDENTControl Compact control interface with RS-232 and RS-485 serial interface
IPC02-12 50pcs	Read-only tag

Read/Write Heads—Frequency Range HF

Standard Technical Data	
Frequency	HF (13.56 MHz)
HF protocol	ISO 15693
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Max. read distance	Interface	Connection type	Degree of protection	Length L	Width W	Height H	Diameter D	CSA	KCC	UL
IQH1-18GM-V1	50		M12 connector plug	IP67	61			18	■	■	■
IQH1-F61-V1	55		M12 connector plug	IP67	80	28	12		■		■
IQH1-FP-V1	130		M12 connector plug	IP67	108.5	80	40		■		■
IQH1-FP7V4A	130		Terminals	IP69K	108.5	80	40				■
IQH1-F198-V1	150		M12 connector plug	IP67	190.5	175	12		■		■
IQH1-F198-M-V1	150		M12 connector plug	IP67	190.5	175	12				
IQT1-18GM-IO-V1	50	IO-Link	M12 connector plug	IP67	61			18	■		■
IQT1-F61-IO-V1	55	IO-Link	M12 connector plug	IP67	80	28	12		■		■
IQT1-FP-IO-V1	130	IO-Link	M12 connector plug	IP67	108.5	80	40		■		■
IQT1-18GM-R4-V1	50		M12 connector plug	IP67	61			18			■
IQT1-F61-R4-V1	55		M12 connector plug	IP67	80	28	12		■		■
IQT1-FP-R4-V1	130		M12 connector plug	IP67	108.5	80	40				■

Highlights

- IO-Link for Industry 4.0 applications
- Wide variety of housing designs (cubic and cylindrical) for optimal integration
- Smaller designs with minimal space requirements
- Extra-compact versions for flush mounting on metal
- Special designs, optimized for the tire manufacturing industry
- Supports the global standard ISO 15693

Brief Description

High-speed applications in which large amounts of data are being transferred call for read/write heads in the high-frequency range (13.56 MHz). These read/write heads offer fully reliable read results in all near-field applications up to 15 centimeters, making them the ideal solution for identifying pallets or trays in material handling, for instance. The Pepperl+Fuchs portfolio offers a wide variety of cylindrical and cubic designs for this purpose, available in various sizes and designs of housing. In addition, the portfolio includes versions designed for specific applications, such as the F198 with its ring-shaped design, which is perfectly tailored to the requirements of the tire industry. Another feature of this latest generation of HF RFID read/write heads is an IO-Link interface for connecting to all standard IO-Link masters.

Accessories	
AB-FP	Mounting bracket
IC-KP-B17-AIDA1	IDENTControl control interface with Ethernet
IC-KP-B6-V15B	IDENTControl control interface with PROFIBUS
IC-KP2-1HB17-2V1D	IDENTControl Compact control interface with Ethernet
IC-KP2-1HB6-V15B	IDENTControl Compact control interface with PROFIBUS
IC-KP2-1HRX-2V1	IDENTControl Compact control interface with serial
IC-KP2-2HB17-2V1D	IDENTControl Compact control interface with Ethernet
IC-KP2-2HB21-2V1D	IDENTControl Compact control interface with EtherCAT

Read/Write Heads—Frequency Range UHF

Standard Technical Data	
Frequency	UHF (865 MHz ... 928 MHz)
Connection type	M12 connector plug
Degree of protection	IP67
Ambient temperature (max)	70 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	RF approval	Transmission power	Region UHF	Max. read distance	Ambient temp. (min)	Length L	Width W	Height H	CSA	UL
IUH-F190-V1-FR1-01	EU, Turkey	3 mW ... 1000 mW	ETSI (865 MHz ... 868 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR2-02	Argentina, Canada, USA	3 mW ... 1250 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63	■	■
IUH-F190-V1-FR2-03	China	3 mW ... 800 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		■
IUH-F190-V1-FR1-04	India	3 mW ... 800 mW		2000	-20	100	100	63		
IUH-F190-V1-FR1-05	Singapore, Vietnam	3 mW ... 500 mW	ETSI (865 MHz ... 868 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR1-06	Russia	3 mW ... 800 mW		2000	-20	100	100	63		
IUH-F190-V1-FR2-07	Brazil	3 mW ... 1250 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR2-08	Japan	3 mW ... 125 mW	FCC (902 MHz ... 928 MHz)	700	-20	100	100	63		
IUH-F190-V1-FR2-10	Australia		FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR2-12	Hong Kong, Thailand	3 mW ... 1250 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR2-13	Malaysia	3 mW ... 800 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUH-F190-V1-FR2-14	Singapore, Vietnam	3 mW ... 500 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUH-F192-V1-FR1	EU, India, Russia, Turkey	10 mW ... 2000 mW	ETSI (865 MHz ... 868 MHz)	4000	-25	268	270	81		
IUH-F192-V1-FR2	Australia, Brazil, China, Malaysia, New Zealand	10 mW ... 4000 mW	FCC (902 MHz ... 928 MHz)	4000	-25	268	270	81	■	
IUH-F192-V1-FR2-02	Argentina, USA	10 mW ... 4000 mW	FCC (902 MHz ... 928 MHz)	4000	-25	268	270	81	■	
IUT-F190-R4-V1-FR1-01	EU, Turkey	3 mW ... 1000 mW	ETSI (865 MHz ... 868 MHz)	2000	-20	100	100	63		
IUT-F190-R4-V1-FR2-02	Canada, USA	3 mW ... 1250 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63	■	■
IUT-F190-R4-V1-FR2-03	China	3 mW ... 800 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		■
IUT-F190-R4-V1-FR1-05	Singapore, Vietnam	3 mW ... 500 mW	ETSI (865 MHz ... 868 MHz)	2000	-20	100	100	63		
IUT-F190-R4-V1-FR1-06	Russia	3 mW ... 800 mW		2000	-20	100	100	63		
IUT-F190-R4-V1-FR2-07	Brazil	3 mW ... 1250 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		
IUT-F190-R4-V1-FR2-14	Singapore, Vietnam	3 mW ... 500 mW	FCC (902 MHz ... 928 MHz)	2000	-20	100	100	63		

Highlights

- For medium to large detection ranges and global use
- Preassembled function blocks for quick and simple system integration
- Compact, durable housing with a wide range of applications
- Switchable antenna polarization for accurate tag identification and reliable process flows
- Multi tag reading for impressive productivity

Brief Description

The UHF systems (865 MHz – 928 MHz) from Pepperl+Fuchs are the perfect choice for all long-distance applications requiring long detection ranges of up to 6 meters. Their compact design featuring an integrated antenna means these devices are also ideal for use in confined spaces.

Accessories	
IC-KP-B17-AIDA1	IDENTControl control interface with Ethernet
IC-KP2-1HB17-2V1D	IDENTControl Compact control interface with Ethernet
IC-KP2-1HB6-2V15B	IDENTControl Compact control interface with PROFIBUS
IC-KP2-1HRX-2V1	IDENTControl Compact control interface with serial
IC-KP2-2HB17-2V1D	IDENTControl Compact control interface with Ethernet
IC-KP2-2HB18-2V1	IDENTControl Compact control interface with CC-Link
IC-KP2-2HB21-2V1D	IDENTControl Compact control interface with EtherCAT

Tags—Frequency Range LF

Standard Technical Data	
Frequency	LF (125 kHz)

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Special features	Memory size	Mounting	Degree of protection	Length L	Width W	Height H	Diameter D
IPC02-12 50pcs	High temperature	40 bit ROM	Non-conductive material	IP68			2.2	12.4
IPC02-16 50pcs	High temperature	40 bit ROM	Non-conductive material	IP68			3	16
IPC02-26-T6 10pcs	High temperature	40 bit ROM	Non-conductive material	IP68			4	26
IPC02-20P		40 bit ROM	Non-conductive material	IP68/IP69K			3	20
IPC02-30P	High temperature	40 bit ROM	Non-conductive material	IP68			3	30
IPC02-50 25pcs		40 bit ROM	Non-conductive material	IP68			3	50
IPC02-C1 10pcs		40 bit ROM	Non-conductive material	IP68	85.6	54	0.8	
IPC03-8		928 bit EEPROM, 32 bit ROM	On metal, in metal, non-conductive material	IP67			5	8
IPC03-10		928 bit EEPROM, 32 bit ROM	On metal, in metal, non-conductive material	IP67			4.5	10
IPC03-12.4 10pcs		928 bit EEPROM, 32 bit ROM	On metal, in metal, non-conductive material	IP67			6	12.1
IPC03-16GK		928 bit EEPROM, 32 bit ROM	On metal, in metal, non-conductive material	IP67			6	16
IPC03-30GK		928 bit EEPROM, 32 bit ROM	On metal, in metal, non-conductive material	IP67			20	30
IPC03-30P	High temperature	928 bit EEPROM, 32 bit ROM	Non-conductive material	IP68			3	30
IPC03-50P	High temperature	928 bit EEPROM, 32 bit ROM	Non-conductive material	IP68			5	50
IPC03-54-T8	High temperature	928 bit EEPROM, 32 bit ROM	On metal, non-conductive material	IP67			15	54
IPC03-58	High temperature	928 bit EEPROM, 32 bit ROM	On metal, non-conductive material	IP67			20.1	58
IPC03-C1 10pcs		928 bit EEPROM, 32 bit ROM	Non-conductive material	IP68	85.6	54	0.8	
IPC11-12 50pcs	High temperature	40 bit EEPROM	Non-conductive material	IP68			2	12.4
IPC11-50CD 10pcs		40 bit EEPROM	Non-conductive material	IP67			2	50

Tags—Frequency Range HF

Standard Technical Data	
Frequency	HF (13.56 MHz)
HF protocol	ISO 15693

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Special features	Memory size	Mounting	Degree of protection	Length L	Width W	Height H	Diameter D
IQC21-10 10pcs		896 bit EEPROM	On metal, in metal, non-conductive material	IP67			4.5	10
IQC21-16 50pcs		896 bit EEPROM	Non-conductive material	IP67			2.9	16
IQC21-30 25pcs	High temperature	896 bit EEPROM	Non-conductive material	IP68			3	30
IQC21-50 25pcs		896 bit EEPROM	Non-conductive material	IP68			3	50
IQC21-58		896 bit EEPROM	On metal, non-conductive material	IP67			20.1	58
IQC21-50F-T10	High temperature	896 bit EEPROM	Non-conductive material	IP68	51.5	51.5	6.4	
IQC21-15L15 500pcs		896 bit EEPROM	Non-conductive material	IP67	14.5	14.5	0.2	
IQC21-18L35-M 500pcs		896 bit EEPROM	On metal, non-conductive material	IP67	35	18	0.5	
IQC21-51L51 500pcs		896 bit EEPROM	Non-conductive material	IP67	50.8	50.8	0.2	
IQC22-22-T9 50pcs	High temperature	2000 bit EEPROM	Non-conductive material	IP68			3	22
IQC24-27-T12	High temperature	7936 bit EEPROM	Non-conductive material	IP67			4	27
IQC33-20 50pcs	High storage capacity		Non-conductive material	IP68			2.5	20
IQC33-30 25pcs	High temperature		Non-conductive material	IP68			2.5	30
IQC33-50 25pcs	High storage capacity		Non-conductive material	IP68			3	50
IQC33-ST22	High storage capacity		On metal, non-conductive material	IP68			20.5	22
IQC35-10 50pcs	High temperature	1280 bit EEPROM	Non-conductive material	IP68			2	10
IQC37-30			Non-conductive material	IP68			2.8	30
IQC37-F162			On metal, non-conductive material	IP67	70	40	22	

Tag—Frequency Range UHF

Standard Technical Data	
Frequency	UHF (865 MHz ... 928 MHz)

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Special features	Mounting	Region UHF	Degree of protection	Length L	Width W	Height H	Diameter D
IUC72-F152-M-FR1		On metal	ETSI (865 MHz ... 868 MHz)	IP67	60	14	12	
IUC72-F152-M-FR2		On metal	FCC (902 MHz ... 928 MHz)	IP68	60	14	12	
IUC76-F157-T17-M-FR1	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP68	51	36.3	7.5	
IUC76-F157-T17-M-FR2	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP68	51	36.3	7.5	
IUC76-F157-T18-M-FR1	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP68	51	36.3	7.5	
IUC76-F157-T18-M-FR2	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP68	51	36.3	7.5	
IUC76-F157-T19-M-FR1	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP69K	51	36.3	7.5	
IUC76-F157-T19-M-FR2	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP69K	51	36.3	7.5	
IUC76-F203-M-FR1 10pcs	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP68	31.7	12.8	4.8	
IUC76-F203-M-FR2 10pcs	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP68	31.7	12.8	4.8	
IUC76-F204-M-FR1 10pcs	High temperature	On metal, in metal	ETSI (865 MHz ... 868 MHz)	IP68	10	5	3	
IUC76-F204-M-FR2 10pcs	High temperature	On metal, in metal	FCC (902 MHz ... 928 MHz)	IP68	10	5	3	
IUC76-F205-M-FR1 10pcs	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP68	12.8	7.1	3.1	
IUC76-F205-M-FR2 10pcs	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP68	12.8	7.1	3.1	
IUC76-F208-M-FR1 10pcs	High temperature	On metal, in metal	ETSI (865 MHz ... 868 MHz)	IP68	25	25	3	
IUC76-F208-M-FR2 10pcs	High temperature	On metal, in metal	FCC (902 MHz ... 928 MHz)	IP68	25	25	3	
IUC76-F209-M-FR1 10pcs	High temperature	In metal	ETSI (865 MHz ... 868 MHz)	IP68	12.8	7.1	3.1	
IUC76-F209-M-FR2 10pcs	High temperature	In metal	FCC (902 MHz ... 928 MHz)	IP68	12.8	7.1	3.1	
IUC76-28L90-M-FR1 25pcs		On metal	ETSI (865 MHz ... 868 MHz)	IP68	90	28	0.9	
IUC76-28L90-M-FR2 25pcs		On metal	FCC (902 MHz ... 928 MHz)	IP68	90	28	0.9	
IUC76-34-M-FR1	High temperature	On metal	ETSI (865 MHz ... 868 MHz)	IP68			6	34
IUC76-34-M-FR2	High temperature	On metal	FCC (902 MHz ... 928 MHz)	IP68			6	34
IUC76-50-FR1	High temperature	Non-conductive material	ETSI (865 MHz ... 868 MHz)	IP68			8	50
IUC76-50-FR2	High temperature	Non-conductive material	FCC (902 MHz ... 928 MHz)	IP68			8	50
IUC76-83L25-GBL 50pcs		Non-conductive material	Global (865 MHz ... 928 MHz)	IP68	83	25	3	
IUC77-F151-M-GBL		On metal	Global (865 MHz ... 928 MHz)	IP68	47.5	51.5	10	
IUC77-25L100-GBL 1000pcs		Non-conductive material	Global (865 MHz ... 928 MHz)	IP67	100	25	0.2	
IUC82-23L50-M-FR1 500pcs		On metal	ETSI (865 MHz ... 868 MHz)	IP67	50	22.5	1.5	
IUC82-23L50-M-FR2 500pcs		On metal	FCC (902 MHz ... 928 MHz)	IP67	50	22.5	1.5	

Series HH27

Standard Technical Data	
Degree of protection	IP43
Ambient temperature (min)	0 °C
Ambient temperature (max)	45 °C
Housing length L	224 mm
Housing width W	88 mm
Housing height H	49 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Frequency	HF protocol
IPT-HH27	LF (125 kHz)	
IQT1-HH27	HF (13.56 MHz)	ISO 15693

Highlights

- Software can be tailored to individual identification tasks as required
- Function block for connecting directly to the control panel
- Robust design for indoor and outdoor use
- Quick, reliable identification for a high level of productivity
- Standard software with powerful features (e.g., write tags using batch file)

Brief Description

Durable, efficient, and tailor-made
One thing that manual quality control and several tasks in the process flow have in common is that they all require the use of mobile devices for the purpose of identifying and editing tags. RFID handhelds from Pepperl+Fuchs are the perfect solution, and are suitable for any application and all frequency ranges. The standard software in the devices offers a variety of powerful, highly efficient features, including the ability to write multiple tags using a batch file. A function block can be integrated to enable a direct connection to the controller for data transmission. Customer-specific software solutions are also possible for precise adaptation to individual application requirements. Thanks to their robust design, the handhelds are resistant to harsh ambient conditions and are perfect for indoor and outdoor use.

Accessories	
IQZ-HH27-BAT	Lithium-polymer battery for IQT1-HH27 and IPT-HH27
IQZ-HH27-BAT1	Lithium ion battery for IQT1-HH27 and IPT-HH27
IQZ-HH27-CHARGER1	Docking station for IQT1-HH27 and IPT-HH27
IQZ-HH27-CHARGER2	Charger for IQZ-HH27-BAT

Stationary Optical Readers

High Performance in Downtime and at High Speed

Whether stationary or moving, printed or directly marked, stationary readers from Pepperl+Fuchs meet all the requirements for a cost-effective identification solution: Simple intuitive operation combined with a host of powerful functions.

Camera-Based Code Readers

The camera-based code readers are easy to operate and are equipped with countless functions for incredible versatility. The exceptionally powerful devices provide reliable reading results even under the harshest ambient conditions. They boast fast code reading, an ability to read codes even on highly reflective surfaces, and intuitive operating software.

Typical Applications

- Print and paper industry: print presence detection, logo comparison, and code reading in enveloping machines
- Automotive industry: track and trace applications for components, including those with direct markings
- Semiconductor industry: control of SMD placement
- Warehousing and material handling: code reading on boxes and trays

Your Benefits at a Glance

- Reliable 1-D/2-D code reading even on highly reflective surfaces such as film, plastic, and metal
- High-speed code reading of up to 10 m/s at 100 reads/s
- High depth of focus for code reading at various distances and in various sizes, using just one setting
- Simple handling and configuration thanks to the intuitive Vision Configurator operating software
- Automatic storage of error images for quick and easy fault repair

Technical Features

- Reading of all standard code symbologies, including DPM codes
- Powerful functions such as presence detection, logo comparison, and multi-window function, which enables the simultaneous application of all functions on up to four read fields
- Interfaces such as Ethernet TCP/IP, RS232, and I/Os for easy system integration

Barcode Scanners

Different code sizes, long distances, code corruption, and high speeds. When it comes to reading barcodes, each application has its own special requirements. With a portfolio of four series, Pepperl+Fuchs offers the optimal barcode scanner for every requirement profile—even for more challenging applications such as low-temperature environments.

Typical Applications

- Warehousing and material handling: code reading on boxes, pallets, and trays
- Print and paper industry: code reading in enveloping machines
- Packaging industry: verification and assignment of products to outer packaging
- Automotive industry: Odette label reading

Your Benefits at a Glance

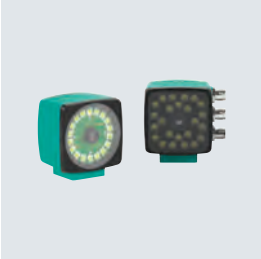
- Optimized portfolio with especially compact designs for confined space conditions, e.g., in packaging machines
- High scan rates of up to 1200 scans per second for the fastest processing speeds
- Automatic and programmable focus setting for continuous process flows
- Reliable code reconstruction for reading damaged or rotated barcodes
- Wide range of applications through an extended temperature range down to -35 °C

Technical Features

- Large read distances of up to 2000 mm
- High scan rates of up to 1200 scans per second
- Reading of especially small codes down to 0.15 mm
- Networking of up to 32 scanners to form an integrated complete solution
- Rugged aluminum housing versions available

Stationary Optical Readers

Contents



OPC Series
Page 313

VB14/VB34 Series
Page 314

OHV Series
Page 315

OIT Series
Page 316

OPC Series

Standard Technical Data	
Light type	White LED
Output type	PNP
Voltage type	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Connection type	M12 connector plug
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

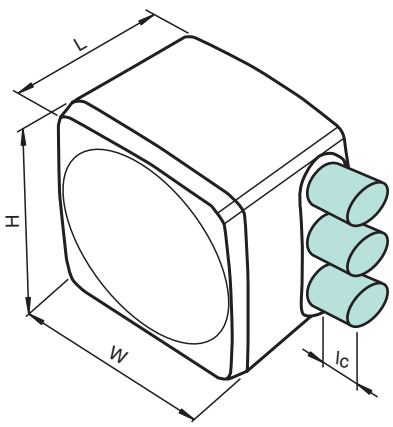
Model number	Detection range [mm]	Interface	Length L
OPC70P-F201-R2-45	90	Ethernet, RS-232	53
OPC120P-F201-B17	180	Ethernet, PROFINET	53
OPC120P-F201-R2	180	Ethernet, RS-232	53
OPC120W-F200-R2	180	Ethernet, RS-232	50

Highlights

- Reliable 1-D/2-D code reading on highly reflective surfaces
- High-speed code reading of up to 10 m/s at 100 readings/s
- Intelligent functions such as print presence detection, logo comparison, and multi-window

Brief Description

Whether reading standard 1-D and 2-D codes or reading at high speeds, the stationary readers in the OPC120 series are true performance artists, covering the entire bandwidth of demanding applications perfectly. Even under the most challenging conditions, these readers deliver a top performance both when stationary and at high speed. Features such as print presence detection, logo comparison, and multi-window with up to four windows ensure optimal efficiency and reliability in the reading process. In addition, the devices are incredibly user-friendly, offer an automatic fault pattern memory, and are capable of reading codes on reflective surfaces.



Accessories	
PCV-MB1	Mounting bracket for PCV* read head
V15S-G-5M-PUR-ABG	Single-ended male cordset, M12, 5-pin, shielded, PUR cable
V19-G-0,2M-YOPC-0,2M-V1S/V31-G	Y-splitter cordset
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-ABG-PG9	Single-ended female cordset, M12, 8-pin, shielded, field-attachable
V1SD-G-2M-PUR-ABG-V45-G	Cordset, M12 to RJ-45, PUR cable, 4-pin, CAT5e
V1SD-G-2M-PUR-ABG-V45X-G	Cordset, M12 to RJ-45, PUR cable, 4-pin, CAT5e

VB14/VB34 Series

Standard Technical Data	
Light type	Red laser diode
Interface	RS-232, RS-485
Voltage type	DC
Operating voltage (max)	30 V
Connection type	Sub-D connector plug

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	UB (min)	Length L	Width W	Height H
VB14N-300	300	10	84	68	34
VB14N-300-R	300	10	84	68	34
VB14N-400-T	400	10	84	68	34
VB14N-400-T-R	400	10	84	68	34
VB14N-600	600	10	84	68	34
VB14N-600-R	600	10	84	68	34
VB14N-600-T	600	10	84	68	34
VB14N-600-T-R	600	10	84	68	34
VB34-2500	2500	15	110	113	99
VB34-2500-OM	2000	15	180	113	99
VB34-2500-OM-P	2000	15	180	113	99
VB34-2500-P	2500	15	110	113	99

Highlights

- Networking of up to 32 scanners for high-speed applications
- High scan rates of up to 1200 scans per second for the fastest processing speeds
- Automatic and programmable focus setting for continuous process flows
- Reliable code reconstruction for reading damaged or rotated barcodes
- Wide range of applications through an extended temperature range of up to -35 °C

Brief Description

Barcodes are now ubiquitous in industry and trade—but when it comes to reading barcodes, every application has its own special requirements. Different sizes and distances, variable speeds and varying levels of damage: Pepperl+Fuchs has got this vast spectrum of requirements covered through its two extremely powerful series. Read distances of up to 2.5 meters, scan rates of up to 1200 scans per second, and code sizes of just 0.2 millimeters are processed with complete accuracy and the highest level of efficiency. For high-speed applications, up to 32 scanners can be networked to form an integrated overall solution. A reliable process flow and optimal read performance is guaranteed at all times, even at temperatures as low as -35 °C.

Accessories	
CBX100	Connection box for barcode scanners
CBX500-KIT-B17	PROFINET connection box for barcode scanners
CBX500-KIT-B19-IP65	EtherNet/IP connection box for barcode scanners
CBX500-KIT-B6	PROFIBUS connection box for barcode scanners
DM-VB14N-102	Deviation mirror for VB14 series barcode scanners
DM-VB14N-90	Deviation mirror for VB14 series barcode scanners
OM-VB14N	Oscillating mirror for VB14N series barcode scanners

OHV Series

Standard Technical Data	
Light type	Red LED
Voltage type	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Interface	Connection type	Length L	Width W	Height H
OHV1000-F223-R2	200	RS-232	Fixed cable	93	53	151
OHV100-F222-R2	310	RS-232	Fixed cable	70	50	140
OHV200-F220-B15	310	Bluetooth		130	51	28
OHV200-F221-B15	310	Bluetooth		130	51	135

Highlights

- Excellent read quality, reliable 1-D/2-D code reading on reflective surfaces
- Versatile applications thanks to a sturdy housing and high degree of protection (IP65)
- Highest level of process reliability through user feedback (acoustic, tactile, and visual signals)
- Can be programmed individually for specific application requirements

Brief Description

OHV series handheld readers offer outstanding reading performance, simple operation and perfect adaptation to customer-specific requirements. The devices read 1-D and 2-D codes reliably even on reflective surfaces, covering all common code symbologies. A patented dual lens allows codes of various sizes to be read using just one setting. To ensure optimal process reliability, each read operation is confirmed by acoustic, tactile, and visual feedback. Various programming options allow the device to be effectively adapted to the individual application, either via control codes on the device itself, via the Vision Configurator graphical user interface, or via JavaScript. This means that the manual handheld readers from Pepperl+Fuchs offer perfect solutions for any application requirements in the field of mobile identification.

Accessories	
OHV-BAT	Lithium ion battery, 1300 mAh
OHV-BRACKET	Bracket for OHV100-F222-R2
OHV-CHARGER-B15	Charger for OHV200 with built-in Bluetooth modem
OHV-F230-B17	PROFINET gateway for OHV handheld
OHV1000-BRACKET	Bracket for OHV1000-F223-R2
V19S-G-1,7/3M-PVC-V50	Adapter cable, M12 8-pin to RS 232
V45-G-2M-PVC-ABG-USB-G	Adapter cable, RJ50 to USB
V45-G-2M-PVC-SUBD9	Adapter cable, RJ45 to RS 232

Optical High-Temperature Identification

High Performance under Extreme Conditions

Cyclic changes in temperature, continuous high temperatures, and the effects of dust and paint place high demands on materials and technology. The durable OIT high-temperature identification system was developed with these demands in mind. The system ensures a reliable read performance and therefore smooth process flows, even at temperatures of up to 500 °C.

Typical Applications

- Automotive industry: identification in bodyshell production, painting lines, electroplating plants, and drying systems
- Identification in pigment and paint processing industries
- Baking pan identification in bakeries

Your Benefits at a Glance

- Rugged, durable solution with heat-resistant code sheets for temperatures of up to 500 °C
- Reliable identification, even on contaminated code sheets
- Integrated diagnostic function for reliable process flows
- Maintenance-free with one-piece housing concept and no additional components
- Simple connection to all standard controllers

Technical Features

- Identification of up to 1 million objects via robust code sheets
- Easy system integration via Ethernet interface
- Long read distances of up to 1700 mm
- Rugged powder-coated aluminum die-cast housing

OIT Series

Standard Technical Data	
Light type	Infrared LED
Interface	Ethernet
Output type	PNP
Voltage type	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Connection type	Harting connector plug
Degree of protection	IP64
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Detection range [mm]	Length L	Width W	Height H
OIT200-F113-B12-CB	200	297	188	116
OIT300-F113-B12-CB2	270	171	261	101
OIT500-F113-B12-CB	450	171	261	101
OIT500-F113-B12-CB3	450	171	261	101
OIT1500-F113-B12-CB	1700	171	261	101

Highlights

- Heat-resistant code sheets for temperatures up to 500 °C
- Reliable identification, even on contaminated code sheets
- Integrated diagnostic function for reliable process flows
- Maintenance-free with one-piece housing, no additional components
- Simple connection to all standard controllers

Brief Description

Drying systems, painting lines, electroplating plants, and bakeries operate under special production conditions in terms of temperature and contamination. Cyclical temperature changes, continuous temperatures, and the effects of dust and paint place high demands on materials and technology. Specifically designed to withstand these extreme conditions, the robust OIT high-temperature identification system from Pepperl+Fuchs ensures smooth process sequences under the toughest conditions. Highly reliable read performance is guaranteed, even at temperatures up to 500 °C.

Accessories	
OIC-C10V2A-CB1	Read-only tag for optical high-temperature identification system, stainless steel
OIC-C11V4A-CB2	Read-only tag for optical high-temperature identification system, stainless steel
OIZ-FG500	Replacement glass for OIT300, OIT500, and OIT1500
V1S-G-10M-PVC	Single-ended male cordset, M12, 4-pin, PVC cable
V45-G	Single-ended male cordset, field-attachable
V45-GP	Push-pull single-ended male cordset, field-attachable
V45-GP-10M-PUR-ABG-V45-G	Cordset, RJ-45 to RJ-45, PUR cable
V8HAN-G	Single-ended female cordset, Harting, 8-pin, field-attachable

Image Processing

Sensor and System Solutions from a Single Source

Sheet verification, profile comparison, range monitoring, and high-precision measurement—these are just a few of the applications that can be implemented with image processing. From easy-to-integrate vision sensors to high-performance vision systems, Pepperl+Fuchs offers all of the solutions required in an industrial environment.

Light Section Sensors from Pepperl+Fuchs

The light section process uses the triangulation principle to detect and measure surface profiles. Pepperl+Fuchs offers light section sensors for a range of applications, including profile detection, profile calibration, and field monitoring.

Vision Sensors from Pepperl+Fuchs

Our vision sensors are specifically designed for easy installation and operation and can be easily integrated into new and existing systems. The use of switching outputs and teach-in mean no additional programming or software is required in most cases.

Vision Systems from VMT

Our subsidiary VMT Vision Machine Technic Bildverarbeitungssysteme GmbH supplies individual turnkey image processing and laser sensor systems for all industrial sectors. As part of the powerful Pepperl+Fuchs Group, VMT offers top-of-the-range technology combined with the highest level of investment security.

More information is available at
www.pepperl-fuchs.com/fa-vision

Image Processing
Complex Technology Made Simple

At Pepperl+Fuchs, our goal is to make image evaluation technology as easy to use and integrate as a sensor. Vision sensors with switching outputs and teach-in make it easier than ever before to benefit from this complex technology.

Light Section Sensors with SmartRunner Technology

By combining the reliable light section method for height profile detection with a 2-D vision sensor, Pepperl+Fuchs has produced highly specialized sensors tailored to specific applications. Our SmartRunner technology transforms complex profile data into easy-to-process switching signals—making these sensors exceptionally simple to integrate and use.

Your Benefits at a Glance

- A unique combination of the light section process and 2-D vision sensors with integrated LED lighting opens up many new fields of application
- Application-specific sensors—for direct and optimal use in the application
- Quick integration into the overall process by transforming complex measurement data into easy-to-process switching signals
- Simple commissioning through parameterization via Data Matrix control codes or teach-in

Typical Applications

SmartRunner Matcher—the specialist for profile comparisons:

- Presence and completeness checking on one or multiple components
- Quality control in packaging technology
- Correctness and position checking on components

SmartRunner Detector—the specialist for high-precision monitoring

- Protection of sensitive components in machines
- Checking for overlapping of components
- Overhang monitoring even when stationary

Vision Sensors for Misfed Sheet Detection

The sheet identification sensor allows quick and easy monitoring of the correct sheet sequence, e.g., in collating, folding, and binding machines. For the first time, the BIS510 combines code recognition and image comparison in a single sensor, promising outstanding flexibility and cost efficiency.

Your Benefits at a Glance

- Fully automated teach-in of reference sheets for exceptional ease of use and shorter changeover times
- Flexibility and cost efficiency through the combination of image comparison and code recognition in a single sensor
- Increased efficiency with reading speeds of 4 m/s at 10 sheets/s
- Outstanding process reliability even on reflective surfaces through innovative polarization filter technology

Typical Applications

- Misfed sheet detection in collating, folding, and binding machines

Other Application-Specific Vision Sensors

Image processing is used in a wide range of fields. In addition to the sensors described above, further application-specific versions can be found in the Identification (page 44) and Positioning Systems (page 66) sections.

Image Processing

Contents

Vision Sensor for Sheet Verification-
Page 323

SmartRunner Matcher
Page 324

SmartRunner Detector
Page 325

Vision Sensor for Sheet Verification

Standard Technical Data	
Detection range	52 mm
Light type	White LED
Interface	Ethernet
Output type	PNP
Operating elements	Push-button
Voltage type	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	53.3 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

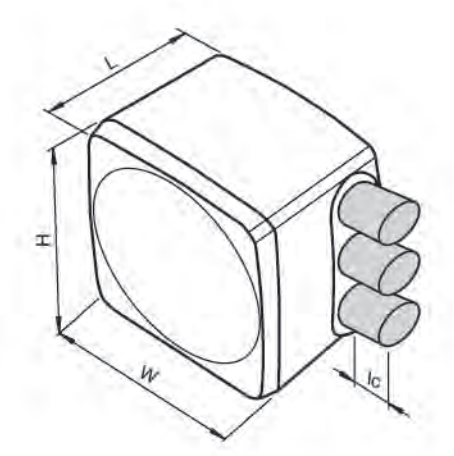
Model number
BIS510P-F201A-60

Highlights

- Monitoring correctness of sheet sequences, e.g., in collating and folding machines, based on image comparison or barcode/data matrix code reading
- Automatic teach-in of reference image
- Permanent storage of the reference image
- Connection of a trigger sensor (ML4.2)
- Error image memory facilitates troubleshooting
- Ethernet interface for fast image and data communication
- Simple integration into graphic user interfaces
- Free PC software simplifies commissioning

Brief Description

An unprinted page in a book is irritating. If the reader finds that important information is missing, they will stop reading the book. A distorted page in an illustrated book will also devalue the copy. But while these kinds of incidents are annoying, they are not as serious as the incorrect insert being placed inside a package of medicine. In all these scenarios, the root cause of the issue is that the bookbinding company has folded, collated, or bound the wrong sheet. For this reason, sheet errors must be reliably detected and rectified as early as possible. Powerful image processing technology can handle this task reliably and with minimum effort from the user. With their many years of experience, solutions from Pepperl+Fuchs and Optigraf are designed for outstanding reliability and simple operation.



Accessories	
PCV-MB1	Mounting bracket for PCV* read head
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable
V15-G-2M-PUR-V15-G	Cordset, M12 to M12, PUR cable, 5-pin
V15-G-5M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable
V15S-G-5M-PUR-ABG	Single-ended male cordset, M12, 5-pin, shielded, PUR cable
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-ABG-PG9	Single-ended female cordset, M12, 8-pin, shielded, field-attachable

SmartRunner Matcher

Standard Technical Data	
Light type	Red laser diode
Interface	RS-485
Output type	PNP
Operating elements	Push-button
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	55 mm
Housing width W	38 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

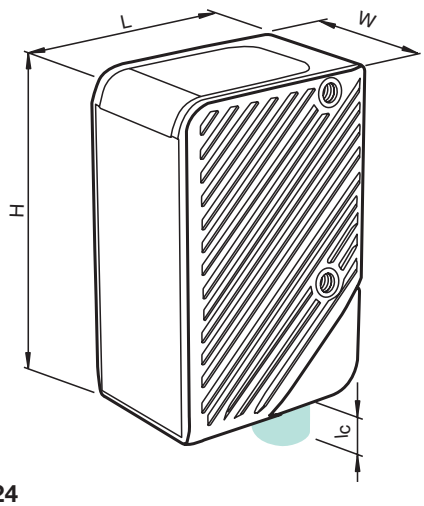
Model number	Measuring range	Resolution
VLM350-F280-2E2-1000	X = 40 mm …160 mm; Z = 60 mm …350 mm	X > 0.44 mm; Z > 0.4 mm at 60 mm read distance
VLM350-F280-R4-1001	X = 40 mm …160 mm; Z = 60 mm …350 mm	X > 0.44 mm; Z > 0.4 mm at 60 mm read distance
VLM350-F280-R4-1002	X = 40 mm …160 mm; Z = 60 mm …350 mm	X > 0.44 mm; Z > 0.4 mm at 60 mm read distance
VLM350-F280-R4-1101	X = 40 mm …160 mm; Z = 60 mm …350 mm	X > 0.25 mm; Z > 0.2 mm at 60 mm read distance
VLM700-F280-R4-1102	X = 60 mm … 300 mm; Z = 100 mm … 700 mm	X > 0.44 mm; Z > 0.4 mm at minimum read distance

Highlights

- Presence and completeness checking on one or multiple components
- Quality control in packaging technology
- Correctness and position checking on components

Brief Description

By combining the reliable light section method for height profile detection with a 2-D vision sensor, Pepperl+Fuchs has produced highly specialized sensors tailored to specific applications. Our SmartRunner technology transforms complex profile data into easy-to-process switching signals—making these sensors exceptionally simple to integrate and use.



Accessories	
PCV-USB-RS485-Converter Set	USB to RS 485 interface converter
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-BK0,6M-PUR-U-V1-G-SRMAT	Cordset for SmartRunner Matcher, M12 to M12, 8/4-pin, PUR cable
VLX-F231-B17	Interface module with PROFINET interface for SmartRunner
VLX-F231-B25	Interface module with EtherNet/IP interface for SmartRunner
VLX-F231-B6	Interface module with PROFIBUS interface for SmartRunner

SmartRunner Detector

Standard Technical Data	
Light type	Red laser diode
Interface	RS-485
Output type	PNP
Operating elements	Push-button
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	55 mm
Housing width W	38 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

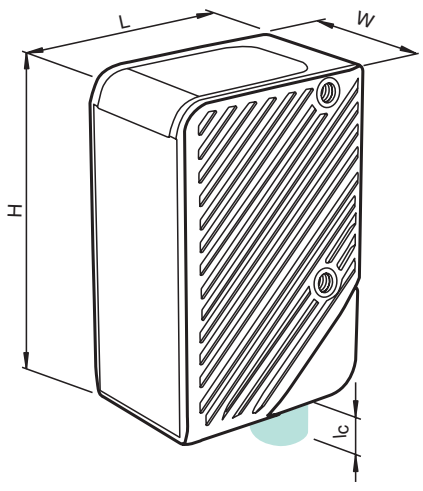
Model number	Object size
VLD700-F280-2E2-1000	> 0.1 mm at minimum read distance

Highlights

- Protection of sensitive components in machines
- Checking for overlapping of components
- Overhang monitoring even when stationary

Brief Description

By combining the reliable light section method for height profile detection with a 2-D vision sensor, Pepperl+Fuchs has produced highly specialized sensors tailored to specific applications. Our SmartRunner technology transforms complex profile data into easy-to-process switching signals—making these sensors exceptionally simple to integrate and use.



Accessories	
PCV-USB-RS485-Converter Set	USB to RS 485 interface converter
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-BK0,6M-PUR-U-V1-G-SRDET	Cordset for SmartRunner Detector, M12 socket 8-pin to M12 plug 4-pin, PUR cable, black
VLX-F231-B17	Interface module with PROFINET interface for SmartRunner
VLX-F231-B25	Interface module with EtherNet/IP interface for SmartRunner
VLX-F231-B6	Interface module with PROFIBUS interface for SmartRunner

Positioning Systems

Sophisticated Technologies for Precise Position Detection

Positioning systems are subject to a wide range of requirements. Regardless of whether the application focuses on precision, process safety, robustness, or cost efficiency, the unique technologies from Pepperl+Fuchs combine the advantages of optical, camera-based, and inductive systems in one portfolio.

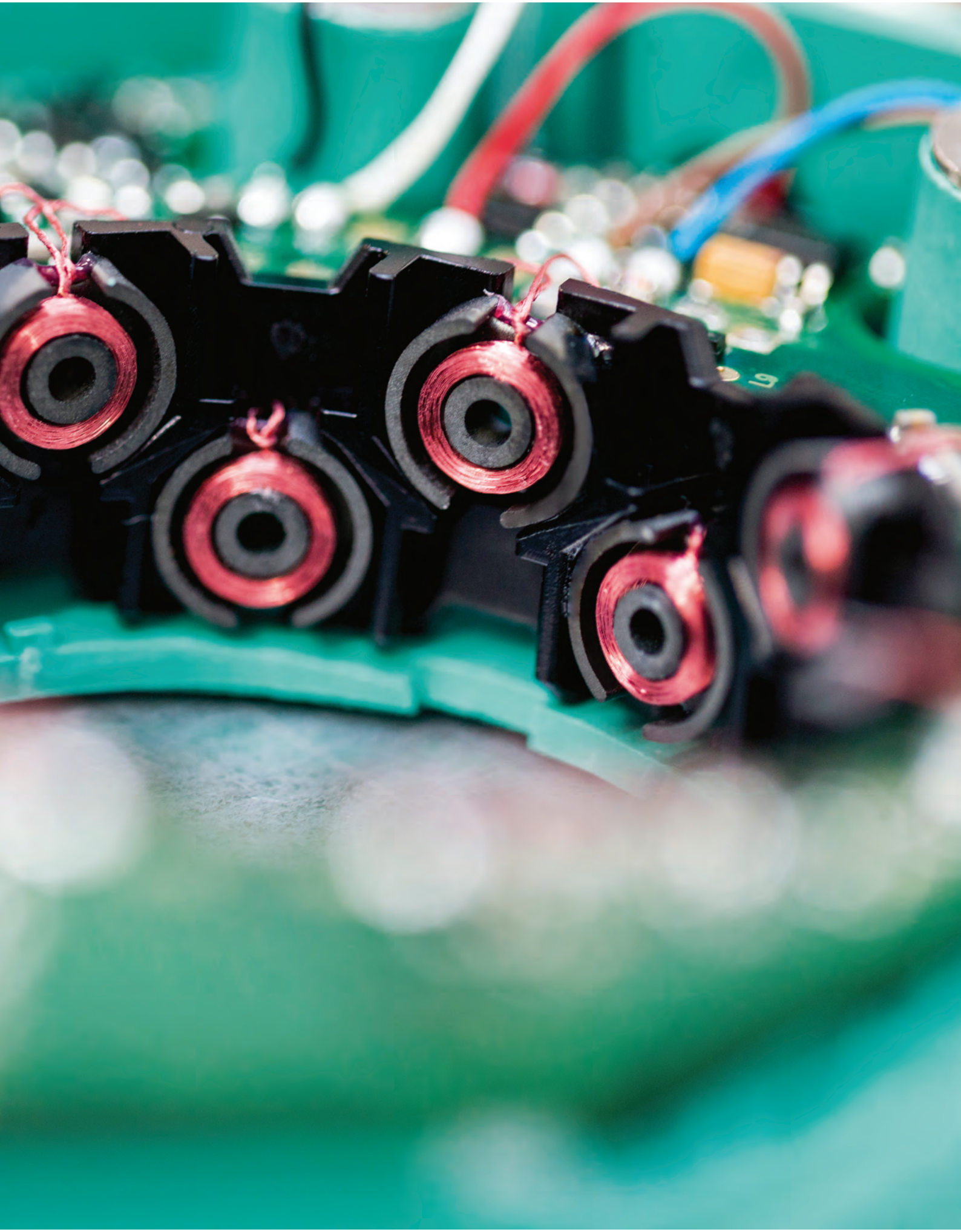
Over 25 Years of Technical Perfection

The launch of the world's first absolute positioning system in 1989 marked the start of a success story that continues to this day. Our portfolio is continuously being developed,
with individual products tailored to specific applications to produce a range of solutions that have already proven themselves in countless applications.

Diverse Technologies for a Wide Range of Applications

Wherever goods, production materials, or moving machine parts need to be safely and efficiently transported or precisely positioned, our customers can benefit from our unique technological expertise. Depending on the type of application, we offer inductive, optical, or camera-based systems. Whether your application is in harsh outdoor conditions, dusty environments or over long distances, the Pepperl+Fuchs portfolio always offers a solution for your positioning task.

More information is available at
www.pepperl-fuchs.com/fa-positioning



Inductive Positioning Systems
Perfection for Demanding Applications

Can be used universally for linear position detection and for measuring angles of rotation and absolutely reliable even in dusty, dirty applications or extreme temperature fluctuations. The patented PMI inductive positioning system impresses with a wide variety of applications and optimal robustness.

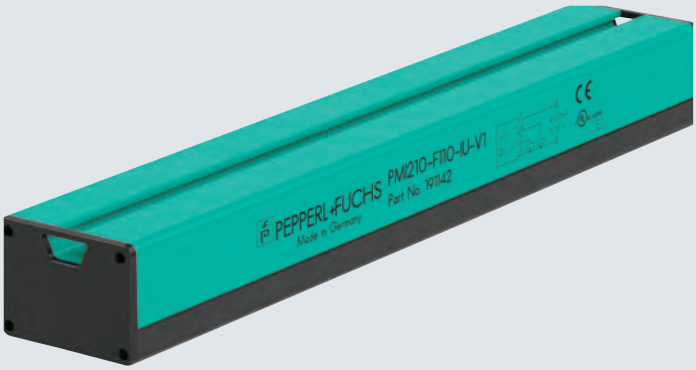
Typical Applications

The PMI positioning system is available for linear and angular measurement. The inductive principle does not require a special target, but only a steel actuator. This makes it suitable for an infinite variety of applications.
Typical examples include:

- Mobile equipment: positioning of the wheel steering, position detection of crane booms
- Positioning of metal parts in mechanical engineering
- Print and paper industry: dancer control in roll printing machines, rotation detection in pile turners
- Control of packaging or filling cycles

Your Benefits at a Glance

- Excellent robustness and durability thanks to noncontact, maintenance-free, and contamination-resistant technology
- Flexibility thanks to the wide range of functions and programmable measuring and switching range
- Wide range of application possibilities using simple steel actuators as accessories or for in-house design
- Variety of different designs: small designs (14 mm), e.g., for machine tools, to large designs (960 mm) for large-scale mechanical engineering
- Process reliability due to immunity to interference
- Cost efficiency thanks to measuring and switching functions in a single device



Technical Features

- Wide range of functions thanks to programmable measuring and switching range
- IO-Link versions available for customer-specific parameterization
- Versions available for linear or angle measurement
- Position detection independent of distance from 0 mm … 2.5 mm to 0 mm … 6 mm
- Fully encapsulated sensors up to IP67 for outdoor applications

Inductive Positioning Systems

Contents

F90 Series
Page 331

F112 Series
Page 332

F166 Series
Page 333

F110 Series
Page 334

F130 Series
Page 335

F90 Series

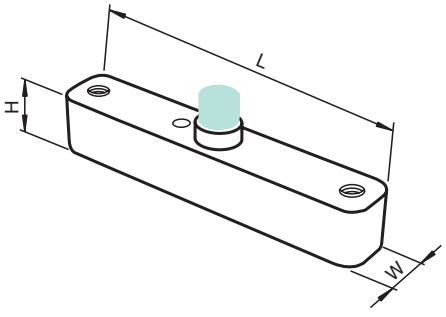
Standard Technical Data	
Connection type	M12 connector plug
Voltage type	DC
Operating voltage (max)	30 V
Housing material	Plastic material
Housing width W	23 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Inter-face	Mea-suring range	Output type	UB (min)	Length L	Height H	EAC	UL
PMI40-F90-3EP-IO-V15	IO-Link	40 mm	3 push-pull outputs	12	60.3	40		■
PMI40-F90-IU-IO-V15	IO-Link	40 mm	Analog voltage output, analog current output	12	60.3	40		■
PMI40-F90-IU2EP-IO-V15	IO-Link	40 mm	2 push-pull outputs, analog voltage output, analog current output	12	60.3	40		■
PMI40-F90-IU2EP-IO-V15-3G-3D	IO-Link	40 mm	2 push-pull outputs, analog voltage output, analog current output	12	60.3	40		■
PMI40-F90-U-V15		40 mm	Analog voltage output	12	60.3	40		
PMI80-F90-3EP-IO-V15	IO-Link	80 mm	3 push-pull outputs	12	95.1	40		■
PMI80-F90-IE8-V15		80 mm	2 PNP switching outputs, analog current output	18	102	41		■
PMI80-F90-IU-IO-V15	IO-Link	80 mm	Analog voltage output, analog current output	12	95.1	40		■
PMI80-F90-IU-V1		80 mm	Analog voltage output, analog current output	18	102	41		■
PMI80-F90-IU2EP-IO-V15	IO-Link	80 mm	2 push-pull outputs, analog voltage output, analog current output	12	95.1	40		■
PMI80-F90-IU2EP-IO-V15-3G-3D	IO-Link	80 mm	2 push-pull outputs, analog voltage output, analog current output	12	95.1	40		■
PMI104-F90-IE8-V15		104 mm	2 PNP switching outputs, analog current output	18	126	41		■
PMI104-F90-IU-V1		104 mm	Analog voltage output, analog current output	18	126	41	■	■
PMI120-F90-3EP-IO-V15	IO-Link	120 mm	3 push-pull outputs	12	135.2	40		■
PMI120-F90-IE8-V15		120 mm	2 PNP switching outputs, analog current output	18	142	41		■
PMI120-F90-IU-IO-V15	IO-Link	120 mm	Analog voltage output, analog current output	12	135.2	40		■
PMI120-F90-IU-V1		120 mm	Analog voltage output, analog current output	18	142	41		■
PMI120-F90-IU2EP-IO-V15	IO-Link	120 mm	2 push-pull outputs, analog voltage output, analog current output	12	135.2	40		■
PMI120-F90-IU2EP-IO-V15-3G-3D	IO-Link	120 mm	2 push-pull outputs, analog voltage output, analog current output	12	135.2	40		■

Highlights

- New application possibilities thanks to IO-Link
- Measurement of the distance between two targets for solving complex applications with a single sensor
- Savings on additional sensors through simultaneous measuring and switching functions in one device
- ATEX versions for safe use in Ex zone 2/22 (3G nA, 3D tc)



Brief Description

IO-Link, simultaneous detection of two attenuator elements, and a measuring and switching function in one device—the F90 series offers an unprecedented variety of features for use in your machine. Available in four measuring lengths (40 mm, 80 mm, 104 mm, and 120 mm), there is always a perfect solution for your application. With ATEX versions for Zone 2/22 (3G nA, 3D tc), the device can even be used in hazardous areas.

Accessories	
BT-F90-G	Damping element for sensors of type F90, F112, and F166; front hole
BT-F90-W	Damping element for sensors of type F90, F112, and F166; side hole
MH-F90	Mounting bracket for mounting sensors of type F90
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

F112 Series

Standard Technical Data	
Measuring range	14 mm
Voltage type	DC
Operating voltage (max)	30 V
Housing length L	35 mm
Housing width W	35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

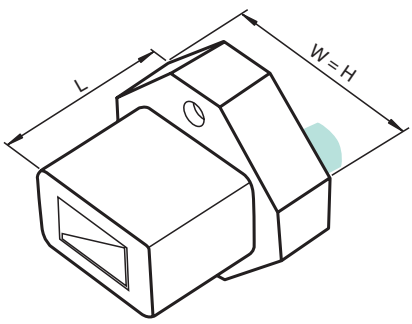
Model number	Interface	Connection type	Output type	UB (min)	Height H
PMI14V-F112-2EP-IO-V31	IO-Link	M8 connector plug	2 push-pull outputs	10	30.5
PMI14V-F112-2EPE2-IO	IO-Link	Fixed cable	1 PNP switching output, 2 push-pull outputs	10	30.5
PMI14V-F112-2EPE2-IO-V15	IO-Link	M12 connector plug	1 PNP switching output, 2 push-pull outputs	10	30.5
PMI14V-F112-U-IO	IO-Link	Fixed cable	Analog voltage output	18	30.5
PMI14V-F112-U-IO-V31	IO-Link	M8 connector plug	Analog voltage output	18	30.5
PMI14V-F112-U-V3		M8 connector plug	Analog voltage output	18	30

Highlights

- New application possibilities thanks to IO-Link—even in challenging installation conditions
- Small and robust metal enclosure for use in extreme ambient conditions
- Flexible application by adjusting the detection range and the parameterization of switching points and windows

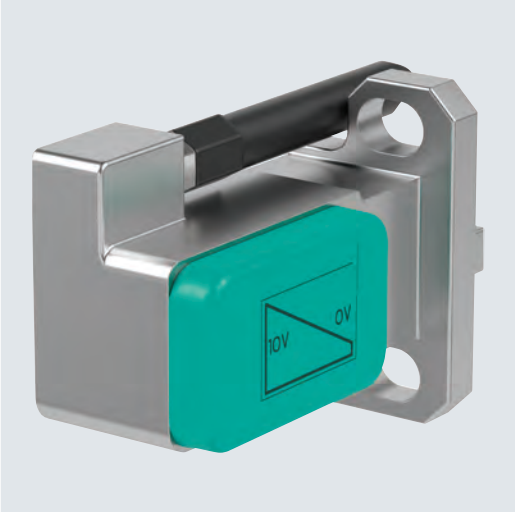
Brief Description

With a measurement length of 14 mm, the F112 series provides high-precision position data, or switching points or windows. Fully encapsulated with IP67 protection and equipped with a robust metal housing, the sensor withstands all external influences and offers new possibilities with IO-Link—even in applications where installation space is limited.



Accessories	
BT-F90-G	Damping element for sensors of type F90, F112, and F166; front hole
BT-F90-W	Damping element for sensors of type F90, F112, and F166; side hole
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V3-WM-2M-PUR	Single-ended female cordset, M8, 3-pin, PUR cable
V31-GM-2M-PUR-V1-G	Cordset, M8 to M12, 4-pin, PUR cable

F166 Series



Standard Technical Data	
Measuring range	14 mm
Connection type	Fixed cable
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing material	Plastic material, die-cast zinc
Housing length L	39 mm
Housing width W	30 mm
Housing height H	17.7 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

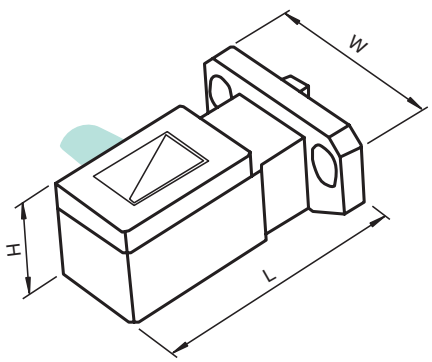
Model number	Output type	UL
PMI14V-F166-2E2	2 PNP switching outputs	■
PMI14V-F166-2E2-1M-V15	2 PNP switching outputs	
PMI14V-F166-U	Analog voltage output	■
PMI14V-F166-U-1M-V15	Analog voltage output	

Highlights

- Especially small design for integration in the smallest spaces
- Robust metal enclosure for use in extreme ambient conditions

Brief Description

With an especially compact design and robust metal housing, the F166 series has all the features required for basic applications with limited installation space. These advantages are demonstrated especially well in the typical application in a tool spindle. With its small dimensions, the robust metal housing is easy to integrate into the compact spindle. It withstands lubricants or abrasion and guarantees that processes run smoothly.



Accessories	
BT-F90-G	Damping element for sensors of type F90, F112, and F166; front hole
BT-F90-W	Damping element for sensors of type F90, F112, and F166; side hole
PMI14V-Teach	Programming unit

F110 Series

Standard Technical Data	
Connection type	M12 connector plug
Output type	Analog voltage output, analog current output
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing width W	41 mm
Housing height H	30 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

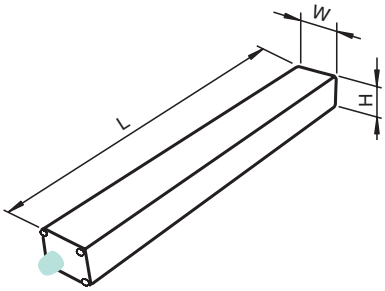
Model number	Measuring range	Length L
PMI210-F110-IU-V1	210 mm	250
PMI360-F110-IU-V1	360 mm	400
PMI510-F110-IU-V1	510 mm	550
PMI810-F110-IU-V1	810 mm	850

Highlights

- Reliable position detection via inductive measuring principle at lengths of up to 810 mm
- Exact positioning, even in the case of larger mechanical tolerances
- Simple and flexible mounting using sliding blocks
- Robust metal housing for use in mechanically demanding ambient conditions

Brief Description

The F110 guarantees optimal reliability in position detection, even over longer distances. Available in several lengths between 210 mm and 810 mm, the series is ideal for basic applications in large-scale and heavy machine construction. The especially long reading distance of up to 6 mm even copes with large mechanical tolerances without affecting the precise measurement result. Mounting is also simple, as the fixing points can be freely selected using a T-slot nut for flexible installation of the sensor.



Accessories	
BT-F110-G	Damping element for sensors of type F110, front hole
BT-F110-W	Damping element for sensors of type F110, side hole
MH-F110	Mounting bracket for mounting sensors of type F110
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable

F130 Series

Standard Technical Data	
Measuring range	360°
Connection type	M12 connector plug
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	120 mm
Housing width W	76.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

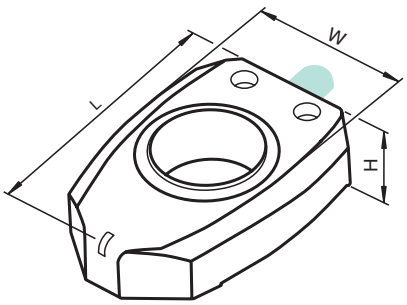
Model number	Output type	Height H
PMI360D-F130-IE8-V15	2 PNP switching outputs, analog current output	22
PMI360DV-F130-3E2-V15	3 PNP switching outputs	26.5
PMI360DV-F130-IU-V15	Analog voltage output, analog current output	26
PMI360DV-F130-IU2E2-V15	2 PNP switching outputs, analog voltage output, analog current output	26.5

Highlights

- Noncontact, wear-free angle measurement system with a measuring range from 0° to 360°
- Efficient angle position feedback thanks to optimized product versions and standardized drilling template for position feedback detectors
- Robust, fully encapsulated sensors up to IP67 for outdoor applications

Brief Description

Unlike the linear-measuring PMIs, F130 sensors convert a measuring angle from 0° to 360° into a 4 mA to 20 mA analog signal, making them ideal for valve position feedback on swivel drives and a range of other applications. The sensor can be operated either clockwise or counter-clockwise with its own steel or special standard actuator from the Pepperl+Fuchs accessories portfolio. The scalable measuring range, along with the freely parameterizable switch points and windows, complete the unique design, making the F130 series the perfect solution for angle detection.

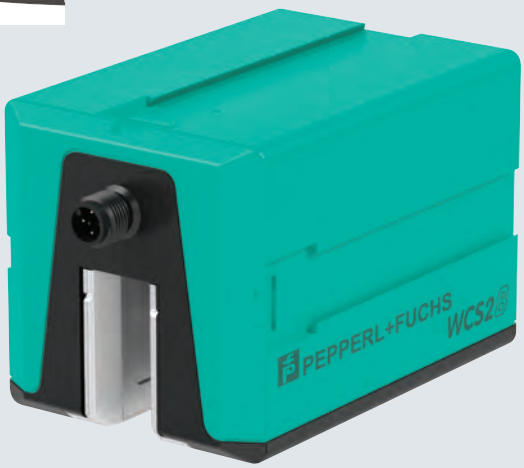


Accessories	
BT-F130-A	Actuator for series F130
V15-G-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable
V15-W-2M-PVC	Single-ended female cordset, M12, 5-pin, PVC cable

Optical Positioning Systems

Reliable Even Over Long Distances

Whether used in standard or special applications, these optical positioning systems offer excellent reliability. The range includes the position encoding system (WCS) for harsh outdoor conditions, the DataMatrix positioning system (PCV) for uncompromising process safety, the position guided vision (PGV) for automated guided vehicle navigation, and the PHA for high-precision positioning.



WCS—Robust Positioning Since 1989

The system combines a metal or plastic code rail with optoelectronic sensors for scanning to guarantee precise positioning even in the most hostile environments.

Typical Applications

- Storage and material handling in harsh ambient conditions
- Electroplating plants and port facilities
- Elevator technology

Your Benefits at a Glance

- Solid, dirt-resistant code rail and high-performance emitter LEDs for outstanding robustness
- Over 25 years of application experience and continuous development ensure impressive reliability

Technical Features

- Compatible with all control panels
- Code rail length of up to 327 m (modular expansion)
- Suitable for curved paths, uphill slopes, interruptions, and lane changes
- Special outdoor version available

PCV—Redundancy for Outstanding Process Reliability

The unique combination of a 2-D camera system with a multi-redundant Data Matrix code tape
ensures precise position detection and uncompromising process reliability.

Typical Applications

- Positioning of skid units and monorail conveyor systems
- Lifting and elevator equipment

Your Benefits at a Glance

- Unaffected by contamination or damage to the code tape thanks to code redundancy and extra-wide reading window
- Quick commissioning through parameterization via Data Matrix control codes, PC, or directly from the control panel

Technical Features

- Self-adhesive code tape with a length of up to 10000 m
- Extensive diagnostic information, e.g., on the pollution degree or destruction of individual codes
- Additional evaluation of the Y and Z axes

PGV—Future-Proof Navigation

Optical colored tape tracking for driving, DataMatrix codes for positioning, and control codes for navigation—position guided vision (PGV) is the ideal solution for automated guided vehicles.

Your Benefits at a Glance

- Flexible navigation using colored tape, track tape, DataMatrix code tape, DataMatrix tags, or a combination of these technologies for excellent investment security
- Process safety through reliable tracking of different tracks even on highly reflective surfaces and in the event of contamination or destruction

Technical Features

- Can be used with any track tapes of different colors and widths
- Compatible with all control panels

PHA—Cost-Effective Precision Shelf Positioning

Specially developed for the high-precision positioning of shelves in high-bay warehouses, the PHA uses existing holes below the shelves to ensure accurate positioning regardless of interference factors such as contamination, extraneous light, and material fatigue.

Your Benefits at a Glance

- Outstanding reliability irrespective of warehouse lighting or contamination thanks to automatic exposure time control
- High-precision positioning for efficient use of storage space
- Carrier material savings through reliable positioning even in the event of material fatigue or warpage

Technical Features

- Range of 200 mm – 800 mm with a large detection/capture range
- Can also be used in deep-freeze storage down to -30 °C

Optical Positioning Systems

Contents

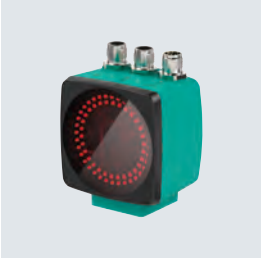
WCS2B/WCS3B Series
Page 339

WCS interface
Page 340

PCV Series
Page 341

PXV Series
Page 342

PGV Series
Page 343

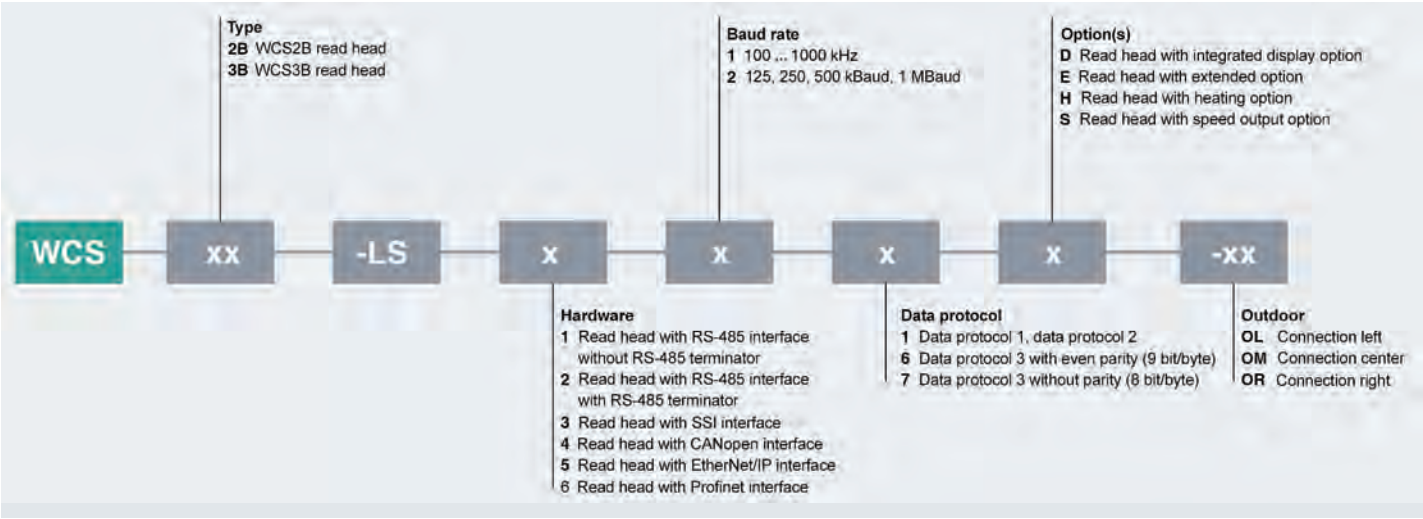


PHA Series
Page 344

WCS2B/WCS3B Series

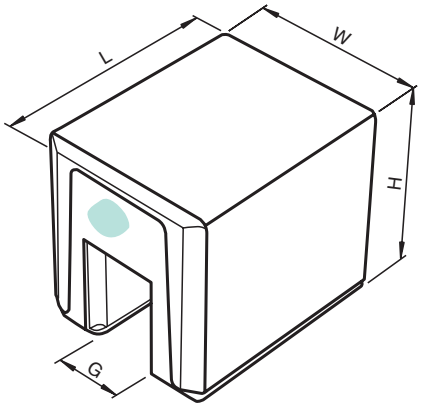
Standard Technical Data	
Voltage type	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing material	Plastic material
CSA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Reliable absolute position detection with the advanced WCS position encoding system
- Precise position data despite curved paths, ascents, descents, interruptions, and lane changes
- IP69 protective housing: optimized for use in extreme outdoor conditions (e.g., port facilities and electroplating plants)
- Simple commissioning concept and immediate error notification thanks to highly visible displays and indicator LEDs
- Extended option: precise positioning on traverse distances of up to 629 m



Brief Description

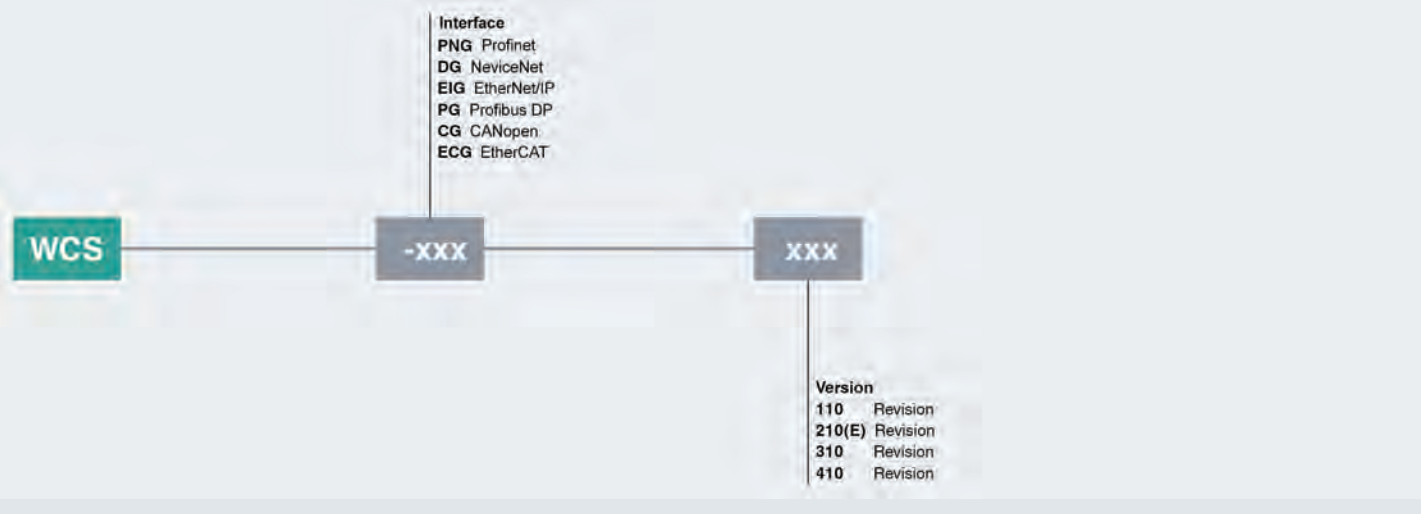
With its specially designed code rail and noncontact scanning of the read head, the WCS reliably detects a new position value every 0.8 mm in real time and even at high travel speeds. Powerful transmission LEDs make the sensors especially resistant to contamination and insensitive to smoke, fog, or dusty environments. The position data is reliably recorded and transmitted to the control via standard interfaces.

Accessories	
V15S-G-ABG-PG9	Single-ended male cordset, M12, 5-pin, shielded, field-attachable
V15S-W-ABG-PG9	Single-ended male cordset, M12, 5-pin, shielded, field-attachable
V19SY-G-BK10M-PUR-ABG	Single-ended male cordset, M12, 8-pin, Y encryption, PUR cable, shielded
V19SY-G-BK2M-PUR-ABG	Single-ended male cordset, M12, 8-pin, Y encryption, PUR cable, shielded
V19SY-G-BK5M-PUR-ABG	Single-ended male cordset, M12, 8-pin, Y encryption, PUR cable, shielded
V45-G	Single-ended male cordset, field-attachable
V45-GP	Push-pull single-ended male cordset, field-attachable
WCS-MP1	Mounting plate for WCS2 and WCS3 read heads

WCS Interface

Standard Technical Data	
Interface	Ethernet, RS-485
Connection type	RJ-45 connector socket
Housing material	Plastic material
Housing length L	115 mm
Housing width W	23 mm
Housing height H	118 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

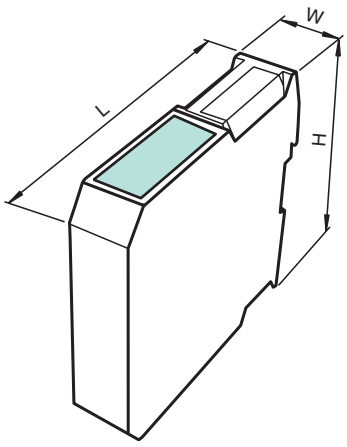


Highlights

- Wide range of interface modules available
- Can accommodate up to four RS-485 read heads
- Enables simplified system expansion

Brief Description

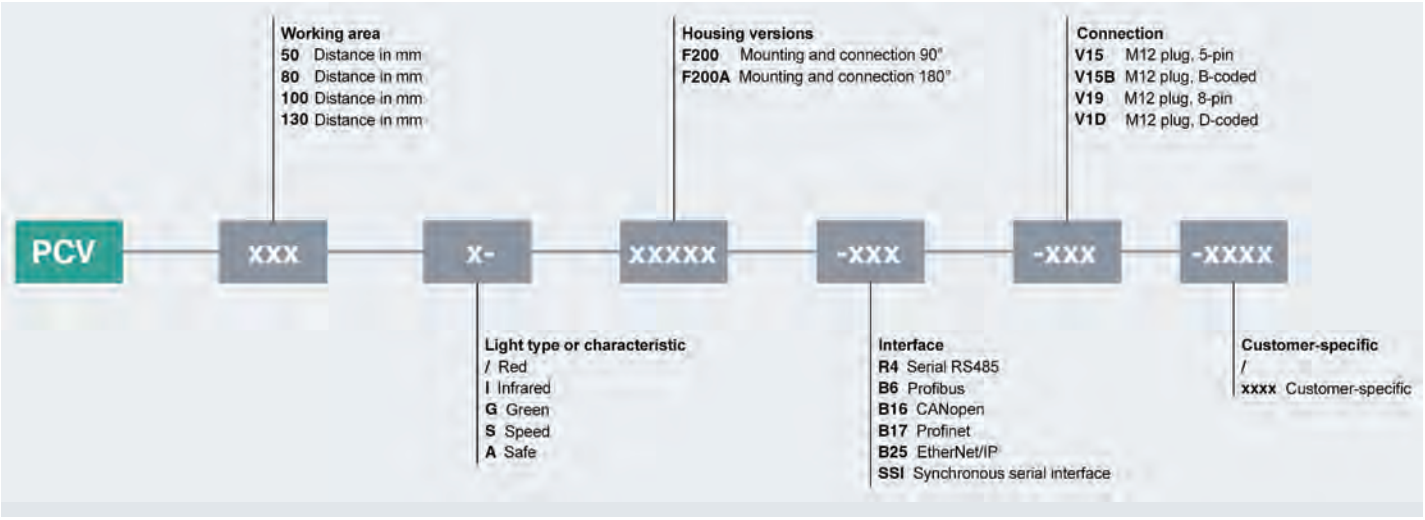
The system combines a metal or plastic code rail with optoelectronic sensors for scanning. This guarantees precise positioning even in the most hostile environments. In addition to the internal interfaces, a wide range of interface modules is available for connection to various bus systems.



PCV Series

Standard Technical Data	
Connection type	M12 connector plug
Voltage type	DC
Operating voltage (min)	15 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

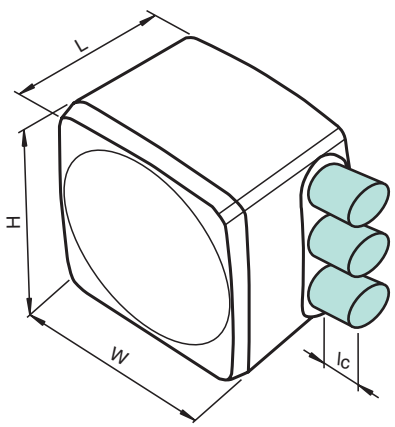


Highlights

- Self-adhesive code tape with a length of up to 10000 m
- Extensive diagnostic information, e.g., on the pollution degree or destruction of individual codes
- Additional evaluation of the Y and Z axes

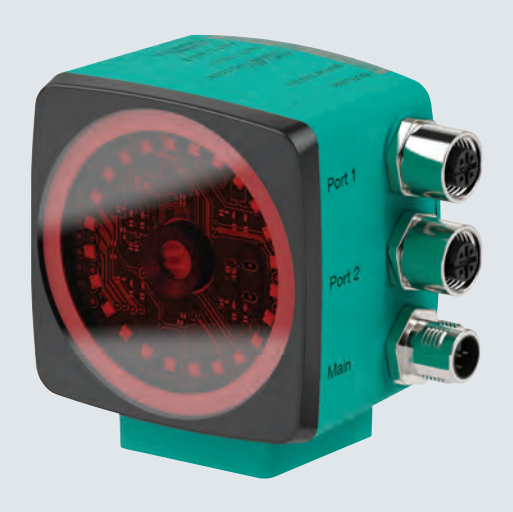
Brief Description

The unique combination of a 2-D camera system with a multi-redundant Data Matrix code tape ensures precise position detection and uncompromising process reliability.



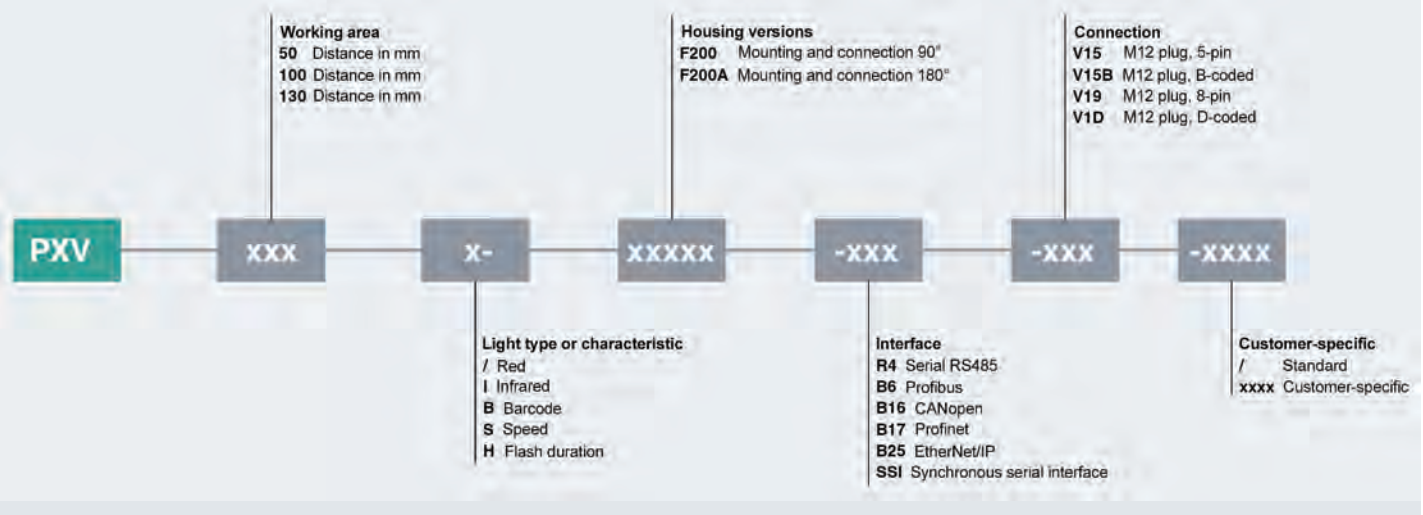
Accessories	
ICZ-TR-V15B	Terminator for PROFIBUS
PCV*-CA10-*/PCV*-CA20-*	Data Matrix code tape
PCV-AG100	Alignment guide for PCV100-* read head
PCV-AG80	Alignment guide for PCV80-* read head
PCV-CM20-001-001-SET	Event marker for PCV system
PCV-CM20-001-050-SET	Event marker for PCV system
PCV-CM20-001-135-SET	Event marker for PCV system

PXV Series



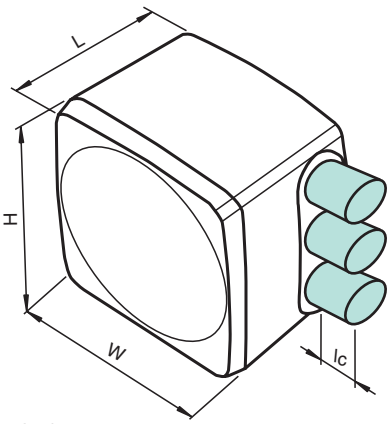
Standard Technical Data	
Connection type	M12 connector plug
Voltage type	DC
Operating voltage (min)	15 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Noncontact positioning on Data Matrix code tape
- Mechanical robustness: no wear, long service life, maintenance-free
- High resolution and precise positioning, especially for facilities with curves and switch points as well as inclines and declines.
- Traverse distance up to 100 km



Brief Description

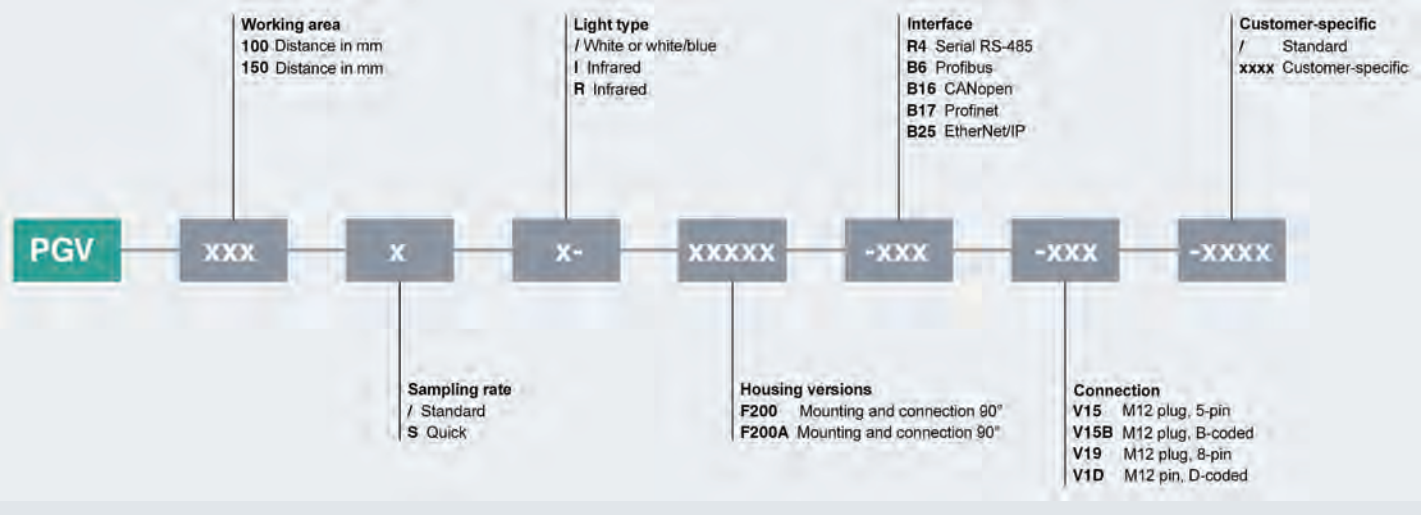
The DataMatrix positioning system (PXV) is the positioning system in the Pepperl+Fuchs incident light process. The heart of the system is the 2-D reading head. Among other things, it consists of a camera module with an integrated lighting unit. This enables the read head to detect position markers printed onto a self-adhesive code tape in the form of 2-D Data Matrix codes. The PXV positioning system has a 120 mm x 80 mm reading window which can read up to five Data Matrix codes at once. Using Data Matrix codes as information carriers allows redundancy in data representation. This multiple redundancy makes the PXV extremely reliable.

Accessories	
PCV-AG100	Alignment guide for PCV100-* read head
PCV-KBL-V19-STR-RS485	Cable unit with power supply for USB/RS-485 interface converter
PCV-KBL-V19-STR-USB	USB cable unit with power supply
PCV-LM25	Marker head for 25 mm code tape
PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PCV-USB-RS485-Converter Set	USB to RS 485 interface converter

PGV Series

Standard Technical Data	
Connection type	M12 connector plug
Voltage type	DC
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

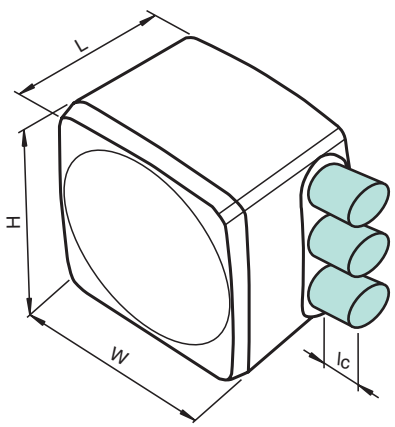


Highlights

- Noncontact positioning on Data Matrix code tape
- Reading of Data Matrix control codes
- Mechanical robustness: no wear, long service life, maintenance-free
- Can be used with any track tapes of different colors and widths
- Compatible with all control panels

Brief Description

Optical colored tape tracking for driving, DataMatrix codes for positioning, and control codes for navigation—position guided vision (PGV) is the ideal solution for automated guided vehicles.

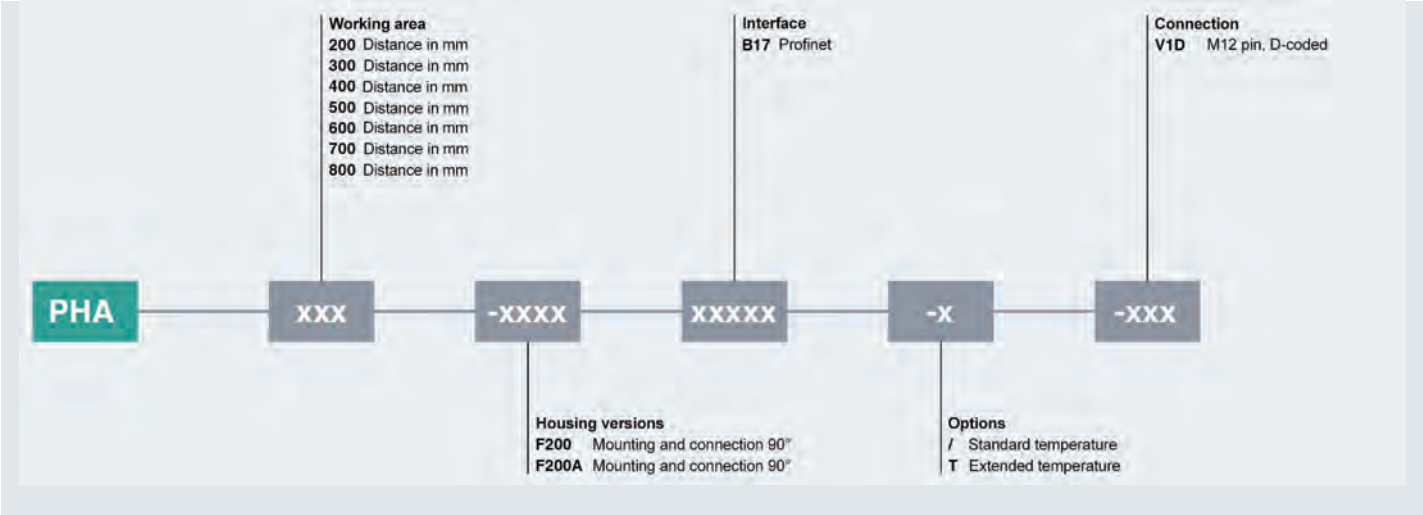


Accessories	
PCV-AG100	Alignment guide for PCV100-* read head
PCV-KBL-V19-STR-USB	USB cable unit with power supply
PCV-LM25	Marker head for 25 mm code tape
PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PGV*-CA25-*	Data Matrix code tape
PGV*-CC25-*	Control code tape for PGV system
PGV25M-CD100-CLEAR	Protective film for PGV code tape

PHA Series

Standard Technical Data	
Connection type	M12 connector plug
Voltage type	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

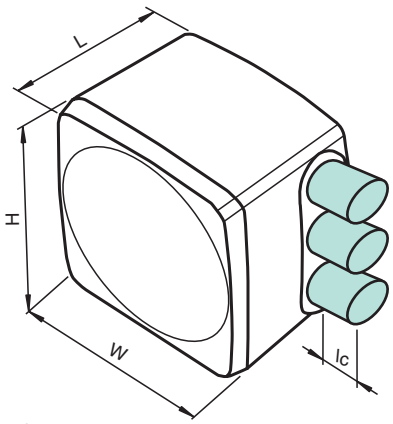


Highlights

- Detects the position of an index hole
- Detection range of 200 mm…800 mm with a large detection/capture range
- Can also be used in deep-freeze storage down to -30 °C
- Integrated illumination

Brief Description

The PHA vision sensors from Pepperl+Fuchs are the right solution for the safe and efficient transport and positioning of goods and production materials. Developed specifically for the precise positioning of stacker cranes, they boast a variety of high-performance product features. The PHA positioning systems are equipped with a unique camera system. With this, they detect the circular holes already present in the racking system and determine their position deviation in the X and Y directions relative to the target position. Positioning through existing holes allows consistently precise position detection.



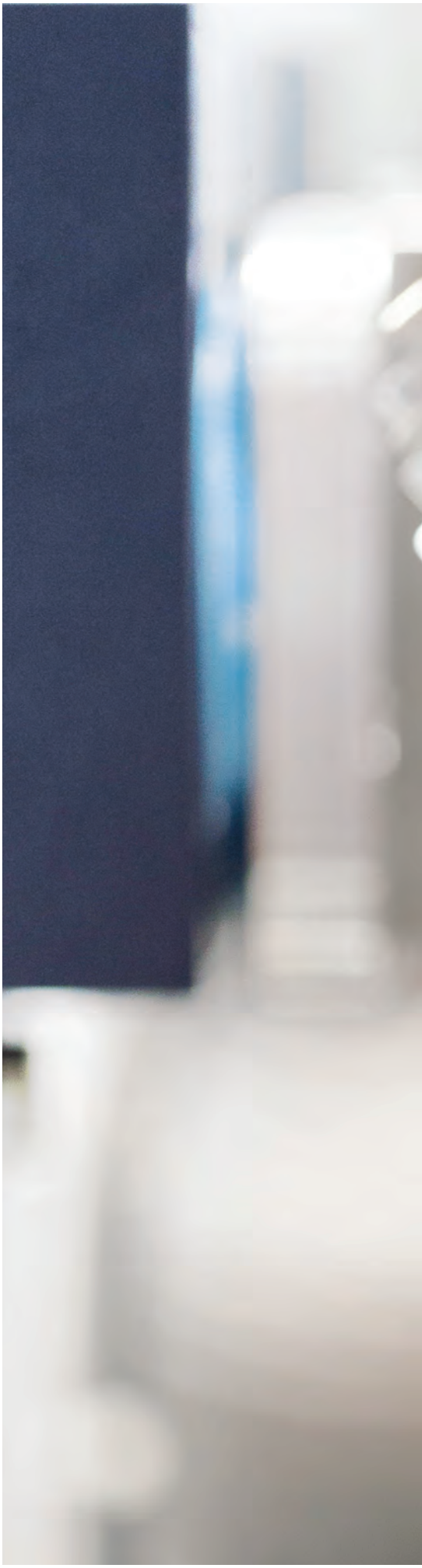
Accessories	
CBL-PUR-ABG-GY-04x034-100M	Cable, PUR/PP, 4-wire, shielded
PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PCV-SC12A	Grounding clip for PCV system
V15S-G-5M-PUR-ABG	Single-ended male cordset, M12, 5-pin, shielded, PUR cable
V19-G-10M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable

INTERNAL
DIAGNOSTIC
OUT3 / ADJ Z
OUT3 / ADJ Y
OUT1
PWR / ADJ
BASE / NO CODE

Inclination and Acceleration Sensors

Highly Resistant in Any Environment

Whether for leveling cranes, for acceleration control in elevators or for monitoring the condition of large plants, inclination and acceleration sensors from Pepperl+Fuchs always guarantee precise measurements—even in harsh outdoor conditions.



Unique Concept for Optimal Protection and Easy Installation

Based on a two-part mounting concept, the inclination and acceleration sensors always consist of the sensor module and a particularly robust metal retaining bracket. This combination brings many advantages: The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force. It can also be replaced quickly and easily if required. It is not necessary to re-adjust or calibrate.

The Right Sensor Version for Every Requirement

Each application has different requirements for the sensor technology. The portfolio of inclination and acceleration sensors from Pepperl+Fuchs therefore consists of different variants which can be selected depending on the application requirement.

In addition to sensors for inclination and acceleration detection, the F99 Fusion inertial measurement units are also available. Specifically designed for use in dynamic applications, they provide precise inclination and acceleration data in 360° at any time thanks to their compensation for external acceleration.

More information is available at:
www.pepperl-fuchs.com/fa-f99

X
Y

Inclination and Acceleration Sensors

Highly Precise Even with Dynamic Motion

The F99 Fusion inertial measurement unit guarantees error-free inclination detection in dynamic applications. The intelligent combination of the acceleration sensor and gyroscope compensates for external accelerations. This increases efficiency and opens up completely new opportunities.

Inclination sensor

Acceleration sensor

Typical Applications

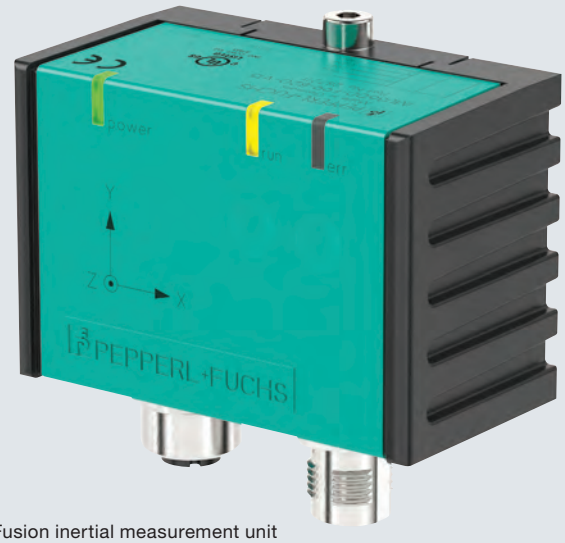
Inclination sensors:
- Leveling of working platforms
- Ensuring optimal alignment of solar systems

Acceleration sensors:
- Monitoring of upper vibration limits in wind energy plants
- Monitoring acceleration in elevators

F99 Fusion inertial measurement unit:
- Steering angle limitation in an inclined position on construction machines or material handling equipment
- On-board weighing systems in port crane facilities

Your Benefits at a Glance

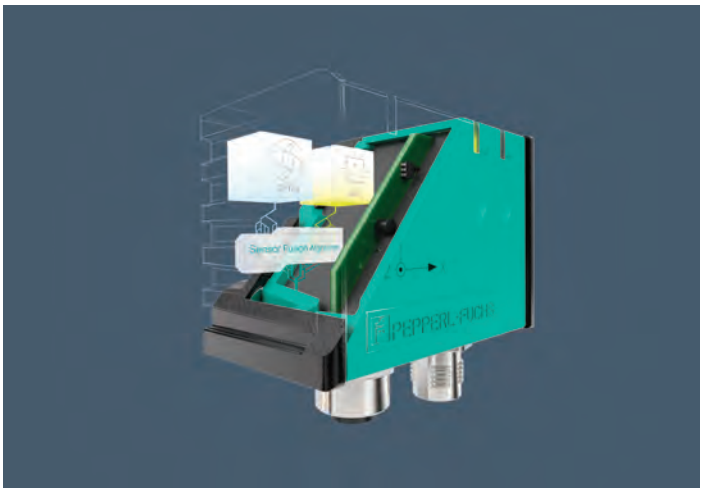
- Precise inclination measurement, even in motion, thanks to compensation for dynamic acceleration without loss of time (F99 Fusion)
- Variable output values and parameterizable filters for optimum adjustment to suit the application (F99 Fusion)
- Simplified installation: 360° inclination and acceleration sensors in three axes in one device. Mounting is independent of the orientation (F99 Fusion)
- Sophisticated mounting concept as well as IP68/IP69K degree of protection for incredible robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas



F99 Fusion inertial measurement unit

Technical Features

- Optimal sealing due to degree of protection IP68/IP69K
- Increased EMC immunity: Tested according to ISO 7637 and ISO 11452
- Increased shock and vibration resistance of up to 100 g



F99 Fusion inertial measurement unit: Intelligent combination of acceleration sensor and gyroscopes for maximum precision in dynamic motion

Inclination and Acceleration Sensors

Contents

F99 Series inclination sensors
Page 351

F199 Series inclination sensors
Page 352

F99 Series acceleration sensors
Page 353

F99 Series inertial measurement units
Page 354

F99 Series Inclination Sensors

Standard Technical Data	
Design	Cuboid shape
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Measuring range	Measuring axes	Measurement accuracy [± °]	Interface	Output type	UB (min)	Operating elements	Connection type	CSA	E1
INX360D-F99-B16-V15	0°…360°	1	0.5	CANopen		10		1 x M12 connector plug		■
INX360D-F99-B20-V15	0°…360°	1	0.5	J1939		5		1 x M12 connector plug, 1 x M12 connector socket		■
INX360D-F99-I2E2-5M	0°…360°	1	0.5	Analog	2 x PNP, current output	10	Push-button	Cable		■
INX360D-F99-I2E2-V15	0°…360°	1	0.5	Analog	2 x PNP, current output	10	Push-button	1 x M12 connector plug		■
INX360D-F99-U2E2-5M	0°…360°	1	0.5	Analog	2 x PNP, voltage output	10	Push-button	Cable		■
INX360D-F99-U2E2-V15	0°…360°	1	0.5	Analog	2 x PNP, voltage output	10	Push-button	1 x M12 connector plug		■
INY030D-F99-2I2E2-25M	-15°…+15°	2	0.2	Analog	2 x PNP, current output	10		Cable	■	■
INY030D-F99-2I2E2-5M	-15°…+15°	2	0.2	Analog	2 x PNP, current output	10		Cable		■
INY030D-F99-2I2E2-V17	-15°…+15°	2	0.2	Analog	2 x PNP, current output	10		1 x M12 connector plug		■
INY030D-F99-B16-V15	-15°…+15°	2	0.2	CANopen		10		1 x M12 connector plug		■
INY030D-F99-B20-V15	-15°…+15°	2	0.2	J1939		5		1 x M12 connector plug, 1 x M12 connector socket		■
INY060D-F99-2I2E2-V17	-30°…+30°	2	0.2	Analog	2 x PNP, current output	10		1 x M12 connector plug		
INY120D-F99-B20-V15	-60°…+60°	2	0.5	J1939		5		1 x M12 connector plug, 1 x M12 connector socket		■
INY360D-F99-2I2E2-5M	0°…360°	2	0.5	Analog	2 x PNP, current output	10	Push-button	Cable		■
INY360D-F99-2I2E2-V17	0°…360°	2	0.5	Analog	2 x PNP, current output	10	Push-button	1 x M12 connector plug		■
INY360D-F99-2U2E2-5M	0°…360°	2	0.5	Analog	2 x PNP, voltage output	10	Push-button	Cable		■
INY360D-F99-2U2E2-V17	0°…360°	2	0.5	Analog	2 x PNP, voltage output	10	Push-button	1 x M12 connector plug		■
INY360D-F99-B16-V15	0°…360°	2	0.5	CANopen		10		1 x M12 connector plug		■
INY360D-F99-B20-V15	0°…360°	2	0.5	J1939		5		1 x M12 connector plug, 1 x M12 connector socket		■

Highlights

- Variable output values and parameterizable filters for optimum adjustment to suit the application for products with CAN or J1939 interface
- Simplified installation: 360° inclination sensors in three axes in one device. Mounting is independent of the orientation
- Sophisticated mounting concept as well as IP68/69 degree of protection for maximum robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

Based on a two-part mounting concept, F99 series inclination and acceleration sensors are always equipped with a sensor module and an especially robust metal retaining bracket. This combination brings many advantages: The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force.

Accessories	
V15-G-10M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable
V15-G-2M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15-G-5M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15S-T-CAN/DN-V15	Y-splitter, M12 socket to M12 plug
V17-G-10M-PUR	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V17-G-10M-PVC-ABG	Single-ended female cordset, M12, 8-pin, shielded, PVC cable
V17-G-2M-PUR	Single-ended female cordset, M12, 8-pin, shielded, PUR cable

F199 Series Inclination Sensors

Standard Technical Data	
Design	Cuboid shape
Measurement accuracy	0.15°
Operating voltage (max)	30 V
Housing material	Aluminum
Housing length L	107.9 mm
Housing width W	81 mm
Housing height H	27 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

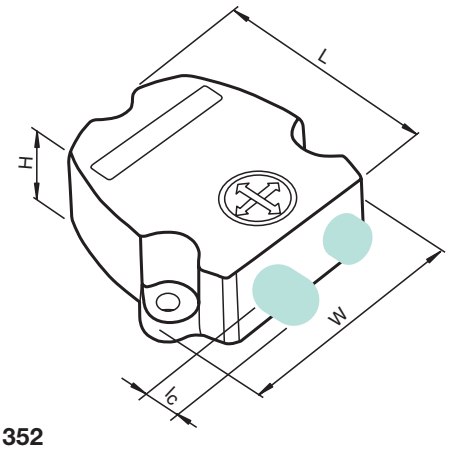
Model number	Measuring range	Measuring axes	Interface	Output type	UB (min)	Connection type
INX360DH-F199-B16-2V15	0°…360°	1	CANopen		10	1 x M12 connector plug, 1 x M12 connector socket
INX360DH-F199-B16-V15	0°…360°	1	CANopen		10	1 x M12 connector plug
INX360DH-F199-B30-2V15	0°…360°	1	MODBUS RTU		4.5	1 x M12 connector plug, 1 x M12 connector socket
INX360DH-F199-B30-V15	0°…360°	1	MODBUS RTU		4.5	1 x M12 connector plug
INX360DH-F199-IE2-V19	0°…360°	1	Analog	Current output	10	1 x M12 connector plug
INY100DH-F199-IE2-V19	-50°…+50°	2	Analog	Current output	10	1 x M12 connector plug
INY160DH-F199-B16-2V15	-80°…+80°	2	CANopen		10	1 x M12 connector plug, 1 x M12 connector socket
INY160DH-F199-B16-V15	-80°…+80°	2	CANopen		10	1 x M12 connector plug
INY160DH-F199-B30-2V15	-80°…+80°	2	MODBUS RTU		4.5	1 x M12 connector plug, 1 x M12 connector socket
INY160DH-F199-B30-V15	-80°…+80°	2	MODBUS RTU		4.5	1 x M12 connector plug
INY160DH-F199-IE2-V19	-80°…+80°	2	Analog	Current output	10	1 x M12 connector plug

Highlights

- Variable output values and parameterizable filters for optimum adjustment to suit the application for products with CAN or J1939 interface
- Simplified installation: 360° inclination sensors in three axes in one device. Mounting is independent of the orientation
- Sophisticated mounting concept as well as IP68/69 degree of protection for maximum robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

Acceleration sensors from Pepperl+Fuchs offer the option of selectively adapting the sensing range to any application. Specific software filters and the angle range to be monitored can be set quickly and easily. The sensor captures the specific data required in the application. Each application has different requirements for the sensor technology. The portfolio of inclination and acceleration sensors from Pepperl+Fuchs therefore consists of different variants which can be selected depending on the application requirement.



Accessories	
V15-G-10M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15-G-2M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15-G-5M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12
V15S-T-CAN/DN-V15	Y-splitter, M12 socket to M12 plug
V19-G-0,5M-PVC-SUBD9	Adapter cable, M12 x 1 to D-sub
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, 8-pin, shielded, PUR cable
V19-G-2M-PUR-ABG-V19-G	Cordset, M12 to M12, PUR cable

F99 Series Acceleration Sensors

Standard Technical Data	
Design	Cuboid shape
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	1 x M12 connector plug
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

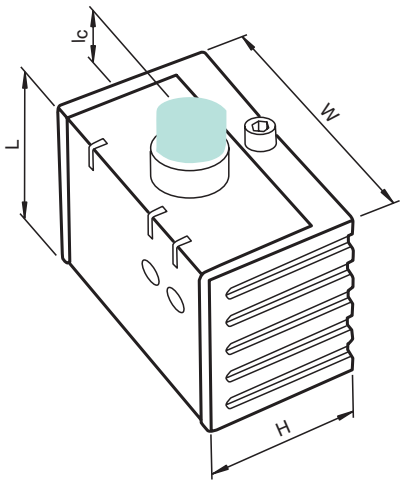
Model number	Measuring range	Measuring axes	Interface	Output type	E1 type approval
ACX01-F99-E02-V1-Y256775	0.4 g...1.6 g	1		1 x PNP	
ACX04-F99-I-V15	-2 g...2 g	1	Analog	Current output	■
ACY04-F99-2I-V15	-2 g...2 g	2	Analog	Current output	■

Highlights

- Sophisticated mounting concept and IP68/69 degree of protection for maximum robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

Based on a two-part mounting concept, series F99 inclination and acceleration sensors are always equipped with a sensor module and a particularly robust metal retaining bracket. This combination brings many advantages: The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force. It can also be replaced quickly and easily if required. It is not necessary to re-adjust or calibrate.
Acceleration sensors from Pepperl+Fuchs offer the option of selectively adapting the sensing range to any application. Specific software filters and the angle range to be monitored can be set quickly and easily. The sensor captures the specific data required in the application.
E1 approval for use on public roads and GL approval for use on the high seas mean that the inclination and acceleration sensors from Pepperl+Fuchs reliably contribute to the efficient realization of countless projects across industry sectors around the world.



Accessories	
V15-G-2M-PUR	Single-ended female cordset, M12, 5-pin, PUR cable

F99 Series Inertial Measurement Units

Standard Technical Data	
Design	Cuboid shape
Measuring range	0°…360°
Measuring axes	3
Interface	J1939
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Connection type	1 x M12 connector plug, 1 x M12 connector socket
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■
E1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

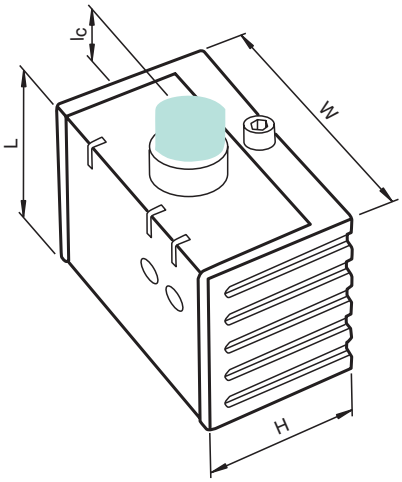
Model number	
IMU360D-F99-B20-V15	

Highlights

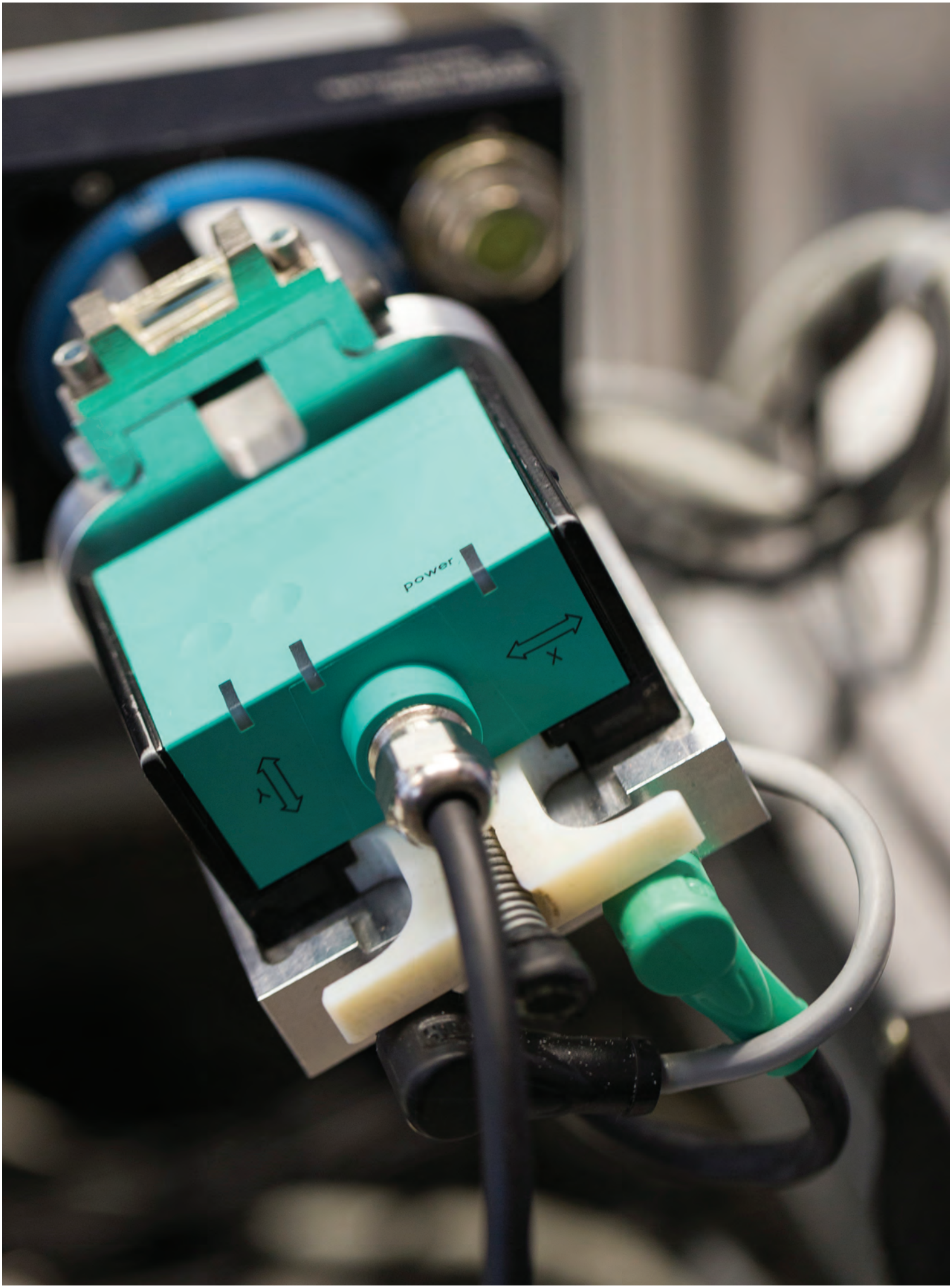
- Inclination, acceleration and yaw rate measurement in three axes
- Compensation of dynamic faults
- F99 Fusion technology
- CAN bus with SAE J1939 protocol
- Increased EMC resistance

Brief Description

Conventional inclination sensors are based on the principle of acceleration measurement and provide reliable information about the current orientation of the sensor. However, this measuring principle reaches its limits when other forces as well as gravity—such as those caused by acceleration, braking, or cornering—affect the sensor. This results in measurement errors, which in the worst case can cause damage, but certainly result in efficiency losses. The F99 Fusion was therefore specially developed to compensate for this external acceleration and to ensure precise inclination data even with dynamic movement.



Accessories	
V15-G-10M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12, 5-pin PUR cable
V15-G-2M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12, 5-pin PUR cable
V15-G-5M-PUR-CAN-V15-G	DeviceNet/CANopen bus cable, M12 to M12, 5-pin PUR cable


power
Y
X

Rotary Encoder

Extremely Versatile from Standard to Special Applications

Extremely flexible product selection, well-founded engineering knowledge and fully resistant sensors. Regardless of application and industry, the portfolio for rotary motion measurement offers perfectly tailored rotary encoder solutions that meet the requirements of every application—even in extreme areas.

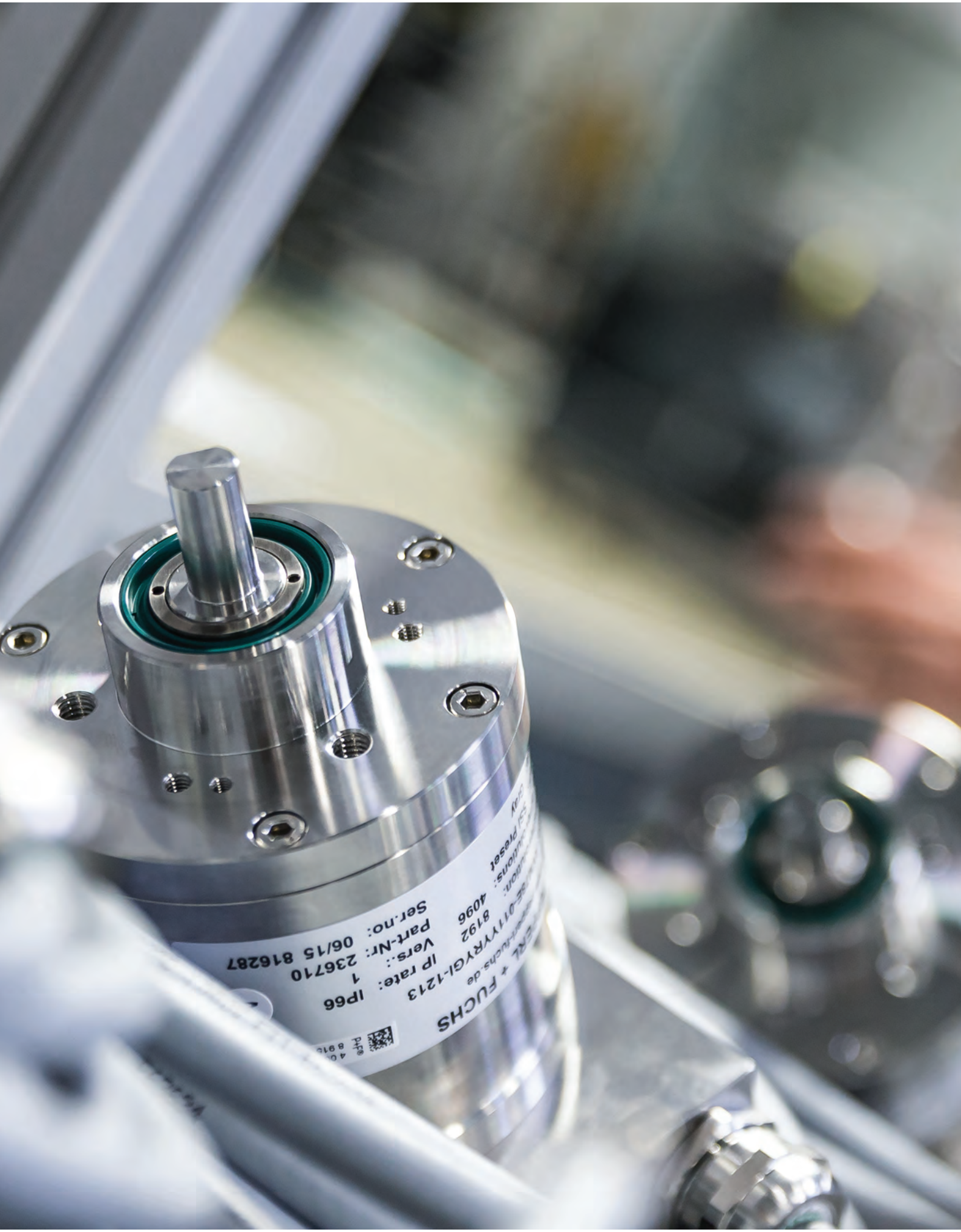
Benefit from Every Technology

Complex applications require technology that works reliably under all circumstances, regardless of the environment. Pepperl+Fuchs offers several established technologies for the optimal application solution. Whether for standard industrial or special applications, with incremental or absolute rotary encoders, the broad portfolio consists of countless configuration options and offers maximum flexibility in configuring the perfect rotary encoder.

With Application Knowledge for Customized Solutions

Our experts also develop individual customer solutions. Pepperl+Fuchs relies on close cooperation, coupled with reliable and informed advice from our application experts. They have many years of technology and application knowledge, plus they are also on hand to provide advice on difficult tasks. Countless solutions have already been implemented for extreme areas such as offshore, explosive, and safety applications.

More information is available at:
www.pepperl-fuchs.com/fa-encoder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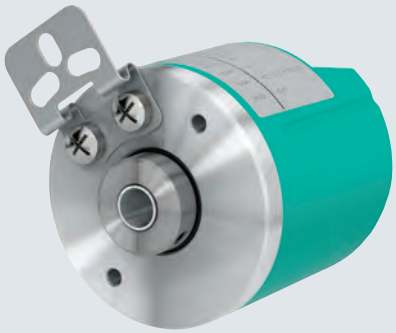
Industry Standard Rotary Encoder
Precision for Reliable Automation

Applications where success depends on plant availability and efficiency require high-performance sensors that always work reliably. The industrial standard portfolio from Pepperl+Fuchs contains high-performance devices with various technologies, detection principles, and mechanical and electrical interfaces, enabling configuration of the optimal rotary encoder.



BlueBeam technology for Unique Levels of Precision

For the first time, Pepperl+Fuchs has integrated BlueBeam technology into incremental rotary encoders, setting a new market standard for precision and reliability.

More information is available at
www.pepperl-fuchs.com/fa-bluebeam

Optical Rotary Encoders

With accuracy of up to 0.01°, optical rotary encoders are ideal for applications with the highest demands on dynamics and precision.

Typical Applications
- Elevator technology, shaft positioning, medical technology, CNC machining centers
- Warehousing and material handling, e.g., on forklift trucks for monitoring lift height

Your Benefits at a Glance
- Broad portfolio—a variety of designs ranging from cost-effective standard rotary encoders to high-end versions
- Highly flexible system integration with a wide range of electrical and mechanical interfaces
- BlueBeam technology for unique levels of precision even in the highest speed ranges

Magnetic Rotary Encoders

Magnetic technology sets new standards in the field of industry standard rotary encoders. It allows accuracy of up to 0.1°, more compact construction, and a wear-free design for outstanding service life.

Typical Applications

- Robotics: control of robot arm rotation
- Print and paper industry: speed monitoring of print rollers and motors
- Machinery and plant construction: bottle conveyors, machine tools

Your Benefits at a Glance

- Magnetic rotary encoders with advanced Hall technology for highly dynamic processes
- High resolution and absolute accuracy of < 0.1° for precision applications
- Robust, wear-free technology for high reliability

Bearing-Free Rotary Encoders

The bearing-free rotary encoders are characterized by their especially small size and combine a robust measuring system with intelligent assistance functions. The scanning is noncontact, wear-free and allows reliable continuous operation.

Typical Applications

- Rotation speed monitoring on a machine tool motor
- Position feedback of a solar tower
- Speed monitoring for drive motors with limited space

Your Benefits at a Glance

- Resistant to dirt and thermal and mechanical shocks
- Efficient solution with long service life at high rotational speed and temperature
- Assistance function and LED indicator for simplified installation and testing

Industry Standard Rotary Encoder

Contents

TVI40, TSI40, and THI40 Series
Page 361

ENI58IL Series
Page 362

ENI58PL Series
Page 363

RVI58L Series
Page 364

RHI90, RHS90, and THI90 Series
Page 365

ENA36IL Series
Page 366

58 mm Series optical rotary encoder
Page 367

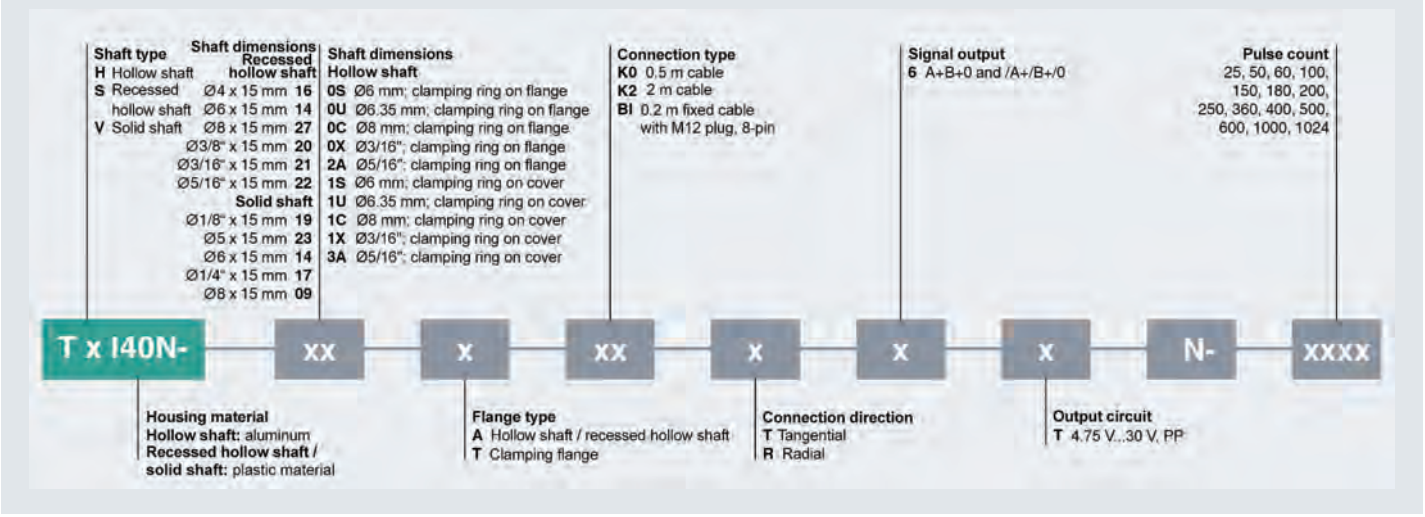
ENA58IL Series
Page 368

MNI20 and MNI40 Series
Page 369

TVI40, TSI40, and THI40 Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 1024 pulses
Connection type	Cable, fixed cable with plug
Housing Design	Ø 40 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	Max. 6000 rpm
Degree of protection	IP54
Operating temperature	-10 °C ... 70 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Compact housing design for use in confined spaces
- Flexible cable routing and mounting with tangential cable outlet
- Simple electrical integration through utilization of RS422 functionality
- Complete solution for elevator construction

Brief Description

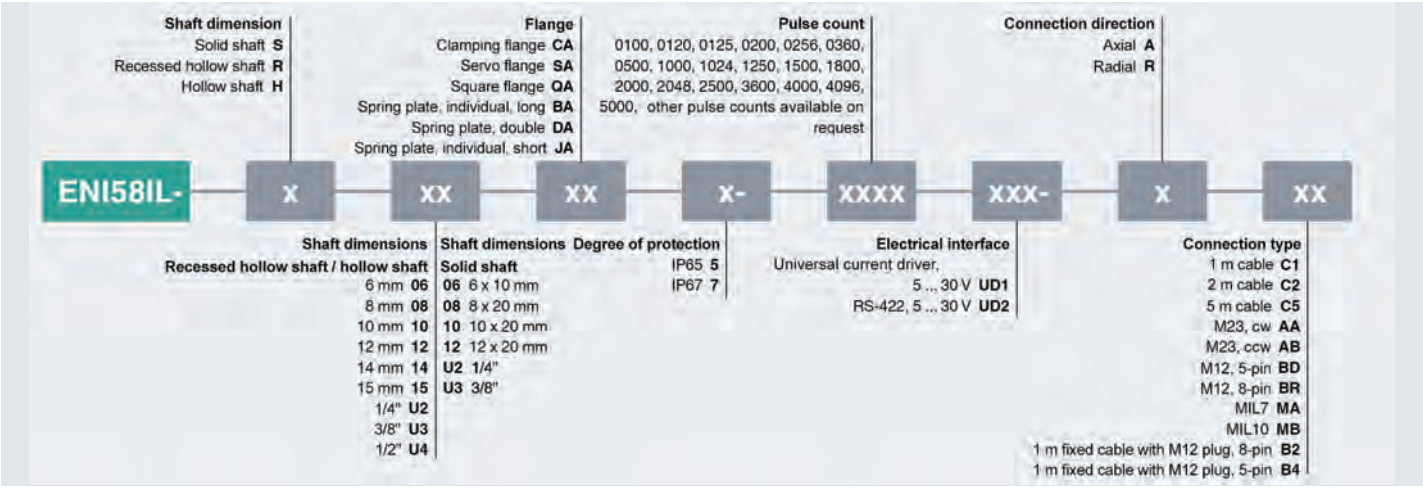
Performance in a Compact Size
With a diameter of only 40 mm, the rotary encoder is ideal for shaft positioning in elevators. It is available in different shaft versions and therefore fits a wide range of applications. Due to its RS-422 functionality with 5 V operation, electrical integration is also very simple.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

ENI58IL Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Plug, cable, fixed cable with plug
Housing Design	Ø 58 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	Max. 12000 rpm
Degree of protection	IP65/IP67
Operating temperature	-40 °C ... 85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- BlueBeam technology: Unmatched precision even at the highest speeds up to 12000 rpm
- Optimal application solution through a complete portfolio with a wide range of shaft, flange and connection options
- Especially robust design with blocked bearing unit for permanently high bearing loads and long service life
- High shock and vibration resistance coupled with EMC protective circuitry for maximum plant availability and process safety

Brief Description

Impressive Features Profile

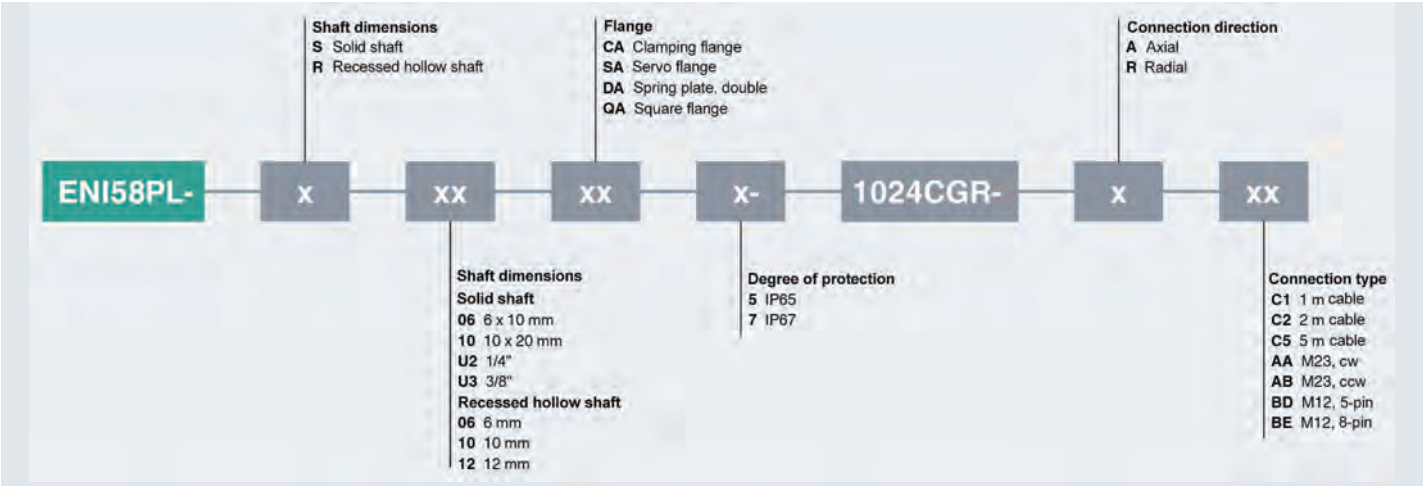
The BlueBeam technology in combination with a precisely adjusted code disk enables maximum signal quality and precision. The broad portfolio makes these advantages available for almost every application: Thanks to the wide range of shaft, flange and connection options—also for worldwide use—you always get the right configuration.
The especially robust design ensures plant availability and maximum process reliability at all times. In addition to the extreme resistance to vibration and shock, the special EMC protection circuit enables impressive immunity to interference. The blocked bearing unit permits permanently high bearing loads and prevents the ball bearings from being pressed out.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

ENI58PL Series

Standard Technical Data	
Scanning method	Magnetic
Output type	Push-pull or RS-422
Pulse count	Programmable from 1…16,384 pulses
Connection type	Plug, cable
Housing Design	Ø 58 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	Max. 12000 rpm
Degree of protection	IP65/IP67
Operating temperature	-40 °C ... 85 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

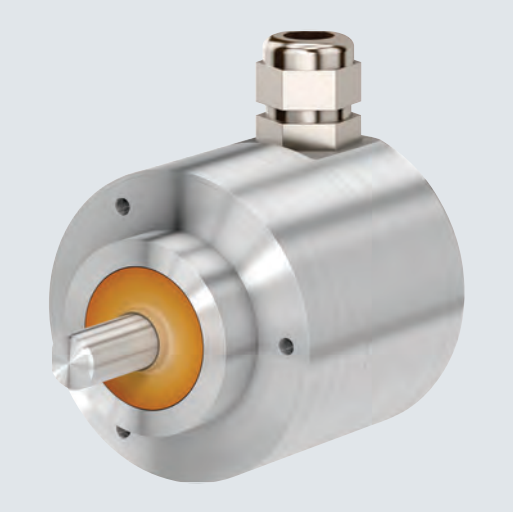
- Optimal adaptation to the respective application through simple and flexible configuration of the rotary encoder
- Configuration at the customer site reduces the number of versions in storage and allows changes in the production and process sequence without having to replace the rotary encoder

Brief Description

Flexible Application Possibilities through Programming
The ENI58PL is a robust, high-quality and versatile incremental rotary encoder with various electrical and mechanical interfaces. As the pulse count, direction of rotation and output type can be programmed via the standardized IO-Link interface, the ENI58PL can be adjusted to perfectly suit changing and specific application conditions. In addition to optimal adaptation to the application, this enables more efficient storage by reducing the number of versions in stock.

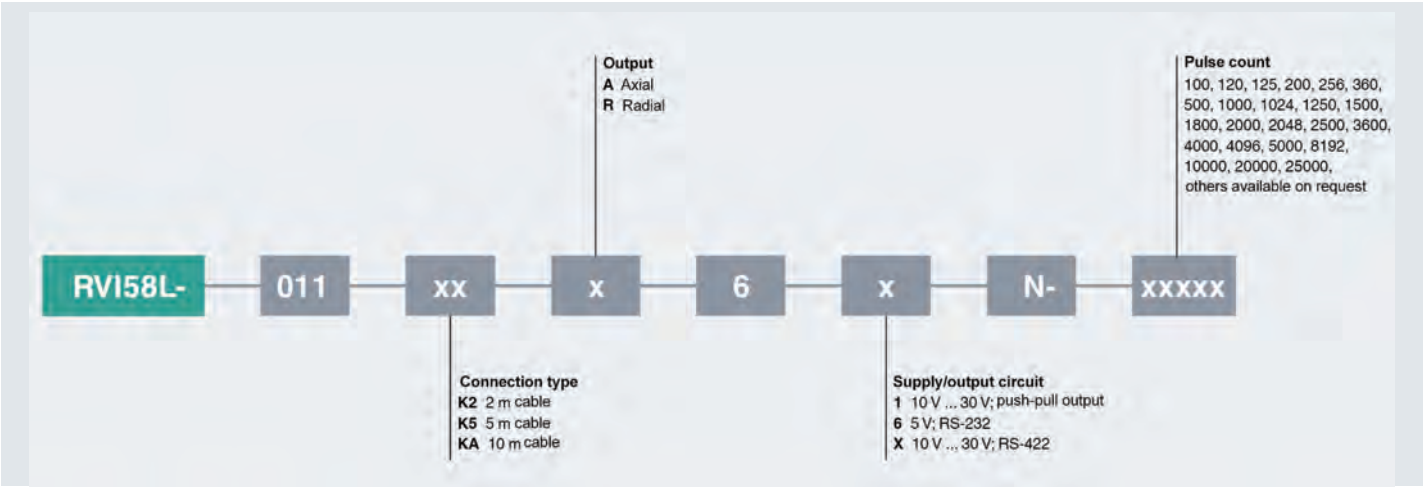
Accessories	
9416	Single-ended female cordset
9416L	Single-ended female cordset
IO-Link-Master02-USB	IO-Link master
V15S-G-0,5M-CGR-AA	Adapter cable
V15S-G-0,5M-CGR-AB	Adapter cable
V15S-G-0,5M-CGR-BD	Adapter cable
V15S-G-0,5M-CGR-BE	Adapter cable
V15S-G-0,5M-CGR-TC	Adapter cable

RVI58L Series



Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 25000 pulses
Connection type	Cable
Housing Design	Ø 58 mm
Shaft type	Solid shaft
Rotational speed	Max. 3600 rpm
Degree of protection	IP67/IP69K
Connection type	Fixed cable
Degree of protection	IP67
Shaft load	Axial max. 100 N/Radial max. 100 N
Operating temperature	-20 °C ... 80 °C
Housing material	Stainless steel V4A
ECOLAB	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Materials extremely resistant to aggressive chemical detergents and disinfectants
- Design allows easy cleaning of sensors and therefore microbiological safety
- Impermeability in applications involving a high-pressure cleaner, even when exposed to repeated thermal shocks
- Higher machine availability due to short cleaning times and long service life
- Hygiene tested according to EHEDG, approval for ECOLAB cleaning agents

Brief Description

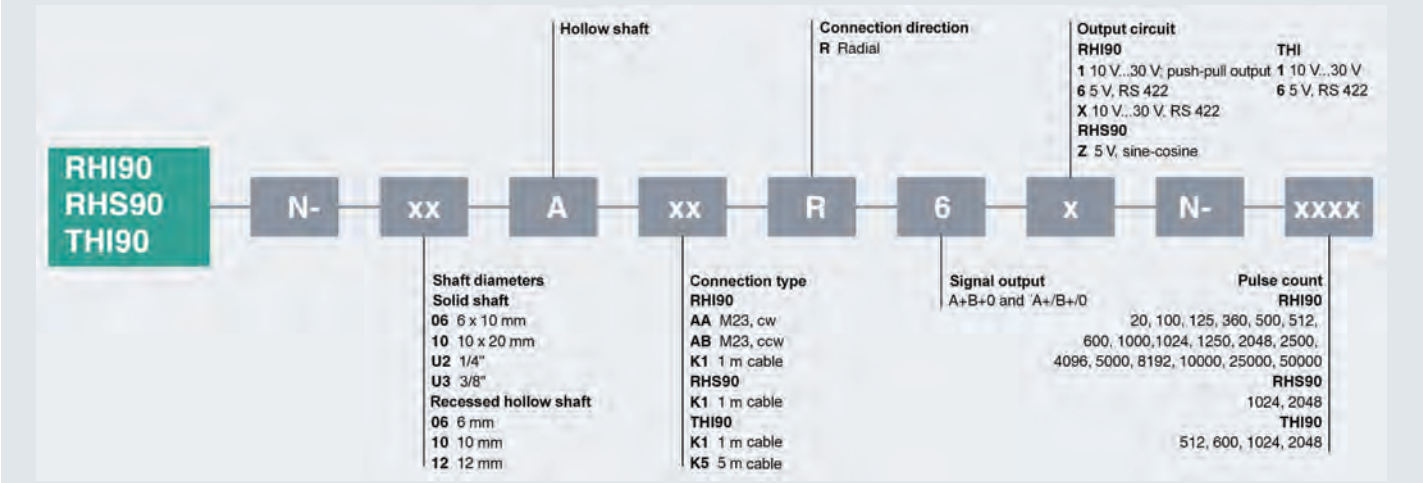
Stainless Steel for Safe Use with Foods
In the food industry and the chemical and pharmaceutical industries, there are strict requirements in terms of hygiene, easy cleaning and resistance to aggressive substances. The stainless steel sheath of this rotary encoder meets these requirements exactly. It is also resistant to temperature shocks and can be cleaned with high-pressure devices. These features support high machine availability and thus smooth processes.

Accessories	
9203	Mounting bracket
MBT-36ALS	Sprung mounting bracket
MBT-36ALS120	Spring arm
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

RHI90, RHS90, and THI90 Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull, RS422, or sine-cosine
Pulse count	Max. 50000 pulses
Connection type	Plug, cable
Housing Design	Ø 90 mm
Shaft type	Hollow shaft
Rotational speed	Max. 3500 rpm
Degree of protection	IP54/IP65
Operating temperature	-20 °C ... 70 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- High process reliability even in environments subject to EMC interference through protection against wave currents
- Use in highly dynamic applications with backlash-free connection of the shaft
- Accommodation of large shaft diameters
- Compact housing design for use in confined spaces
- Fast and easy installation with threaded pins (60° set screws)

Brief Description

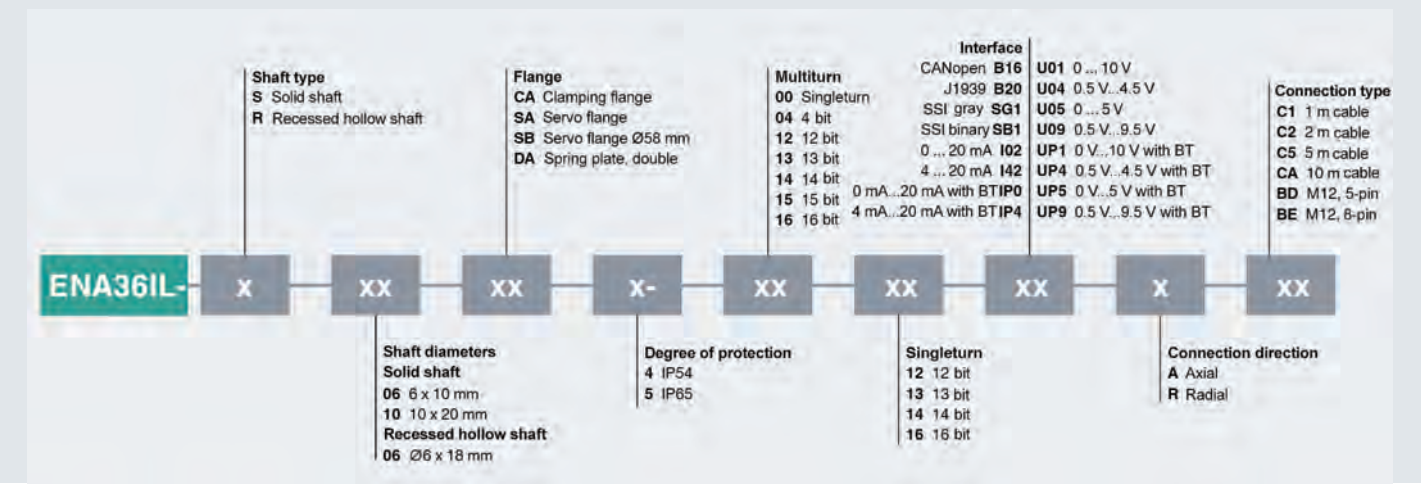
Special Housing Design for Secure Process Flows
The encoder can accommodate both very small and large drive shafts from 16 mm to 45 mm. It impresses with its comparatively small outer diameter, which permits installation in confined spaces. A hollow shaft version with a flat surface on both sides ensures a positive and backlash-free connection, and it also prevents slippage and twisting of the shafts. This makes the rotary encoder ideally suited for dynamic applications. In addition, the high immunity to interference prevents the failure of the rotary encoder even in environments with high electromagnetic loads.

Accessories	
9416	Single-ended female cordset
9416L	Single-ended female cordset

ENA36IL Series

Standard Technical Data	
Scanning method	Magnetic
Output type	Analog, CANopen, J1939, SSI
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection technology	Plug, cable
Housing design	Ø 36 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	Max. 12000 rpm
Degree of protection:	IP54/IP65
Operating temperature:	-40 °C…85 °C (plug)/-30 °C…70 °C (cable)
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Magnetic rotary encoder technology with Hall effect sensor for highly dynamic processes
- Very high resolution and absolute accuracy of <0.1° for high-precision applications
- Compact housing design for confined spaces
- Wear-free technology allows a long service life and reduces maintenance demands

Brief Description

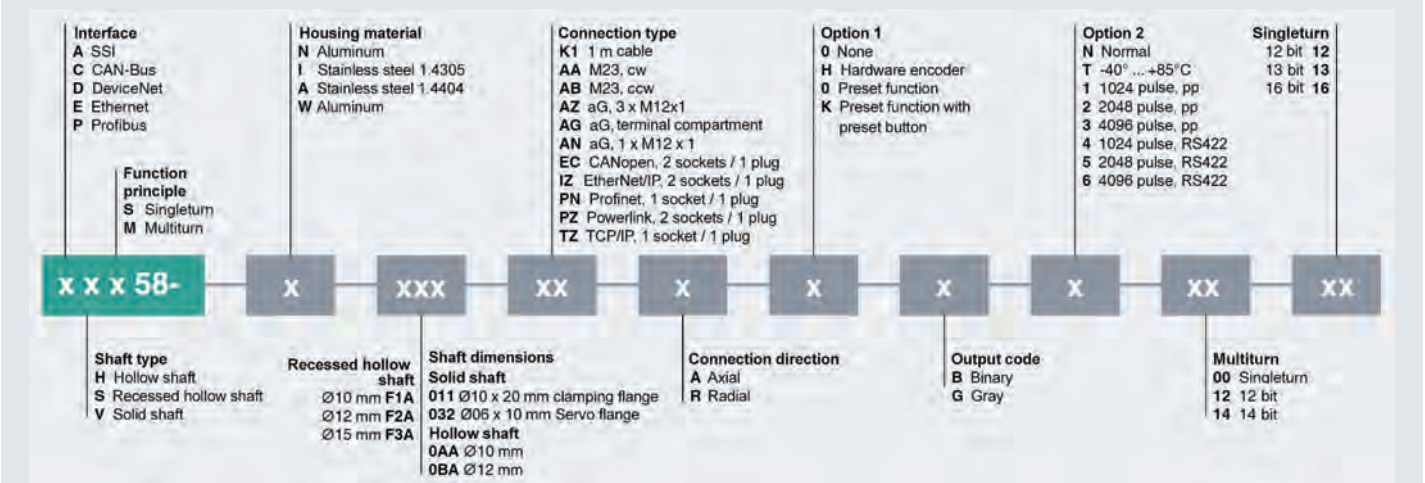
Accuracy for Precise Applications
With a total resolution of up to 32 bits and an accuracy of < 0.1°, the encoder is the ideal solution for dynamic applications where precise positioning is important. Its consistently robust technology makes it completely insensitive to shocks and vibrations. An ideal sensor in robotics, for example, but also in drive technology for speed monitoring.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

58 mm Series Optical Rotary Encoder

Standard Technical Data	
Scanning method	Visual
Output type	Analog, CANopen, J1939, SSI, PROFIBUS, ProfiNET, EtherNet IP, Powerlink,TCP/IP, EtherCAT
Singleturn	Up to 16 bit
Multiturn	Up to 14 bit
Connection type	Plug, cable
Housing design	Ø 58 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	Max. 12000 rpm
Degree of protection	IP65 or IP66/67
Operating temperature	-40 °C ... 85°C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Very high resolution and accuracy of up to 0.01° for precise and dynamic applications
- Flexible system integration via standard fieldbus interfaces
- Simplified installation and maintenance via removable bus cover
- The corrosion-resistant design opens up a wide variety of applications, even in extreme conditions

Brief Description

Versatile and Highly Precise

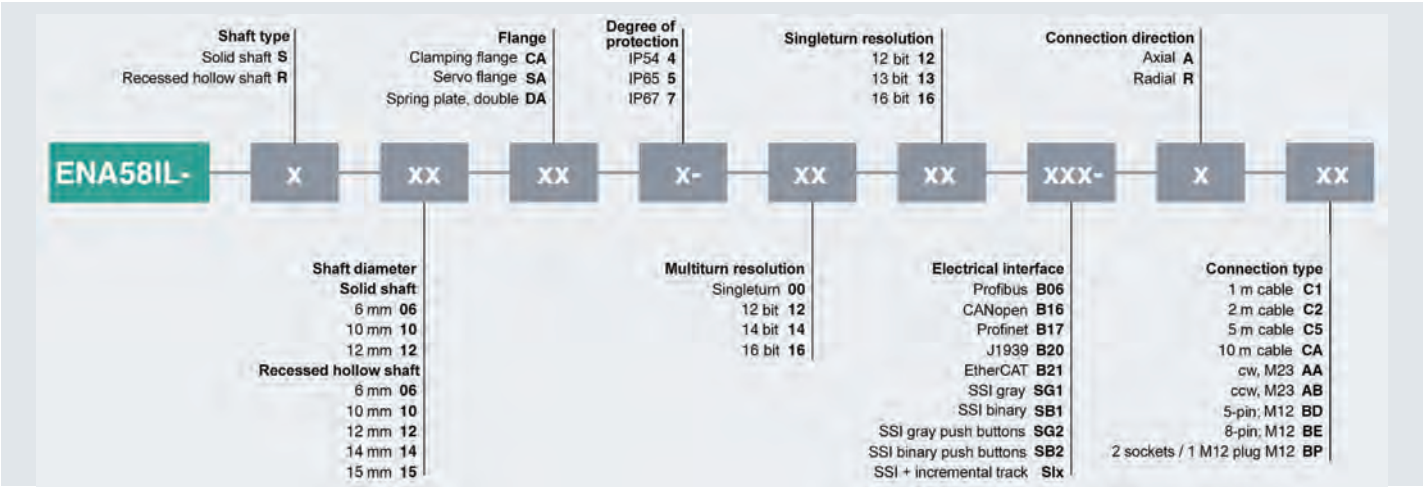
The features of this rotary encoder speak for themselves: A total resolution of up to 30 bits, a wide range of flange, shaft and connection versions, and all common fieldbus interfaces. It is not only flexible for integration into any system environment, the removable bus cover also allows easy handling during installation and maintenance in the field. Its high degree of flexibility and a comprehensive range of accessories allow specific adaptation to a wide range of applications.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling for servo flange
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

ENA58IL Series

Standard Technical Data	
Scanning method	Magnetic
Output type	Analog, CANopen, J1939, SSI, EtherCAT, ProfiNET, PROFIBUS
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection type	Plug, cable
Housing design	Ø 58 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	Max. 12000 rpm
Operating temperature	-40 °C ... 85°C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- First magnetic rotary encoder technology with Hall effect sensor for highly dynamic processes
- Very high resolution and absolute accuracy of <0.1° for high-precision applications
- Compact design in all standard interfaces for flexible use
- Wear-free technology allows a long service life and reduces maintenance demands
- The corrosion-resistant design opens up a wide variety of applications, even in extreme conditions

Brief Description

Robust Performance

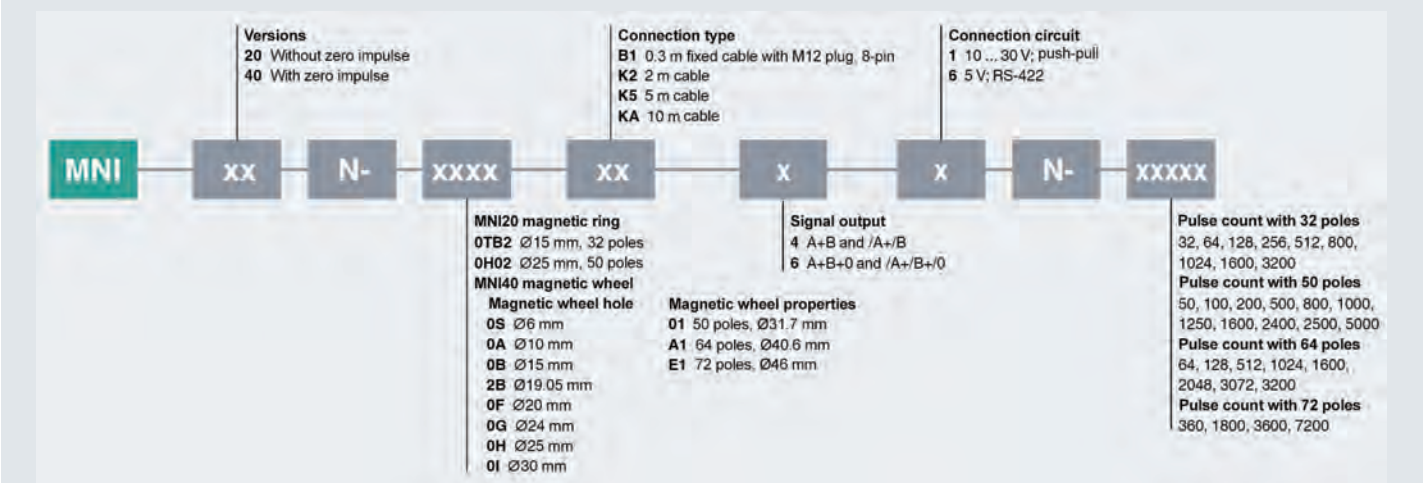
With a diameter of 58 mm, the magnetic rotary encoder is ideal for use in numerous industrial applications. It is available with both a solid and a hollow shaft and thus ensures optimal adaptation to numerous applications. With its high total resolution of up to 32 bits and high resistance to shock and vibration, it also sets a new bar for the industry standard.

Accessories	
9203	Mounting bracket
MBT-36ALS	Sprung mounting bracket
MBT-36ALS120	Spring arm
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

MNI20 and MNI40 Series

Standard Technical Data	
Scanning method	Magnetic, noncontact
Output type	Push-pull or RS-422
Pulse count	Max. 10000 pulses
Connection technology	Cable, fixed cable with plug
Rotational speed	Max. 30000 rpm
Degree of protection	IP67/IP68/IP69K
Operating temperature	-40 °C ... 100 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

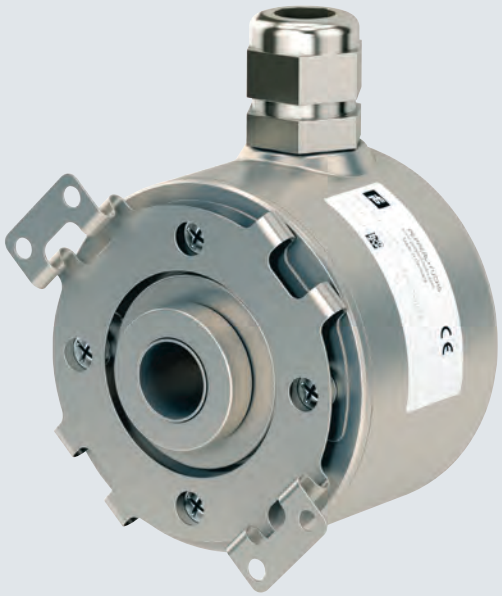
- Assistance function and LED indicator for simplified installation and testing
- Quality assurance provided by full self-diagnosis, including for the magnetic wheel
- Resistant to dirt, thermal and mechanical shocks, and high-pressure cleaners
- Efficient solution with long service life at high rotational speed and temperature
- Variant with magnetic ring allows the cable to be guided through the hollow shaft
- Reliable functionality even with large shaft play or large bearing gap
- Also suitable for heavy-duty applications

Brief Description

Noncontact and Wear-Free
Robust technology, reliable continuous function and easy installation—these are the main features of the special technology of the bearing-free incremental rotary encoder. The bearing-free rotary encoder is available in versions with a magnetic ring or magnetic wheel. With a noncontact connection between the sensor and the magnetic wheel, the rotary encoder eliminates the need for ball bearings. This guarantees a long service life, even at high rotational speeds up to 30000 rpm. Accommodating significantly larger hollow shaft diameters than with conventional rotary encoder solutions is also possible.

Special Rotary Encoder
Impressive Performance in Extreme Conditions

Beyond the industry standard, there are many extreme environments that demand especially robust designs. For these areas, Pepperl+Fuchs offers an optimized portfolio of durable rotary encoder solutions and highly informed practical knowledge.



Safety Rotary Encoders

The certified safety rotary encoders make a decisive contribution to the safety of a machine or plant. They are based on innovative technical concepts, complemented by the use of existing communication paths. This supports the safety category certification up to SIL 3/PL e.

Typical Applications
- Plants in major industries with areas of application that come under the auspices of Machinery Directive 2006/42/EC
- Positioning of turntable ladders, e.g., on fire trucks
- Positioning of hangers on monorail conveyors

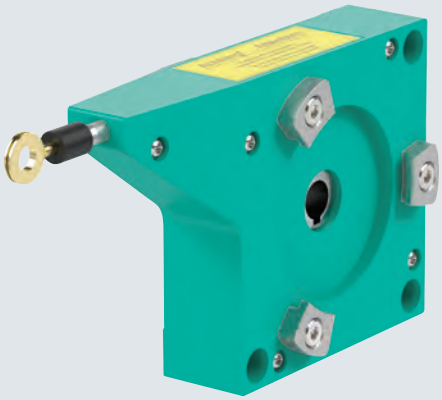
Your Benefits at a Glance
- Ensuring safety to protect man, machinery, and the environment
- Reduction of safety-related downtimes
- Continuous plant operation during servicing or conversions

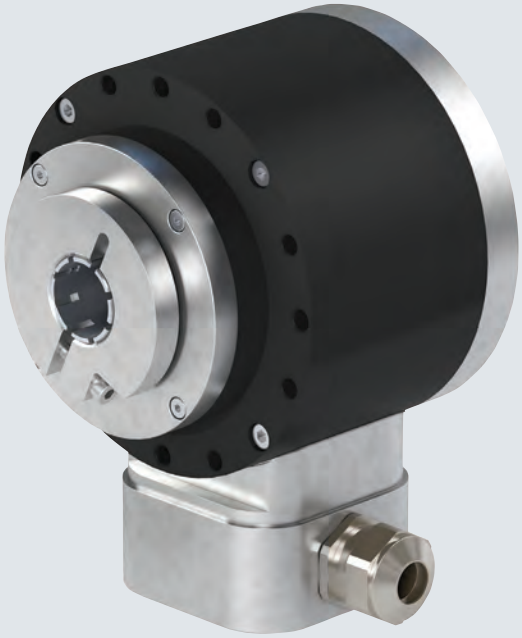
Offshore Rotary Encoders

Specifically designed for use in marine environments and in especially cold environments, these rotary encoders resist shocks, vibrations, high humidity and temperatures down to –40 °C.

Typical Applications
- Offshore and shipbuilding: Wind turbines on the high seas, gantry systems or spreaders
- Renewable energies: Rotation monitoring of the nacelle and blades of wind turbines, speed monitoring of generators
- Mobile equipment: Use in portal cranes and lift trucks

Your Benefits at a Glance
- Extremely resistant to high humidity and corrosion due to special housing coating
- Total immunity for environments exposed to especially high EMC loads
- Long service life due to robust sensor construction with special shaft construction and high degree of protection (IP69K)





Cable Pulls

The cable pull portfolio is characterized by a modular product architecture and enables the perfect coordination of cable pulls, rotary encoders and accessory components. It ranges from the decidedly compact design to the extremely robust version for almost every application area.

Typical Applications

- Linear distance measurement, e.g., in scissor lift tables, cranes, and stacker cranes

Your Benefits at a Glance

- Wide range of versions with measuring lengths up to 60 m—from especially compact designs up to the robust heavy-duty version
- Various housing materials from plastic to anodized aluminum for extreme operating conditions
- Comprehensive accessories such as rope mounts, attachments and guide pulleys allow flexible use in any environment

Heavy-Duty Rotary Encoder

Designed for the harshest outdoor use, these versions resist heat, cold, dirt, extreme vibration, strong shocks and electromagnetic interference. The heavy-duty rotary encoders also provide reliable resistance to increased forces and extremely high shaft loads.

Typical Applications

- Steel and rolling mills, sawmills
- Outdoor lifting equipment
- Mobile equipment: Construction machinery such as cranes, crane vehicles, excavators, rollers and lifting vehicles

Your Benefits at a Glance

- Extremely robust and shock-resistant rotary encoders with high
  immunity to interference for environments with EMC loads
- Can be used in the most adverse conditions due to the highest degree of protection IP69K and especially resistant housing materials
- Increased service life due to wear-free technology and absorption of large shaft loads up to 400 N (axial) and 300 N (radial)

Special Rotary Encoders

Contents

RVS58S Series
Page 373

ENI11HD Series
Page 374

ENA36HD and ENA42HD Series
Page 375

RVI58X and RSI58X Series
Page 376

RVI70E Series
Page 377

RVI84 Series
Page 378

58X Series PROFIBUS
Page 379

78E Series
Page 380

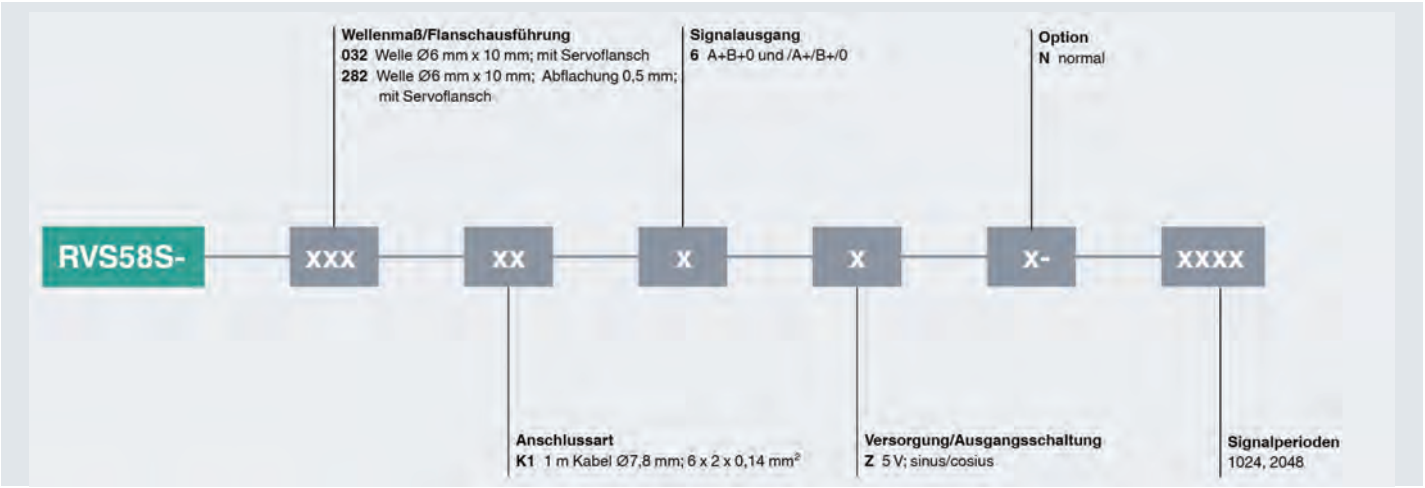
Cable pulls
Page 381

Rotary encoder accessories
Page 382

RVS58S Series

Standard Technical Data	
Scanning method	Optical
Output type	Sine/Cosine
Pulse count	1024 or 2048
Connection type	Cable
Housing design	Ø 58 mm
Shaft type	Solid shaft
Rotational speed	Max. 12000 rpm
Degree of protection	IP65
Operating temperature	-20 – 80°C
SIL	3
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Ensuring safety to protect man, machinery, and the environment
- Continuous plant operation during servicing or conversions
- Reduction of safety-related downtimes
- Monitoring of: safe standstill, safe speed, and safe direction of rotation
- Elimination of mechanical safety devices
- Minimization of safety areas

Brief Description

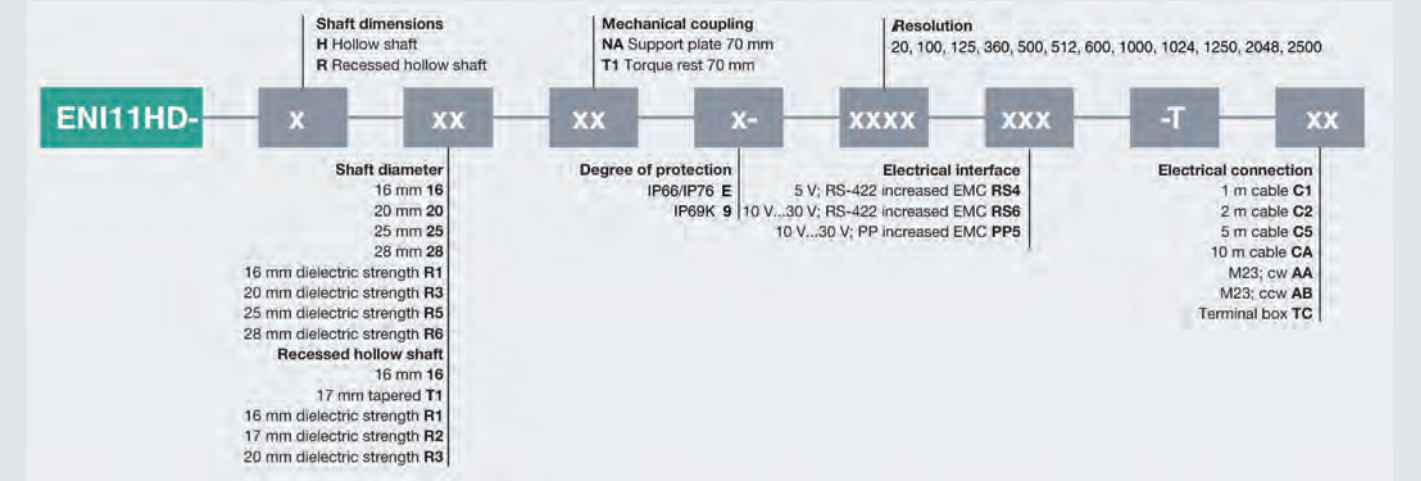
Protection against Hazards in the Process Flow
The encoder has a sine-cosine interface and provides 1024 or 2048 signal periods. It is able to detect malfunctions and communicate safely. This allows machines to be put into safe condition and avoids hazards for operating personnel. If required, an extended temperature range of up to 115 °C is also possible.

Accessories	
9203	Mounting bracket
MBT-36ALS	Sprung mounting bracket
MBT-36ALS120	Spring arm
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

ENI11HD Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 2500 pulses
Connection type	Cable, plug
Housing design	Ø 110 mm
Shaft type	Recessed hollow and hollow shaft
Rotational speed	Max. 3000 rpm
Degree of protection	IP66/IP67 and IP69K
Operating temperature	-40 °C ... 80 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- High failure reliability due to protection against shaft currents
- Extremely easy installation and maintenance due to a 4 x 90° swiveling junction box
- Long service life due to extremely high resistance to vibrations and shocks
- Can be used even in adverse environmental conditions due to the high degree of protection from IP66/IP67 and IP69K
- Reliable immunity for environments exposed to particularly high EMC loads
- High dielectric strength at wave currents up to 2.5 kV

Brief Description

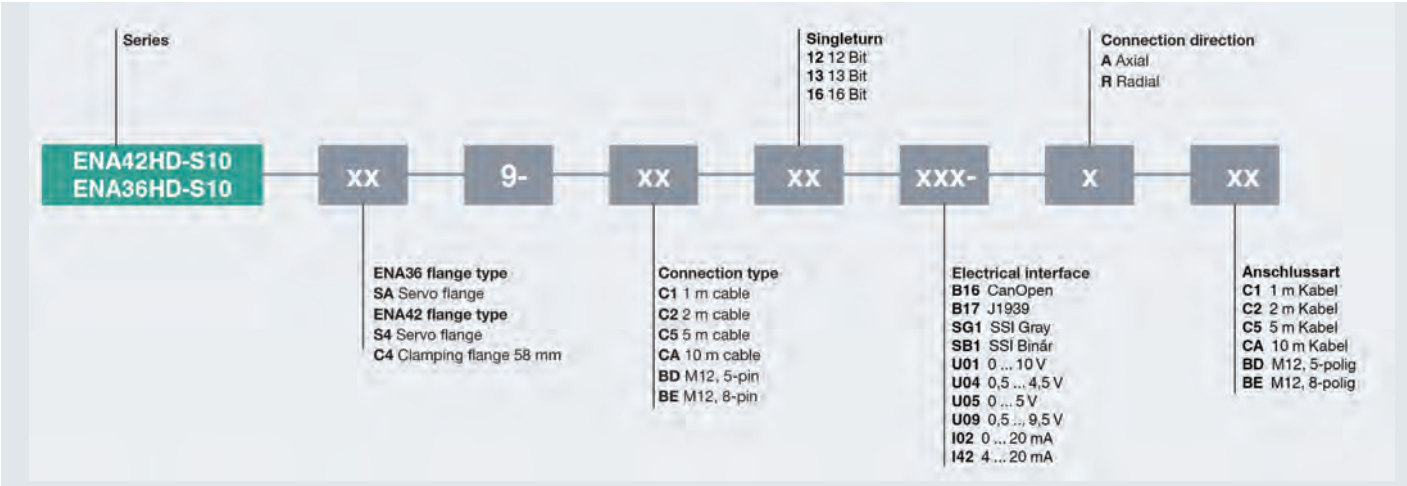
Completely Flexible and Reliable
Comprehensive protection against wave currents and high EMC loads, and extreme vibration and shock resistance make this heavy-duty rotary encoder a highly robust component that guarantees optimum process reliability and a minimum risk of failure. The terminal box, which can be rotated by 4x 90°, simplifies handling and enables quick and flexible installation and replacement of the cable in the field.

Accessories	
9416	Single-ended female cordset
9416L	Single-ended female cordset
ACC-ROD-ENI11HD-070	Articulated arm, 70 mm
ACC-ROD-ENI11HD-120	Articulated arm, 120 mm
ACC-SET-ENI11HD-DISMOUNTING	Dismounting set for ENI11HD rotary encoder
ACC-SET-ENI11HD-EARTH	Grounding kit for ENI11HD rotary encoder
ACC-SET-ENI11HD-GASKET	Seal insert set for cable glands
ACC-SET-ENI11HD-R16	Mounting accessory for 16-mm recessed hollow shaft

ENA36HD and ENA42HD Series

Standard Technical Data	
Scanning method	Magnetic
Output type	Analog, CANopen, J1939, SSI
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection type	Plug, cable
Housing design	Ø 36 mm or Ø 42 mm
Shaft type	Solid shaft
Rotational speed	Max. 6000 rpm
Degree of protection	IP68/IP69K
Operating temperature	-40 °C ... 85 °C
Shaft load	Ø36: Axial/Radial: 180 N Ø42: Axial/Radial: 270 N
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Rugged design ensures long service life under extreme operating conditions
- Optimized for mobile equipment and offshore applications with stainless steel housing and IP69K degree of protection
- Compact housing design for confined spaces
- Wear-free technology for high reliability

Brief Description

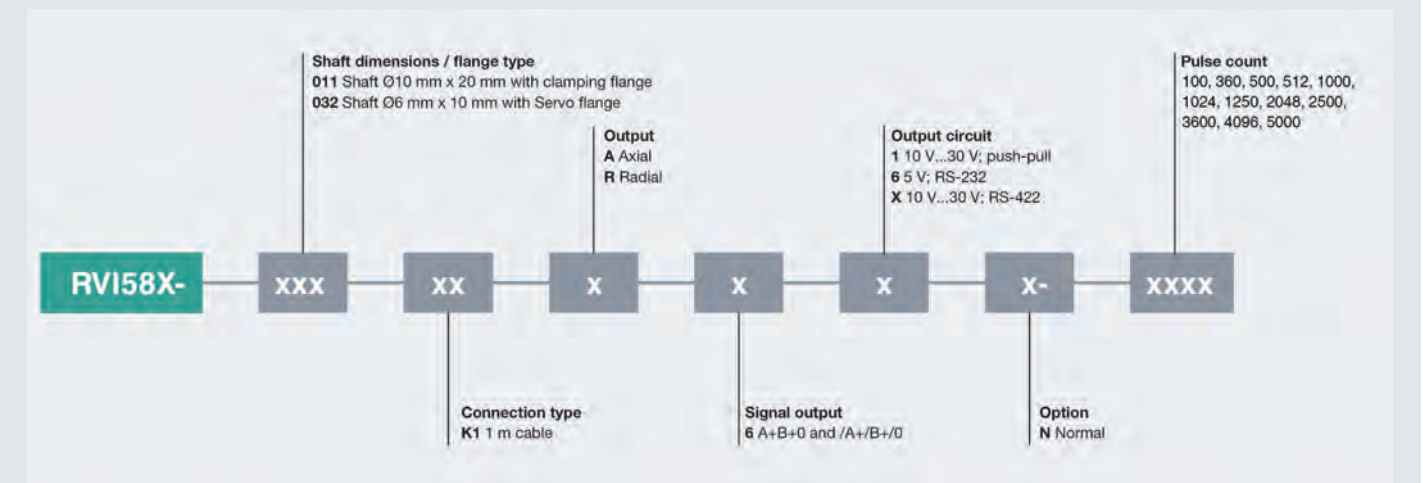
Rugged Design for Increased Service Life
These two sensors combine compact dimensions with simple mounting. The robust housing construction is also able to cope with high shaft loads. The sensors are also resistant to continual shocks and vibrations. The accuracy of up to 1° provides the best conditions for the exact positioning of moving tools on lifting or crane systems. This is true even in offshore and other adverse environments.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

RVI58X and RSI58X Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection technology	Cable
Housing design	Ø 58 mm
Shaft type	Solid shaft and recessed hollow shaft
Rotational speed	Max. 6000 rpm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Can be used in hazardous, potentially explosive atmospheres with gases or dusts
- Compact housing design for confined spaces
- High signal accuracy with up to 5000 pulses
- Flexible application and mounting options
- Can be used for longer cable lengths via RS-422 electrical interface with 10 to 30 V supply voltage

Brief Description

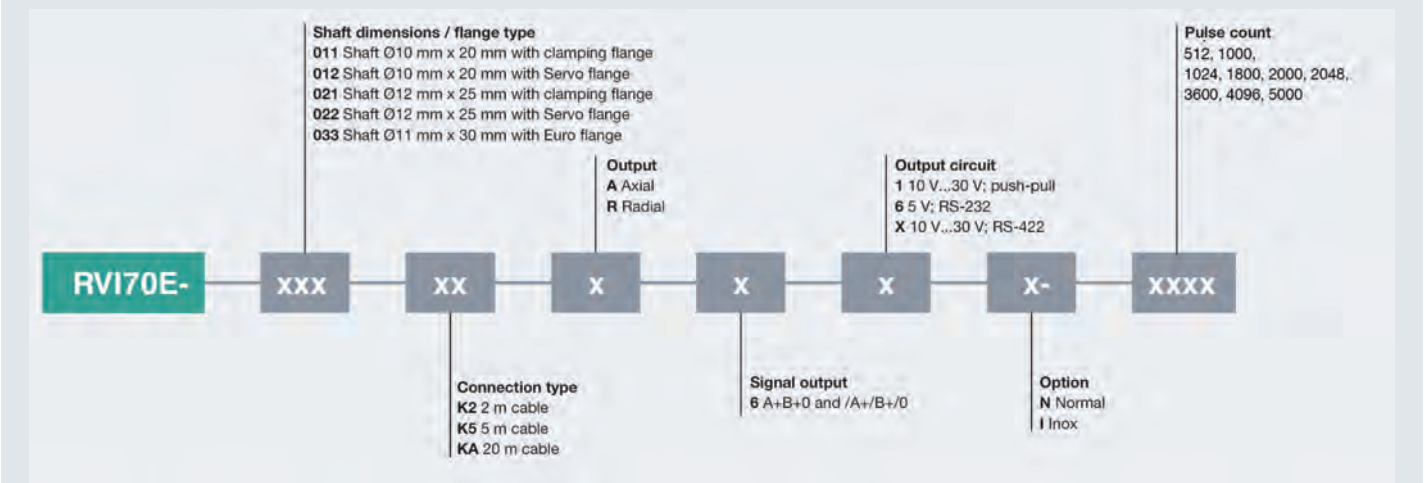
Compact and Flexible

This incremental rotary encoder delivers up to 5000 pulses per revolution through either a push-pull output or an RS-422 interface. Despite its design for explosion-hazardous areas, it is no larger than the corresponding standard version. This makes it ideal for integration in plants with limited space. Due to its 58 mm standard housing, it is also ideally suited for retrofitting a machine for use in Ex zones.

RVI70E Series

Standard Technical Data	
Scanning method	Optical
Output type	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Cable
Housing design	Ø 70 mm
Shaft type	Solid shaft and recessed hollow shaft
Degree of protection	IP66/IP67
Rotational speed	Max. 6000 rpm
ATEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Global certification: ATEX, IECEx, KOSHA, NEPSI
- Robust bearing design ensures a long service life and reduced maintenance
- Compact housing design, ideal for confined spaces
- Suitable for use in demanding environments thanks to a high degree of protection and a sea water-resistant housing
- Large range of applications due to extended temperature range of -40 °C to 70 °C and high rotational speeds
- Wide range of variants for easy adaptation to any application

Brief Description

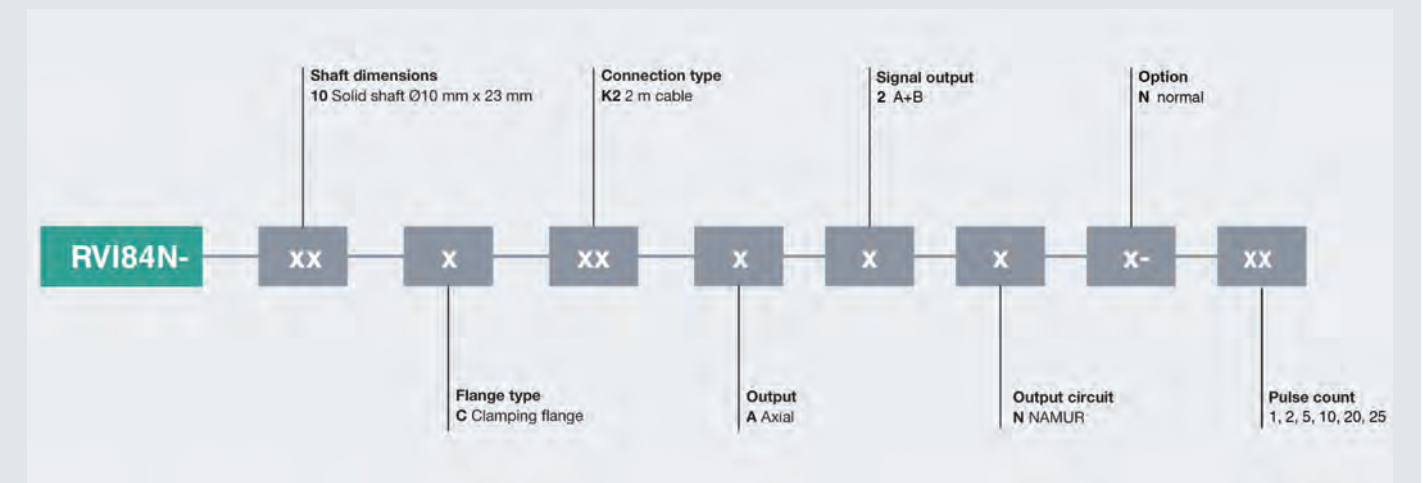
Suitable for Any Climate

The Ex rotary encoder with ATEX, IECEx, Ex-NEPSI and KOSHA certification offers more than just a high degree of protection. With its seawater-resistant housing, it is also suitable for use in offshore applications. The high rotational speed of 6000 rpm with an extended temperature range from –40 °C to 70 °C allows reliable deployment even under extreme climatic conditions. The compact housing design ensures efficient use of space. The rotary encoder is certified for explosion-hazardous areas (Group II) and for firedamp-sensitive mines (Group I).

RVI84 Series

Standard Technical Data	
Scanning method	Visual
Output type	NAMUR
Pulse count	1, 2, 5, 10, 20, 25
Connection type	Cable
Housing design	Ø 78 mm
Shaft type	Solid shaft
Degree of protection	IP65
Rotational speed	Max. 3000 rpm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Safe for use in a hazardous, potentially explosive atmosphere with gases (Zone 1)
- Robust housing design for increased service life and reduced maintenance
- NAMUR interface according to DIN EN 60947-5-6

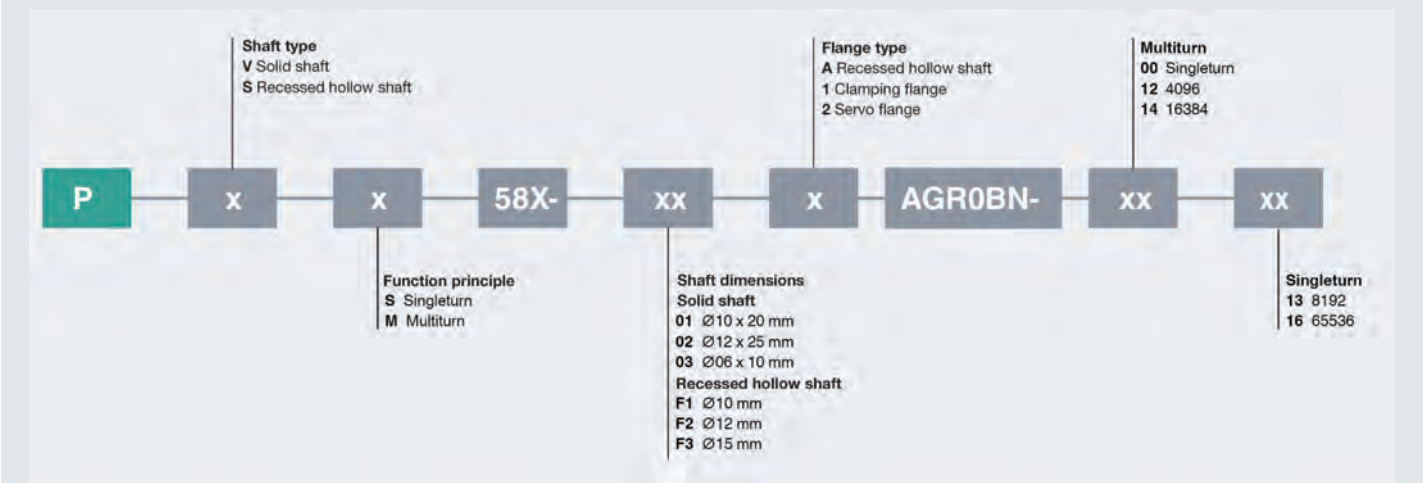
Brief Description

Safe Process Flows
The sensor is mainly used in the chemical industry, for example in painting and drying plants or in sewage treatment plants and power plants. These are areas in which a potentially explosive atmosphere can form as a mixture of air and flammable gases, vapors or mists. The rotary encoder with solid shaft offers a resolution of 25 pulses at a speed of up to 3000 rpm. Its robust housing design ensures a long service life and thus reduces maintenance costs. As a device for explosion protection Zone 1, it is equipped with the intrinsically safe NAMUR interface according to DIN EN 60947-5-6.

58X Series PROFIBUS

Standard Technical Data	
Scanning method	Optical
Output type	PROFIBUS
Singleturn	Up to 16 bit
Multiturn	Up to 14 bit
Connection technology	Detachable housing cover
Housing design	Ø 58 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	Max. 6000 rpm
Degree of protection	IP64
Operating temperature	-30 °C to 55 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Can be used in hazardous, potentially explosive atmospheres with gases or dusts
- Simplified system integration with removable bus cover
- Compact housing design for confined spaces
- High total resolution at up to 30 bits
- Flexible mounting with a wide range of application and mounting options

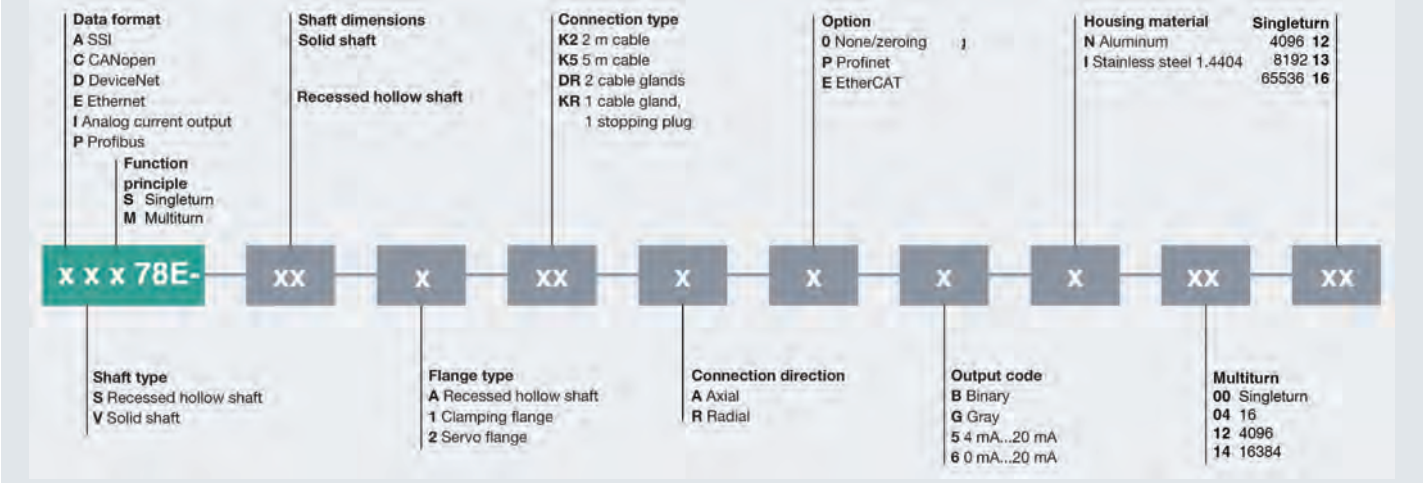
Brief Description

Simple Commissioning and Maintenance
The PROFIBUS interface of the sensor enables easy mounting on the shaft and provides a total resolution of up to 30 bits. Thanks to the compact housing design, the rotary encoder can be mounted flexibly even if space is limited. A removable bus hood also facilitates installation and reduces maintenance costs.

78E Series

Standard Technical Data	
Scanning method	Optical
Output type	Analog, CANopen, DeviceNet, Ethernet, PROFIBUS
Singleturn	Up to 16 bit
Multiturn	Up to 14 bit
Connection technology	Cable, cable gland
Housing design	Ø 78 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	Max. 3000 rpm
Degree of protection	IP66
Operating temperature	-40 °C ... 70 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Removable connection cover: flexible mounting and cabling on-site
- Simple maintenance: separation of the cable and rotary encoder means there is no need to replace the entire device
- ATEX, IECEx, and Ex NEPSI certification for worldwide use in Zone 1/Zone 21
- Wide range of variants for easy adaptation to any application
- Specially developed for the offshore sector
- Robust design for use in extreme conditions

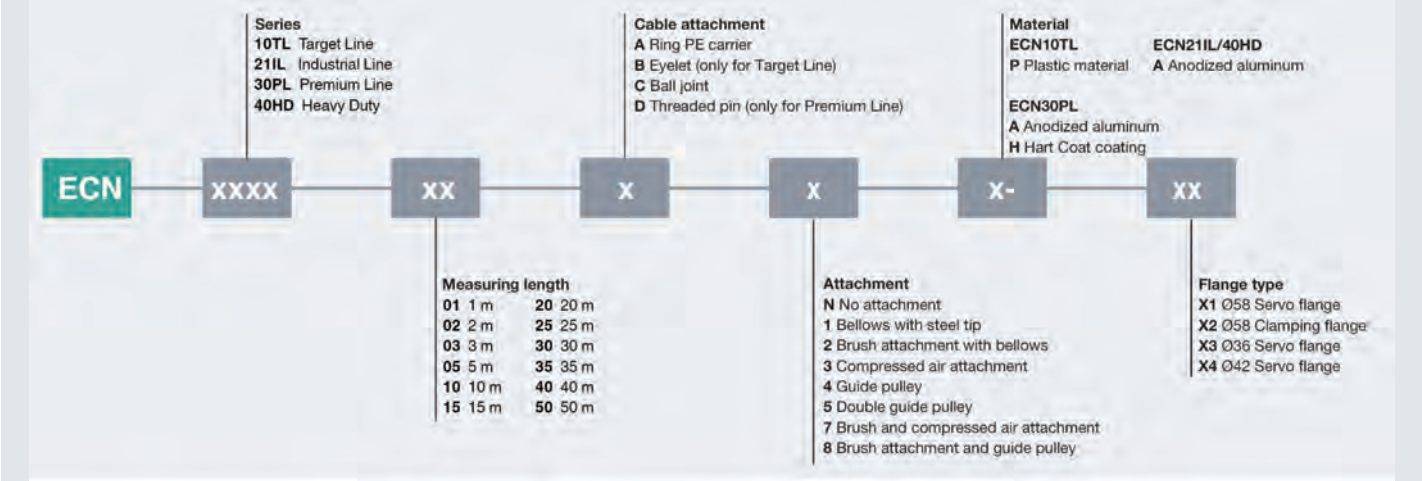
Brief Description

Flexible Mounting and Cabling

The sensor is suitable for speeds of up to 3000 rpm and is designed for a temperature range of -40 °C to 70 °C. It complies with protection type Ex d and meets the international ATEX, IECEx and Ex-NEPSI requirements for gases according to Zones 1 and 2, and for dusts according to Zones 21 and 22. The modular design with removable connection hood facilitates installation and maintenance. With the fieldbus versions, bus coding can be freely programmed directly on-site. The rotary encoder is certified for explosion-hazardous areas (Group II) and firedamp-sensitive mines (Group I).

Cable Pulls

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



EC*10TL

- Most affordable version
- Solid and lightweight plastic design
- Flat housing design for confined spaces
- Coupling-free adaptation for precise information feedback

EC*21IL

- Rugged aluminum drum housing
- Compact design
- Bellows with steel tip for increased protection and to prevent ice formation

EC*30PL

- Rugged aluminum drum housing (optional: Hart Coat coating)
- Drum movement when cable retracted using threaded spindle for high measurement accuracy
- Versatile attachments – suitable for every application
- Very low hysteresis

EC*40HD

- For extremely harsh weather and environmental conditions
- Open cable pull system simplifies easy cleaning

Brief Description

The range of cable-pull rotary encoders from Pepperl+Fuchs is characterized by a modular product architecture. It offers a wide range of versions for almost any application area. Optimally matched components guarantee a long service life and ensure reliable processes for linear distance measurement and positioning.

Accessories	
ACC-PUL-ECN-SEP2	Guide pulley
ACC-PUL-ECN-SEP4	Guide pulley

Rotary Encoder Accessories

Only perfectly coordinated connection and mounting technology ensures optimum integration of a rotary encoder. The comprehensive range of accessories from Pepperl+Fuchs supplies all the necessary components for a perfect ready-to-install solution.

Brief Description

Mounting Accessories for Rotary Encoders with Hollow and Recessed Hollow Shafts
To connect the rotary encoder and motor shaft, you will be provided with stator couplings, torque spring plates, and torque rests.

Mounting Accessories for Rotary Encoders with Solid Shaft
Shaft couplings, mounting and eccentric clamping elements, mounting brackets and domes, and adapter flanges ensure that the rotary encoder is adapted safely and stays firmly in place.

Electrical Connection
For optimal connection of the rotary encoder, you will be provided with the appropriate single-ended female cordset, connector and connecting cable.

Measuring Wheels
Equipped for any surface with measuring wheels in various sizes, coatings, and running surface textures.

Evaluation
Various counters are available for visualizing rotary encoder signals such as display, pre-selection, and counters.

Cable Pull Accessories
The comprehensive range of accessories for cable suspensions, cable pull attachments, and guide pulleys enables consistently reliable measurement results with an increased service life even under difficult environmental conditions.

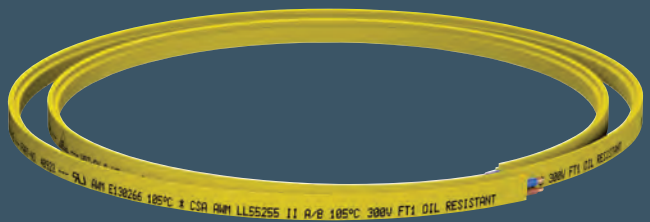
AS-Interface

Simple and Efficient Plant Wiring

Proven millions of times, the AS-Interface enables especially fast and efficient connection of automation components. The simplified control system, topology-free optimized cabling and improved diagnostic capabilities result in significantly higher productivity.

AS-Interface Flat Cable

The flat cable for AS-Interface and AUX is ideal for easy, fast wiring. All end devices in automation technology can be connected especially efficiently using piercing technology.



Your Benefits at a Glance

- Complete solutions consisting of AS-Interface components and corresponding sensors from Pepperl+Fuchs
- Easy installation and operation: one flat cable for voltage supply and data transfer
- Impressive flexibility through topology-free optimized cabling
- Safe and error-free mounting thanks to piercing technology
- Flexible integration of safety components up to SIL 3/PL e without network changes
- Investment security through an established and manufacturer-independent system
- Cost-effective connection of all I/O signals

Typical Applications

- Efficient wiring of complex conveyor systems
- Subsequent integration of sensors and actuators into existing systems
- End-to-end wiring of large plants in the process industry
- Flexible use of safety components in the automotive industry

Technical Features

- Interoperable system with connection to almost all controllers
- Can be extended at any point on the flat cable
- Automatic addressing for module replacement
- Reverse polarity-protected flat cable design
- Extensive diagnostic function
- Transmission of secure and unsecure signals on one line
- Standardized wiring in mechanical engineering with integrated safety function
- Cost-effective, compact wiring in packaging technology

Master and Gateways

Pepperl+Fuchs offers suitable gateways for all standard fieldbus systems: PROFINET, Ethernet/IP, EtherCAT, PROFIBUS, DeviceNet, CC-Link, etc. This enables data to be transferred to the higher-level controller simply and in a standardized
way. In addition, gateways with an integrated safety monitor are available, which reliably monitor both AS-Interface segments.

Power Supplies

Each AS-Interface segment requires a power supply. These include data decoupling for interference-free communication on the AS-Interface secondary side. Alternatively, double masters
with integrated data decoupling are available, which can be operated with a single power supply.

AS-Interface

Contents

K20 Series – gateway
Page 388

K30 Series – gateway
Page 389

Power supplies
Page 390

K31 Series – safety monitors
Page 391

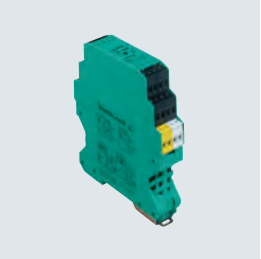
KE4 Series – safety monitors
Page 392

G12 Series
Page 398

G16 Series
Page 399

G20 Series
Page 400

CB10 Series
Page 401



KE Series
Page 402

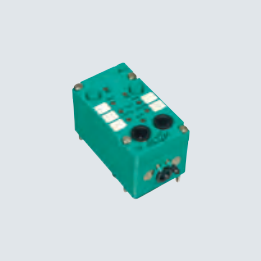
Safety at Work G12 series
Page 408

Safety at Work KE1 series
Page 409

Safety at Work KE3 series
Page 410

Safety at Work KE4 series
Page 411

Door monitoring
Page 412



G1 Series – pneumatic module
Page 393

G4 Series
Page 394

G10 Series
Page 395

G11 Series – analog I/O module
Page 396

G11 Series – digital I/O module
Page 397

KE1 Series
Page 403

KE2 Series
Page 404

KE5 Series – analog I/O module
Page 405

KE5 Series – digital I/O module
Page 406

Safety at Work G10 series
Page 407

Handheld programming unit
Page 413

Stack lights
Page 414

Cables
Page 415

K20 Series – Gateway

Standard Technical Data	
Design	K20
Installation conditions	Switch cabinet mounting
Operating voltage (min)	20 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Number of masters	Interface	Data de-coupling	Diagnostic interface	Integrated control function	Programming interface	Length L	Width W	EAC
VBG-CCL-K20-D-BV	1	CC-Link					83	85	■
VBG-DN-K20-D	1	DeviceNet		RS-232	Optional		76	85	■
VBG-DN-K20-DMD	1	DeviceNet		RS-232	Optional		76	85	■
VBG-DN-K20-DMD-BV	2	DeviceNet			Optional		76	85	
VBG-ENX-K20-D	1	EtherNet/IP, MODBUS TCP		RS-232	Optional		76	85	■
VBG-ENX-K20-D-EV24	1	EtherNet/IP, MODBUS-TCP	Yes	Ethernet	Optional	Ethernet	83	85	
VBG-ENX-K20-DMD	2	EtherNet/IP, MODBUS-TCP		RS-232	Optional		76	85	■
VBG-ENX-K20-DMD-EV	2	EtherNet/IP, MODBUS-TCP	Yes	RS-232	Optional		76	85	
VBG-MOD-K20-D	1	MODBUS RTU		RS-232	Optional		76	75	
VBG-PB-K20-D-BV	1	PROFIBUS					83	75	
VBG-PB-K20-D-EV1	1	PROFIBUS		Ethernet	Optional	Ethernet	93	75	
VBG-PB-K20-D-EV24	1	PROFIBUS	Yes		Optional		83	75	
VBG-PB-K20-DMD-BV	2	PROFIBUS			Optional		76	75	
VBG-PB-K20-DMD-EV	2	PROFIBUS	Yes	Ethernet	Optional	Ethernet	93	75	
VBG-PB-K20-DMD-EV1	2	PROFIBUS		Ethernet	Optional	Ethernet	93	75	
VBG-PN-K20-D	1	PROFINET		RS-232			76	85	■
VBG-PN-K20-D-BV	1	PROFINET			Optional		76	85	
VBG-PN-K20-D-EV24	1	PROFINET	Yes				83	85	
VBG-PN-K20-DMD	2	PROFINET		RS-232			76	85	■
VBG-PN-K20-DMD-EV	2	PROFINET	Yes	RS-232	Optional		76	85	
VBG-PN-K20-DMD-EV2	2	PROFINET					76	85	
VBM-CTR-K20-R2	1	RS-232			Enabled		76	75	

Highlights

- Up to 2 x 62 participants
- LCD and function keys
- Memory Card
- Color coded, removable terminals
- Double address detection
- Earth fault detection
- Diagnosis of bus communication
- Optionally with integrated data decoupling

Brief Description

Many masters/gateways offer a separate diagnostic interface, an earth-fault detector, and double address detection on the AS-Interface segment.

Accessories	
USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-PB-DB9-W	PROFIBUS D-sub connector with switchable terminator
VAZ-PB-SIM	PROFIBUS master simulator
VBG-RIO-KHD2-R2	Bus coupler for Allen Bradley Remote I/O

K30 Series – Gateway

Standard Technical Data	
Design	K30
Installation conditions	Switch cabinet mounting
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

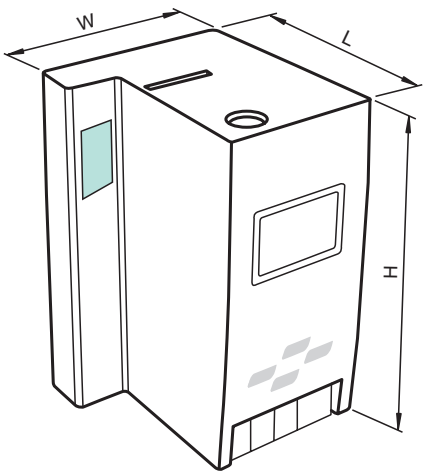
Model number	Number of masters	Interface	Inputs per module	Outputs per module	Number/type of secure outputs	Data decoupling	Diagnostic interface	Integrated control function	Length L	Width W
VBG-CCL-K30-D-S32-EV	1	CC-Link	6		6/PNP	Yes	Ethernet	Optional	106	109
VBG-ENX-K30-DMD-S16	2	EtherNet/IP, MODBUS-TCP	4	2	2/PNP; 2/normally-open		RS-232	Optional	89	110
VBG-ENX-K30-DMD-S16-EV	2	EtherNet/IP, MODBUS-TCP	4	2	2/PNP; 2/normally-open	Yes	Ethernet	Optional	89	110
VBG-PB-K30-D-S16	1	PROFIBUS	4	2	2/PNP; 2/normally-open		RS-232	Optional	89	100
VBG-PB-K30-DMD-S16	2	PROFIBUS	4	2	2/PNP; 2/normally-open		RS-232	Optional	89	100
VBG-PB-K30-DMD-S16-EV	2	EtherNet/IP, PROFIBUS	4	2	2/PNP; 2/normally-open	Yes	Ethernet	Optional	89	100
VBG-PBS-K30-DMD	2	PROFIBUS, PROFIsafe	4	2	2/PNP; 2/normally-open		RS-232		89	100
VBG-PN-K30-DMD-S16	2	PROFINET	4	2	2/PNP; 2/normally-open		RS-232	Optional	120	100
VBG-PN-K30-DMD-S32-EV	2	PROFINET	6		6/PNP	Yes	Ethernet	Optional	120	110
VBG-PNS-K30-DMD	2	PROFINET, PROFIsafe	4	2	2/PNP; 2/normally-open		RS-232		89	110

Highlights

- Up to 2 x 31 secure modules per gateway
- Integrated secure electronic or relay outputs
- PL e, SIL3, Cat. 4 approved
- Extended diagnostic function from the PLC to the module
- Comprehensive software package VAZ-SW-SIMON+ for especially simple configuration and thorough diagnosis

Brief Description

In addition to the single or double master, the safety monitor is integrated in the same housing, which reliably monitors both AS-Interface segments.



Accessories	
USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-PB-DB9-W	PROFIBUS D-sub connector with switchable terminator
VAZ-SIMON+-R2-1,8M-PS/2	Interface cable for connecting the K30/K31 safety monitor to a PC
VAZ-SW-SIMON+	Software for configuring K30 master monitors/ K31 and KE4 safety monitors

Power Supplies

Standard Technical Data	
Installation conditions	Switch cabinet mounting
Degree of protection	IP20
Connection type	Screw terminals

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

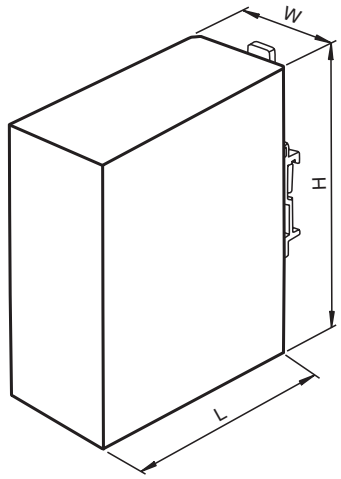
Model number	Output voltage	Output current	Voltage type	UB (min)	UB (max)	Length L	Width W	Height H	UL
VAN-115/230AC-K16	30.55	8.00	AC/DC	85	264	102	91	124	■
VAN-115/230AC-K19	30.55	2.80	AC	85	264	102	49	124	■
VAN-115/230AC-K27	30.50	4.00	AC/DC	85	264	102	73	124	■
VAN-230/500AC-K24	31.20	8.00	AC	195	500	151	70	141	
VAN-24DC-K28	30.55	4.00	DC	24	24	102	40	124	■

Highlights

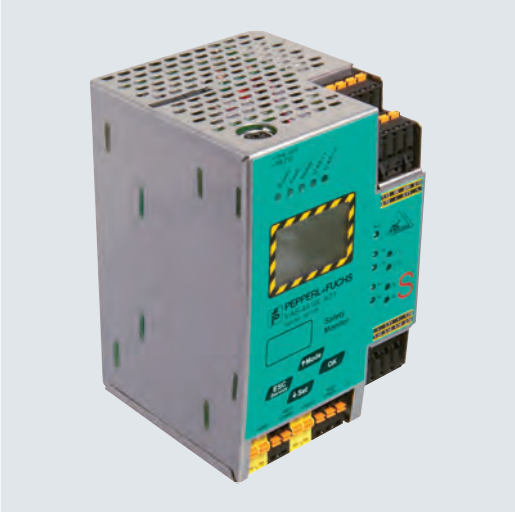
- Each AS-Interface segment requires an AS-Interface power supply (30.5 V)
- Various versions from 2.8 A to 8 A
- With power factor correction and high efficiency factor
- Can be used worldwide thanks to wide range voltage input
- Integrated, cyclical overload protection

Brief Description

AS-Interface power supplies contain data decoupling for interference-free communication on the AS-Interface secondary side. Each AS-Interface segment requires a power supply. Alternatively, double masters with integrated data decoupling are available, which can be operated with one power supply.



K31 Series – Safety Monitors



Standard Technical Data	
Design	K31
Number of masters	2
Installation conditions	Switch cabinet mounting
Inputs per module	4
Outputs per module	2
Interface	RS-232
Number/type of secure outputs	2/PNP; 2/normally-open
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Stainless steel (V2A)
Housing length L	89 mm
Housing width W	85 mm
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

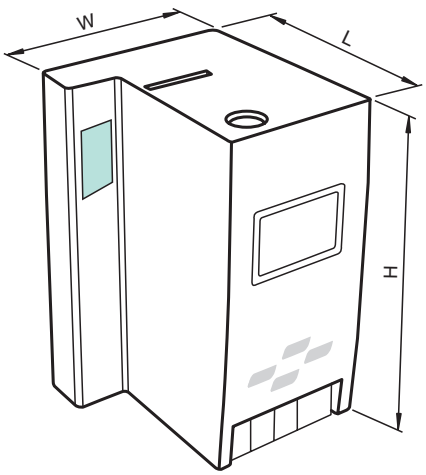
Model number	
VAS-4A16L-K31	

Highlights

- Certified to SIL 3 in accordance with IEC 61508 and EN 62061 and to PLe in accordance with EN 13849
- Stainless steel enclosure
- LC display for slave addresses and error messages

Brief Description

The K31 series has four inputs and four outputs. Two inputs are used for extended device monitoring (EDM). Several safe AS-Interface outputs are possible on one address thanks to the 16 independent AS-Interface enabling circuits. The K31 type is especially suitable for use in switch cabinets. The connected loads are safely switched by two safety relays.



Accessories	
USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-SIMON+-R2-1,8M-PS/2	Interface cable for connecting the K30/K31 safety monitor to a PC
VAZ-SW-SIMON+	Software for configuring K30 master monitors/ K31 and KE4 safety monitors

KE4 Series – Safety Monitors

Standard Technical Data	
Design	KE4
Installation conditions	Switch cabinet mounting
Outputs per module	2
Supply inputs	External (from AUX)
Supply outputs	External (from AUX)
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Polyamide
Housing length L	113 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

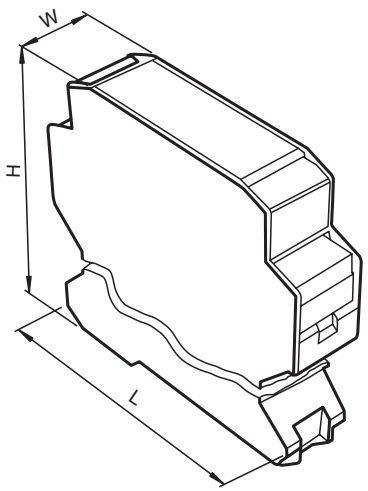
Model number	Inputs per module	Data decoupling	Programming interface
VAS/M-2A8L-KE4-6SE-EV	6	Yes	Ethernet
VAS/M-2A8L-KE4-8SE-C1	8	Yes	USB
VAS-2A8L-KE4-8SE	8		USB

Highlights

- For distributed safety applications as a replacement for small safe PLC solutions
- Can be integrated into existing AS-Interface systems for implementing safety requirements
- Integrated chip card for storing the configuration and for easy device exchange

Brief Description

KE4 safety monitors can be used as a stand-alone solution and can be integrated into an AS-Interface segment to implement local safety logic and safe inputs/outputs.



Accessories	
VAZ-SIMON-USB	USB type A to micro USB plug
VAZ-SW-SIMON+	Software for configuring K30 master monitors/K31 and KE4 safety monitors
VAZ-SW-SUITE	Combined software for configuration, diagnostics, and programming, for masters and safety monitors of type KE4, K20, K30, and K31

G1 Series – Pneumatic Module

Standard Technical Data	
Design	G1
Installation conditions	Field installation
Outputs per module	2
Slave type	Standard slave
Supply inputs	Internal (from AS-i)
Housing length L	102 mm
Housing width W	45 mm
Housing height H	60 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

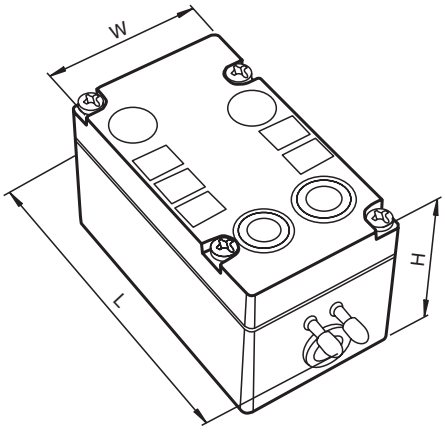
Model number	Inputs per module	UB (min)	UB (max)	Degree of protection	UL
VAA-2EA-G1-ZE/P-S	2	26.5	31.6	IP65	■
VAA-4E2A-G1-ZE/P-S	4	26.5	31.6	IP65	
VAA-4E2A-G1-ZE/PEXT-S	4	24	24	IP65	
VAA-2EA-G1-ZE/P-V2A	2	29.5	31.6	IP67	■

Highlights

- Flat or round cable connection (via standard EMS mounting base, not in scope of delivery)
- Piercing technology for flat cables
- Function indicator for bus and inputs
- Direct connection of pneumatic cylinders

Brief Description

The G1 series is an AS-Interface connecting module with multiple inputs and outputs. The inputs can be connected to both two- and three-wire sensors and mechanical contacts. The connection to the sensors/actuators is made via M12 x 1 screw connections. There is an LED for each channel mounted on the top of the module to indicate the current switching state.



Accessories	
U-G1F	AS-Interface module mounting base for connection to flat cable (AS-Interface)
U-G1FA	AS-Interface module mounting base with addressing socket for connection to flat cable (AS-Interface)
U-G1FF	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary voltage)
U-G1FFA	AS-Interface module mounting base with addressing socket for connection to flat cable (AS-Interface and external auxiliary voltage)
U-G1P	AS-Interface module mounting base for connection to round cable (AS-Interface)
U-G1PP	AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary voltage)
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G4 Series

Standard Technical Data	
Design	G4
Installation conditions	Field mounting
Supply inputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Housing material	Polyamide
Housing length L	102 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

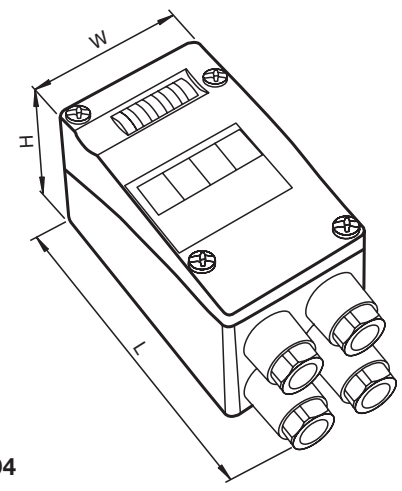
Model number	Inputs per module	Outputs per module	Supply outputs	Slave type	Degree of protection	Width W	Height H
VAA-4E-G4-ZE	4			Standard slave	IP67	45	51
VAA-4E4A-G4-ZE/E2	4	4	External (from AUX)	Standard slave	IP65	90	71
VBA-2E2A-G4-ZE/E2	2	2	External (from AUX)	A/B slave	IP67	45	51
VBA-4E-G4-ZE	4			A/B slave	IP67	45	51
VBA-4E3A-G4-ZE/E2	4	3	External (from AUX)	A/B slave	IP65	90	71
VBA-4E4A-G4-ZE/E2	4	4	External (from AUX)	A/B slave	IP65	90	71

Highlights

- Connection via cable gland and internal spring-cage terminal—this means cables can be made to an exact length
- Simple DIN rail mounting or installation via screw fitting

Brief Description

In the case of the G4 modules, the connecting cables can be cut precisely to length and connected from below via cable glands.



Accessories	
U-G1F	AS-Interface module mounting base for connection to flat cable (AS-Interface)
U-G1FF	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary voltage)
U-G1P	AS-Interface module mounting base for connection to round cable (AS-Interface)
U-G1PP	AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary voltage)
VAZ-G4-B1	M12 stopping plug
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G10 Series

Standard Technical Data	
Design	G10
Installation conditions	Field mounting
Slave type	A/B slave
Operating voltage (min)	18.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing length L	40.5 mm
Housing width W	27.7 mm
Housing height H	21.5 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

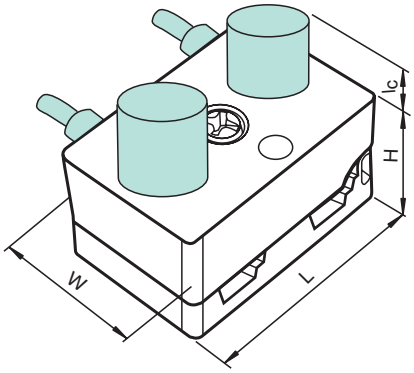
Model number	Connection type	Inputs per module	Outputs per module	Supply inputs	Supply outputs
VBA-1E1A-G10-ZAL/E2L-1M-2V3-G	M8 connector plug	1	1	External (from AUX)	External (from AUX)
VBA-2A-G10-E2L-1M-2V1-W	M12 connector plug		2		External (from AUX)
VBA-2E-G10-ZAJ-1M-V1-W	M12 connector plug	2		Internal (from AS-i)	
VBA-2E-G10-ZAL-1M-2V31-G	M8 connector plug	2		External (from AUX)	
VBA-2E-G10-ZEJ-0,1M-2V3-G	M8 connector plug	2		Internal (from AS-i)	
VBA-2E-G10-ZEJ-1M-2V1-W	M12 connector plug	2		Internal (from AS-i)	
VBA-2E-G10-ZEJ-2X3M	M12 connector plug	2		Internal (from AS-i)	
VBA-2E1A-G10-ZAL/E2L-1M-2V1-W	M12 connector plug	2	1	External (from AUX)	External (from AUX)
VBA-2E1A-G10-ZAL/E2L-P1	M8 connector plug	2	1	External (from AUX)	External (from AUX)
VBA-2E2A-G10-Z/E2J-1M-V15-G	M12 connector plug	2	2	Internal (from AS-i)	Internal (from AS-i)
VBA-4A-G10-E2J-1M-V15-G	M12 connector plug		4		Internal (from AS-i)

Highlights

- Simple, quick mounting
- One-piece housing concept
- No loose parts—nothing to be mounted or lost
- Can even be mounted in confined spaces
- Perfect wiring optimization right up to the sensor
- Direct connection makes the connection line unnecessary

Brief Description

G10 modules are the perfect solution for connecting distributed I/Os and offer space-saving installation in cable ducts, for example. Thanks to the one-piece housing concept, G10 modules can be installed within seconds and have a direct connection.



Accessories	
VAZ-CLAMP-40MM	Stack light connection element with end cover
VAZ-CLAMP-70MM	Stack light connection element with end cover
VAZ-CLAMP-70MM-0,3M-V15-G	Stack light connection element with end cover and M12 connection
VAZ-CLAMP-70MM-90°	Stack light connection element with end cover
VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module / handheld programming unit

G11 Series – Analog I/O Module

Standard Technical Data	
Design	G11
Installation conditions	Field mounting
Slave type	Standard slave
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP68/IP69K
Housing material	PBT
Housing height H	35 mm
Housing diameter D	85 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

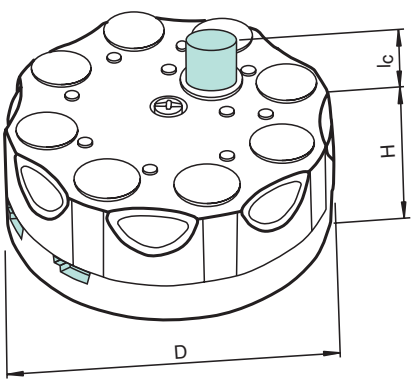
Model number	Inputs per module	Outputs per module	Supply inputs	Supply outputs
VBA-2A-G11-I-F		2		Internal (from AS-i)
VBA-2A-G11-I-V1		2		Internal (from AS-i)
VBA-2A-G11-IL-V1		2		External (from AUX)
VBA-2E-G11-I/U/PT100-F	2 (current: 0/4 mA ... 20 mA; voltage: 0 V ... 10 V; Pt100: -200 °C ... 850 °C)		Internal (from AS-i)/external (from AUX)	
VBA-2E-G11-I/U/PT100-V1	2 (current: 0/4 mA ... 20 mA; voltage: 0 V ... 10 V; Pt100: -200 °C ... 850 °C)		Internal (from AS-i) / external (from AUX)	
VBA-4A-G11-I/U-F		4		Internal (from AS-i) / external (from AUX)
VBA-4E-G11-I-F	4 (current: 0/4 mA ... 20 mA)		Internal (from AS-i) / external (from AUX)	

Highlights

- Sensor connection via M12 plug
- Easy to mount in different designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload
- The G11 series offers the option of connecting analog sensors

Brief Description

G11 module with innovative sealing concept and compact, round design—especially suitable for applications in mechanical engineering and for harsh process environments



Accessories	
V1-G-0,3M-PUR-ABG-V1-W-Y	Cordset
V1-G-42-0,3M-PUR-ABG-V1-W-Y	Cordset
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G11 Series – Digital I/O Module

Standard Technical Data	
Design	G11
Installation conditions	Field mounting
Supply inputs	Internal (from AS-i)
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP68/IP69K
Housing material	PBT
Housing height H	35 mm
Housing diameter D	85 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

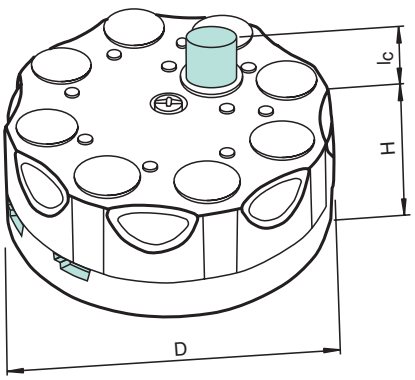
Model number	Inputs per module	Outputs per module	Supply outputs	Slave type
VAA-4E4A-G11-ZAJ/EA2L-F	4	4	External (from AUX)	Standard slave
VAA-4E4A-G11-ZAJ/EA2L-V1	4	4	External (from AUX)	Standard slave
VBA-4E-G11-ZAJ-F	4			A/B slave
VBA-4E-G11-ZAJ-V1	4			A/B slave
VBA-4E4A-G11-ZAJ/EA2L-F	4	4	External (from AUX)	A/B slave
VBA-4E4A-G11-ZAJ/EA2L-V1	4	4	External (from AUX)	A/B slave
VBA-4E4E-G11-ZAJ-F	8			A/B slave

Highlights

- Sensor connection via M12 plug
- Easy to mount in different designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload

Brief Description

G11 module with innovative sealing concept and compact, round design—especially suitable for applications in mechanical engineering and for harsh process environments



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G12 Series

Standard Technical Data	
Design	G12
Installation conditions	Field mounting
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing width W	57.4 mm
Housing height H	35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

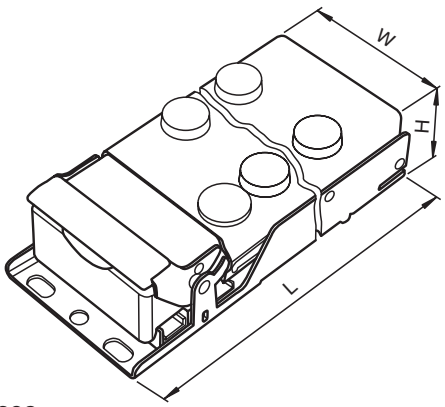
Model number	Inputs per module	Outputs per module	Supply inputs	Supply outputs	Slave type	Length L
VAA-4A-G12-EA2L		4		External (from AUX)	Standard slave	118
VAA-4E4A-G12-ZAJ/EA2L	4	4	Internal (from AS-i)	External (from AUX)	Standard slave	151.6
VAA-4E4A-G12-ZAL/EA2L	4	4	External (from AUX)	External (from AUX)	Standard slave	151.6
VBA-2E2A-G12-ZAJ/EA2L	2	2	Internal (from AS-i)	External (from AUX)	A/B slave	118
VBA-2E2A-G12-ZEJ/EA2L	2	2	Internal (from AS-i)	External (from AUX)	A/B slave	118
VBA-4E-G12-ZAJ	4		Internal (from AS-i)		A/B slave	118
VBA-4E-G12-ZAL	4		External (from AUX)		A/B slave	118
VBA-4E-G12-ZEJ	4		Internal (from AS-i)		A/B slave	118
VBA-4E3A-G12-ZAJ/EA2L	4	3	Internal (from AS-i)	External (from AUX)	A/B slave	151.6
VBA-4E4A-G12-XEL	4	4	External (from AUX)	External (from AUX)	A/B slave	118
VBA-4E4A-G12-ZAJ/EA2L	4	4	Internal (from AS-i)	External (from AUX)	A/B slave	151.6
VBA-4E4A-G12-ZAL/EA2L	4	4	External (from AUX)	External (from AUX)	A/B slave	151.6
VBA-4E4A-G12-ZEJ/EA2L	4	4	Internal (from AS-i)	External (from AUX)	A/B slave	151.6
VBA-4E4E-G12-ZAJ	8		Internal (from AS-i)		Double A/B slave	151.6

Highlights

- Sensor connection via M12 plug
- Easy to mount in different designs
- The G12 module offers tool-free mounting
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload

Brief Description

G12 module with one-piece housing and tool-free mounting



Accessories	
VAZ-CLIP-G12	Lock for G12 module
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G16 Series

Standard Technical Data	
Design	G16
Installation conditions	Field mounting
Inputs per module	4
Slave type	A/B slave
Supply inputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing width W	30 mm
Housing height H	29.35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

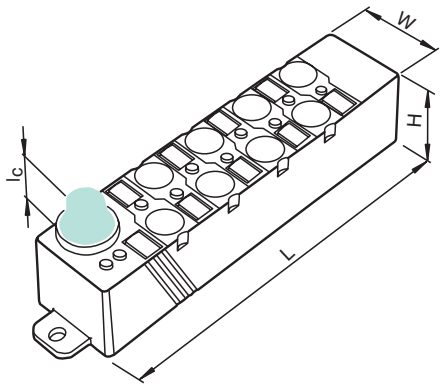
Model number	Outputs per module	Supply outputs	Length L
VBA-4E-G16-ZEJ			103
VBA-4E4A-G16-ZEJ/E2L	4	External (from AUX)	143

Highlights

- Sensor connection via M8 plug
- Easy to mount in different designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload

Brief Description

G16 compact module with M8 connection—for confined spaces



Accessories	
VAZ-V3-B	Stopping plug
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

G20 Series

Standard Technical Data	
Design	G20
Installation conditions	Field mounting
Slave type	A/B slave
Supply outputs	External (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP54
Housing length L	54 mm
Housing width W	131.5 mm
Housing height H	27.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

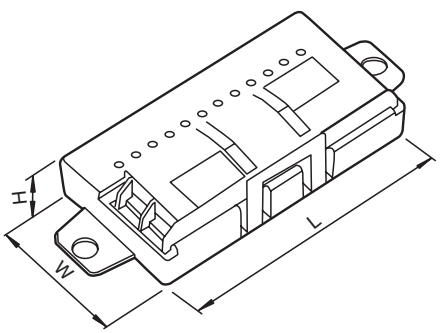
Model number	Connection type	Inputs per module	Outputs per module	Supply inputs
VBA-3E3A-G20-ZEL/E2L-P1	M8 connector plug	3	3	External (from AUX)
VBA-4E3A-G20-ZEL/E2L-P5	M12 connector plug	4	3	External (from AUX)
VBA-4E3A-G20-ZEL/M1L-P2	M8 connector plug	2	2	External (from AUX)
VBA-4E3A-G20-ZEL/M1L-P6	M8 connector plug	2	2	External (from AUX)
VBA-4E4A-G20-ZEJ/M3L-P10	M8 connector plug	2	2	Internal (from AS-i)
VBA-4E4A-G20-ZEJ/M3L-P9	M8 connector plug	2	2	Internal (from AS-i)

Highlights

- Allows pre-assembly of material handling segments
- /M version controls DC motor rollers: start/stop, speeds, accelerations, direction of rotation

Brief Description

G20 modules are installed without tools and can be integrated into the side wall of the mounting rail.



Accessories	
VAZ-G20-MH	Mounting aid
VAZ-PK/G20-1M-V1-G	Adapter cable G20 module / handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

CB10 Series

Standard Technical Data	
Design	CB
Installation conditions	Switch cabinet mounting
Inputs per module	4
Outputs per module	4
Slave type	A/B slave
Supply inputs	Internal (from AS-i)
Supply outputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	39.5 mm
Housing width W	36 mm
Housing height H	10 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

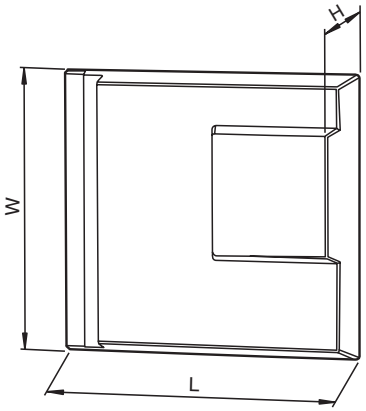
Model number	Input
VBA-4E4A-CB10-ZEJ/E0J-FL	Four inputs for mechanical contacts or three-wire sensors (PNP), DC
VBA-4E4A-CB10-ZJ/E1J-FL	Four inputs for mechanical contacts

Highlights

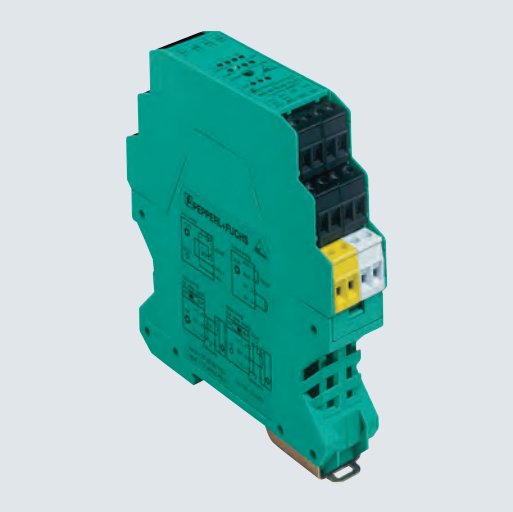
- Integrated communication monitoring function
- Version with inputs for mechanical contacts or three-wire sensors
- Short-circuit-proof and overload-proof outputs
- Supply of inputs and outputs from AS-Interface
- Function indicator for bus, inputs and outputs
- Connection via stranded wires

Brief Description

The AS-Interface connecting module is ideally suited for the integration of customer-specific electronics, e.g., illuminated buttons or LED lights. The printed circuit board is supplied completely from the AS-Interface. The inputs and outputs are short-circuit and overload-proof. The indicator and operating elements as well as the AS-Interface are connected via stranded cable. Output overload is signaled to the AS-Interface master via the "peripheral fault" function. Communication via AS-Interface remains active. Communication monitoring is built in. This function disconnects the outputs from the power supply when no communication is taking place on the AS-Interface line.



KE Series



Standard Technical Data	
Design	KE
Installation conditions	Switch cabinet mounting
Inputs per module	4
Supply inputs	Internal (from AS-i)/external (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	102 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

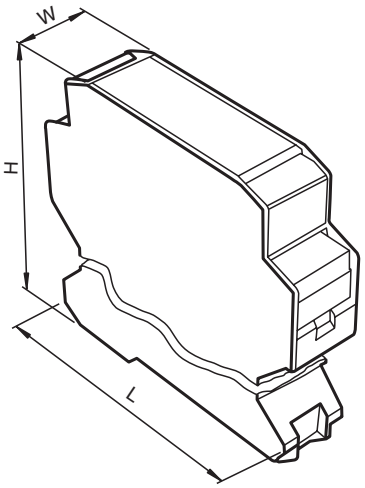
Model number	Outputs per module	Supply outputs	Slave type
VAA-4E4A-KE-ZEJQ/E2L	4	External (from AUX)	Standard slave
VBA-4E-KE-ZEJQ			A/B slave
VBA-4E3A-KE-ZEJQ/E2L	3	External (from AUX)	A/B slave
VBA-4E4A-KE-ZEJQ/E2L	4	External (from AUX)	A/B slave

Highlights

- 24 terminal connections
- Up to four inputs and four outputs

Brief Description

The switch cabinet modules from the KE series are available in different sizes and with different numbers of terminal connections. Color-coded and removable terminals guarantee fast and error-free replacement.



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

KE1 Series

Standard Technical Data	
Design	KE1
Installation conditions	Switch cabinet mounting
Inputs per module	4
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	99.6 mm
Housing width W	22.5 mm
Housing height H	48.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

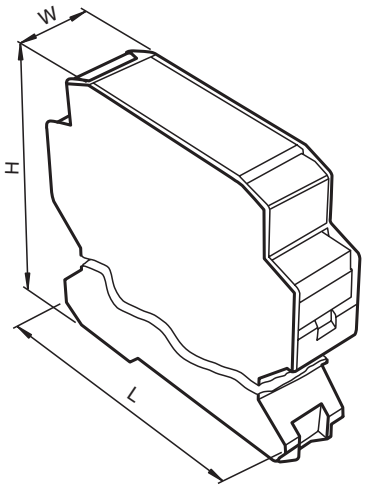
Model number	Connection type	Outputs per module	Supply inputs	Supply outputs	Slave type
VAA-4E4A-KE1-Z/E2	Plug-in spring terminals	4	External (from AUX)	External (from AUX)	Standard slave
VAA-4E4A-KE1-Z/E2-TL	Plug-in spring terminals	4	External (from AUX)	External (from AUX)	Standard slave
VBA-4E-KE1-Z	Plug-in screw terminals		Internal (from AS-i)		A/B slave
VBA-4E2A-KE1-Z/E2	Plug-in screw terminals	2	Internal (from AS-i)	External (from AUX)	A/B slave
VBA-4E4A-KE1-Z/E2	Plug-in spring terminals	4	External (from AUX)	External (from AUX)	A/B slave

Highlights

- Fits perfectly even in very flat switch boxes with 50-mm installation dimensions
- Easy mounting by snapping onto standard rails
- LED indicators for diagnostics and all inputs/outputs

Brief Description

KE1 modules can also be easily installed in flat switch boxes.



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

KE2 Series

Standard Technical Data	
Design	KE2
Installation conditions	Switch cabinet mounting
Inputs per module	4
Outputs per module	4
Slave type	Standard slave
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	99 mm
Housing width W	22.5 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

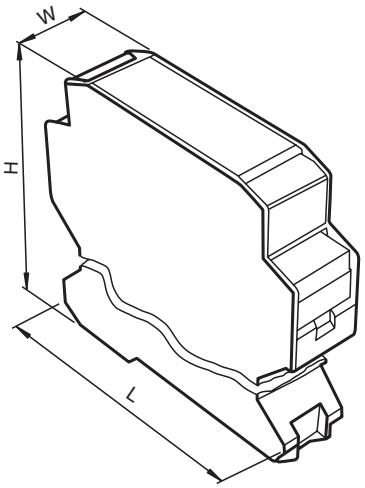
Model number	
VAA-4E4A-KE2-DK	

Highlights

- Module for bidirectional data exchange between two AS-Interface circuits
- Two AS-Interface connections
- Four inputs/four outputs per slave (internally connected)
- Housing with removable terminals
- Function indicator for all outputs
- Communication Monitoring
- Addressing via two sockets in the front panel

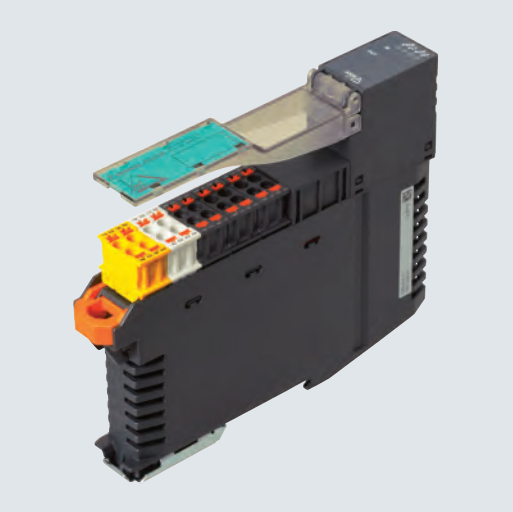
Brief Description

The data coupler interface module is used to exchange data between two AS-Interface circuits. The data coupler consists of two 4E4A slaves in one housing. The output bits of AS-Interface circuit 1 are represented on AS-Interface circuit 2 as input bits and vice versa. This means that data exchange can be carried out bidirectionally without having to transfer the data via a higher-level controller, which is especially advantageous for time-critical applications. The two integrated AS-Interface slaves are independent of each other in terms of addressing. There are two front address sockets for this purpose.



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

KE5 Series – Analog I/O Module



Standard Technical Data	
Design	KE5
Installation conditions	Switch cabinet mounting
Slave type	Standard slave
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	124 mm
Housing width W	18.9 mm
Housing height H	100 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

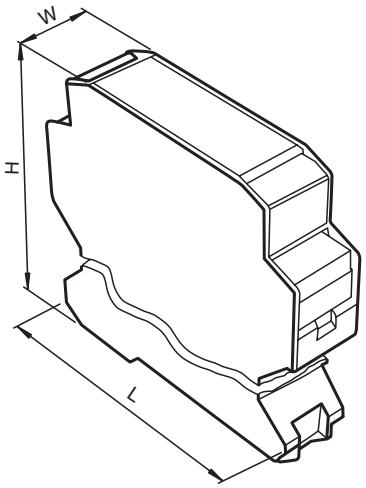
Model number	Inputs per module	Outputs per module	Supply inputs	Supply outputs
VBA-2A-KE5-IL/UL		2		External (from AUX)
VBA-2E-KE5-IJL/UJL	2		Internal (from AS-i) / external (from AUX)	
VBA-4A-KE5-IJL/UJL		4		Internal (from AS-i) / external (from AUX)
VBA-4E-KE5-IL	4		External (from AUX)	

Highlights

- Time-saving front connection
- Backlit, multi-color numeric display with per-channel diagnostic function
- Compact housing requires up to 50 % less space
- Clear terminal identification in the front panel
- Sensor supply can be selected from ASi or external supply

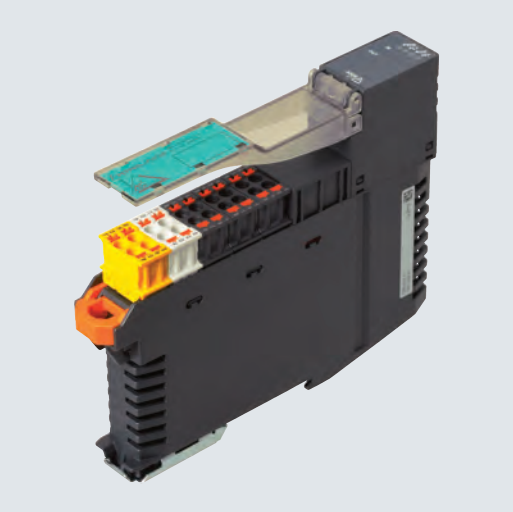
Brief Description

In particular, the KE5 module with front connection and cable connection from below offers time-saving and space-saving installation. The product family offers individually removable, coded terminals and a per-channel diagnostics indicator with dual LEDs on the affected input/output. This simplifies diagnostics in the event of a fault.



Accessories	
VAZ-BRIDGE-BU/ BN60MM/0,75-100	Bridge
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

KE5 Series – Digital I/O Module



Standard Technical Data	
Design	KE5
Installation conditions	Switch cabinet mounting
Inputs per module	4
Supply inputs	Internal (from AS-i) / external (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	124 mm
Housing width W	18.9 mm
Housing height H	100 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

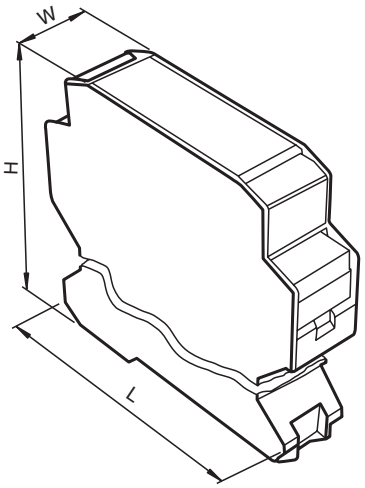
Model number	Outputs per module	Supply outputs	Slave type
VAA-4E4A-KE5-ZEJQ/E2L	4	External (from AUX)	Standard slave
VAA-4E4A-KE5-ZEJQ/R	4		Standard slave
VBA-4E-KE5-ZEJQ			A/B slave
VBA-4E4A-KE5-ZEJQ/E2L	4	External (from AUX)	A/B slave
VBA-4E4A-KE5-ZEJQ/R	4		A/B slave

Highlights

- Housing with push-in connection technology and mechanically coded terminal blocks
- Housing width W 19 mm, installation in the switch cabinet on DIN mounting rail
- Sensors supplied either externally or from the module
- Function indicator for the bus, external auxiliary voltage, internal sensor supply, inputs and outputs
- Per-channel red LED indicator for output overload

Brief Description

In particular, the KE5 module with front connection and cable connection from below offers time-saving and space-saving installation. The product family offers individually removable, coded terminals and a per-channel diagnostics indicator with dual LEDs on the affected input/output. This simplifies diagnostics in the event of a fault.



Accessories	
VAZ-BRIDGE-BU/BN60MM/0,75-100	Bridge
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

Safety at Work G10 Series

Standard Technical Data	
Design	G10
Installation conditions	Field mounting
Inputs per module	2
Outputs per module	1
Slave type	Safety slave
Supply inputs	Internal (from AS-i)
Supply outputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing length L	40.5 mm
Housing width W	27.7 mm
Housing height H	21.5 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

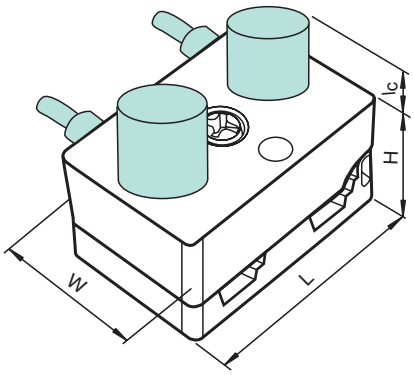
Model number	Connection type
VAA-2E1A-G10-SAJ/EA2J-1M	Cable with open wire ends
VAA-2E1A-G10-SAJ/EA2J-2M-V1-G	M12 connector socket
VAA-2E1A-G10-SAJ/EA2J-2X1M	Cable with open wire ends and separate cable for the electronic output

Highlights

- Connection of contact-related safety switches, e.g., emergency stop buttons
- Safe modules with two secure inputs and one standard output
- Applications up to PLe
- Modular safety solution
- Ultra-compact enclosure:
- IP67 protection

Brief Description

The G10 safety module simply disappears into the cable duct and allows direct connection of safety devices up to performance level e (PLe). Magnet, position, key, and cable pull switches are fully integrated into AS-Interface Safety. The same applies to emergency stop buttons, door locks, and even light grids with relay output. Simply insert the ribbon cable, close it, and tighten the screw—and you're ready! Fast, simple, modular, and without complicated parallel cabling.



Accessories	
VAZ-2E1A-F85A-S	Emergency stop button
VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module / handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

Safety at Work G12 Series

Standard Technical Data	
Design	G12
Installation conditions	Field mounting
Inputs per module	2
Outputs per module	2
Slave type	Safety slave
Supply inputs	Internal (from AS-i)
Supply outputs	External (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
SIL	3
Housing material	PBT
Housing length L	118 mm
Housing width W	57.4 mm
Housing height H	35 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

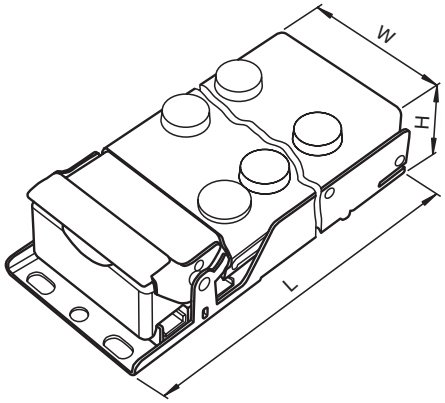
Model number
VAA-2E2A-G12-SAJ/EA2L

Highlights

- A/B slave with extended addressing capability for up to 62 slaves
- Safe modules with two secure inputs and two standard outputs
- One-piece housing with stainless steel base
- Flat cable connection with piercing technology, variable flat cable routing
- Communication monitoring, configurable
- DIN rail mounting

Brief Description

The G12 safety module enables connection of all contact-type safety switches and offers additional standard outputs.



Accessories	
VAZ-CLIP-G12	AS-Interface accessories
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

Safety at Work KE1 Series

Standard Technical Data	
Design	KE1
Installation conditions	Switch cabinet mounting
Inputs per module	2
Slave type	Safety slave
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Polyamide
Housing length L	48.5 mm
Housing width W	22.5 mm
Housing height H	99.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

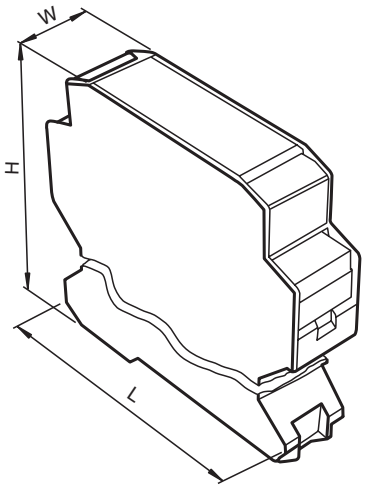
Model number	Connection type	Inputs suitable for	Outputs per module	Supply inputs	Supply outputs	UB (min)
VAA-2E-KE1-S	Plug-in screw terminals	Mechanical contacts		Internal (from AS-i)		26.5
VAA-2E2A-KE1-SE	Plug-in screw terminals	OSSD	2	External (from AUX)	External (from AUX)	22
VAA-2E2A-KE1P-S/E2	Plug-in spring terminals	Mechanical contacts	2	Internal (from AS-i)	External (from AUX)	26.5

Highlights

- Housing with removable terminals
- Communication Monitoring
- Power supply of the inputs from the module
- Addressing socket
- Inputs for two-wire sensors and mechanical contacts
- Function indicator for the bus, external auxiliary voltage, inputs, and outputs

Brief Description

All contact-related safety switches can also be connected in the low-profile, safe KE1 module in IP20. A version is also available for the connection of electronic protective equipment in this housing.



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

Safety at Work KE3 Series

Standard Technical Data	
Design	KE3
Installation conditions	Switch cabinet mounting
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Polyamide
Housing length L	107 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

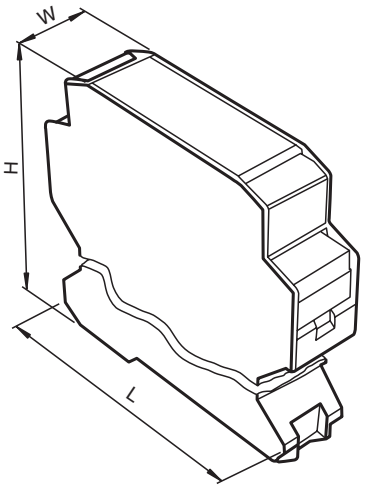
Model number	Inputs per module	Outputs per module	Supply inputs	Supply outputs	Slave type
VBA-4E1A-KE3-ZEJ/SR	4	1	Internal (from AS-i)	Internal (from AS-i)	A/B slave
VBA-4E2A1A-KE3-ZEL/E2L/SEL	3	2	External (from AUX)	External (from AUX)	Standard slave

Highlights

- Multiple secure output modules grouped into one release circuit
- Two galvanically isolated contact sets
- Four conventional inputs, one of which can be switched as a contactor feedback circuit
- SIL3 (IEC 61508)
- Addressing socket
- Assigns a complete address for the safe output and one A/B address for the four inputs

Brief Description

The safe KE3 output module contains a safe relay output. This safe output can be used to safely switch off several downstream outputs together for operation-related switching.



Accessories	
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VBP-HH1-V3.0-KIT	AS-Interface handheld with accessories

Safety at Work KE4 Series

Standard Technical Data	
Design	KE4
Installation conditions	Switch cabinet mounting
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	113 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

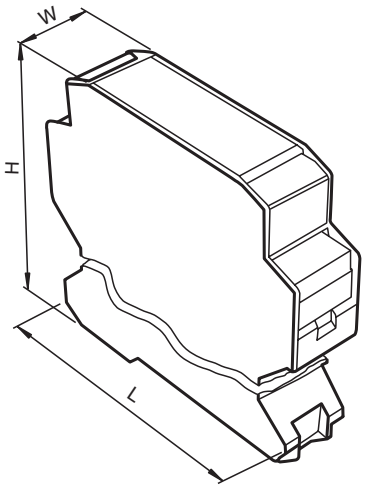
Model number	Inputs per module	Outputs per module	Supply inputs	Supply outputs	Slave type	SIL
VBA-2E-KE4-ENC-S	2				A/B slave	3
VBA-2E2A-KE4-ENC/SSI-S	8	2		External (from AUX)	A/B slave	3
VBA-8E8A8A-KE4-ZEL/E2L/SEL	8	8	External (from AUX)	External (from AUX)	Standard slave	

Highlights

- Two integrated, secure outputs (OSSDs)
- Eight logical, secure, switchable output groups
- Can be extended via the AS-Interface port
- Configurable muting, timer and logic functions using SIMON+ software
- Integrated data decoupling

Brief Description

The KE4 speed module can safely monitor the secure position, position-dependent velocities, standstill, a speed band or a direction of rotation for up to two axes.



Accessories	
RVS58S-*****Z**	Incremental rotary encoder
Safe Speed Monitor	Speed monitor
VAZ-2T-KE4-ENC-2V45	AS-Interface for rotation speed monitor adapter module
VAZ-ENC-1,5M-PVC	Connection cable
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-SW-SIMON+	Configuration software
VAZ-SW-SUITE	Configuration software

Door Monitoring

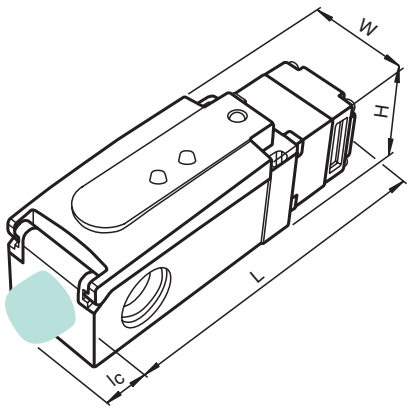
Standard Technical Data	
Slave type	Safety slave
Operating voltage (max)	31.6 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type	Connection type	Inputs per module	Outputs per module	Supply inputs	Supply outputs	UB (min)	SIL	Degree of protection	Length L	Width W	Height H	UL
VAA-1E-IEI3-READER1-S-V31	RFID monitoring	M8 connector plug				Internal (from AS-i)	18	3	IP65	40	29.5		
VAA-2E-IER2-S-1M-V1	Mechanical monitoring	M12 connector plug					26.5	3	IP67	36	26.2		■
VAA-2E2A-IM1-J-S-V1	Locking	M12 connector plug	2		Internal (from AS-i)		26.5		IP67	123	40	42	■
VAA-2E3A-LIM1-PL-J-S-V1	Guard locking	M12 connector plug	2	1	Internal (from AS-i)	Internal (from AS-i)	26.5		IP67	190	40	42	
VAA-2E3A-LIM1-PL-L-S-V1	Guard locking	M12 connector plug	2	1	Internal (from AS-i)	External (from AUX)	26.5		IP67	190	40	42	■
VAA-2E3A-LIM1-PU-J-S-V1	Guard locking	M12 connector plug	2	1	Internal (from AS-i)	Internal (from AS-i)	26.5		IP67	190	40	42	
VAA-2E3A-LIM1-PU-L-S-V1	Guard locking	M12 connector plug	2	1	Internal (from AS-i)	External (from AUX)	26.5		IP67	190	40	42	■

Highlights

- Mechanical locking or mechanical guard locking
- Choice of power supply from AS-Interface or from AUX
- Robust steel head guarantees long service life
- Multi-position actuator head provides flexibility, allowing an approach from any direction
- Slim, 40 mm wide device
- Coded mechanical actuator
- Connection via M12 plug



Brief Description

In accordance with EN 1088, the correct function of moveable protective devices has to be assured by the use of products that have force-guided contacts. The machine builder is required to prepare a risk analysis in accordance with EN 1050 and take appropriate measures to avoid potential danger. Safety switches are frequently used as locking or guard locking devices. Locking devices monitor the protective device for the "open" position and "lock" the control system when necessary. Guard locking devices prevent protective doors from being opened easily. This function is often employed to avoid unintentional interruption of a process, or to bring an active plant to a standstill before access to is possible. Often, actuators and safety switches are two separate components, and they are typically Type 2 devices.

Accessories	
V31-GM-1M-PUR-V1-G	Cordset, M8 to M12, 4-pin, PUR cable
V31-GM-2M-PUR-V1-G	Cordset, M8 to M12, 4-pin, PUR cable
V31-GM-3M-PUR-V1-G	Cordset, M8 to M12, 4-pin, PUR cable
VAZ-IEI3-TAG1-S	Actuators for noncontact AS-Interface safety switches
VAZ-IER2-ACTUATOR2-S	Actuators for noncontact AS-Interface reed safety switches
VAZ-IM1-90°-BOLT-S	Actuator angled, for AS-Interface safety switches
VAZ-IM1-BASE-BOLT-S	Latch for mechanical safety switches (LIM1 and IM1)
VAZ-IM1-BASE-S	Switch mount for mechanical safety switches (LIM1 and IM1)

Handheld Programming Unit

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

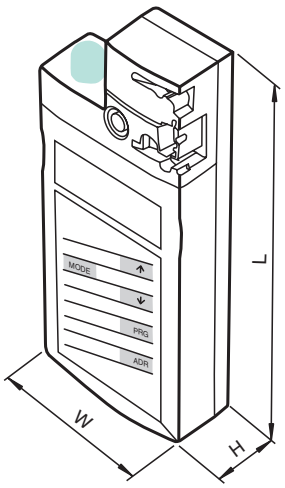
Model number	Connection	Extra
VBP-HH1-V3.0-110V	Charger plug, 120 V AC, in the scope of delivery	
VBP-HH1-V3.0-KIT	Charger plug, 230 V AC, in the scope of delivery	
VBP-HH1-V3.0-V1	Charger plug, 230 V AC, in the scope of delivery	Additional M12 connector for external voltage supply for AS-Interface and AUX

Highlights

- Addressing and parameterization of AS-Interface slave
- Displaying the assigned slave addresses and the status of the inputs
- Setting outputs at the AS-Interface slave
- Also supports Profile S-7.7.A.7 (Spec 3.0) as well as S-0.B and S-7.B (AS-Interface Safety at Work)
- The slave connection is short-circuit-proof and overload-proof
- Battery charger in scope of delivery

Brief Description

With the AS-Interface handheld programming device, AS-Interface nodes in the network can be addressed especially easily and quickly. It can also be used for diagnostics, parameterization, reading inputs, and setting outputs.



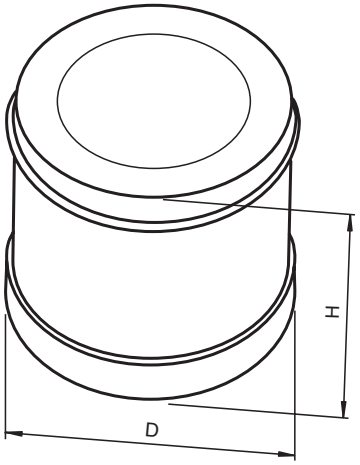
Accessories	
V1S-TEE-V1/V1S	T-splitter, M12 plug to M12 plug/socket
VAZ-PK-1,5M-V1-G	Adapter cable module/handheld programming unit
VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module / handheld programming unit
VAZ-PK/G20-1M-V1-G	Adapter cable G20 module / handheld programming unit

Stack Lights

Standard Technical Data	
Design	Other
Operating voltage (min)	24 V
Operating voltage (max)	24 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type	Degree of protection	Height H	Diameter D	UL
VAZ-HORN-40MM-85DBA-2TONE	Acoustic (siren)	IP66	44	40	■
VAZ-LED-40MM-CLD-BU	Blue LED	IP66	59	40	■
VAZ-LED-40MM-CLD-GN	Green LED	IP66	59	40	■
VAZ-LED-40MM-CLD-RD	Red LED	IP66	59	40	■
VAZ-LED-40MM-CLD-WH	White LED	IP66	59	40	■
VAZ-LED-40MM-CLD-YE	Yellow LED	IP66	59	40	■
VAZ-HORN-70MM-0..100DBA-8TONE	Acoustic (siren)	IP65	72	70	■
VAZ-HORN-70MM-105DBA	Acoustic (buzzer)	IP65	54	70	■
VAZ-HORN-70MM-85DBA	Acoustic (buzzer)	IP65	72	70	■
VAZ-LAMP-70MM-BU	Blue lamp	IP65	65	70	■
VAZ-LAMP-70MM-CL	Clear lamp	IP65	65	70	■
VAZ-LAMP-70MM-GN	Green lamp	IP65	65	70	■
VAZ-LAMP-70MM-RD	Red lamp	IP65	65	70	■
VAZ-LAMP-70MM-YE	Yellow lamp	IP65	65	70	■
VAZ-LED-70MM-BU	Blue LED	IP65	70	70	■
VAZ-LED-70MM-CL	Clear LED	IP65	70	70	■
VAZ-LED-70MM-GN	Green LED	IP65	70	70	■
VAZ-LED-70MM-LM	Yellow LED	IP65	70	70	
VAZ-LED-70MM-RD	Red LED	IP65	70	70	■
VAZ-LED-70MM-YE	Yellow LED	IP65	70	70	■



Accessories	
VAZ-CLAMP-40MM	Stack light connection element with end cover
VAZ-CLAMP-40MM-IO	Stack light connection element IO-Link with cover
VAZ-CLAMP-70MM	Stack light connection element with end cover
VAZ-CLAMP-70MM-90°	Stack light connection element with end cover
VAZ-LAMP-70MM-BULB-5W/24V	Bulb for stack light permanent light element

Cable

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

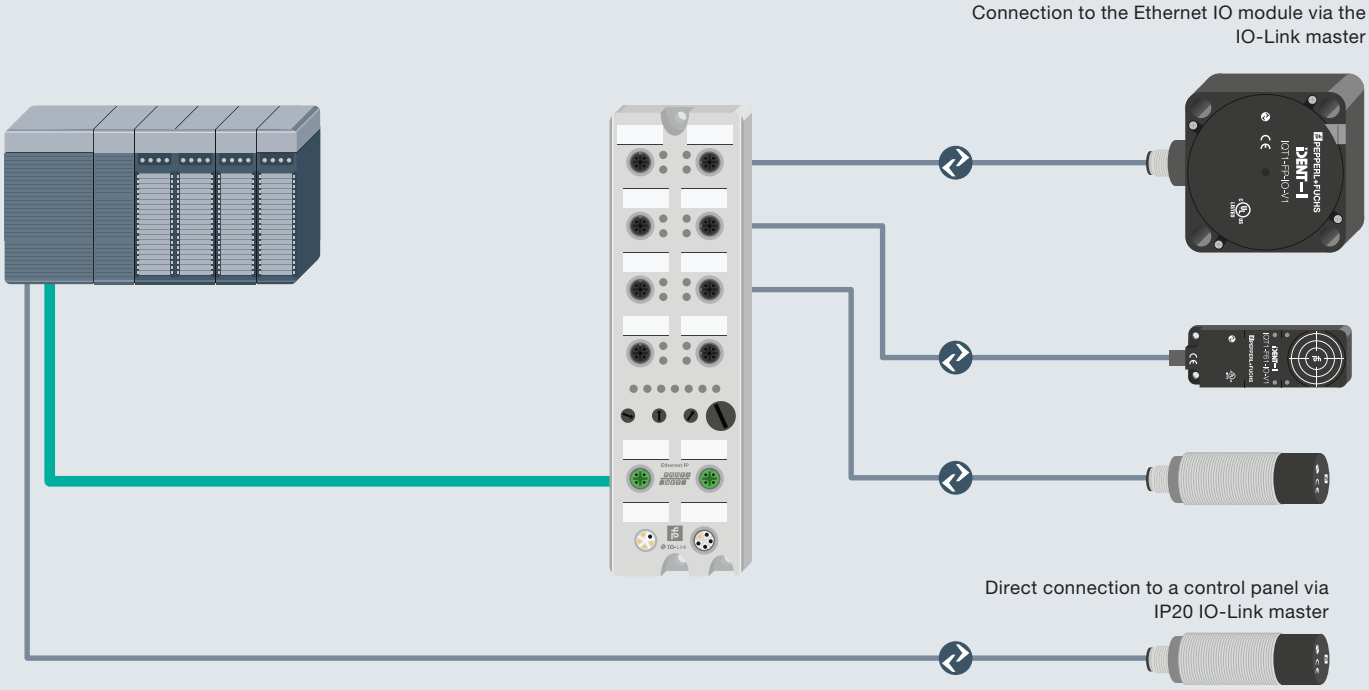
Model number	Cable length [m]	Cable material	Cable color	Core cross section [mm²]	Ambient temperature (min)	Ambient temperature (max)	UL
VAZ-FK-PUR-BK-2,5MM	100	PUR	Black	2.5	-40	80	■
VAZ-FK-PUR-BK-SUP	100	PUR	Black	1.5	-40	80	■
VAZ-FK-R-BK	100	TPE	Black	1.5			■
VAZ-FK-R-YE	100	TPE	Yellow	1.5			■
VAZ-FK-S-BK	100	EPDM	Black	1.5			
VAZ-FK-S-BK-2,5MM	100	EPDM	Black	2.5			
VAZ-FK-S-BK-2,5MM-500M	500	EPDM	Black	2.5			
VAZ-FK-S-BK-500M	500	EPDM	Black	1.5			
VAZ-FK-S-BK-SUP	100	EPDM	Black	1.5			
VAZ-FK-S-BK-SUP-500M	100	EPDM	Black	1.5			
VAZ-FK-S-YE	100	EPDM	Yellow	1.5			
VAZ-FK-S-YE-500M	500	EPDM	Yellow	1.5			
VAZ-FK-S-YE-SAFETY	100	EPDM	Black	1.5			

Accessories	
VAZ-FK-ED3	AS-Interface end seal for flat cable

IO-Link Master: Intelligent and Future-Proof

The Ethernet IO modules from Pepperl+Fuchs offer high efficiency, maximum flexibility and the simplest connection. Up to eight IO-Link devices can be connected via one IO-Link master. This saves channel costs and enables a highly cost-effective application solution. End-to-end communication between the control and sensor levels also forms the basis for implementing Industry 4.0 applications—a secure investment in the future.

Sensorik 4.0



In addition to the IDENTControl family, Pepperl+Fuchs also offers an optimized overall solution for applications with IO-Link technology. The Ethernet IO module with integrated IO-Link master allows all read/write heads with IO-Link interface to be connected easily and cost-effectively—for a future-proof identification solution.

IO-Link Master

Standard Technical Data	
Transfer rate	100000 Hz
Type	Ethernet IO-Link module
Voltage type	DC
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Installation conditions	Protocol	Input	Output type	UB (min)	Degree of protection	Length L	Width W	Height H
ICE1-8IOL-G30L-V1D	Field mounting	EtherNet/IP, PROFINET	12 digital inputs, 8 x IO-Link	8 digital outputs, 8 x IO-Link	18	IP65/IP67/IP69K	21	59.6	200
ICE1-8IOL-G60L-V1D	Field mounting	EtherNet/IP, PROFINET	12 digital inputs, 8 x IO-Link	12 digital outputs, 8 x IO-Link	18	IP65/IP67/IP69K	21	59.6	200
ICE2-8IOL-G65L-V1D	Field installation	EtherNet/IP, MODBUS	16 digital inputs	8 digital outputs	20	IP67	30	65	212
ICE2-8IOL-K45P-RJ45	Switch cabinet mounting	EtherNet/IP, MODBUS	16 digital inputs	8 digital outputs	18	IP20	114	45	118
ICE2-8IOL-K45S-RJ45	Switch cabinet mounting	EtherNet/IP, MODBUS	16 digital inputs	8 digital outputs	18	IP20	114	45	108
ICE3-8IOL-G65L-V1D	Field installation	MODBUS, PROFINET	16 digital inputs	8 digital outputs	20	IP67	30	65	212
ICE3-8IOL-K45P-RJ45	Switch cabinet mounting	MODBUS, PROFINET	16 digital inputs	8 digital outputs	18	IP20	114	45	118
ICE3-8IOL-K45S-RJ45	Switch cabinet mounting	MODBUS, PROFINET	16 digital inputs	8 digital outputs	18	IP20	114	45	108

Highlights

- Integrated IO-Link master function for continuous diagnostics and parameterization from the control panel down to the sensor/actuator level
- Extensive diagnostic options either on the device itself or via web server for greater transparency and increased process reliability

Brief Description

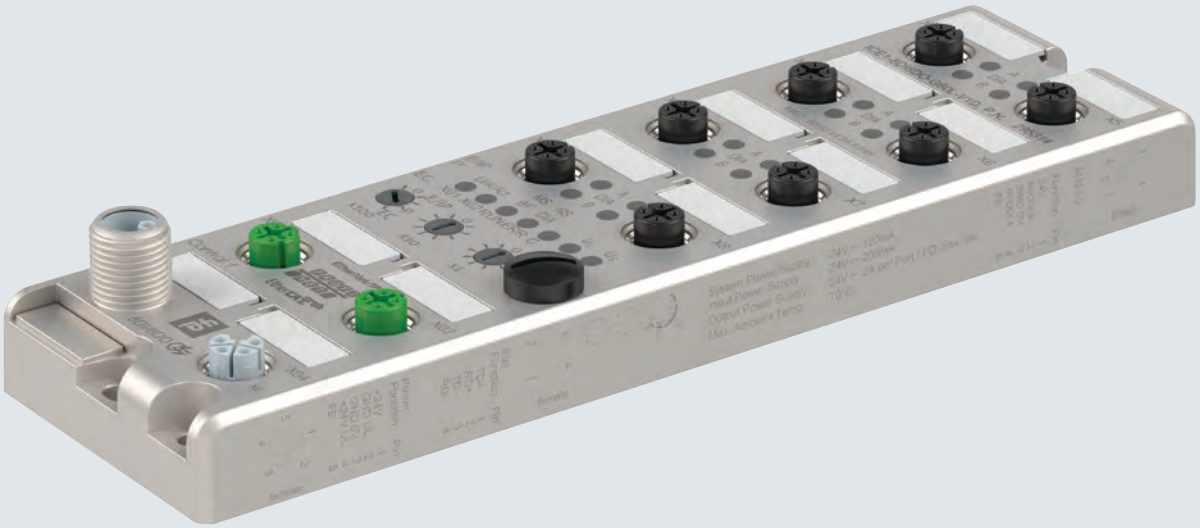
The standard IO-Link can be used with devices from any manufacturer and makes full use of the intelligence of sensors. Pepperl+Fuchs therefore offers Ethernet IO modules with an integrated IO-Link master for the optimal connection of IO-Link devices. The modules support the standard and widely used industrial protocols PROFINET and Ethernet/IP, which means that they can be used easily with many standard controllers. In order to make maximum use of the advantages of this technology, a large number of IO-Link I/O hubs are available alongside the modules for also integrating binary sensor technology into the intelligent IO-Link system.

Accessories	
ICA-10DI6DO-G60A-IO	I/O hub with IO-Link interface for ten digital inputs and six digital outputs
ICA-16DI-G60A-IO	I/O hub with IO-Link interface for 16 digital inputs
ICA-16DIO-G60AL-IO	I/O hub with IO-Link interface for 16 digital inputs/outputs
MH V1-BIT M12	Plug-in attachment for M12
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-G-2M-PUR	Single-ended female cordset, M12, 4-pin, PUR cable
V1-G-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-G-BK1M-PUR-A-T-V1-G	Y-splitter cordset, M12 to 2xM12, 4-pin, PUR cable

Industrial Communication

Reliable Communication on All Levels

A module in a robust design for all common Ethernet protocols, IO-Link, and integrated intelligence for decentralized automation and diagnostic tasks—the fieldbus modules from Pepperl+Fuchs not only perfectly fit into the requirement profile of innovative machine and plant builders, but also in Industry 4.0.



Ethernet IO module with integrated logic function

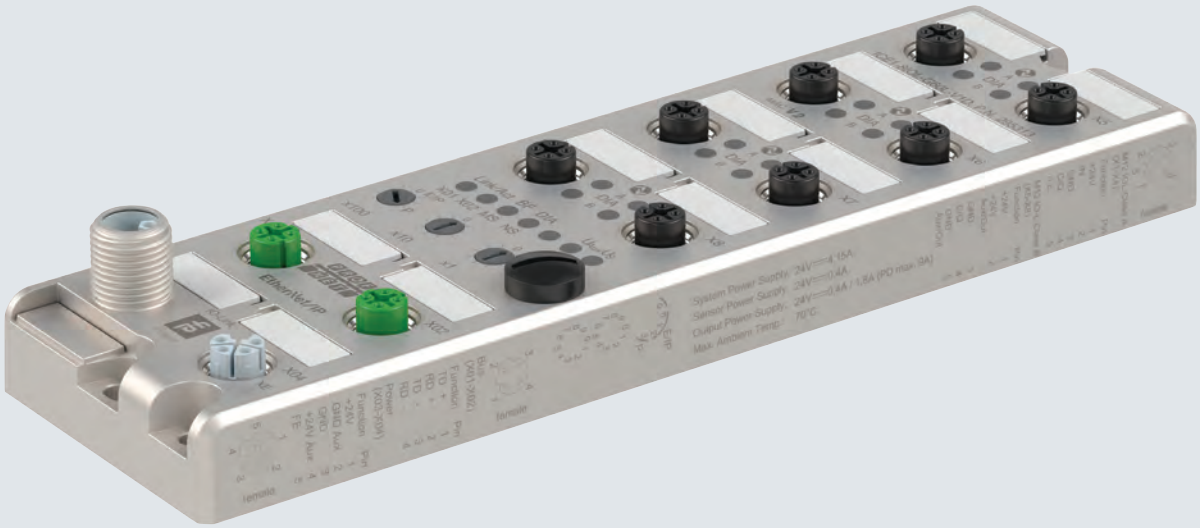
Typical Applications

Fieldbus modules act as interfaces to industrial fieldbus systems. They enable efficient communication between the central control and the field level. Typical applications for these modules are:

- Automotive industry: Networking in final assembly
- Production lines: Switch control for sorting scrap production via decentralized control function
- Wrapping machines: Deterioration response as diagnostics for preventative maintenance

Your Benefits at a Glance

- Machine standardization through multiple protocols: all standard Ethernet communication protocols in a single module
- Innovative M12 power connector for reduced installation costs due to higher current-carrying capacity up to 2x 16 A (galvanically isolated for sensor and actuator supply)
- Integrated IO-Link master function for continuous diagnostics and parameterization from the control panel down to the sensor/actuator level
- Decentralized logic function in the fieldbus module for autonomous functionality, independent from the control panel
- Extensive diagnostic options either on the device itself or via web server for greater transparency and increased process reliability



Ethernet IO module with IO-Link master

Technical Features

- Metal housing with full casting in IP67: Ideal for use directly on the machine due to high shock and vibration resistance
- Connection of sensors and actuators via 16 digital inputs, 8 digital inputs/outputs or 8 IO-Link sensors/actuators
- Future-proof thanks to IO-Link standard V1.1 according to IEC 61131-9
- Rotary switch for setting the communication protocol (PROFINET, Ethernet/IP, EtherCAT) enables especially easy operation
- Highly visible, channel-specific status LEDs as well as indicators for communication, diagnostics and voltage supply for status monitoring

Fieldbus Modules

Contents

Ethernet IO Modules
Page 421

Unmanaged Ethernet switches
Page 422

Serial gateways (DeviceMaster)
Page 423

Ethernet IO Modules

Standard Technical Data	
Installation conditions	Field mounting
Voltage type	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Degree of protection	IP65/IP67/IP69K
Ambient temperature (min)	-20 °C
Ambient temperature (max)	70 °C
Housing length L	21 mm
Housing width W	59.6 mm
Housing height H	200 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type	Protocol	Transfer rate [MBit/s]	Input	Output type
ICE1-16DI-G60L-V1D	Digital fieldbus module	EtherCAT, EtherNet/IP, PROFINET	100	16 digital inputs	
ICE1-16DIO-G60L-C1-V1D	Digital fieldbus module	EtherCAT, EtherNet/IP, PROFINET	100	16 digital inputs	16 digital outputs
ICE1-16DIO-G60L-V1D	Digital fieldbus module	EtherCAT, EtherNet/IP, PROFINET	100	16 digital inputs	16 digital outputs
ICE1-8DI8DO-G60L-C1-V1D	Digital fieldbus module	EtherCAT, EtherNet/IP, PROFINET	100	8 digital inputs	8 digital outputs
ICE1-8DI8DO-G60L-V1D	Digital fieldbus module	EtherCAT, EtherNet/IP, PROFINET	100	8 digital inputs	8 digital outputs
ICA-10DI6DO-G60A-IO	I/O hubs with IO-Link	IO-Link		10 digital inputs	6 digital outputs
ICA-16DI-G60A-IO	I/O hubs with IO-Link	IO-Link		16 digital inputs	
ICA-16DIO-G60AL-IO	I/O hubs with IO-Link	IO-Link		16 digital inputs	16 digital outputs

Highlights

- Enables comprehensive diagnostics and parameterization down to the sensor/actuator level
- Simplified device replacement and commissioning: Automatic transfer of the parameter set when connecting several sensors
- Unshielded standard cables for simple and economical wiring

Brief Description

Equipped with an integrated eight-way IO-Link master, the Ethernet IO module allows direct connection of up to eight IO-Link devices. There are four channels available for sensors (type A) and actuators (type B). This allows parameters to be set, measuring and switching signals to be transferred, diagnostic functions to be implemented and more transparency to be achieved. This can set up, for example, a pre-fault indicator, preventive maintenance, a simple restart after sensor replacement, and an overview of the overall system. This transparency through to the sensor or actuator can significantly improve process performance.

Accessories	
MH V1-BIT M12	Plug-in attachment for M12
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-G-BK1M-PUR-A-T-V1-G	Y-splitter cordset, M12 to 2xM12, 4-pin, PUR cable
V15L-G-0,6M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-1M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-2M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-5M-PUR-U	Single-ended female cordset, M12, L-coded, 5-pin, PUR cable
V15L-G-BK	Single-ended female cordset, M12, L-coded, field-attachable

Unmanaged Ethernet Switch

Standard Technical Data	
Installation conditions	Switch cabinet mounting
Transfer rate	100000 Hz
Type	Unmanaged Ethernet switch
Voltage type	DC
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Number of ports	UB (min)	UB (max)	Length L	Width W	Height H
ICRL-U-5RJ45-DIN	5 x RJ45	18	32	99	30.5	112
ICRL-U-5RJ45-DIN-NT	5 x RJ45	18	32	99	30.5	112
ICRL-U-8RJ45-DIN	8 x RJ45	10	60	120	55	108
ICRL-U-8RJ45-DIN-NT	8 x RJ45	10	60	120	55	108

Highlights

- Robust housing for use in adverse environmental conditions
- Alarm relay output for port event notifications
- DC power input
- Extended temperature range
- C1D2 certification

Brief Description

Unmanaged Ethernet switches in the RocketLinx series are suitable for applications that require extended temperature ranges, rugged enclosures, high-performance communication and reliable data transfer. With five to eight port devices available in a wide range of robust enclosure variants, the RocketLinx series offers maximum reliability and performance to meet a wide range of customer requirements. RocketLinx unmanaged switches offer a cost-effective solution for easy connection of Ethernet-capable devices to networks that do not require complex configuration. By contrast, managed switches are suitable for setting up more complex networks and impress with additional features and custom configuration options. Users can select from a comprehensive portfolio of Power-over-Ethernet and Gigabit switches.

Accessories	
V45-G-10M-V45-G	Network cable RJ-45, Category 5
V45-G-C5-GN10M-PUR-E1S	Bus cable, Ethernet single-ended male cordset RJ45, PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN10M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN1M-PUR-E1S	Bus cable, Ethernet single-ended male cordset RJ45, PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN1M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN20M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN3M-PUR-E1S	Bus cable, Ethernet single-ended male cordset RJ45, PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded
V45-G-C5-GN3M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, green PUR cable, Cat5e, shielded

Serial Gateways (DeviceMaster)

Standard Technical Data	
Installation conditions	Switch cabinet mounting
Transfer rate	100000 Hz
Voltage type	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Ambient temperature (min)	-40 °C
Ambient temperature (max)	75 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model number	Type	Protocol	Length L	Width W	Height H
ICDM-RX/EN-2DB9/RJ45-DIN	EtherNet / IP gateway	EtherNet/IP	116.8	22.9	99.1
ICDM-RX/EN-2ST/RJ45-DIN	EtherNet / IP gateway	EtherNet/IP	111	22.6	99
ICDM-RX/EN-4DB9/2RJ45-DIN	EtherNet / IP gateway	EtherNet/IP	116.8	45.7	99.1
ICDM-RX/EN-DB9/RJ45-DIN	EtherNet / IP gateway	EtherNet/IP	114.8	22.9	99.1
ICDM-RX/EN-DB9/RJ45-PM	EtherNet / IP gateway	EtherNet/IP	91.4	20.3	71.1
ICDM-RX/EN-ST/RJ45-DIN	EtherNet / IP gateway	EtherNet/IP	119.3	22.9	99.1
ICDM-RX/MOD-2DB9/RJ45-DIN	Modbus gateway	MODBUS	116.8	22.9	99.1
ICDM-RX/MOD-2ST/RJ45-DIN	Modbus gateway	MODBUS	111	22.6	99
ICDM-RX/MOD-4DB9/2RJ45-DIN	Modbus gateway	MODBUS	116.8	45.7	99.1
ICDM-RX/MOD-DB9/RJ45-DIN	Modbus gateway	MODBUS	114.8	22.9	99.1
ICDM-RX/MOD-DB9/RJ45-PM	Modbus gateway	MODBUS	91.4	20.3	71.1
ICDM-RX/MOD-ST/RJ45-DIN	Modbus gateway	MODBUS	119.3	22.9	99.1
ICDM-RX/PN-2DB9/RJ45-DIN	PROFINET IO gateway	PROFINET	116.8	22.9	99.1
ICDM-RX/PN-2ST/RJ45-DIN	PROFINET IO gateway	PROFINET	111	22.6	99
ICDM-RX/PN-4DB9/2RJ45-DIN	PROFINET IO gateway	PROFINET	116.8	45.7	99.1
ICDM-RX/PN-DB9/RJ45-DIN	PROFINET IO gateway	PROFINET	114.8	22.9	99.1
ICDM-RX/PN-DB9/RJ45-PM	PROFINET IO gateway	PROFINET	91.4	20.3	71.1
ICDM-RX/PN-ST/RJ45-DIN	PROFINET IO gateway	PROFINET	119.3	22.9	99.1
ICDM-RX/TCP-2DB9/RJ45-DIN	Serial device server	TCP/IP	116.8	22.9	99.1
ICDM-RX/TCP-2ST/RJ45-DIN	Serial device server	TCP/IP	111	22.6	99
ICDM-RX/TCP-4DB9/2RJ45-DIN	Serial device server	TCP/IP	116.8	45.7	99.1
ICDM-RX/TCP-DB9/RJ45-DIN	Serial device server	TCP/IP	114.8	22.9	99.1
ICDM-RX/TCP-DB9/RJ45-PM	Serial device server	TCP/IP	91.4	20.3	71.1
ICDM-RX/TCP-ST/RJ45-DIN	Serial device server	TCP/IP	119.3	22.9	99.1

Highlights

- Web-based configuration
- RS-232/422/485 interfaces selectable via software
- NEMA TS2 certification

Brief Description

From barcode scanners to measuring devices and RFID readers, DeviceMaster® enables easy connection of devices with RS-232/422/485 serial interfaces to higher-level Ethernet or industrial Ethernet networks such as Ethernet/IP, Modbus TCP and PROFINET. The serial gateways have powerful security mechanisms including SSL key and SSH certificate management as well as SSL data encryption. They are available with different connection options and for DIN rail, switch panel and rack mounting.

Connectivity

Connection Technology for Automation

Powerful sensor technology also requires powerful connection technology. For this reason, Pepperl+Fuchs offers a complete solution with the connectivity product portfolio, in which these two components are perfectly matched in every detail.

Harmonized Systems from a Single Source

Decades of practical experience as a pioneer and innovator in sensor technology have resulted in a portfolio for connection technology that is perfectly matched to the requirements of automation. Harmonized systems increase productivity and increase the availability of machines and plants.

The Highest Quality in Any Environment

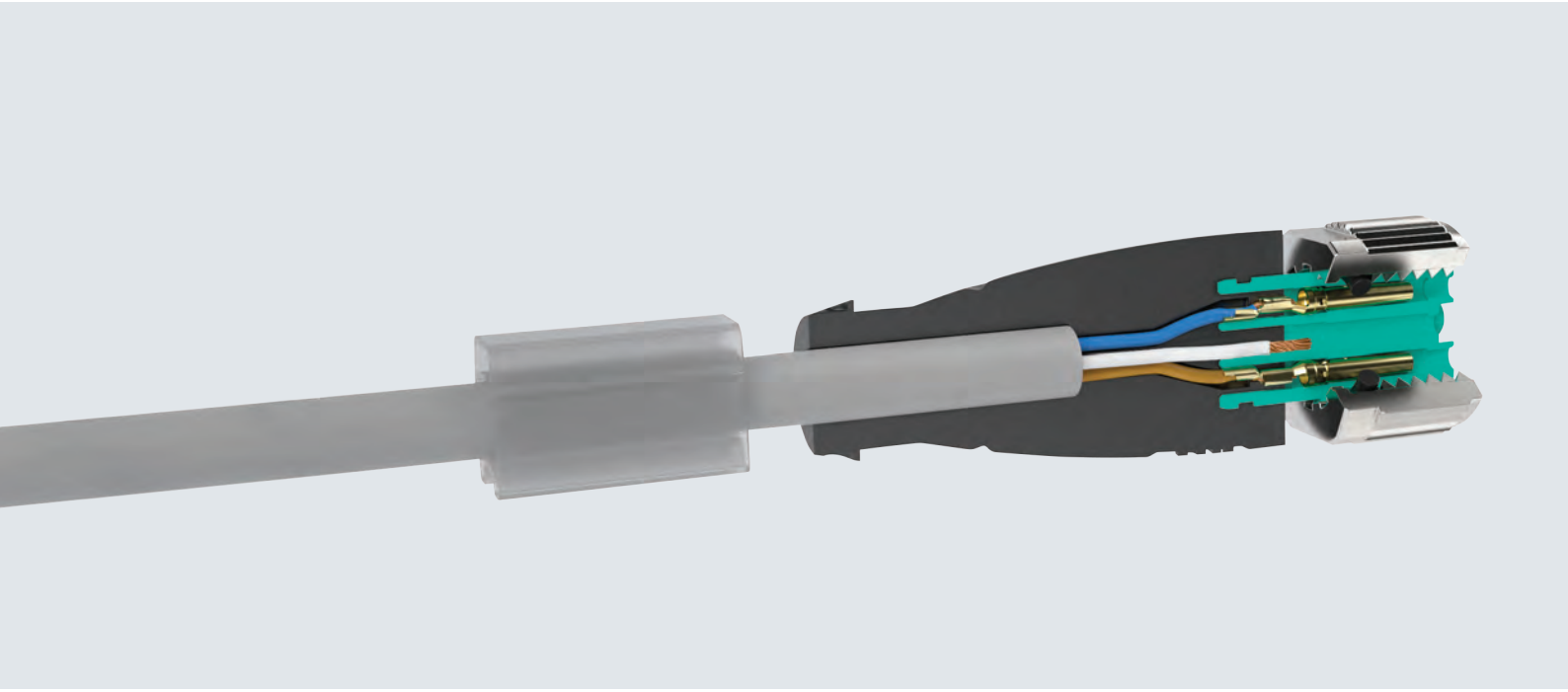
Since sensors can only perform as intended when they are connected optimally, Pepperl+Fuchs places particular emphasis on quality and reliability in the field of connectivity. Connection technology is therefore subjected to an automated, 100% functional test. State-of-the-art production technologies at the production site in Hungary allow zero-tolerance for defects, guaranteeing smooth and long-lasting service.

More information is available at:
www.pepperl-fuchs.com/fa-connectivity

Sensor-Actuator Cables

Standardized and Perfected for an Extremely Long Service Life

Developed from decades of application experience, the sensor-actuator cables from Pepperl+Fuchs guarantee process reliability through the highest load capacity and service life. In addition, they are well-considered down to the last detail and enable quick and convenient assembly by hand with a tool.



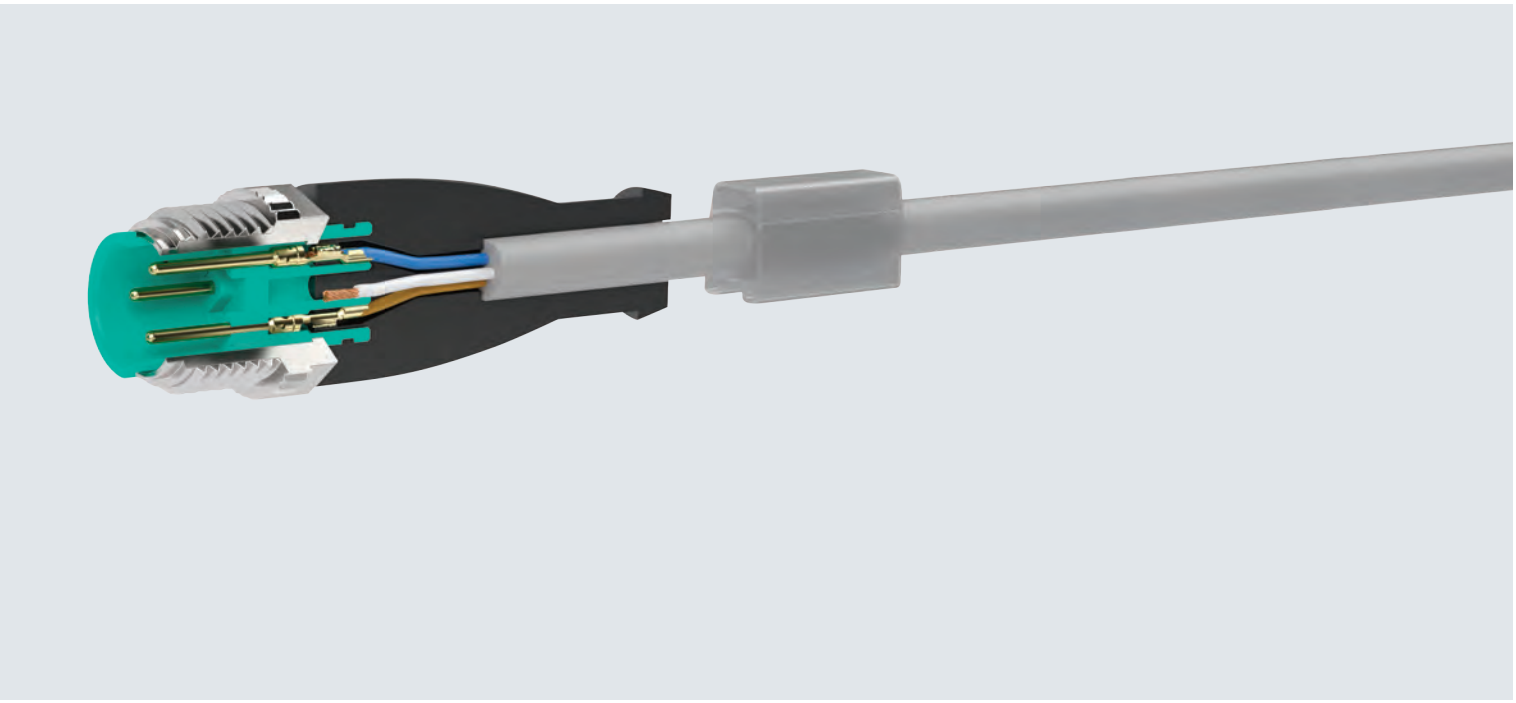
Your Benefits at a Glance

- Screw plug with knurling and hexagonal shape for quick and convenient installation by hand or with a tool
- Captive seal made of FKM for maximum sealing and media resistance
- O-ring is protected by integrated fixed stop for torque values from 0.4 Nm to 1.0 Nm
- High load capacity due to optimized vibration protection and gas-tight crimp connections
- Double creepage distance and protection up to IP68 and IP69K for use even in harsh industrial applications

Large Selection of Available Cable Qualities

No two applications are alike. Each operating environment has its own set of requirements. The mechanical and chemical properties of the connection technology used are a crucial aspect in determining the solution. Pepperl+Fuchs offers exactly the cable quality that you need.

- PVC—Solid and Economical
- PUR—Durable and Highly Flexible
- PUR U—Highly Flexible with UL Approval
- PUR A—Resistant to welding sparks for the automotive industry
- PUR O—Robust for demanding outdoor applications
- PUR-R—Highly flexible for demanding robotics applications
- STOOW—Designed Specifically for the American Market
- POC—Specifically for the welding industry



Technical Features

Mounting without a Datasheet
- Pin assignment is printed in the contact carrier
- Coding easily recognizable through clear arrow on the handle body

Practical and Quick Mounting
- Quick attachment by hand or tool due to combination knurling and hex nut
- Integrated fixed stop for protection of the O-ring and wide torque ranges
- Easy status diagnosis even with bright extraneous light thanks to high-contrast LED variants

100° Angle for Longer Service Life
- Strain relief of individual wires for a longer service life
- Highly prominent corrugated tube latching mechanism allows the use of additional protection for demanding applications

High Durability even in Harsh Industrial Applications
- High vibration resistance due to optimized vibration protection
- Double creepage distance for increased tolerance against contamination even when open

Connectivity Product Portfolio

More Than Just Connectors and Cables

Fully overmolded sensor-actuator splitters represent the ultimate standard in robustness. Field-attachable connectors provide the individual solution for your application. In addition to connectors and cables, Pepperl+Fuchs offers components which also guarantee long-term functional reliability and machine availability.

Sensor-Actuator Splitters

Splitter enabling you to easily merge two signals to one slot. Also suitable for cost-effective looping of bus signals with minimal wiring.

- Fully overmolded housing in accordance with IP68
- With rear sockets or molded cables
- Various cable lengths available

Field-Attachable Connectors

A wide range of connectors suitable for a diverse range of applications. Also ideal for easy repair or plant expansion on-site.

- Plastic or metal version
- Shielded and unshielded versions available
- Different connection standards including M8, M12, 1/2NPT, 7/8" and others, with screw technology or QUICKON technology
- Enable precise configuration on-site

Junction blocks

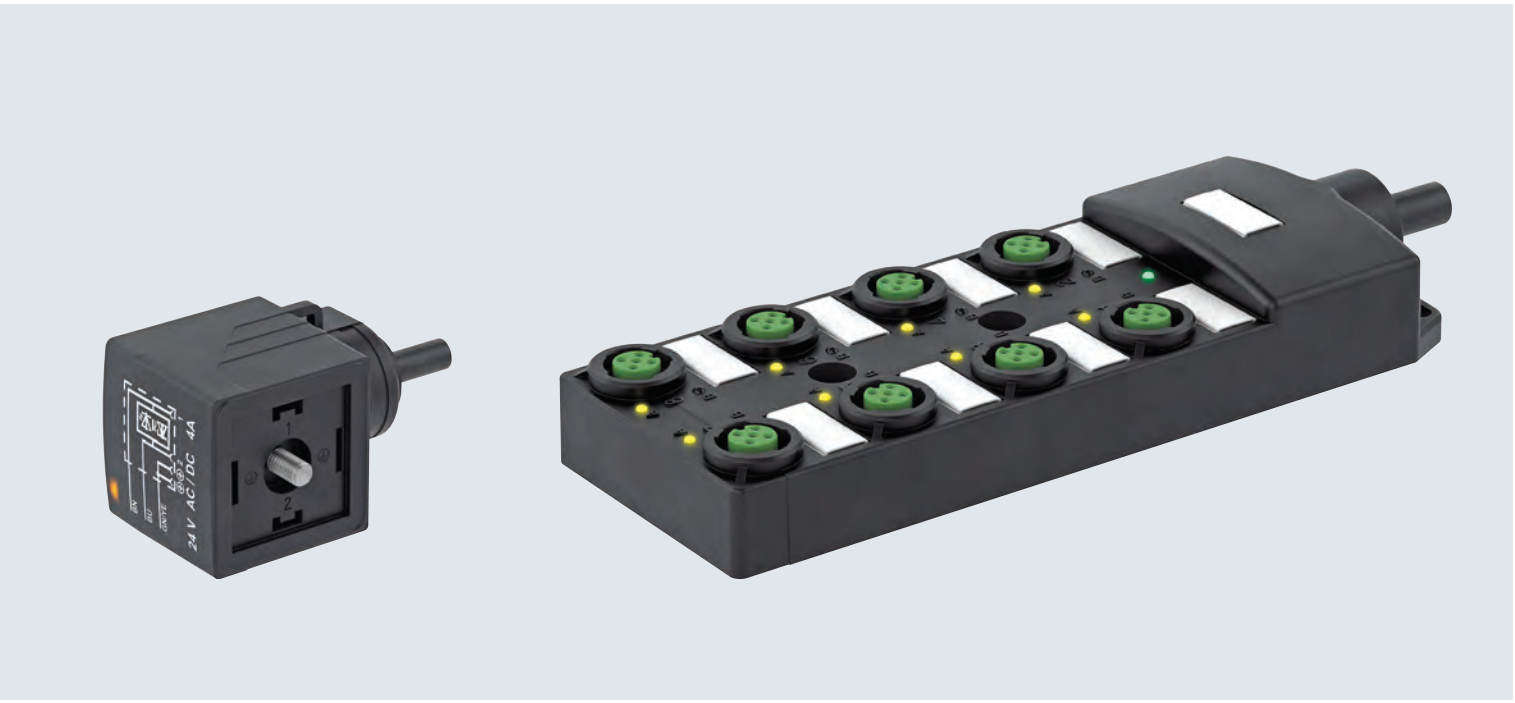
M8 and M12 distributor with a molded master cable for reduced installation costs.

- Fully encapsulated housing in accordance with IP68
- 100 % tested for complete reliability
- Integrated LEDs for easier diagnostics
- Large socket spacings (M12) or offset sockets (M8) for easy fitting of connection
- Also available as an especially robust outdoor version

Receptacle

Signal routing from the control cabinet directly into the field. Also ideal as a flexible, separable connection for service engineers.

- Permanent impermeability in accordance with IP67/IP68
- Different connections
- Available with PG or metric thread
- Also available as a positionable version



Data Connectors

Fieldbus cables enable you to create a permanently reliable network between the different components of an automation system.

- PROFIBUS
- PROFINET/Ethernet
- CAN/DeviceNet

Valve Connector

As a system provider, Pepperl+Fuchs provides ready-made components with exceptionally robust designs.

- Fully overmolded housing design in accordance with IP68
- Overmolded, captive seal
- Different circuits for secure EMC suppression
- Different versions in accordance with DIN and industry standard
- Also available as a robust outdoor version with stainless steel screw and silicone seal

Tool

Speed and precision are also crucial for installation and maintenance. Pepperl+Fuchs therefore also offers accessories that facilitate and speed up these routine tasks, such as the mounting aid for connectors to allow the secure attachment of connectors by thumbscrew to exactly the right torque.

Industry-Specific Connectivity Solutions

Each industry has individual requirements for connection technology. In addition to universal standard products, Pepperl+Fuchs therefore also offers specialized solutions tailored to individual requirements. One example is the Mobile Equipment Connectivity (MEC) series, which includes DEUTSCH plugs and other components specially designed for mobile use under extreme outdoor conditions.

Global Reach

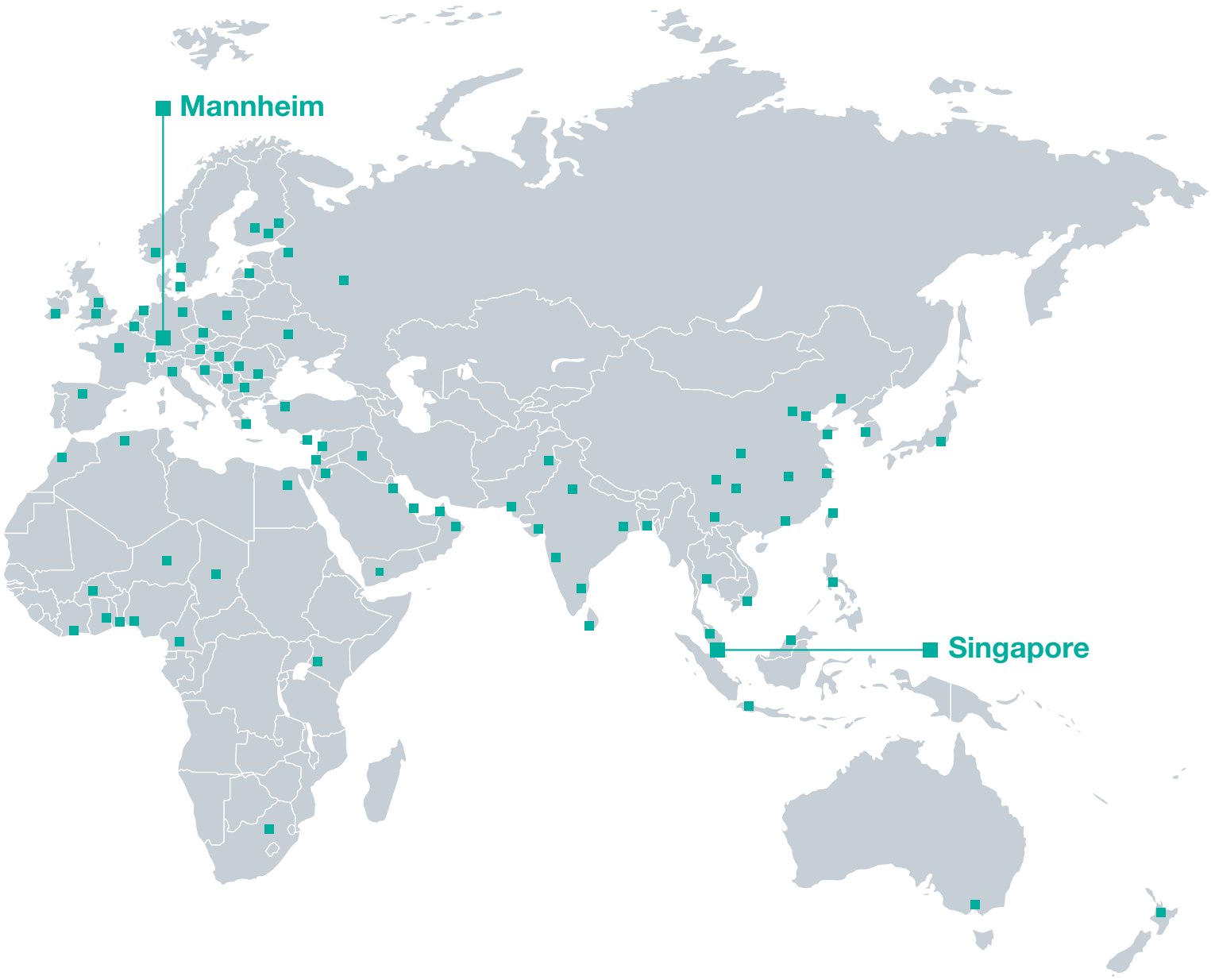
Staying in Touch. The World Over.

Good customer relationships need care and attention. They are an indication of genuine interest, trust, and a cooperative spirit: the foundation of Pepperl+Fuchs' strengths. No matter where you might be, we are always nearby. And we speak your language—in more than 140 countries the world over.

At Home on All Continents

Our customers are at the center of all our activities. Our worldwide network ensures that we provide them with the best possible service and support. Our world headquarters in Mannheim services Europe through a network of more than 40 affiliates. Asia is handled by our office in Singapore, with more than 1000 employees in manufacturing, service, and sales. And our North American headquarters in Twinsburg, Ohio, is responsible for a comprehensive network of offices and sales partners in the USA, Canada, and Mexico.

No matter where in the world you may be, Pepperl+Fuchs is right nearby—and always there for you.


Mannheim
Singapore

Your automation, our passion.

Explosion Protection

- Intrinsic safety barriers
- Signal conditioners
- FieldConnex® fieldbus infrastructure
- Remote I/O systems
- Electrical components and systems for explosion protection
- Purge and pressurization systems
- Operation and monitoring
- Mobile computing and communication
- HART interface solutions
- Overvoltage protection
- Wireless solutions
- Fill level measurement technology

Industrial Sensors

- Proximity sensors
- Photoelectric sensors
- Image processing
- Ultrasonic sensors
- Rotary encoders
- Positioning systems
- Inclination and acceleration sensors
- Industrial Ethernet
- AS-Interface
- IO-Link
- Identification systems
- Displays and signal processing
- Connectivity

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