BALLUFF

sensors worldwide

Global Sensors

The complete series for standard applications









As the leading sensor specialist and system provider with more than 90 years of company tradition, Balluff GmbH has been a recognized partner in factory automation for decades. The global player has a strong presence with 56 sales branches and representative offices as well as nine production sites on all continents. The corporate headquarters in Neuhausen a.d.F. is located near Stuttgart.

Balluff masters the entire technological variety with various operating principles, including high-quality sensors and systems for position measurement and identification, as well as sensors for detecting objects and measuring fluids. The full-range assortment includes optimal network and connection technology and a comprehensive line of accessory products.

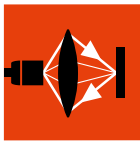
We offer innovative, first-class products tested in our own accredited laboratory, and maintain certified quality management in accordance with DIN EN 9001:2008. Our technology speaks for itself in international applications since it also meets regional standards.

Balluff stands for application-specific customer solutions, comprehensive services, individual consultation and prompt service. Our staff of more than 2750 employees is committed to providing outstanding service worldwide.

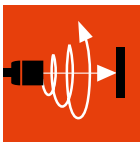
Benefit from comprehensive sensor expertise from a single source. Achieve solutions suited to your requirements.



Photoelectric Global Sensors 7



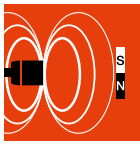
Inductive Global Sensors 36



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Worldwide Sales 104

Global sensors – Your complete series of standard sensors

For object detection, we offer a wide range of top-quality, performance proven products for standard applications. These Global products are economically priced and suitable for all-purpose.

The Global series includes inductive, photoelectric, capacitive and magnetic field sensors – and the matching accessories.

The standard product line can be used globally and complies with the most important international approvals to meet the demands of a global customer base. Most Global products can be supplied in-stock and in high quantities.

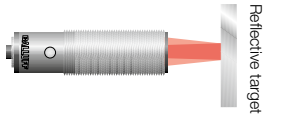
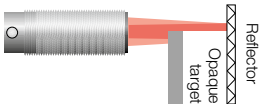
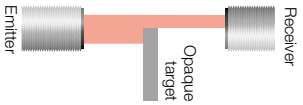
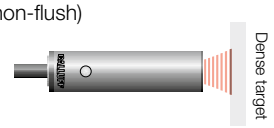
Your benefits at a glance

- **Quality products for standard applications**
- **Optimal price/performance ratio**
- **Short delivery time**
- **International certifications such as CE, cULus, etc.**
- **Worldwide applicable and worldwide service.**
- **Tested above and beyond standard**

Additional Global products can be found at www.balluff.com in the selector of each product area



All available sensor technologies

	Description	Range (typ.)	Advantages	Disadvantages	Applications
Photoelectric diffuse 	Detects any target capable of reflecting light	0...900 mm	Wide variety of applications, good for detecting small targets, only install at one point, cost less than through-beam or reflective	Short sensing range, sensitive to dirt, color-dependent	All-purpose, color marking, detecting labels
Photoelectric retroreflective 	Detect all parts that interrupt or reduce the light beam	0...16 m	Sensing range better than diffuse, ideally for conveyors or transparent targets, very reliable	Must install at two points on system: sensor and reflector, slightly more costly than diffuse	Conveyors, large openings, bottle detection
Photoelectric through-beam 	Detect all parts that interrupt or reduce the light beam	0...50 m	Longest sensing range, look through translucent object, very reliable, insensitive to dirt	Must install at two points on system: emitter and receiver	Height detection, control loops, level
Inductive 	Detect different metals based on the magnetic field	0...30 mm	Versatile application highly rugged, especially in difficult environmental conditions, economical, ease of handling	Short detection range, detects only metal targets	All-purpose models, welding, metal cutting, speed measurement
Capacitive object detection (flush) 	Detect parts based on change in density	0...20 mm	For detecting dense materials; adjustable, ease of handling. Even through plastic or glass walls	Small detection range, can be impaired by changes in humidity	Detect objects regardless of color, structure or material
Capacitive level detection (non-flush) 	Detect parts based on change in density	0...25 mm	For detecting bulk material or liquids – in contact with media	Can be impaired by material deposits	Detect objects regardless of color, structure or material
Magnetic 	Detects a magnet	Magnet-dependent	For pneumatic cylinders, detects most objects (except steel). Fits in nearly all standard cylinders	Short range, requires a magnet	Detect the cylinder position

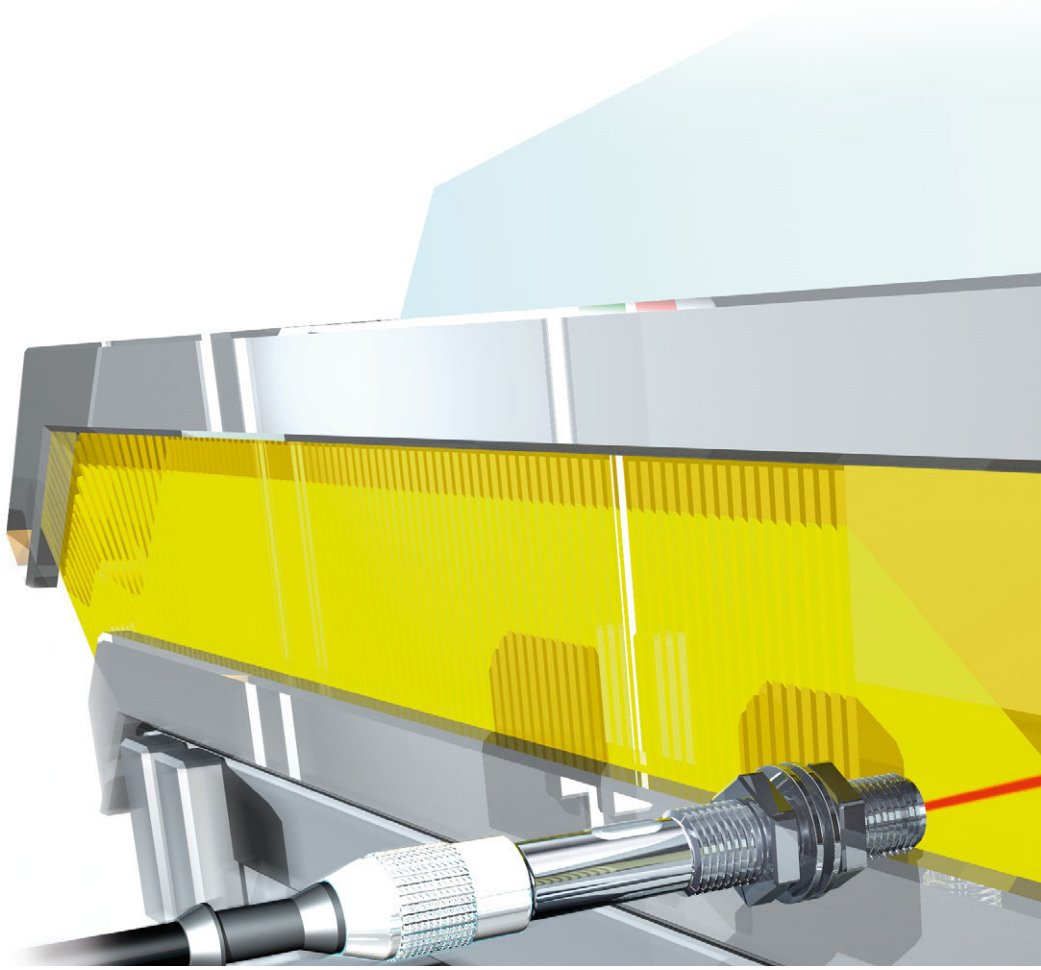
Photoelectric Global Sensors

Photoelectric Global sensors – the first choice for your standard applications

Easy operation, fast installation, affordable price – the highlights of our photoelectric Global sensors.
The broad spectrum of diffuse sensors, retroreflective light sensors and through-beam sensors in various housing designs has a wide variety of applications.

Features

- **Sound performance and reliable object detection**
- **ideal for standard applications**
- **cost-effective in every light type**

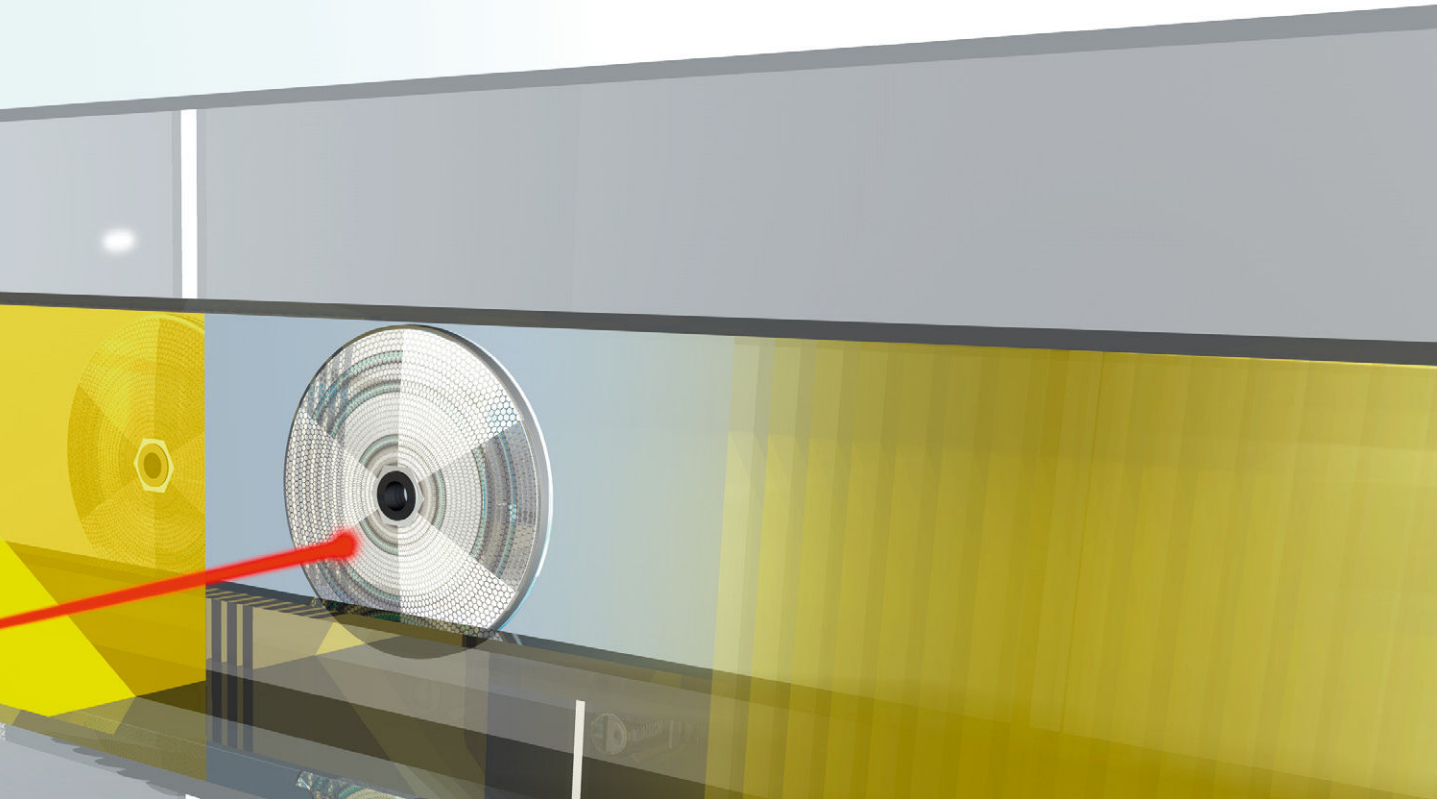


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Cylinder Designs
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Photoelectric Global Sensors
Block design, BOS 5K
Range 200 mm

42.3×10.8×19.5 mm

Global

Preferred variants available immediately

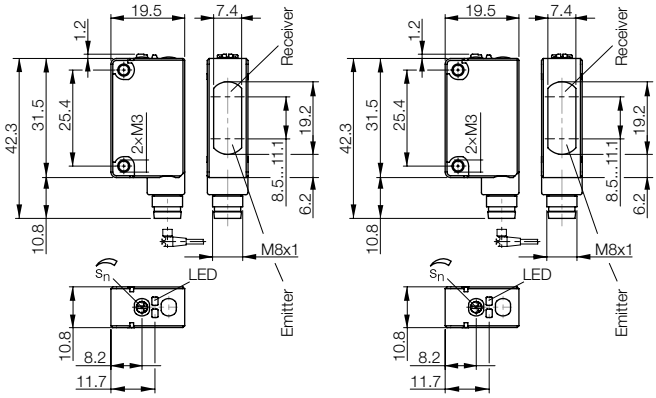




Type			Diffuse sensor with background suppression	Diffuse sensor with background suppression
Detection range			**20...200 mm**	**40...200 mm**
PNP NO		**Order code**	**BOS015U**	**BOS012A**
		Part number	BOS 5K-PS-RH12-S49	BOS 5K-PS-RH12-S75
PNP NC		**Order code**	**BOS015W**	**BOS011Z**
		Part number	BOS 5K-PO-RH12-S49	BOS 5K-PO-RH12-S75
NPN NO		**Order code**	**BOS015Y**	**BOS011F**
		Part number	BOS 5K-NS-RH12-S49	BOS 5K-NS-RH12-S75
NPN NC		**Order code**	**BOS015Z**	**BOS0112**
		Part number	BOS 5K-NO-RH12-S49	BOS 5K-NO-RH12-S75
Supply voltage U_S			10...30 V DC	10...30 V DC
Output current			100 mA	100 mA
No-load supply current I_0 max.			≤ 30 mA	≤ 30 mA
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings			Potentiometer, 6-turn	Potentiometer, 6-turn
Emitter, light type			LED, red light	LED, red light
Switching frequency f			500 Hz	500 Hz
Degree of protection as per IEC 60529			IP 67	IP 67
Ambient temperature T_a			–25...+55 °C	–25...+55 °C
Material	Housing		PC/PBT	PC/PBT
	Optical surface		PC	PC
Connection			M8 connector, 4-pin	M8 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M8, 4-pin/straight	2 m/PVC	**BCC02PL**
M8, 4-pin/angled	2 m/PVC	**BCC02PZ**
M8, 4-pin/straight	5 m/PVC	**BCC02PM**
M8, 4-pin/angled	5 m/PVC	**BCC02R0**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

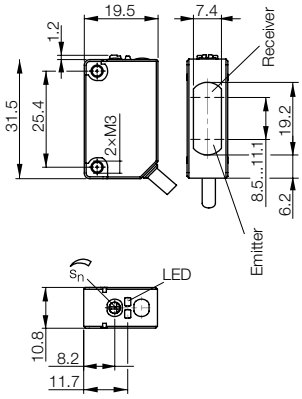
Description	Order code
Mounting bracket	**BAM00U5**
Mounting bracket	**BAM00U6**

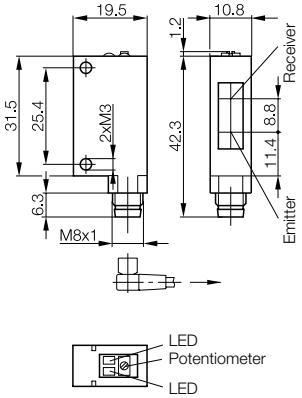
You can find additional mechanical accessories in our catalog **Accessories Line**.

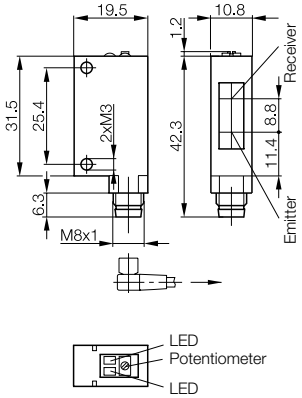


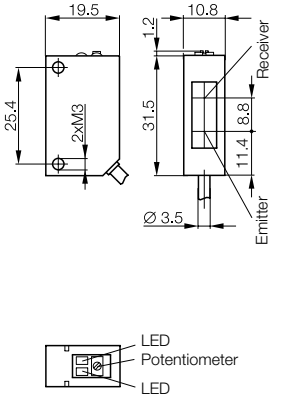



Diffuse sensor with background suppression	**Diffuse sensor, small beam**	**Diffuse sensor**	**Diffuse sensor**
40...200 mm	**50...200 mm**	**0...900 mm**	**0...900 mm**
BOS0129	**BOS0128**	**BOS0124**	**BOS0123**
BOS 5K-PS-RH12-02	BOS 5K-PS-RD11-S75	BOS 5K-PS-ID10-S75	BOS 5K-PS-ID10-02
BOS011Y	**BOS011W**	**BOS011L**	**BOS011K**
BOS 5K-PO-RH12-02	BOS 5K-PO-RD11-S75	BOS 5K-PO-ID10-S75	BOS 5K-PO-ID10-02
BOS011E	**BOS011C**	**BOS0117**	**BOS0116**
BOS 5K-NS-RH12-02	BOS 5K-NS-RD11-S75	BOS 5K-NS-ID10-S75	BOS 5K-NS-ID10-02
BOS0111	**BOS0110**	**BOS010R**	**BOS010P**
BOS 5K-NO-RH12-02	BOS 5K-NO-RD11-S75	BOS 5K-NO-ID10-S75	BOS 5K-NO-ID10-02
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
100 mA	100 mA	100 mA	100 mA
≤ 30 mA	≤ 30 mA	≤ 30 mA	≤ 30 mA
Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Potentiometer, 6-turn	Potentiometer, 270°	Potentiometer, 270°	Potentiometer, 270°
LED, red light	LED, red light	LED, infrared	LED, infrared
500 Hz	500 Hz	500 Hz	500 Hz
IP 67	IP 67	IP 67	IP 67
–25...+55 °C	–25...+55 °C	–25...+55 °C	–25...+55 °C
PC/PBT	PC/PBT	PC/PBT	PC/PBT
PC	PC	PC	PC
2 m PVC cable, 3×0.2 mm²	M8 connector, 4-pin	M8 connector, 4-pin	2 m PVC cable, 3×0.2 mm²









Photoelectric Global Sensors
Block design, BOS 5K
Range 4 m

42.3×10.8×19.5 mm

Global



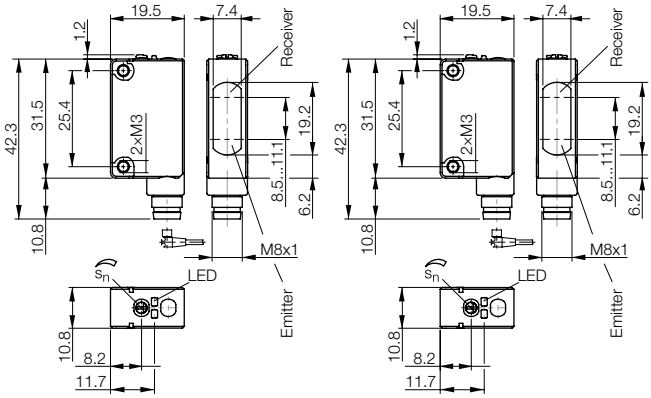


Preferred variants available immediately

Type			**Retroreflective sensor**	**Retroreflective sensor**
Detection range			**0.1...4 m**	**0.1...4 m**
PNP NO		**Order code**	**BOS015E**	**BOS012E**
		Part number	BOS 5K-PS-RR10-S49	BOS 5K-PS-RR10-S75
PNP NC		**Order code**	**BOS015C**	**BOS0121**
		Part number	BOS 5K-PO-RR10-S49	BOS 5K-PO-RR10-S75
NPN NO		**Order code**	**BOS015H**	**BOS011J**
		Part number	BOS 5K-NS-RR10-S49	BOS 5K-NS-RR10-S75
NPN NC		**Order code**	**BOS015F**	**BOS0114**
		Part number	BOS 5K-NO-RR10-S49	BOS 5K-NO-RR10-S75
Supply voltage U_S			10...30 V DC	10...30 V DC
Output current			100 mA	100 mA
No-load supply current I_0 max.			≤ 30 mA	≤ 30 mA
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings			Potentiometer, 270°	Potentiometer, 270°
Emitter, light type			LED, red light	LED, red light
Switching frequency f			500 Hz	500 Hz
Degree of protection as per IEC 60529			IP 67	IP 67
Ambient temperature T_a			–25...+55 °C	–25...+55 °C
Material		Housing	PC/PBT	PC/PBT
		Optical surface	PC	PC
Connection			M8 connector, 3-pin	M8 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-9

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M8, 4-pin/straight	2 m/PVC	**BCC02PL**
M8, 4-pin/angled	2 m/PVC	**BCC02PZ**
M8, 4-pin/straight	5 m/PVC	**BCC02PM**
M8, 4-pin/angled	5 m/PVC	**BCC02R0**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00U5**
Mounting bracket	**BAM00U6**
Reflector 51×61 mm	**BAM00WL**

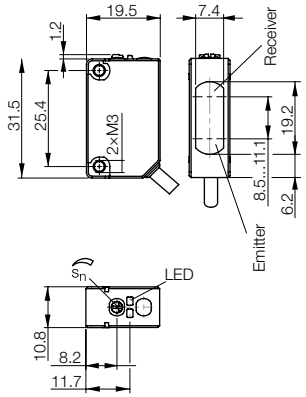
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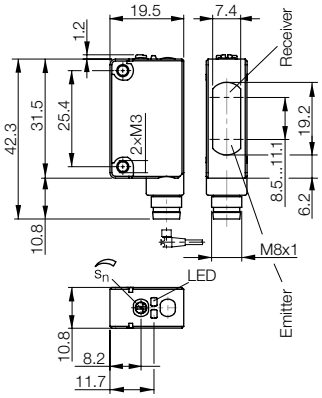


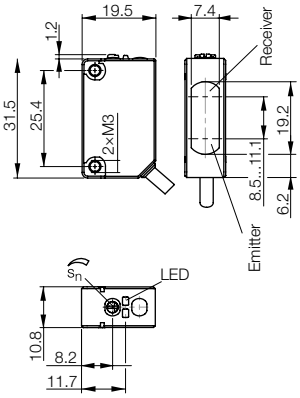




Retroreflective sensor	**Through-beam sensor**	**Through-beam sensor**
0.1...4 m	**0...10 m**	**0...10 m**
BOS012C	**BOS0126**	**BOS0125**
BOS 5K-PS-RR10-02	BOS 5K-PS-IX10-S75	BOS 5K-PS-IX10-02
BOS0120	**BOS011R**	**BOS011N**
BOS 5K-PO-RR10-02	BOS 5K-PO-IX10-S75	BOS 5K-PO-IX10-02
BOS0113	**BOS0119**	**BOS0118**
BOS 5K-NS-RR10-02	BOS 5K-NS-IX10-S75	BOS 5K-NS-IX10-02
BOS011H	**BOS010W**	**BOS010U**
BOS 5K-NO-RR10-02	BOS 5K-NO-IX10-S75	BOS 5K-NO-IX10-02
10...30 V DC	10...30 V DC	10...30 V DC
100 mA	100 mA	100 mA
≤ 30 mA	≤ 20 mA (receiver), ≤15mA (emitter)	≤ 20 mA (receiver), ≤15mA (emitter)
Yes/Yes	Yes/Yes	Yes/Yes
Potentiometer, 270°	Potentiometer, 270°	Potentiometer, 270°
LED, red light	LED, infrared	LED, infrared
500 Hz	500 Hz	500 Hz
IP 67	IP 67	IP 67
–25...+55 °C	–25...+55 °C	–25...+55 °C
PC/PBT	PC/PBT	PC/PBT
PC	PC	PC
2 m PVC cable, 3×0.2 mm²	M8 connector, 4-pin	2 m PVC cable, 3(2)×0.2 mm² (emitter)







Photoelectric Global Sensors
Block design, BOS 5K
Range 20 m

42.3×10.8×19.5 mm

GLOBAL



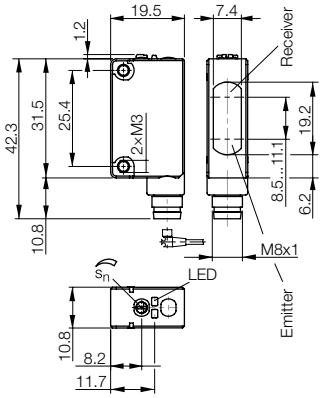


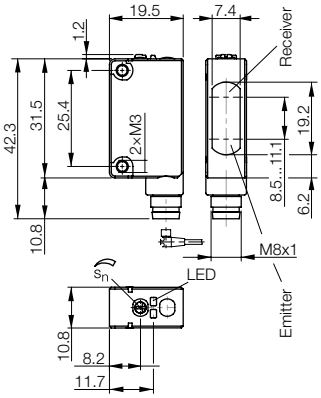
Preferred variants available immediately

Type			**Through-beam sensor**	**Through-beam sensor**
Detection range			**0...20 m**	**0...20 m**
PNP	NO	**Order code**	**BOS0158**	
		Part number	BOS 5K-PS-IX10-S49	
PNP	NC	**Order code**	**BOS0157**	**BOS011T**
		Part number	BOS 5K-PO-IX10-S49	BOS 5K-PO-IX10-S75-S
NPN	NO	**Order code**	**BOS015A**	
		Part number	BOS 5K-NS-IX10-S49	
NPN	NC	**Order code**	**BOS0159**	**BOS010Y**
		Part number	BOS 5K-NO-IX10-S49	BOS 5K-NO-IX10-S75-S
Supply voltage U_S			10...30 V DC	10...30 V DC
Output current			100 mA	100 mA
No-load supply current I_0 max.			≤ 20 mA (receiver), ≤15mA (emitter)	≤ 20 mA (receiver), ≤15mA (emitter)
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings			Potentiometer, 270°	Potentiometer, 270°
Emitter, light type			LED, infrared	LED, infrared
Switching frequency f			500 Hz	500 Hz
Degree of protection as per IEC 60529			IP 67	IP 67
Ambient temperature T_a			–25...+55 °C	–25...+55 °C
Material		Housing	PC/PBT	PC/PBT
		Optical surface	PC	PC
Connection			M8 connector, 3-pin	M8 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M8, 4-pin/straight	2 m/PVC	**BCC02PL**
M8, 4-pin/angled	2 m/PVC	**BCC02PZ**
M8, 4-pin/straight	5 m/PVC	**BCC02PM**
M8, 4-pin/angled	5 m/PVC	**BCC02R0**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00U5**
Mounting bracket	**BAM00U6**
Reflector 14×23 mm	**BAM00UM**
Reflector 51×62 mm	**BAM00UY**

You can find additional mechanical accessories in our catalog **Accessories Line**.

Photoelectric Global Sensors
Block design, BOS 5K Laser
Range 300 mm, 10 m, 30 m







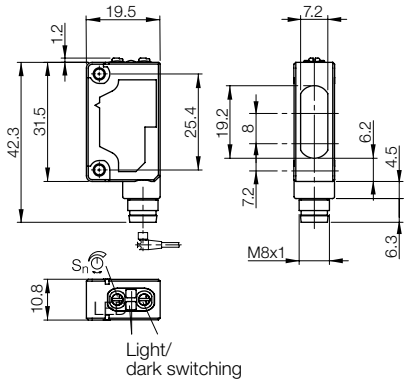


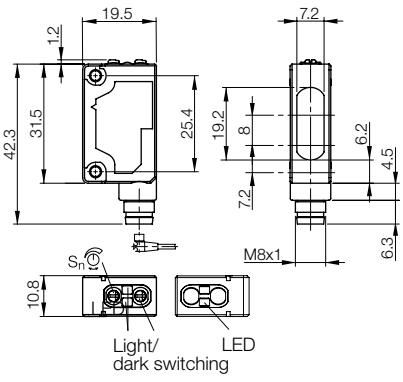
Preferred variants available immediately

Type		Diffuse sensor with background suppression	Retroreflective sensor	Through-beam sensor
Detection range		**20...300 mm**	**0.3...10 m**	**0...30 m**
PNP	**Order code**	**BOS01JK**	**BOS01JW**	**BOS01JP**
NO/NC	Part number	BOS 5K-PU-LH12-S75	BOS 5K-PU-LR10-S75	BOS 5K-PU-LX10-S75
NPN	**Order code**	**BOS01K0**	**BOS01JU**	**BOS01JN**
NO/NC	Part number	BOS 5K-NU-LH12-S75	BOS 5K-NU-LR10-S75	BOS 5K-NU-LX10-S75
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC
Output current		100 mA	100 mA	100 mA
No-load supply current I_0 max.		35 mA	35 mA	35 mA
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes	Yes/Yes
Settings		Potentiometer, 270°	Potentiometer, 270°	Potentiometer, 270°
Emitter, light type		Laser, red light	Laser, red light	Laser, red light
Laser class		1	1	1
Switching frequency f		2000 Hz	2000 Hz	2000 Hz
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Ambient temperature T_a		–10...+55 °C	–10...+55 °C	–10...+55 °C
Material	Housing	PC/PBT	PC/PBT	PC/PBT
	Optical surface	PMMA	PMMA	PMMA
Connection		M8 connector, 4-pin	M8 connector, 4-pin	M8 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-22

Other variants on our website or on request.





Preferred variants available immediately

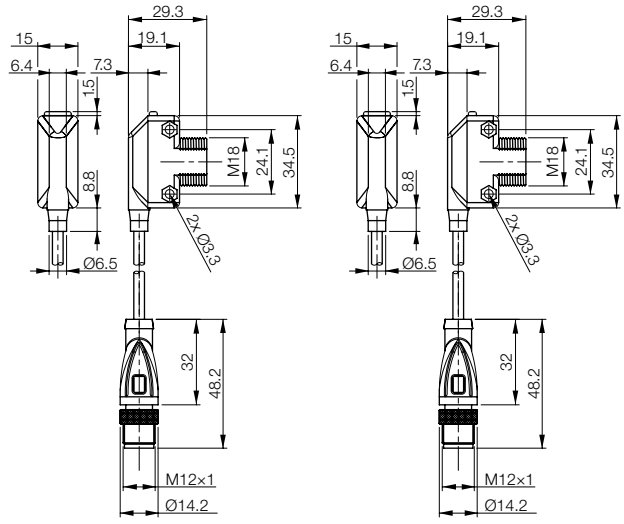


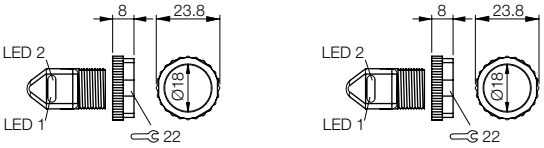


Type		Diffuse sensor with background suppression	Diffuse sensor with background suppression
Detection range		**10...50 mm**	**10...100 mm**
PNP NO/NC	**Order code**	**BOS014R**	**BOS019A**
	Part number	BOS 11K-PA-RH10-00.15-S4	BOS 11K-PA-RH11-00.15-S4
NPN NO/NC	**Order code**	**BOS014U**	**BOS019C**
	Part number	BOS 11K-NA-RH10-00.15-S4	BOS 11K-NA-RH11-00.15-S4
Emitter	**Order code**		
	Part number		
Receiver PNP NO/NC	**Order code**		
	Part number		
Receiver NPN NO/NC	**Order code**		
	Part number		
Supply voltage U_S		10...30 V DC	10...30 V DC
Output current		100 mA	100 mA
No-load supply current I_0 max.		≤ 25 mA	≤ 25 mA
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes
Settings			
Ermitter, light type		LED, red light	LED, red light
Switching frequency f		500 Hz	500 Hz
Degree of protection as per IEC 60529		IP 67	IP 67
Ambient temperature T_a		–20...+55 °C	–20...+55 °C
Material	Housing	ABS	ABS
	Optical surface	PMMA	PMMA
Connection		0.15 m PVC cable with M12 connector, 4-pin	0.15 m PVC cable with M12 connector, 4-pin

Reference reflector: BOS R-1

Other variants on our website or on request.





Recommended accessories

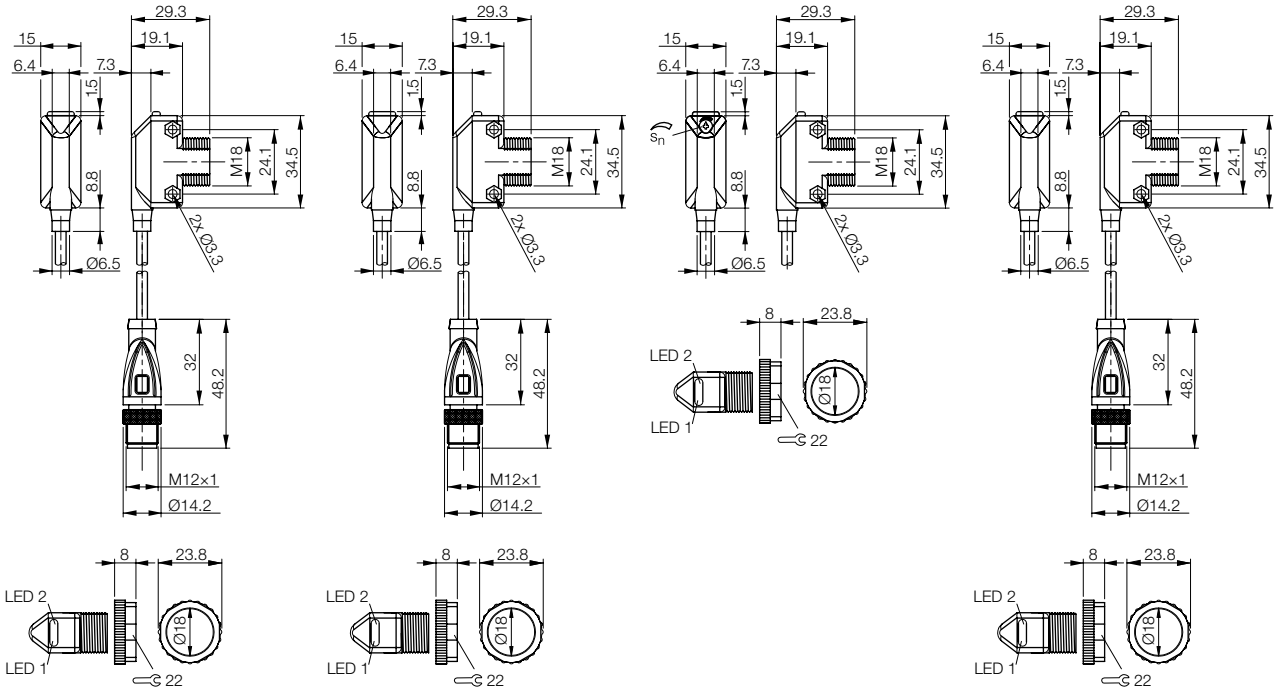
Description	Order code
Mounting bracket	**BAM00PT**

You can find additional mechanical accessories in our catalog **Accessories Line**.






	Diffuse sensor	Retroreflective sensor polarized	Retroreflective sensor	Through-beam sensor
	10...450 mm	**0.5...3.5 m**	**0.5...6.5 m**	**20 m**
	BOS012P	**BOS012W**	**BOS012Z**	
	BOS 11K-PA-ID10-00,15-S4	BOS 11K-PA-PR10-00,15-S4	BOS 11K-PA-RR10-02	
	BOS012F	**BOS012L**	**BOS012N**	
	BOS 11K-NA-ID10-00,15-S4	BOS 11K-NA-PR10-00,15-S4	BOS 11K-NA-RR10-02	
				BOS0130
				BOS 11K-X-IS11-00,15-S4
				BOS012T
				BOS 11K-PA-IE11-00,15-S4
				BOS012J
				BOS 11K-NA-IE11-00,15-S4
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	100 mA	100 mA	100 mA	100 mA
	≤ 25 mA	≤ 25 mA	≤ 25 mA	≤ 25 mA
	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
			Potentiometer, 270°	
	LED, infrared	LED, red light	LED, red light	LED, infrared
	500 Hz	500 Hz	500 Hz	500 Hz
	IP 67	IP 67	IP 67	IP 67
	–20...+55 °C	–20...+55 °C	–20...+55 °C	–25...+55 °C
	ABS	ABS	ABS	ABS
	PMMA	PMMA	PMMA	PMMA
	0.15 m PVC cable with M12 connector, 4-pin	0.15 m PVC cable with M12 connector, 4-pin	2 m PVC cable	0.15 m PVC cable with M12 connector, 4-pin



Preferred variants available immediately

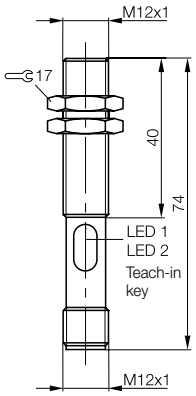


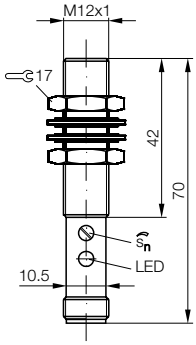


Type		Diffuse sensor with background suppression	Diffuse sensor
Detection range		**10...60 mm**	**0...200 mm**
PNP NO/NC	**Order code**	**BOS007T**	
	Part number	BOS 12M-PU-1HA-S4-C	
PNP NO	**Order code**		**BOS000W**
	Part number		BOS 12M-PS-1PB-S4-C
PNP NC	**Order code**		
	Part number		
Supply voltage U_S		10…30 V DC	10...30 V DC
Output current		100 mA	≤ 200 mA
No-load supply current I_0 max.		≤ 25 mA	≤ 20 mA
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes
Settings		Teach-in	Potentiometer, 270°
Emitter, light type		LED, red light	LED, infrared light
Switching frequency f		1 kHz	200 Hz
Degree of protection as per IEC 60529		IP 67	IP 67
Ambient temperature T_a		–20...+60 °C	–5...+55 °C
Material	Housing	Nickel-plated brass	Nickel-plated brass
	Optical surface	PMMA	PMMA
Connection		M12 connector, 4-pin	M12 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

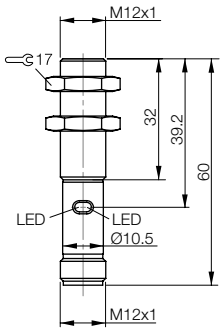
Description	Order code
Mounting bracket	**BAM00C0**
Mounting cuff	**BAM00C4**

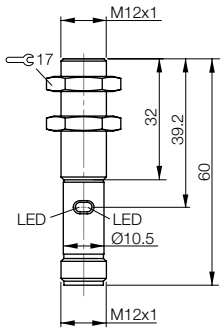
You can find additional mechanical accessories in our catalog **Accessories Line**.

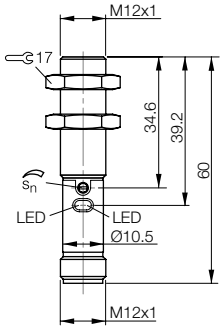


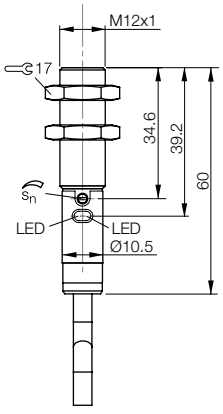



Diffuse sensor	**Diffuse sensor**	**Diffuse sensor**	**Diffuse sensor**
1...100 mm	**1...200 mm**	**1...250 mm**	**1...250 mm**
BOS01TN	**BOS01TU**	**BOS01TP**	**BOS01TR**
BOS 12M-PS-RD11-S4	BOS 12M-PS-RD12-S4	BOS 12M-PS-RD10-S4	BOS 12M-PS-RD10-02
10…30 VDC	10…30 VDC	10…30 VDC	10…30 VDC
100 mA	100 mA	100 mA	100 mA
20 mA	20 mA	20 mA	20 mA
Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
		Potenziometer 270°	Potenziometer 270°
LED, red light	LED, red light	LED, red light	LED, red light
1000 Hz	1000 Hz	1000 Hz	1000 Hz
IP67	IP67	IP67	IP67
–5…+55 °C	–5…+55 °C	–5…+55 °C	–5…+55 °C
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
PMMA	PMMA	PMMA	PMMA
M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	2 m PVC cabel, 4×0.34 mm²









Preferred variants available immediately

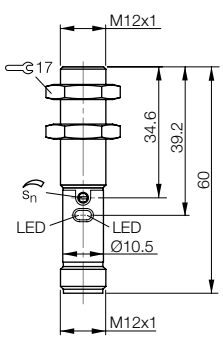


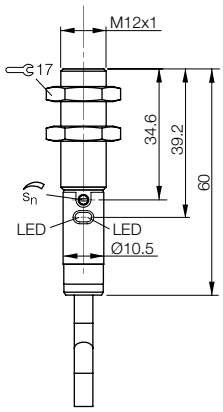


Type			**Retroreflective sensor polarized**	**Retroreflective sensor polarized**
Detection range			**0...3 m**	**0...3 m**
PNP NO		**Order code**	**BOS01TT**	**BOS01WR**
		Part number	BOS 12M-PS-PR10-S4	BOS 12M-PS-PR10-02
PNP NC		**Order code**	**BOS01Y1**	
		Part number	BOS 12M-PO-PR10-S4	
PNP NC	Ermitter	**Order code**		
		Part number		
PNP NO	Receiver	**Order code**		
		Part number		
Supply voltage U_S			10…30 VDC	10…30 VDC
Output current			100 mA	100 mA
No-load supply current I_0 max.			20 mA	20 mA
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings				
Emitter, light type			LED, red light	LED, red light
Switching frequency f			1000 Hz	1000 Hz
Degree of protection as per IEC 60529			IP67	IP67
Ambient temperature T_a			–5…+55 °C	–5…+55 °C
Material		Housing	Nickel-plated brass	Nickel-plated brass
		Optical surface	PMMA	PMMA
Connection			M12 connector, 4-pin	2 m PVC cabel, 3×0.34 mm²

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-1

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

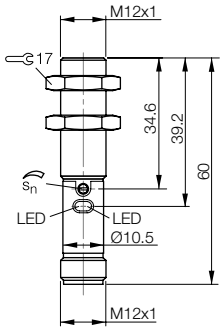
Recommended accessories

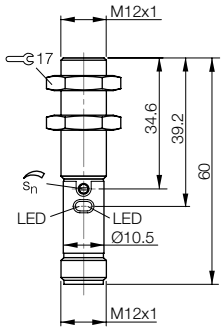
Description	Order code
Mounting bracket	**BAM00C0**
Mounting cuff	**BAM00C4**
Reflector Ø 84 mm	**BAM00UK**

You can find additional mechanical accessories in our catalog **Accessories Line**.



Through-beam sensor	**Through-beam sensor**			
0...8 m	**0...8 m**			
BOS01TW				
BOS 12M-X-RS10-S4				
	BOS01TY			
	BOS 12M-PS-RE10-S4			
10…30 VDC	10…30 VDC			
100 mA	100 mA			
20 mA	20 mA			
Yes/Yes	Yes/Yes			
Potenziometer 270°	Potenziometer 270°			
LED, red light	LED, red light			
1000 Hz	1000 Hz			
IP67	IP67			
–5…+55 °C	–5…+55 °C			
Nickel-plated brass	Nickel-plated brass			
PMMA	PMMA			
M12 connector, 4-pin	M12 connector, 4-pin			





Preferred variants available immediately

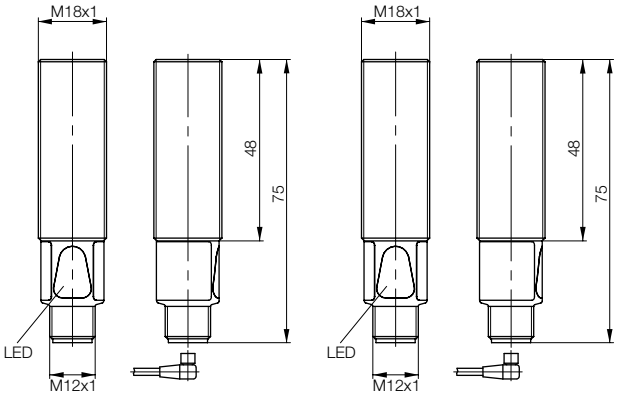




Type			**Diffuse sensor**	**Diffuse sensor**
Detection range			**1...400 mm**	**1...600 mm**
PNP NO		**Order code**	**BOS01FA**	**BOS01HL**
		Part number	BOS 18M-PS-RD23-S4	BOS 18M-PS-ID23-S4
PNP NC		**Order code**	**BOS01FC**	
		Part number	BOS 18M-PO-RD23-S4	
PNP NO	Polarizing filter	**Order code**		
		Part number		
PNP NC	Polarizing filter	**Order code**		
		Part number		
Supply voltage U_S			10...30 V DC	10...30 V DC
Output current			100 mA	100 mA
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings			Fixed	Fixed
Emitter, light type			LED, red light	LED, infrared
Received light indicator			Yellow LED	Yellow LED
Response time			1.25 ms	1.25 ms
Switching frequency f			400 Hz	400 Hz
Degree of protection as per IEC 60529			IP 67	IP 67
Ambient temperature T_a			–5...+55 °C	–5...+55 °C
Permissible ambient light			10 klx	5 klx
Material		Housing	Nickel-plated brass	Nickel-plated brass
		Optical surface	Glass	Glass
Connection			M12 connector, 4-pin	M12 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-1

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

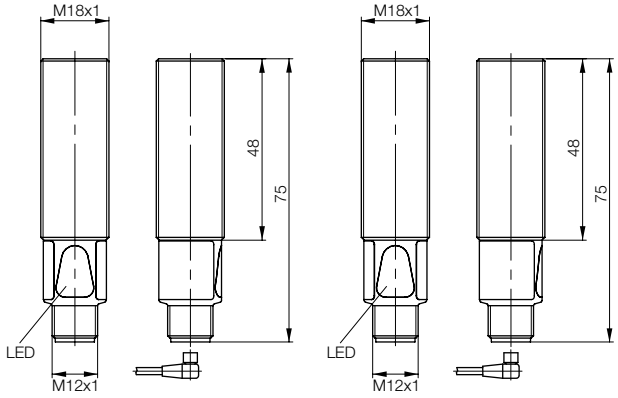
Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Mounting cuff	**BAM00F2**
Reflector Ø 84 mm	**BAM00UK**

You can find additional mechanical accessories in our catalog **Accessories Line**.

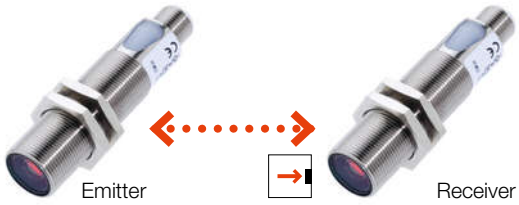




Retroreflective sensor	**Retroreflective sensor**			
4 m	**6 m**			
	BOS01HK			
	BOS 18M-PS-IR23-S4			
BOS01F8				
BOS 18M-PS-PR23-S4				
BOS01F9				
BOS 18M-PO-PR23-S4				
10...30 V DC	10...30 V DC			
100 mA	100 mA			
Yes/Yes	Yes/Yes			
Fixed	Fixed			
LED, red light	LED, infrared			
Yellow LED	Yellow LED			
1.25 ms	1.25 ms			
400 Hz	400 Hz			
IP 67	IP 67			
–5...+55 °C	–5...+55 °C			
10 klx	5 klx			
Nickel-plated brass	Nickel-plated brass			
Glass	Glass			
M12 connector, 4-pin	M12 connector, 4-pin			

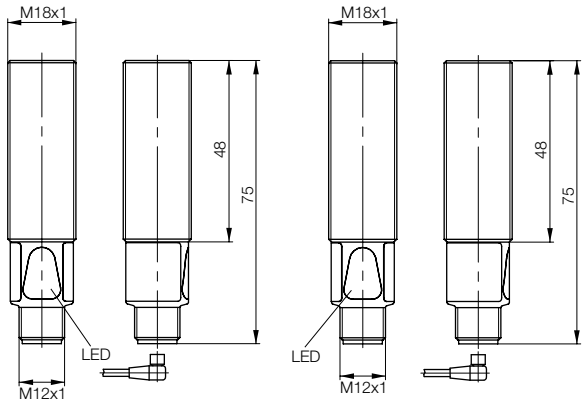


Preferred variants available immediately



Type			**Through-beam sensor**	**Through-beam sensor**
Detection range			**0...20 m**	**0...20 m**
PNP NC	Emitter	**Order code**	**BOS01FH**	
		Part number	BOS 18M-X-RS23-S4	
PNP NO	Receiver	**Order code**		**BOS01FE**
		Part number		BOS 18M-PS-RE23-S4
Supply voltage U_S			10...30 V DC	10...30 V DC
Output current				100 mA
Polarity reversal/short-circuit protected			Yes/Yes	Yes/Yes
Settings			Fixed	Fixed
Emitter, light type			LED, red light	LED, red light
Received light indicator				Yellow LED
Response time				1.25 ms
Switching frequency f				400 Hz
Degree of protection as per IEC 60529			IP 67	IP 67
Ambient temperature T_a			–5...+55 °C	–5...+55 °C
Permissible ambient light			10 klx	10 klx
Material		Housing	Nickel-plated brass	Nickel-plated brass
		Optical surface	Glass	Glass
Connection			M12 connector, 4-pin	M12 connector, 4-pin

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

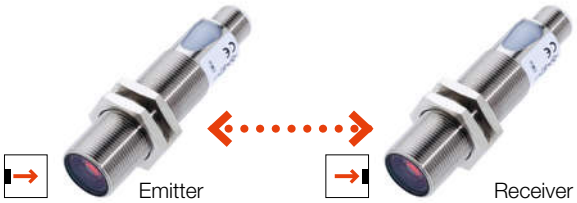
You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

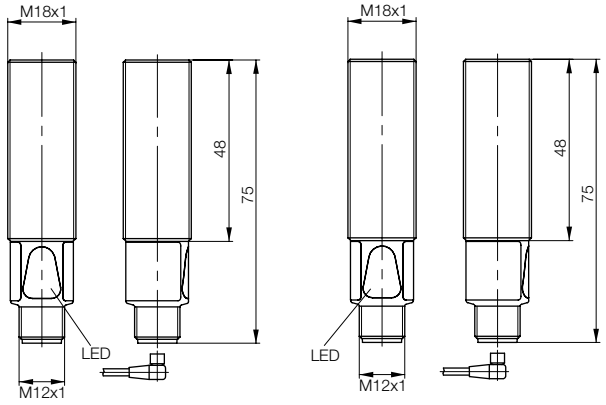
Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Mounting cuff	**BAM00F2**

You can find additional mechanical accessories in our catalog **Accessories Line**.

Cylinder design, BOS 18M
Range 50 m



Through-beam sensor	**Through-beam sensor**			
0...50 m	**0...50 m**			
BOS01HM				
BOS 18M-X-IS23-S4				
	BOS01HP			
	BOS 18M-PS-IE23-S4			
10...30 V DC	10...30 V DC			
	100 mA			
Yes/Yes	Yes/Yes			
Fixed	Fixed			
LED, infrared	LED, infrared			
	Yellow LED			
	1.25 ms			
	400 Hz			
IP 67	IP 67			
–5...+55 °C	–5...+55 °C			
5 klx	5 klx			
Nickel-plated brass	Nickel-plated brass			
Glass	Glass			
M12 connector, 4-pin	M12 connector, 4-pin			



Preferred variants available immediately

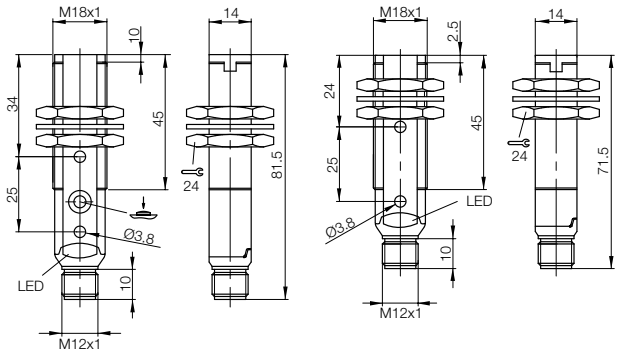




Type				Diffuse sensor with background suppression	Diffuse sensor with background suppression
Detection range				50...100 mm	5...100 mm
PNP NC/NO			Order code		BOS00JW
			Part number		BOS 18KF-PA-1N1R-S4-C
PNP NC/NO		Teach-in	Order code	BOS00JM	
			Part number	BOS 18KF-PA-1HA-S4-C	
NPN NC/NO			Order code		
			Part number		
NPN NC/NO		Teach-in	Order code	BOS00HR	
			Part number	BOS 18KF-NA-1HA-S4-C	
Supply voltage U_S				10...30 V DC	10...30 V DC
Output current				100 mA	100 mA
No-load supply current I_0 max.				≤ 30 mA	≤ 35 mA
Switching type				Light and dark switching	Light and dark switching
Polarity reversal/short-circuit protected				Yes/Yes	Yes/Yes
Settings				Teach-in	Fixed
Emitter, light type				LED, red light	LED, red light
Switching frequency f				500 Hz	1 kHz
Degree of protection as per IEC 60529				IP 67	IP 67
Ambient temperature T_a				–25...+55 °C	–25...+55 °C
Reference standard				EN 60947-5-2	EN 60947-5-2
Material			Housing	PBT	PBT
			Optical surface	PMMA	PMMA
Connection				M12 connector, 4-pin	M12 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

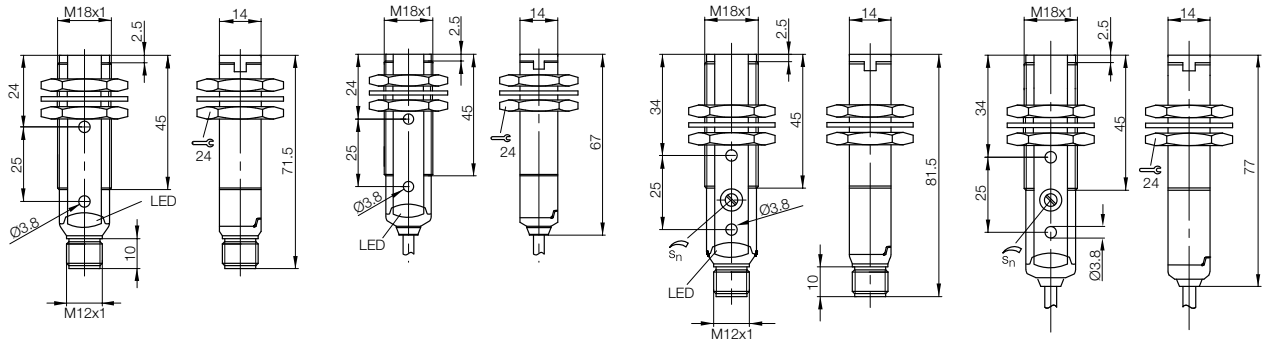
Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Clamping holders	**BAM00RW**

You can find additional mechanical accessories in our catalog **Accessories Line**.






	Diffuse sensor	**Diffuse sensor**	**Diffuse sensor**	**Diffuse sensor**
	0...100 mm	**0...100 mm**	**0...400 mm**	**0...400 mm**
	BOS00K9	**BOS00K8**	**BOS00JZ**	**BOS00JY**
	BOS 18KF-PA-1XA-S4-C	BOS 18KF-PA-1XA-C-02	BOS 18KF-PA-1PD-S4-C	BOS 18KF-PA-1PD-C-02
		BOS00JE	**BOS00J3**	**BOS00J1**
		BOS 18KF-NA-1XA-C-02	BOS 18KF-NA-1PD-S4-C	BOS 18KF-NA-1PD-C-02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	100 mA	100 mA	100 mA	100 mA
	≤ 35 mA	≤ 35 mA	≤ 35 mA	≤ 35 mA
	Light and dark switching	Light/dark (complementary)	Light/dark (complementary)	Light/dark (complementary)
	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
	Fixed	Fixed	Potentiometer, 270°	Potentiometer, 270°
	LED, infrared	LED, infrared	LED, infrared	LED, infrared
	1 kHz	1 kHz	1 kHz	1 kHz
	IP 67	IP 67	IP 67	IP 67
	–25...+55 °C	–25...+55 °C	–25...+55 °C	–25...+55 °C
	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
	PBT	PBT	PBT	PBT
	PMMA	PMMA	PMMA	PMMA
	M12 connector, 4-pin	2 m PVC cable, 4×0.14 mm³	M12 connector, 4-pin	2 m PVC cable, 4×0.14 mm³



Preferred variants available immediately

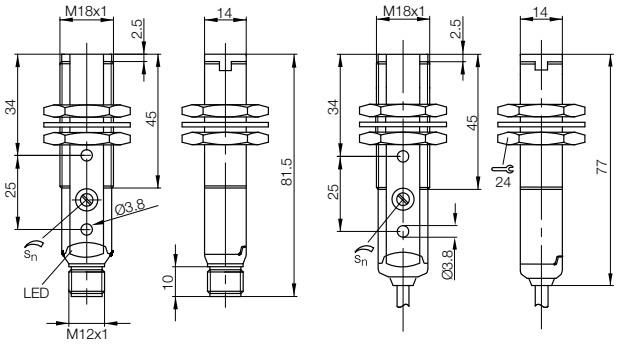




Type				**Diffuse sensor**	**Diffuse sensor**
Detection range				**0...700 mm**	**0...700 mm**
PNP	NC/NO	Polarizing filter, transparency detection	**Order code**		
			Part number		
PNP	NC/NO	Polarizing filter	**Order code**		
			Part number		
PNP	NC/NO		**Order code**	**BOS00K1**	**BOS00K0**
			Part number	BOS 18KF-PA-1PE-S4-C	BOS 18KF-PA-1PE-C-02
NPN	NC/NO	Polarizing filter	**Order code**		
			Part number		
NPN	NC/NO		**Order code**	**BOS00J5**	**BOS00J4**
			Part number	BOS 18KF-NA-1PE-S4-C	BOS 18KF-NA-1PE-C-02
Supply voltage U_S				10...30 V DC	10...30 V DC
Output current				100 mA	100 mA
Polarity reversal/short-circuit protected				Yes/Yes	Yes/Yes
Settings				Potentiometer, 270°	Potentiometer, 270°
Emitter, light type				LED, infrared	LED, infrared
Switching frequency f				1 kHz	1 kHz
Degree of protection as per IEC 60529				IP 67	IP 67
Ambient temperature T_a				–25...+55 °C	–25...+55 °C
Reference standard				EN 60947-5-2	EN 60947-5-2
Material			Housing	PBT	PBT
			Optical surface	PMMA	PMMA
Connection				M12 connector, 4-pin	2 m PVC cable, 4×0.14 mm³

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-1

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

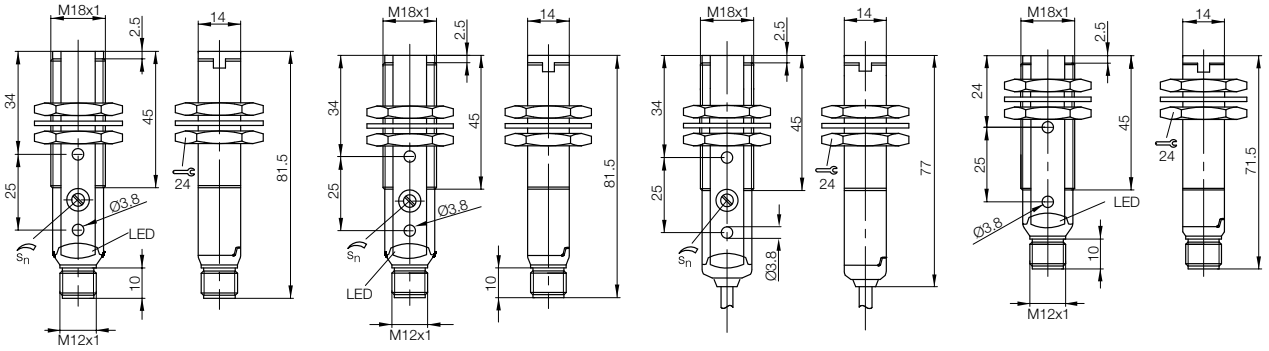
Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Clamping holders	**BAM00RW**
Reflector Ø 84 mm	**BAM00UK**

You can find additional mechanical accessories in our catalog **Accessories Line**.

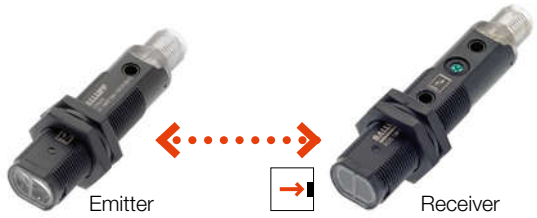





Retroreflective sensor 0.1...1.7 m	Retroreflective sensor 0.1...4.5 m	Retroreflective sensor 0.1...4.5 m	Retroreflective sensor 0.1...5 m
BOS00K7			
BOS 18KF-PA-1TB-S4-C			
	BOS00K3	**BOS00K2**	
	BOS 18KF-PA-1QD-S4-C	BOS 18KF-PA-1QD-C-02	
			BOS00K5
			BOS 18KF-PA-1RE-S4-C
	BOS00J7	**BOS00J6**	
	BOS 18KF-NA-1QD-S4-C	BOS 18KF-NA-1QD-C-02	
			BOS00J9
			BOS 18KF-NA-1RE-S4-C
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
100 mA	100 mA	100 mA	100 mA
Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Potentiometer, 270°	Potentiometer, 270°	Potentiometer, 270°	Fixed
LED, red light	LED, red light	LED, red light	LED, infrared
1 kHz	1 kHz	1 kHz	1 kHz
IP 67	IP 67	IP 67	IP 67
–25...+55 °C	–25...+55 °C	–25...+55 °C	–25...+55 °C
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
PBT	PBT	PBT	PBT
PMMA	PMMA	PMMA	PMMA
M12 connector, 4-pin	M12 connector, 4-pin	2 m PVC cable, 4×0.14 mm³	M12 connector, 4-pin

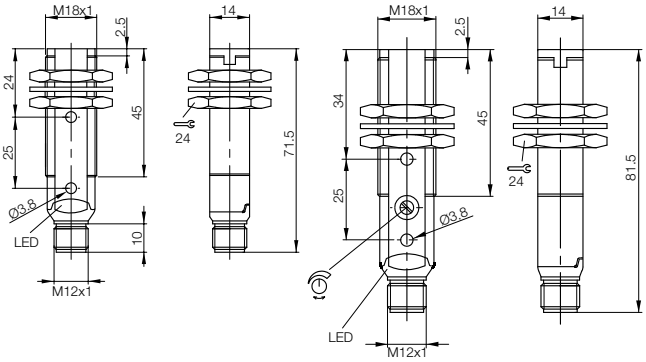


Preferred variants available immediately



Type				**Through-beam sensor**	**Through-beam sensor**
Detection range				**0...20 m**	**0...20 m**
PNP	NC/NO	Emitter	**Order code**	**BOS00EP**	
			Part number	BLS 18KF-XX-1P-S4-L	
PNP	NC/NO	Receiver	**Order code**		**BOS00CK**
			Part number		BLE 18KF-PA-1PP-S4-C
NPN	NC/NO	Receiver	**Order code**		**BOS00CE**
			Part number		BLE 18KF-NA-1PP-S4-C
Supply voltage U_S				10...30 V DC	10...30 V DC
Output current					100 mA
No-load supply current I_0 max.				≤ 35 mA	≤ 30 mA
Polarity reversal/short-circuit protected				Yes/Yes	Yes/Yes
Settings					Potentiometer, 270°
Help functions				Test input	
Emitter, light type				LED, infrared	
Switching frequency f					250 Hz
Degree of protection as per IEC 60529				IP 67	IP 67
Ambient temperature T_a				–25...+55 °C	–25...+55 °C
Reference standard				EN 60947-5-2	EN 60947-5-2
Material			Housing	PBT	PBT
			Optical surface	PMMA	PMMA
Connection				M12 connector, 4-pin	M12 connector, 4-pin

Other variants on our website or on request.



Suitable connectors

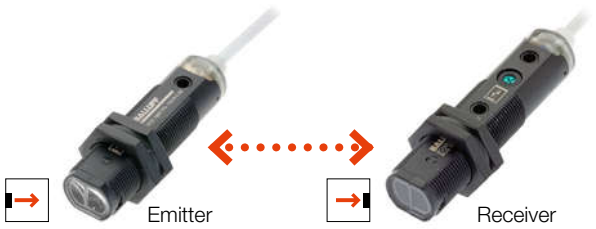
Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

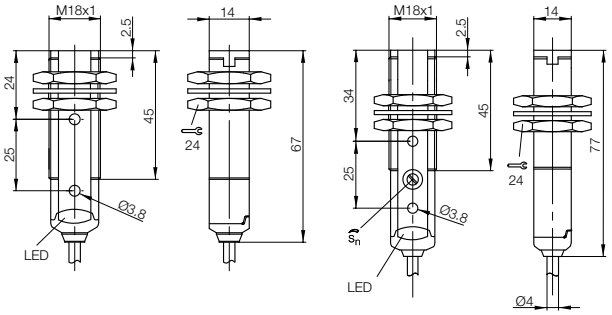
Recommended accessories

Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Clamping holder	**BAM00RW**

You can find additional mechanical accessories in our catalog **Accessories Line**.



Through-beam sensor	**Through-beam sensor**			
0...20 m	**0...20 m**			
BOS00EN				
BLS 18KF-XX-1P-L-02				
	BOS00CJ			
	BLE 18KF-PA-1PP-C-02			
	BOS00CC			
	BLE 18KF-NA-1PP-C-02			
10...30 V DC	10...30 V DC			
	100 mA			
≤ 35 mA	≤ 30 mA			
Yes/Yes	Yes/Yes			
	Potentiometer, 270°			
Test input				
LED, infrared				
	250 Hz			
IP 67	IP 67			
–25...+55 °C	–25...+55 °C			
EN 60947-5-2	EN 60947-5-2			
PBT	PBT			
PMMA	PMMA			
2 m PVC cable, 4×0.14 mm²	2 m PVC cable, 4×0.14 mm²			



Preferred variants available immediately

Laser Class 1

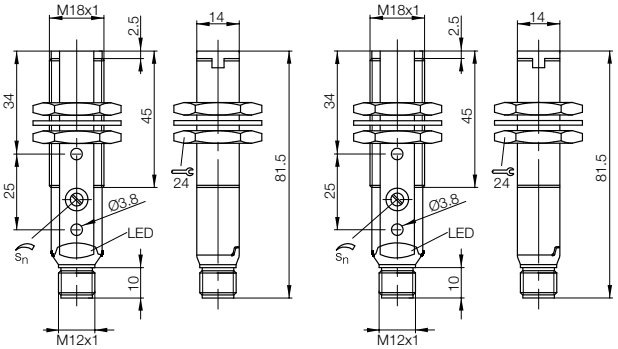




Type				**Diffuse sensor**	**Retroreflective sensor**
Detection range				**0...350 mm**	**0.1...16 m**
		Emitter	**Order code**		
			Part number		
PNP	NC/NO	Receiver	**Order code**		
			Part number		
PNP	NC/NO		**Order code**	**BOS00JP**	
			Part number	BOS 18KF-PA-1LOC-S4-C	
PNP	NC/NO	Polarizing filter	**Order code**		**BOS00JT**
			Part number		BOS 18KF-PA-1LQP-S4-C
NPN	NC/NO		**Order code**	**BOS00HU**	
			Part number	BOS 18KF-NA-1LOC-S4-C	
NPN	NC/NO	Polarizing filter	**Order code**		**BOS00HY**
			Part number		BOS 18KF-NA-1LQP-S4-C
Supply voltage U_S				10...30 V DC	10...30 V DC
Output current				100 mA	100 mA
Polarity reversal/short-circuit protected				Yes/Yes	Yes/Yes
Settings				Potentiometer, 270°	Potentiometer, 270°
Emitter, light type				Laser, red light	Laser, red light
Laser class				1	1
Switching frequency f				1.5 kHz	1.5 kHz
Degree of protection as per IEC 60529				IP 67	IP 67
Ambient temperature T_a				–10...+50 °C	–10...+50 °C
Reference standard				EN 60947-5-2	EN 60947-5-2
Material			Housing	PBT	PBT
			Optical surface	PMMA	PMMA
Connection				M12 connector, 4-pin	M12 connector, 4-pin

Reference object: white, 90% reflection, 200×200 mm
Reference reflector: BOS R-1

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

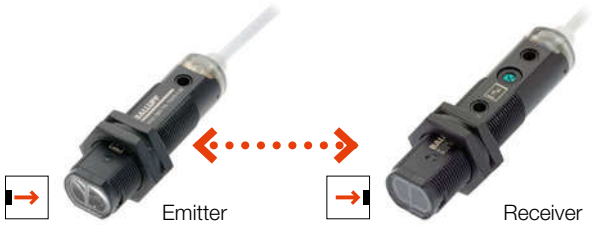
You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

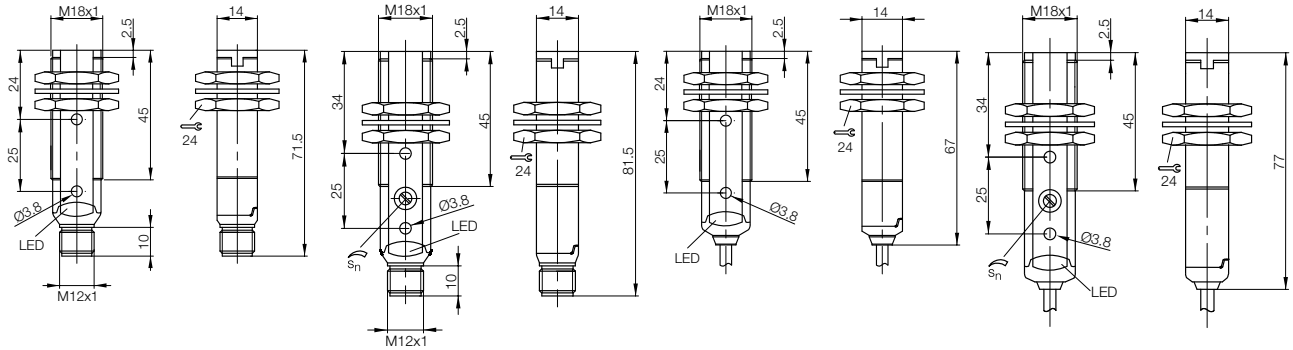
Description	Order code
Mounting bracket	**BAM00EY**
Mounting bracket	**BAM00RY**
Clamping holders	**BAM00RW**

You can find additional mechanical accessories in our catalog **Accessories Line**.





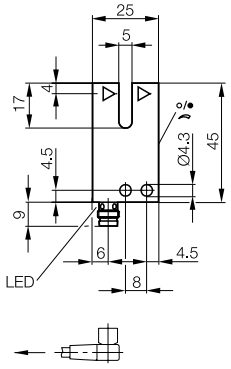
Through-beam sensor	**Through-beam sensor**	**Through-beam sensor**	**Through-beam sensor**
0...60 m	**0...60 m**	**0...60 m**	**0...60 m**
BOS00EM		**BOS00EL**	
BLS 18KF-XX-1LT-S4-L		BLS 18KF-XX-1LT-L-02	
	BOS00CH		**BOS00CF**
	BLE 18KF-PA-1LT-S4-C		BLE 18KF-PA-1LT-C-02
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	100 mA		100 mA
Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
	Potentiometer, 270°		Potentiometer, 270°
Laser, red light		Laser, red light	
1		1	
	1.5 kHz		1.5 kHz
IP 67	IP 67	IP 67	IP 67
–10...+50 °C	–10...+50 °C	–10...+50 °C	–10...+50 °C
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
PBT	PBT	PBT	PBT
PMMA	PMMA	PMMA	PMMA
M12 connector, 4-pin	M12 connector, 4-pin	2 m PVC cable, 4×0.14 mm²	2 m PVC cable, 4×0.14 mm²

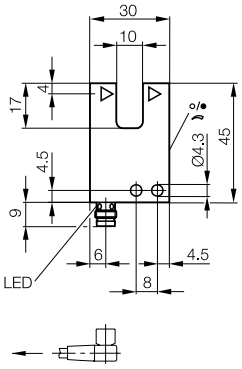


Preferred variants available immediately

Series		**BGL**	**BGL**
Fork opening		**5 mm**	**10 mm**
Fork depth		**17 mm**	**17 mm**
PNP NO/NC	**Order code**	**BGL001W**	**BGL0001**
	Part number	BGL 5A-001-S49	BGL 10A-001-S49
NPN NO/NC	**Order code**	**BGL001Y**	**BGL0002**
	Part number	BGL 5A-002-S49	BGL 10A-002-S49
Supply voltage U_S		10...30 V DC	10...30 V DC
Output current		200 mA	200 mA
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes
Settings		Potentiometer, 270°	Potentiometer, 270°
Emitter, light type		LED, red light	LED, red light
Resolution (smallest discernible part)		0.3 mm	0.3 mm
Repeat accuracy		20 µm	20 µm
Switching hysteresis		≤ 0.1 mm	≤ 0.1 mm
Switching frequency		3 kHz	3 kHz
Degree of protection as per IEC 60529		IP 67	IP 67
Ambient temperature T_a		–10...+60 °C	–10...+60 °C
Ambient light limit according to		EN 60947-5-2	EN 60947-5-2
Material	Housing	GD-Zn	GD-Zn
	Optical surface	Glass	Glass
Connection		M8 connector, 3-pin	M8 connector, 3-pin

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M8, 3-pin/straight	2 m/PVC	**BCC02NU**
M8, 3-pin/angled	2 m/PVC	**BCC02P5**
M8, 3-pin/straight	5 m/PVC	**BCC02NW**
M8, 3-pin/angled	5 m/PVC	**BCC02P6**

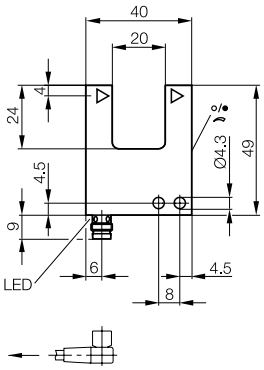
You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

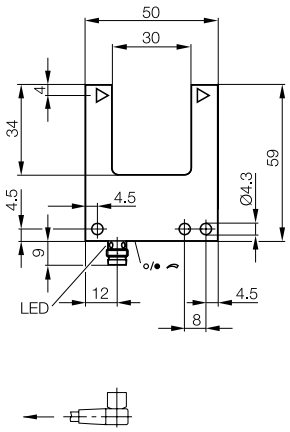


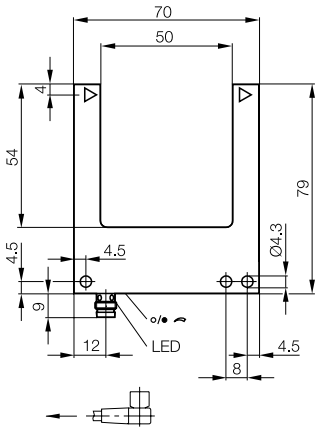


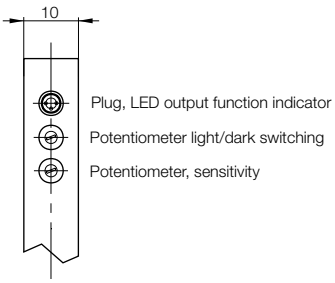


BGL	**BGL**	**BGL**
20 mm	**30 mm**	**50 mm**
24 mm	**34 mm**	**54 mm**
BGL000R	**BGL0016**	**BGL001J**
BGL 20A-001-S49	BGL 30A-001-S49	BGL 50A-001-S49
BGL000T	**BGL0018**	**BGL001L**
BGL 20A-002-S49	BGL 30A-002-S49	BGL 50A-002-S49
10...30 V DC	10...30 V DC	10...30 V DC
200 mA	200 mA	200 mA
Yes/Yes	Yes/Yes	Yes/Yes
Potentiometer, 270°	Potentiometer, 270°	Potentiometer, 270°
LED, red light	LED, red light	LED, red light
0.3 mm	0.3 mm	0.4 mm
20 µm	20 µm	40 µm
≤ 0.1 mm	≤ 0.1 mm	≤ 0.15 mm
1.5 kHz	1.5 kHz	1.5 kHz
IP 67	IP 67	IP 67
–10...+60 °C	–10...+60 °C	–10...+60 °C
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
GD-Zn	GD-Zn	GD-Zn
Glass	Glass	Glass
M8 connector, 3-pin	M8 connector, 3-pin	M8 connector, 3-pin









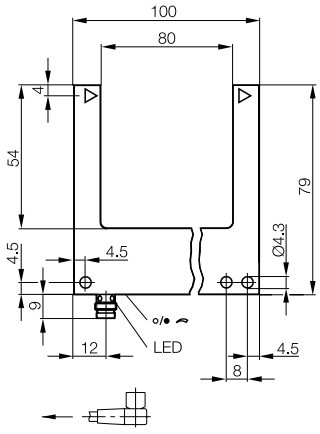
Preferred variants available immediately

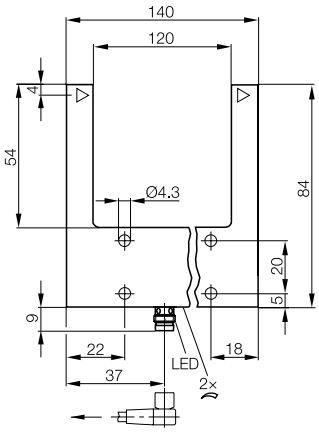




Series		**BGL**	**BGL**
Fork opening		**80 mm**	**120 mm**
Fork depth		**54 mm**	**54 mm**
PNP NO/NC	**Order code**	**BGL0023**	**BGL0007**
	Part number	BGL 80A-001-S49	BGL 120A-001-S49
NPN NO/NC	**Order code**	**BGL0024**	**BGL0008**
	Part number	BGL 80A-002-S49	BGL 120A-002-S49
Supply voltage U_S		10...30 V DC	10...30 V DC
Output current		200 mA	200 mA
Polarity reversal/short-circuit protected		Yes/Yes	Yes/Yes
Settings		Potentiometer, 270°	Potentiometer, 270°
Emitter, light type		LED, red light	LED, red light
Resolution (smallest discernible part)		0.4 mm	0.5 mm
Repeat accuracy		60 µm	80 µm
Switching hysteresis		≤ 0.2 mm	≤ 0.2 mm
Switching frequency		1.5 kHz	1.5 kHz
Degree of protection as per IEC 60529		IP 67	IP 67
Ambient temperature T_a		–10...+60 °C	–10...+60 °C
Ambient light limit according to		EN 60947-5-2	EN 60947-5-2
Material	Housing	GD-Zn	GD-Zn
	Optical surface	Glass	Glass
Connection		M8 connector, 3-pin	M8 connector, 3-pin

Other variants on our website or on request.





Suitable connectors

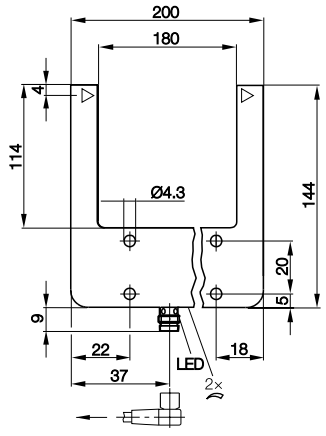
Size/design	Length/cable material	Order code
M8, 3-pin/straight	2 m/PVC	**BCC02NU**
M8, 3-pin/angled	2 m/PVC	**BCC02P5**
M8, 3-pin/straight	5 m/PVC	**BCC02NW**
M8, 3-pin/angled	5 m/PVC	**BCC02P6**

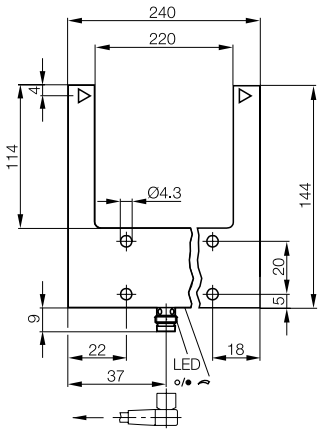
You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

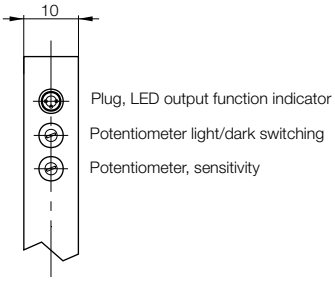




BGL	**BGL**	
180 mm	**220 mm**	
114 mm	**114 mm**	
BGL000J	**BGL0010**	
BGL 180A-001-S49	BGL 220A-001-S49	
BGL000K	**BGL0011**	
BGL 180A-002-S49	BGL 220A-002-S49	
10...30 V DC	10...30 V DC	
200 mA	200 mA	
Yes/Yes	Yes/Yes	
Potentiometer, 270°	Potentiometer, 270°	
LED, red light	LED, red light	
0.6 mm	0.6 mm	
80 µm	80 µm	
≤ 0.2 mm	≤ 0.2 mm	
1.5 kHz	1.5 kHz	
IP 67	IP 67	
–10...+60 °C	–10...+60 °C	
EN 60947-5-2	EN 60947-5-2	
GD-Zn	GD-Zn	
Glass	Glass	
M8 connector, 3-pin	M8 connector, 3-pin	







Inductive Global Sensors

Inductive Global sensors – wide variety of models provide flexibility

Inductive Global sensors provide sophisticated technology at the best price. The wide range of over 400 models includes cylindrical sensors in M8, M12, M18 and M30, and DC 3-wire and DC 2-wire versions.

Features

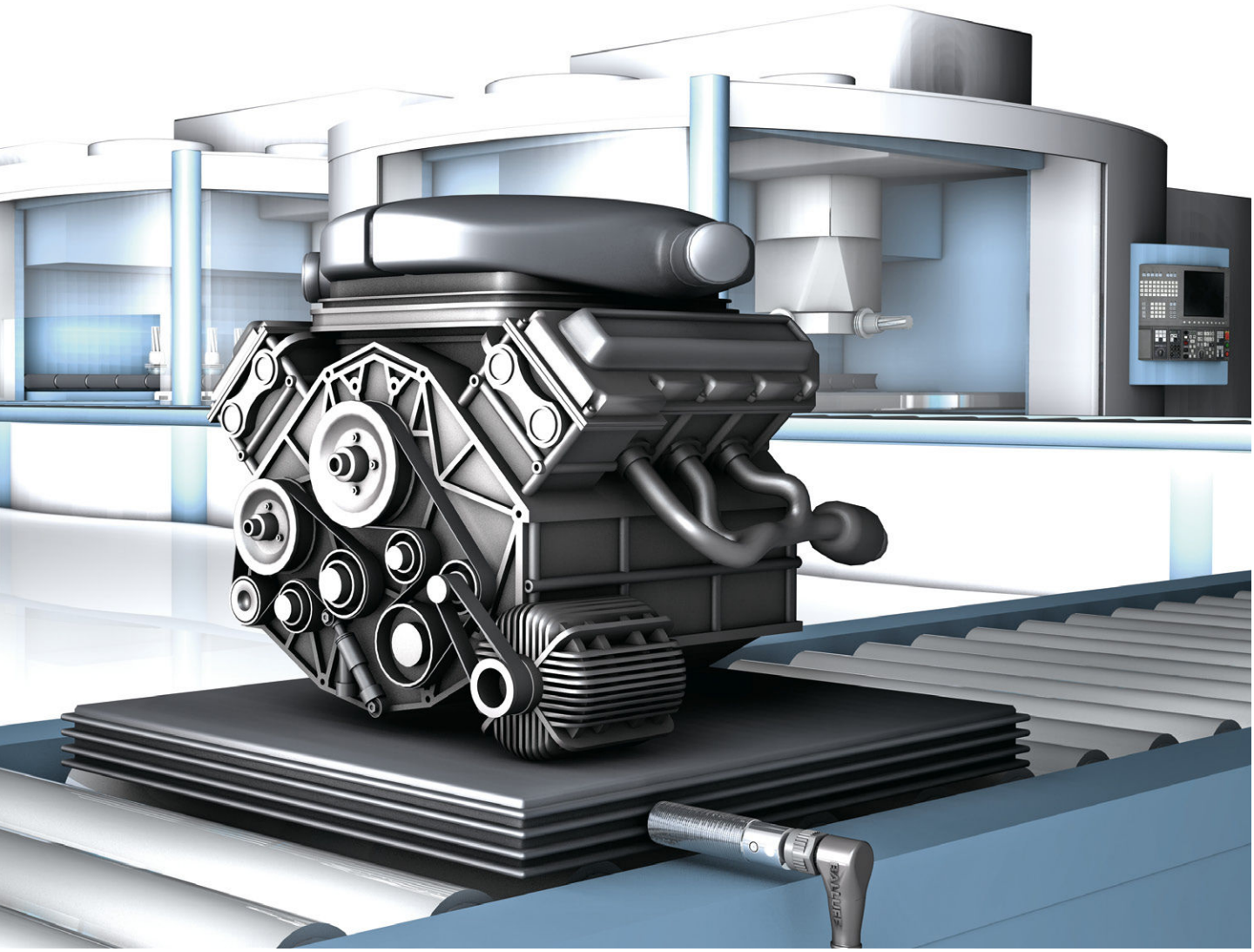
- **Wide variety of versions: DC 2-wire and DC 3-wire as normally open or normally closed version**
- **Shielded and unshielded versions**
- **Plug or cable connection**
- **Highly reliable due to protection against short-circuit, overvoltage, polarity reversal and overcurrent**
- **Robust designs with metal plug for rough environments**
- **As standard version and with increased switching distance**



Contents

Cylinder design, DC 3-wire
M5×0,5 38
M8×1 40
M12×1 44
M18×1 47
M30×1 49
Block Designs
40×40 mm 50

Cylinder Designs, DC 2-wire
M8×1 52
M12×1 52
M30×1.5 53



Preferred variants available immediately

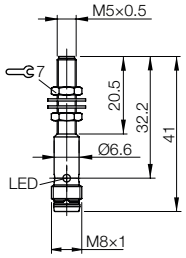


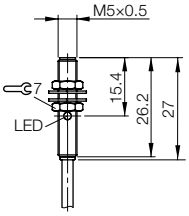


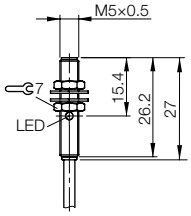


Model		**M5×0.5**	**M5×0.5**	**M5×0.5**	
Installation type		Flush	Flush	Flush	
Range s_n		**0.8 mm**	**0.8 mm**	**1.5 mm**	
Assured switching distance s_a		0...0.65 mm	0...0.65 mm	0...1.2 mm	
PNP, NO	**Order code**	**BES00H2**	**BES00FT**	**BES00H3**	
	Part number	BES 516-3005-E5-C-S49	BES 516-3005-E4-C-PU-02	BES 516-3005-G-E4-C-PU-02	
PNP, NC	**Order code**		**BES00KZ**	**BES00L2**	
	Part number		BES 516-3022-E4-C-PU-02	BES 516-3022-G-E4-C-PU-02	
NPN, NO	**Order code**			**BES00HM**	
	Part number			BES 516-3006-G-E4-C-PU-02	
NPN, NC	**Order code**				
	Part number				
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC	
Voltage drop U_d at I_e max.		3 V	3 V	3 V	
Rated insulation voltage U_i		75 V DC	75 V DC	75 V DC	
Rated operating current I_e		100 mA	100 mA	100 mA	
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	
Ambient temperature T_a		–25...+70 °C	–25...+70 °C	–25...+70 °C	
Switching frequency f max.		3 kHz	3 kHz	3 kHz	
Output function indicator		Yellow LED	Yellow LED	Yellow LED	
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	
Approvals		CE, cULus	CE, cULus	CE, cULus	
Material	Housing	Stainless steel	Stainless steel	Stainless steel	
	Sensing surface	PBT	PBT	PBT	
Connection		M8 connector, 3-pin	2 m PUR cable, 3×0.14 mm²	2 m PUR cable, 3×0.14 mm²	

Other variants on our website or on request.





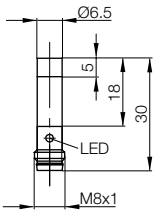


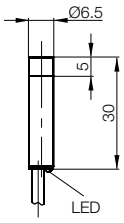
Inductive Global Sensors
Cylinder design, DC 3-wire
Ø 6.5 mm, range 4 mm





Ø 6.5 mm	**Ø 6.5 mm**				
Not flush	Not flush				
4 mm	**4 mm**				
0...3.2 mm	0...3.2 mm				
BES0005	**BES000E**				
BES G06EB-PSC40F-S49G	BES G06ED-PSC40F-BP02				
BES0004	**BES000A**				
BES G06EB-POC40F-S49G	BES G06ED-POC40F-BP02				
BES0003	**BES0008**				
BES G06EB-NSC40F-S49G	BES G06ED-NSC40F-BP02				
BES0002	**BES0006**				
BES G06EB-NOC40F-S49G	BES G06ED-NOC40F-BP02				
10...30 V DC	10...30 V DC				
2.5 V	2.5 V				
75 V DC	250 V AC (⧈)				
200 mA	200 mA				
Yes/Yes/Yes	Yes/Yes/Yes				
–25...70 °C	–25...70 °C				
1.5 kHz	1.5 kHz				
Yellow LED	Yellow LED				
IP 67	IP 68 per BWN Pr. 20				
CE, cULus	CE, cULus				
Stainless steel	Stainless steel				
PA 12	PUR				
M8 connector, 3-pin	2 m PVC cable, 3×0.14 mm²				





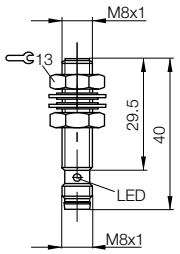
Preferred variants available immediately

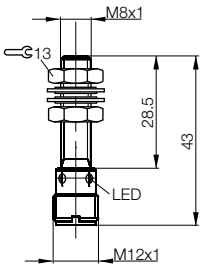


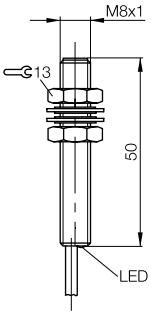


Series		**M8×1**	**M8×1**	**M8×1**	
Installation type		Flush	Flush	Flush	
Range s_n		**1.5 mm**	**1.5 mm**	**1.5 mm**	
Assured switching distance s_a		0...1.2 mm	0...1.2 mm	0...1.2 mm	
PNP, NO	**Order code**	**BES00CJ**	**BES00CH**	**BES0037**	
	Part number	BES M08EE-PSC15B-S49G-003	BES M08EE-PSC15B-S04G-003	BES M08MI-PSC15B-BV02	
PNP, NC	**Order code**	**BES00CC**	**BES00CA**	**BES0030**	
	Part number	BES M08EE-POC15B-S49G-003	BES M08EE-POC15B-S04G-003	BES M08MI-POC15B-BV02	
NPN, NO	**Order code**	**BES00C7**	**BES00C6**	**BES002F**	
	Part number	BES M08EE-NSC15B-S49G-003	BES M08EE-NSC15B-S04G-003	BES M08MI-NSC15B-BV02	
NPN, NC	**Order code**	**BES00C3**	**BES00C2**	**BES03PJ**	
	Part number	BES M08EE-NOC15B-S49G-003	BES M08EE-NOC15B-S04G-003	BES M08MI-NOC15B-BV02	
Supply voltage U_S		10...30 V DC	10...30 V DC	12...30 V DC	
Voltage drop U_d at I_e max.		2.5 V	2.5 V	2 V	
Rated insulation voltage U_i (protection class)		250 V AC (⧈)	250 V AC (⧈)	75 V DC	
Rated operating current I_e		200 mA	200 mA	200 mA	
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	
Ambient temperature T_a		–25...70 °C	–25...70 °C	–25...70 °C	
Switching frequency f max.		1 kHz	1 kHz	1 kHz	
Output function indicator		Yellow LED	Yellow LED	Yellow LED	
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	
Approvals		CE, cULus	CE, cULus	CE, cULus	
Material	Housing	Stainless steel	Stainless steel	Brass-coated	
	Sensing surface	PBT	PBT	PA 12	
Connection		M8 connector, 3-pin	M12 connector, 4-pin	2 m PVC cable, 3×0.14 mm²	

Other variants on our website or on request.







Suitable connectors

Size/design	Length/cable material	Order code
M8, 3-pin/straight	2 m/PVC	**BCC02NU**
M8, 3-pin/angled	2 m/PVC	**BCC02P5**
M8, 3-pin/straight	5 m/PVC	**BCC02NW**
M8, 3-pin/angled	5 m/PVC	**BCC02P6**
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM009U**
Mounting cuff	**BAM00A2**

You can find additional mechanical accessories in our catalog **Accessories Line**.

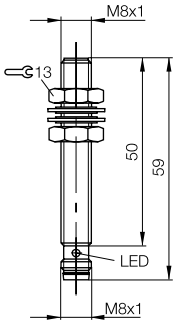
Inductive Global Sensors
Cylinder design, DC 3-wire
M8×1, range 1.5 mm, 2 mm

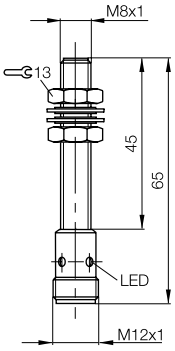


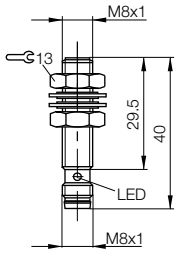


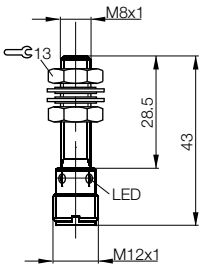


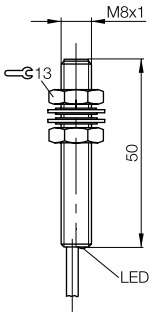
M8×1	**M8×1**	**M8×1**	**M8×1**	**M8×1**
Flush	Flush	Flush	Flush	Flush
1.5 mm	**1.5 mm**	**2 mm**	**2 mm**	**2 mm**
0...1.2 mm	0...1.2 mm	0...1.6 mm	0...1.6 mm	0...1.6 mm
BES003C	**BES0027**	**BES00CK**	**BES00FC**	**BES003K**
BES M08MI-PSC15B-S49G	BES M08MH1-PSC15B-S04G	BES M08EE-PSC20B-S49G-003	BES M08EE-PSC20B-S04G-003	BES M08MI-PSC20B-BV02
BES03P6	**BES0026**	**BES00CF**	**BES00CE**	**BES03TH**
BES M08MI-POC15B-S49G	BES M08MH1-POC15B-S04G	BES M08EE-POC20B-S49G-003	BES M08EE-POC20B-S04G-003	BES M08MI-POC20B-BV02
BES002K	**BES0024**	**BES00C9**	**BES00C8**	**BES002P**
BES M08MI-NSC15B-S49G	BES M08MH1-NSC15B-S04G	BES M08EE-NSC20B-S49G-003	BES M08EE-NSC20B-S04G-003	BES M08MI-NSC20B-BV02
BES03PK	**BES0023**	**BES00C5**	**BES00C4**	**BES03TF**
BES M08MI-NOC15B-S49G	BES M08MH1-NOC15B-S04G	BES M08EE-NOC20B-S49G-003	BES M08EE-NOC20B-S04G-003	BES M08MI-NOC20B-BV02
12...30 V DC	12...30 V DC	10...30 V DC	10...30 V DC	12...30 V DC
2 V	2 V	2.5 V	2.5 V	2.5 V
75 V DC	75 V DC	250 V AC (⧈)	250 V AC (⧈)	75 V DC
200 mA	200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
–25...70 °C	–25...70 °C	–25...70 °C	–25...70 °C	–25...70 °C
1 kHz	1 kHz	700 Hz	700 Hz	700 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 67	IP 67	IP 67	IP 67	IP 67
CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Brass-coated	Brass-coated	Stainless steel	Stainless steel	Brass-coated
PA 12	PA 12	PBT	PBT	PA 12
M8 connector, 3-pin	M12 connector, 4-pin	M8 connector, 3-pin	M12 connector, 4-pin	2 m PVC cable, 3×0.14 mm²











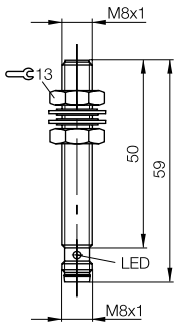
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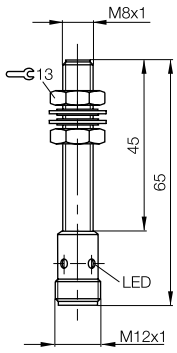


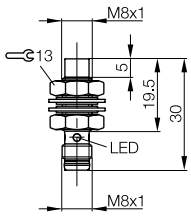


Series		**M8×1**	**M8×1**	**M8×1**	
Installation type		Flush	Flush	Non-flush	
Range s_n		**2 mm**	**2 mm**	**4 mm**	
Assured switching distance s_a		0...1.6 mm	0...1.6 mm	0...3.2 mm	
PNP, NO	**Order code**	**BES003P**	**BES0028**	**BES000M**	
	Part number	BES M08MI-PSC20B-S49G	BES M08MH1-PSC20B-S04G	BES M08EB-PSC40F-S49G	
PNP, NC	**Order code**	**BES0033**	**BES03T5**	**BES000L**	
	Part number	BES M08MI-POC20B-S49G	BES M08MH1-POC20B-S04G	BES M08EB-POC40F-S49G	
NPN, NO	**Order code**	**BES002U**	**BES0025**	**BES000K**	
	Part number	BES M08MI-NSC20B-S49G	BES M08MH1-NSC20B-S04G	BES M08EB-NSC40F-S49G	
NPN, NC	**Order code**	**BES03TJ**	**BES03T6**	**BES000J**	
	Part number	BES M08MI-NOC20B-S49G	BES M08MH1-NOC20B-S04G	BES M08EB-NOC40F-S49G	
Supply voltage U_S		12...30 V DC	12...30 V DC	10...30 V DC	
Voltage drop U_d at I_e max.		2.5 V	2.5 V	2.5 V	
Rated insulation voltage U_i (protection class)		75 V DC	75 V DC	250 V AC (⧈)	
Rated operating current I_e		200 mA	200 mA	200 mA	
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	
Ambient temperature T_a		–25...70 °C	–25...70 °C	–25...70 °C	
Switching frequency f max.		700 Hz	700 Hz	1.5 kHz	
Output function indicator		Yellow LED	Yellow LED	Yellow LED	
Degree of protection as per IEC 60529		IP 67	IP 67	IP 68 per BWN Pr. 20	
Approvals		CE, cULus	CE, cULus	CE, cULus	
Material	Housing	Brass-coated	Brass-coated	Stainless steel	
	Sensing surface	PA 12	PA 12	PBT	
Connection		M8 connector, 3-pin	M12 connector, 4-pin	M8 connector, 3-pin	

Other variants on our website or on request.







Suitable connectors

Size/design	Length/cable material	Order code
M8, 3-pin/straight	2 m/PVC	**BCC02NU**
M8, 3-pin/angled	2 m/PVC	**BCC02P5**
M8, 3-pin/straight	5 m/PVC	**BCC02NW**
M8, 3-pin/angled	5 m/PVC	**BCC02P6**
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

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Recommended accessories

Description	Order code
Mounting bracket	**BAM009U**
Mounting cuff	**BAM00A2**

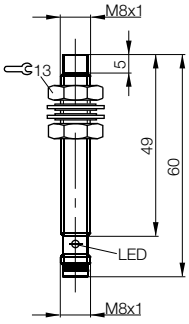
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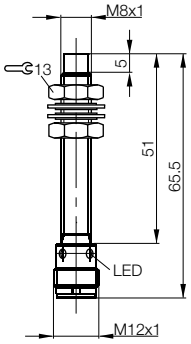
Inductive Global Sensors
Cylinder design, DC 3-wire
M8×1, range 4 mm





M8×1	**M8×1**				
Non-flush	Non-flush				
4 mm	**4 mm**				
0...3.2 mm	0...3.2 mm				
BES001J	**BES001H**				
BES M08EH-PSC40F-S49G	BES M08EH-PSC40F-S04G				
BES001F	**BES001E**				
BES M08EH-POC40F-S49G	BES M08EH-POC40F-S04G				
BES001C	**BES001A**				
BES M08EH-NSC40F-S49G	BES M08EH-NSC40F-S04G				
BES0019	**BES0018**				
BES M08EH-NOC40F-S49G	BES M08EH-NOC40F-S04G				
10...30 V DC	10...30 V DC				
2.5 V	2.5 V				
250 V AC (⧈)	250 V AC (⧈)				
200 mA	200 mA				
Yes/Yes/Yes	Yes/Yes/Yes				
–25...70 °C	–25...70 °C				
1.5 kHz	1.5 kHz				
Yellow LED	Yellow LED				
IP 68 per BWN Pr. 20	IP 67				
CE, cULus	CE, cULus				
Stainless steel	Stainless steel				
PBT	PBT				
M8 connector, 3-pin	M12 connector, 4-pin				





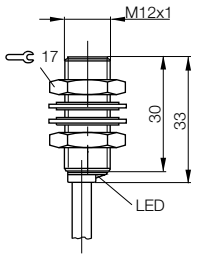
Preferred variants available immediately

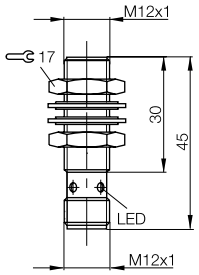


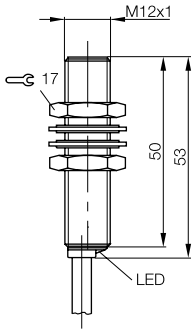


Series		**M12×1**	**M12×1**	**M12×1**
Installation type		Flush	Flush	Flush
Range s_n		**2 mm**	**2 mm**	**2 mm**
Assured switching distance s_a		0...1.6 mm	0...1.6 mm	0...1.6 mm
PNP, NO	**Order code**	**BES04CU**	**BES00EE**	**BES005U**
	Part number	BES M12MD-PSC20B-BV02-003	BES M12ME-PSC20B-S04G-003	BES M12MI-PSC20B-BV02
PNP, NC	**Order code**		**BES00EA**	**BES00FP**
	Part number		BES M12ME-POC20B-S04G-003	BES M12MI-POC20B-BV02
NPN, NO	**Order code**	**BES04CW**	**BES00E8**	**BES00FL**
	Part number	BES M12MD-NSC20B-BV02-003	BES M12ME-NSC20B-S04G-003	BES M12MI-NSC20B-BV02
NPN, NC	**Order code**		**BES00E6**	**BES03PR**
	Part number		BES M12ME-NOC20B-S04G-003	BES M12MI-NOC20B-BV02
Supply voltage U_S		10...30 V DC	10...30 V DC	12...30 V DC
Voltage drop U_d at I_e max.		2 V	2 V	2.5 V
Rated insulation voltage U_i (protection class)		250 V AC (⧈)	250 V AC (⧈)	250 V AC (⧈)
Rated operating current I_e		200 mA	200 mA	200 mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25...70 °C	–25...70 °C	–25...70 °C
Switching frequency f max.		1.2 kHz	1.2 kHz	1.2 kHz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 68 per BWN Pr. 20
Approvals		CE, cULus	CE, cULus	CE, cULus
Material	Housing	Brass-coated	Brass-coated	Brass-coated
	Sensing surface	PBT	PBT	PA 12
Connection		2 m PUR cable, 3x0.34 mm²	M12 connector, 4-pin	2 m PVC cable, 3×0.34 mm²

Other variants on our website or on request.







Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00C0**
Mounting cuff	**BAM00C4**

You can find additional mechanical accessories in our catalog **Accessories Line**.

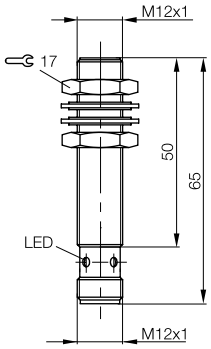
Inductive Global Sensors
Cylinder design, DC 3-wire
M12×1, range 2 mm, 4 mm

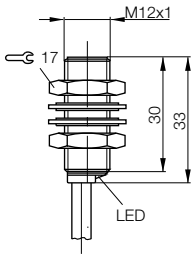


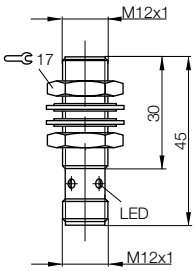


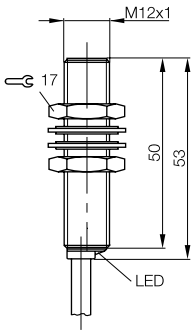


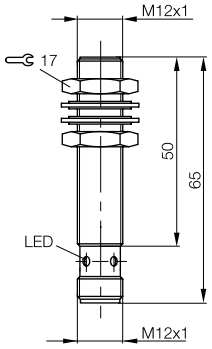
M12×1	**M12×1**	**M12×1**	**M12×1**	**M12×1**
Flush	Flush	Flush	Flush	Flush
2 mm	**4 mm**	**4 mm**	**4 mm**	**4 mm**
0...1.6 mm	0...3.2 mm	0...3.2 mm	0...3.2 mm	0...3.2 mm
BES0060	**BES00E5**	**BES00EF**	**BES0064**	**BES0068**
BES M12MI-PSC20B-S04G	BES M12MD-PSC40B-BP02-003	BES M12ME-PSC40B-S04G-003	BES M12MI-PSC40B-BV02	BES M12MI-PSC40B-S04G
BES005F	**BES00E3**	**BES00EC**	**BES005L**	**BES005N**
BES M12MI-POC20B-S04G	BES M12MD-POC40B-BP02-003	BES M12ME-POC40B-S04G-003	BES M12MI-POC40B-BV02	BES M12MI-POC40B-S04G
BES0054	**BES00E1**	**BES00E9**	**BES00FM**	**BES0059**
BES M12MI-NSC20B-S04G	BES M12MD-NSC40B-BP02-003	BES M12ME-NSC40B-S04G-003	BES M12MI-NSC40B-BV02	BES M12MI-NSC40B-S04G
BES004Y	**BES00CZ**	**BES00E7**	**BES03PT**	**BES004Z**
BES M12MI-NOC20B-S04G	BES M12MD-NOC40B-BP02-003	BES M12ME-NOC40B-S04G-003	BES M12MI-NOC40B-BV02	BES M12MI-NOC40B-S04G
12...30 V DC	10...30 V DC	10...30 V DC	12...30 V DC	12...30 V DC
2.5 V	2.5 V	2.5 V	2.5 V	2.5 V
250 V AC (⧈)	250 V AC (⧈)	250 V AC (⧈)	250 V AC (⧈)	250 V AC (⧈)
200 mA	200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
–25...70 °C	–25...70 °C	–25...70 °C	–25...70 °C	–25...70 °C
1.2 kHz	300 Hz	300 Hz	500 Hz	500 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 68 per BWN Pr. 20	IP 67	IP 67	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Brass-coated	Brass-coated	Brass-coated	Brass-coated	Brass-coated
PA 12	LCP	LCP	PA 12	PA 12
M12 connector, 4-pin	2 m PUR cable, 3×0.34 mm²	M12 connector, 4-pin	2 m PVC cable, 3×0.34 mm²	M12 connector, 4-pin











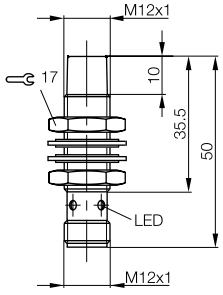
Preferred variants available immediately

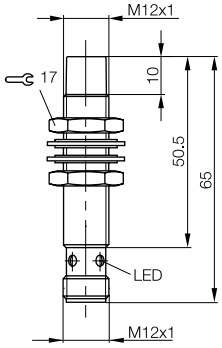




Series		**M12×1**	**M12×1**		
Installation type		Non-flush	Non-flush		
Range s_n		**8 mm**	**8 mm**		
Assured switching distance s_a		0...6.4 mm	0...6.4 mm		
PNP, NO	**Order code**	**BES01PY**	**BES004N**		
	Part number	BES M12MD-PSC80F-S04G	BES M12MG-PSC80F-S04G		
PNP, NC	**Order code**	**BES01PU**	**BES004K**		
	Part number	BES M12MD-POC80F-S04G	BES M12MG-POC80F-S04G		
NPN, NO	**Order code**	**BES01PT**	**BES004F**		
	Part number	BES M12MD-NSC80F-S04G	BES M12MG-NSC80F-S04G		
NPN, NC	**Order code**	**BES01PR**	**BES004A**		
	Part number	BES M12MD-NOC80F-S04G	BES M12MG-NOC80F-S04G		
Supply voltage U_S		10...30 V DC	10...30 V DC		
Voltage drop U_d at I_e max.		2.5 V	2.5 V		
Rated insulation voltage U_i (protection class)		250 V AC (⧈)	250 V AC (⧈)		
Rated operating current I_e		200 mA	200 mA		
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes		
Ambient temperature T_a		–25...70 °C	–25...70 °C		
Switching frequency f max.		800 Hz	800 Hz		
Output function indicator		Yellow LED	Yellow LED		
Degree of protection as per IEC 60529		IP 68 per BWN Pr. 20	IP 67		
Approvals		CE, cULus	CE, cULus		
Material	Housing	Brass-coated	Brass-coated		
	Sensing surface	PBT	PBT		
Connection		M12 connector, 4-pin	M12 connector, 4-pin		

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting cuff	**BAM00C4**
Mounting cuff	**BAM00F2**
Mounting bracket	**BAM00C0**
Mounting bracket	**BAM00EY**

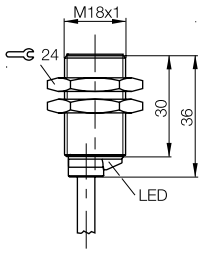
You can find additional mechanical accessories in our catalog **Accessories Line**.

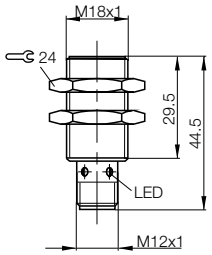
Inductive Global Sensors
Cylinder design, DC 3-wire
M18×1, range 5 mm

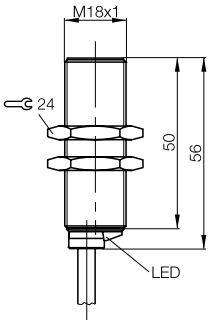


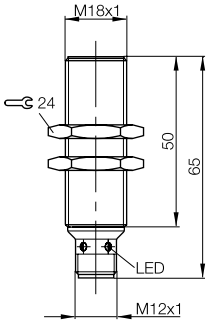



M18×1	**M18×1**	**M18×1**	**M18×1**
Flush	Flush	Flush	Flush
5 mm	**5 mm**	**5 mm**	**5 mm**
0...4 mm	0...4 mm	0...4 mm	0...4 mm
BES00EN	**BES00EY**	**BES0082**	**BES0086**
BES M18MD-PSC50B-BP02-003	BES M18ME-PSC50B-S04G-003	BES M18MI-PSC50B-BV02	BES M18MI-PSC50B-S04G
BES00EL	**BES00EU**	**BES007R**	**BES043J**
BES M18MD-POC50B-BP02-003	BES M18ME-POC50B-S04G-003	BES M18MI-POC50B-BV02	BES M18MI-POC50B-S04G
BES00EJ	**BES00ER**	**BES007A**	**BES044F**
BES M18MD-NSC50B-BP02-003	BES M18ME-NSC50B-S04G-003	BES M18MI-NSC50B-BV02	BES M18MI-NSC50B-S04G
BES03T8	**BES03T7**	**BES03RR**	
BES M18MD-NOC50B-BP02-003	BES M18ME-NOC50B-S04G-003	BES M18MI-NOC50B-BV02	
10...30 V DC	10...30 V DC	12...30 V DC	12...30 V DC
2 V	2 V	2.5 V	2.5 V
75 V DC	75 V DC	250 V AC (⧈)	250 V AC (⧈)
200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
–25...70 °C	–25...70 °C	–25...70 °C	–25...70 °C
700 Hz	700 Hz	700 Hz	700 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 67	IP 67	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
CE, cULus	CE, cULus	CE, cULus	CE, cULus
Brass-coated	Brass-coated	Brass-coated	Brass-coated
PA 12	PA 12	PA 12	PA 12
2 m PUR cable, 3 x 0.34 mm²	M12 connector, 4-pin	2 m PVC cable, 3×0.34 mm²	M12 connector, 4-pin









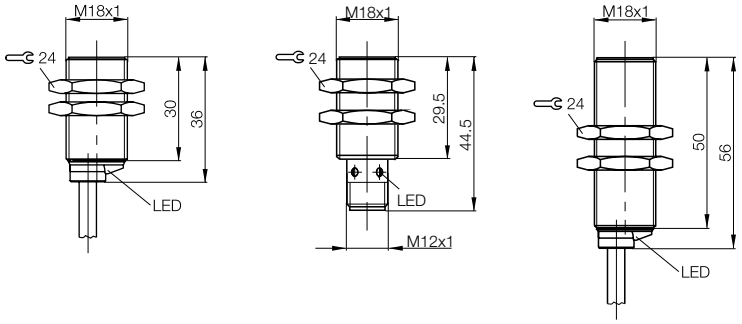
Preferred variants available immediately





Series		**M18×1**	**M18×1**	**M18×1**
Installation type		Flush	Flush	Flush
Range s_n		**8 mm**	**8 mm**	**8 mm**
Assured switching distance s_a		0...6.4 mm	0...6.4 mm	0...6.4 mm
PNP, NO	**Order code**	**BES00EP**	**BES00EZ**	**BES008E**
	Part number	BES M18MD-PSC80B-BP02-003	BES M18ME-PSC80B-S04G-003	BES M18MI-PSC80B-BV02
PNP, NC	**Order code**	**BES00EM**	**BES00EW**	**BES03PY**
	Part number	BES M18MD-POC80B-BP02-003	BES M18ME-POC80B-S04G-003	BES M18MI-POC80B-BV02
NPN, NO	**Order code**	**BES00EK**	**BES00ET**	
	Part number	BES M18MD-NSC80B-BP02-003	BES M18ME-NSC80B-S04G-003	
NPN, NC	**Order code**	**BES00EH**	**BES03RN**	
	Part number	BES M18MD-NOC80B-BP02-003	BES M18ME-NOC80B-S04G-003	
Supply voltage U_S		10...30 V DC	10...30 V DC	12...30 V DC
Voltage drop U_d at I_e max.		3.5 V	3.5 V	2.5 V
Rated insulation voltage U_i (protection class)		75 V DC	75 V DC	250 V AC (⧈)
Rated operating current I_e		130 mA	130 mA	200 mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25...70 °C	–25...70 °C	–25...70 °C
Switching frequency f max.		150 Hz	150 Hz	150 Hz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 68 per BWN Pr. 20
Approvals		CE, cULus	CE, cULus	CE, cULus
Material	Housing	Brass-coated	Brass-coated	Brass-coated
	Sensing surface	PBT	PBT	PA 12
Connection		2 m PUR cable, 3×0.34 mm²	M12 connector, 4-pin	2 m PVC cable, 3×0.34 mm²

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting cuff	**BAM00F2**
Mounting bracket	**BAM00EY**

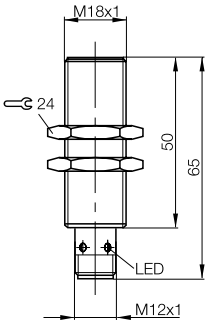
You can find additional mechanical accessories in our catalog **Accessories Line**.

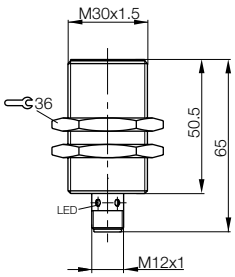
Inductive Global Sensors
Cylinder design, DC 3-wire
M18×1, M30×1, range 8 mm, 10 mm, 15 mm

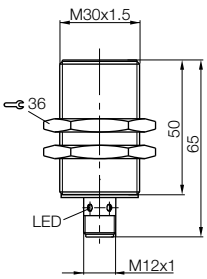




	M18×1	**M30×1.5**	**M30×1.5**		
	Flush	Flush	Flush		
	8 mm	**10 mm**	**15 mm**		
	0...6.4 mm	0...8.1 mm	0...12.2 mm		
	BES008L	**BES00A3**	**BES00AF**		
	BES M18MI-PSC80B-S04G	BES M30MI-PSC10B-S04G	BES M30MI-PSC15B-S04G		
	BES03RP	**BES043H**	**BES03RK**		
	BES M18MI-POC80B-S04G	BES M30MI-POC10B-S04G	BES M30MI-POC15B-S04G		
	BES007L				
	BES M18MI-NSC80B-S04G				
	BES0077				
	BES M18MI-NOC80B-S04G				
	10...30 V DC	12...30 V DC	10...30 V DC		
	2.5 V	2.5 V	2.5 V		
	250 V AC (⧈)	75 V DC	250 V AC (⧈)		
	200 mA	200 mA	200 mA		
	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes		
	–25...70 °C	–25...70 °C	–25...70 °C		
	1 kHz	400 Hz	100 Hz		
	Yellow LED	Yellow LED	Yellow LED		
	IP 67	IP 67	IP 67		
	CE, cULus	CE, cULus	CE, cULus		
	Brass-coated	Brass-coated	Brass-coated		
	PBT	PA 12	PA 12		
	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin		







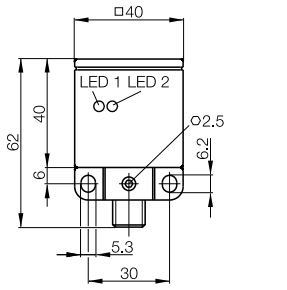


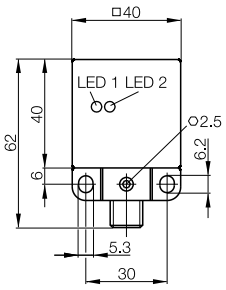


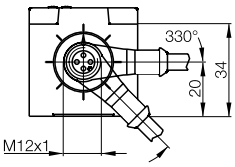
Preferred variants available immediately

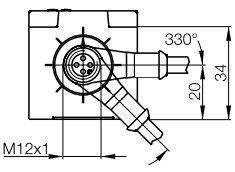
Model		**40×40 mm** Unicompact	**40×40 mm**
Installation type		Flush	Not flush
Rated switching distance s_n		**20 mm**	**25 mm**
Assured switching distance s_a		0...16 mm	0...20 mm
PNP, NO	**Order code**	**BES021W**	
	Part number	BES Q40KFU-PSC20B-S04G	
PNP, complementary	**Order code**	**BES0217**	
	Part number	BES Q40KFU-PAC20B-S04G	
NPN, complementary	**Order code**		**BES022J**
	Part number		BES Q40KFU-NAC25F-S04G
Supply voltage U_S		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e max.		2.5 V	2.5 V
Rated insulation voltage U_i (protection class)		250 V AC (⧈)	250 V AC (⧈)
Rated operating current I_e		200 mA	200 mA
Polarity reversal protected/t ransposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25...+70 °C	–25...+70 °C
Switching frequency f max.		50 Hz	50 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Approvals		CE, cULus	CE, cULus
Material	Housing	PA	PBT
	Sensing surface	PA	PBT
Connection		M12 connector, 4-pin	M12 connector, 4-pin

Other variants on our website or on request.



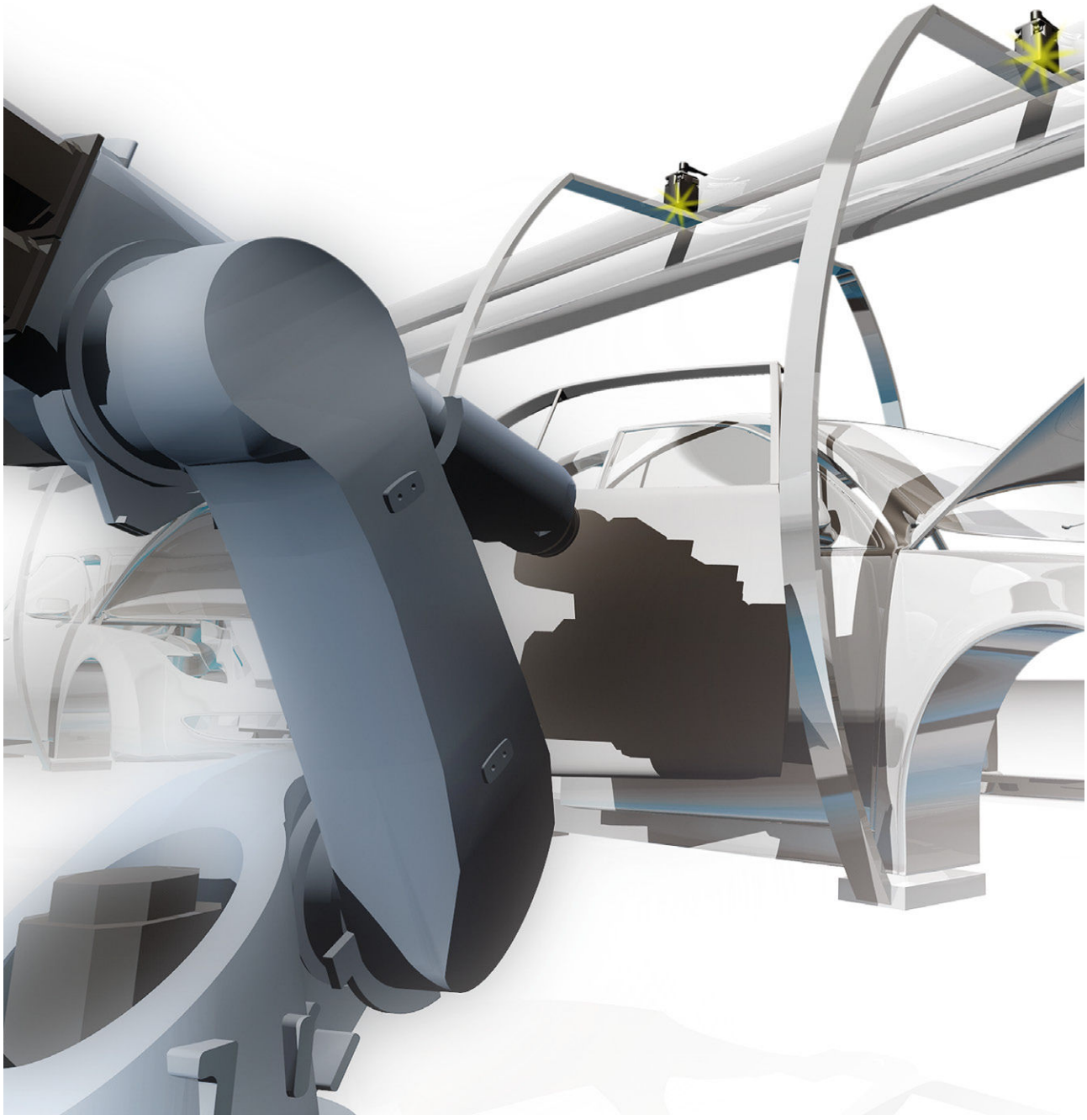








Inductive Global Sensors
Block design, DC 3-/4-wire



Inductive Global Sensors

Cylinder design, DC 2-wire
M8x1, M12×1, range 2 mm, 3 mm

M8, M12, M18, M30

Global

■ **Preferred variants available immediately**

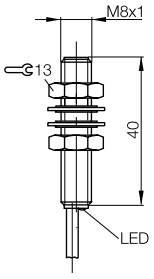


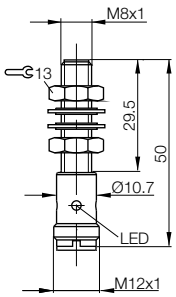


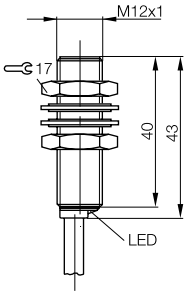


Series		**M8×1**	**M8×1**	**M12×1**
Installation type		Flush	Flush	Flush
Range s_n		**2 mm**	**2 mm**	**3 mm**
Assured switching distance s_a		0...1.6 mm	0...1.6 mm	0...2.4 mm
Polarized, NO	**Order code**	**BES001L**	**BES0022**	**BES0045**
	Part number	BES M08MG-GSC20B-BV02	BES M08ME1-GSC20B-S04G	BES M12MG-GSC30B-BV02
Polarized, NC	**Order code**	**BES024R**	**BES024N**	**BES024L**
	Part number	BES M08MG-GOC20B-BV02	BES M08ME1-GOC20B-S04G	BES M12MG-GOC30B-BV02
Non-polarized, NO	**Order code**	**BES001T**	**BES001Y**	**BES004T**
	Part number	BES M08MG-USC20B-BV02	BES M08ME1-USC20B-S04G	BES M12MG-USC30B-BV02
Non-polarized, NC	**Order code**	**BES024T**	**BES024P**	**BES024M**
	Part number	BES M08MG-UOC20B-BV02	BES M08ME1-UOC20B-S04G	BES M12MG-UOC30B-BV02
Supply voltage U_S		10...36 V DC	10...36 V DC	10...36 V DC
Voltage drop U_d at I_e max.		5 V	5 V	≤ 5 V
Rated insulation voltage U_i		75 V DC	75 V DC	75 V DC
Rated operating current I_e		100 mA	100 mA	100 mA
Minimum operational current I_m		5 mA	5 mA	5 mA
Residual current I_r max.		600 µA	600 µA	600 µA
Permissible load capacitance max.		1 µF	1 µF	1 µF
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25...+70 °C	–25...+70 °C	–25...+70 °C
Switching frequency f max.		1.5 kHz	1.5 kHz	1.3 kHz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Approvals		CE, cULus	CE, cULus	CE, cULus
Material	Housing	Brass-coated	Brass-coated	Brass-coated
	Sensing surface	PBT	PBT	PA 12
Connection		2 m PVC cable, 2×0.14 mm²	M12 connector, 4-pin	2 m PVC cable, 2×0.34 mm²

Other variants on our website or on request.







Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036N**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036P**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting cuff	**BAM00F2**
Mounting cuff	**BAM0219**
Mounting bracket	**BAM00EY**

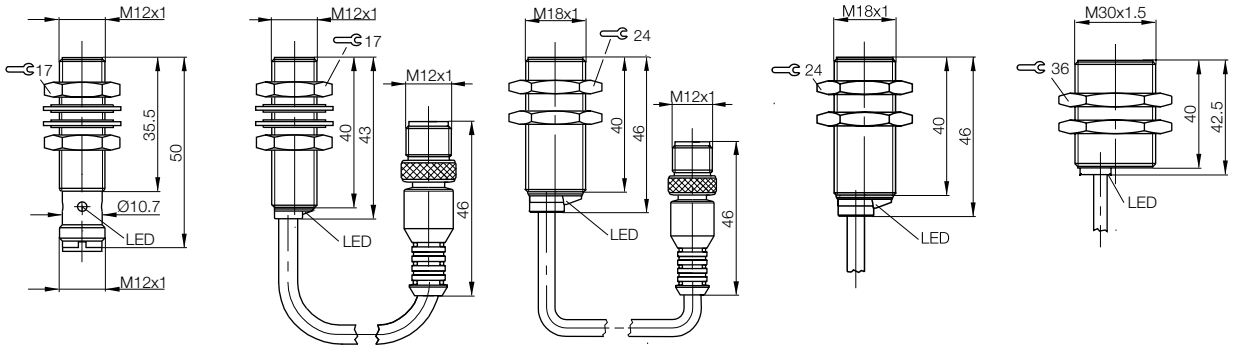
You can find additional mechanical accessories in our catalog **Accessories Line**.

Inductive Global Sensors

Cylinder design, DC 2-wire
M12x1, M18x1, M30x1.5, range 3 mm, 7 mm, 15 mm



M12×1	**M12×1**	**M18×1**	**M18×1**	**M30×1.5**
Flush	Flush	Flush	Flush	Flush
3 mm	**3 mm**	**7 mm**	**7 mm**	**15 mm**
0...2.4 mm	0...2.4 mm	0...5.6 mm	0...5.6 mm	0...12 mm
BES003Z	**BES0042**	**BES006C**	**BES00FA**	**BES008R**
BES M12MF-GSC30B-S04G	BES M12MG-GSC30B-BP00,3-GS04	BES M18MG-GSC70B-BP00,3-GS04	BES M18MG-GSC70B-BV02	BES M30MF-GSC15B-BV02
BES024J	**BES03HK**	**BES039L**	**BES02NT**	**BES0279**
BES M12MF-GOC30B-S04G	BES M12MG-GOC30B-BP00,3-GS04	BES M18MG-GOC70B-BP00,3-GS04	BES M18MG-GOC70B-BV02	BES M30MF-GOC15B-BV02
BES0041			**BES0073**	**BES0091**
BES M12MF-USC30B-S04G			BES M18MG-USC70B-BV02	BES M30MF-USC15B-BV02
BES024K			**BES02NU**	**BES027A**
BES M12MF-UOC30B-S04G			BES M18MG-UOC70B-BV02	BES M30MF-UOC15B-BV02
10...36 V DC	10...36 V DC	10...36 V DC	10...36 V DC	10...36 V DC
≤ 5 V	4 V	4 V	4 V	≤ 5 V
75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
100 mA	100 mA	100 mA	100 mA	100 mA
5 mA	5 mA	5 mA	5 mA	5 mA
600 µA	600 µA	600 µA	600 µA	600 µA
1 µF	1 µF	1 µF	1 µF	1 µF
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
–25...+70 °C	–25...+70 °C	–25...+70 °C	–25...+70 °C	–25...+70 °C
1.3 kHz	1.3 kHz	600 Hz	600 Hz	400 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 67	IP 67	IP 67	IP 67	IP 67
CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Brass-coated	Brass-coated	Brass-coated	Brass-coated	Brass-coated
PA 12	PA 12	PA 12	PA 12	PA 12
M12 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin	2 m PVC cable, 3×0.34 mm²	2 m PVC cable, 2×0.34 mm²



Capacitive Global Sensors

Capacitive Global sensors – above-average technology at the best price

For object and level detection, capacitive Global sensors are particularly cost-effective. They offer a wide range of performance-proven products in above-average technology with the best possible EMC protection at a low price.

The complete series includes M12, M18 and M30 variants in cable version and with M12 male. In a plastic or stainless steel housing. This guarantees maximum versatility in application.

All sensors can be easily adjusted l to applications via potentiometers.

Features

- **Stainless steel or plastic housing (PBT)**
- **PNP and NPN versions with normally open or normally closed**
- **Power-on indicator (large green LED)**
- **Output function indicator (large yellow LED)**
- **High electromagnetic compatibility (EMC)**

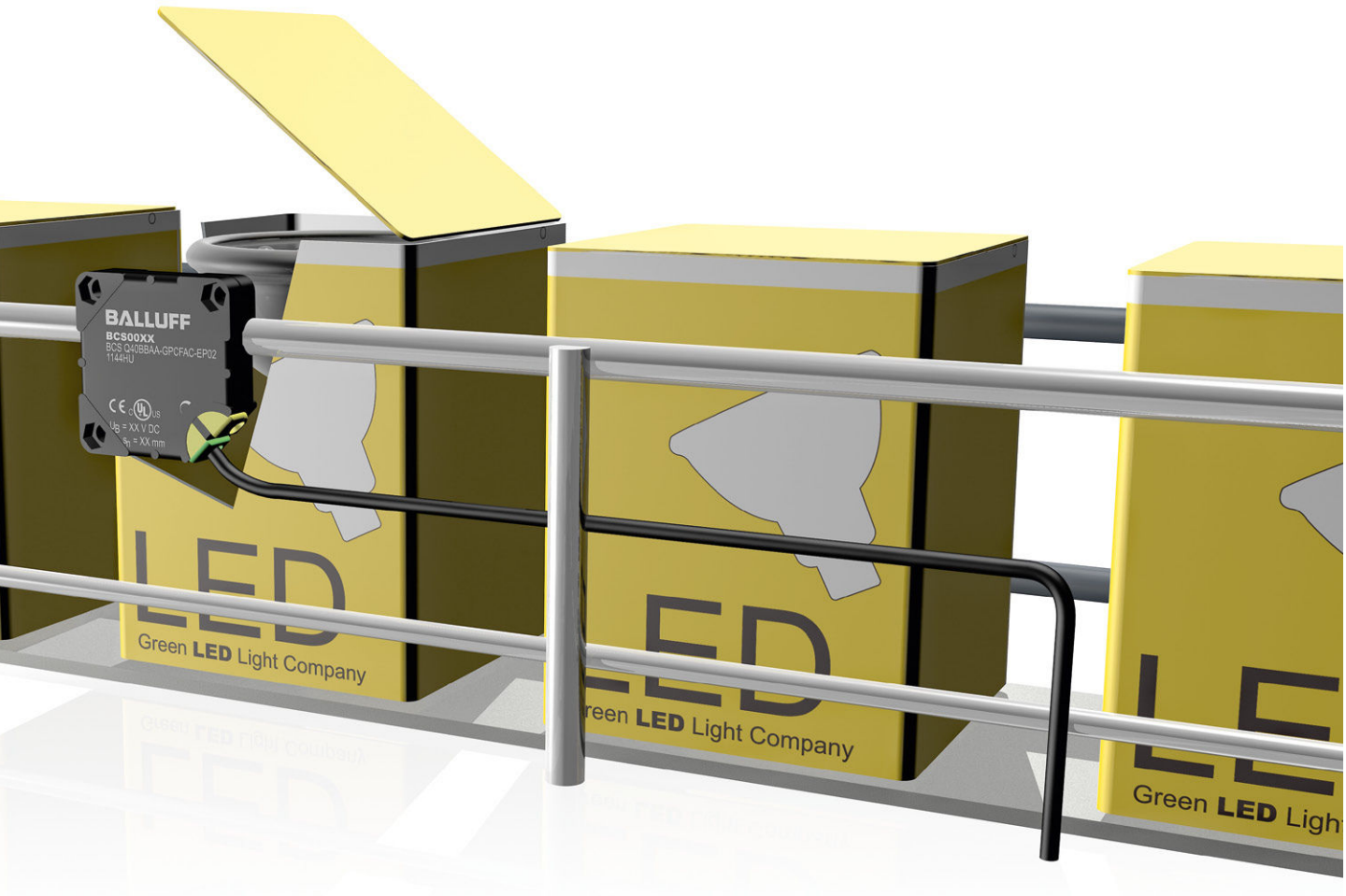


Capacitive Global Sensors
Contents

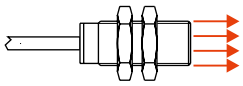
Performance Spectrum 56

Capacitive Global Sensors for Object Detection
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Capacitive Global Sensors for Level Detection
Cylinder Designs
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Object Detection
- Flush-mount
- Extended switching distance
- For example, detecting plastic parts



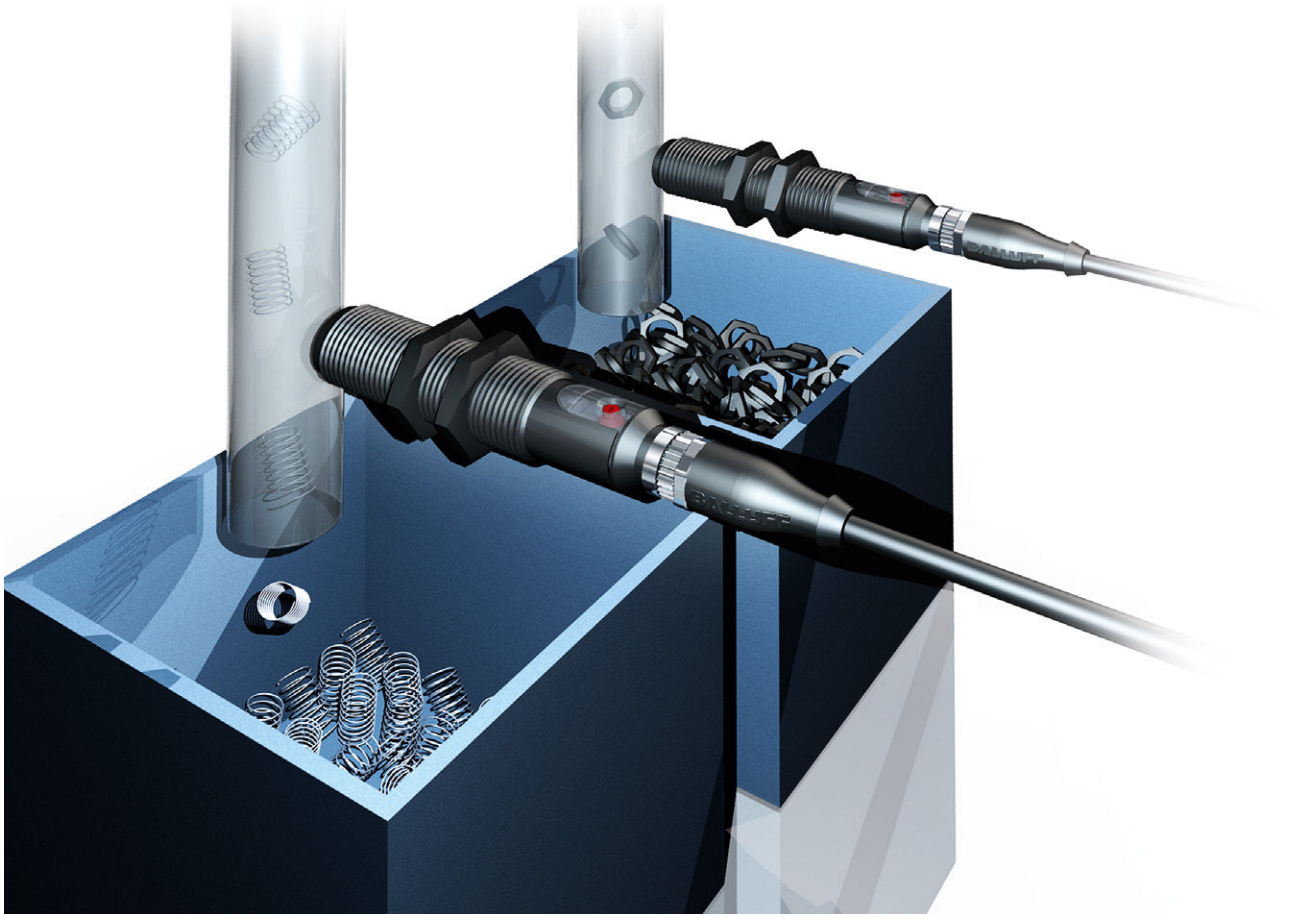
Flush-mount capacitive sensors detect objects reliably, even from a great distance.
Regardless of color, structure and material.

Shielded sensors
Fields of application

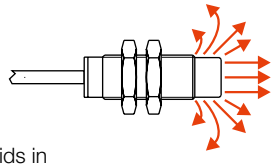
Solid body object detection
Paper, cardboard, glass, plastic, rubber, ceramic, wood, metal, fiber composite material, semiconductors (wafers) etc.

Level object detection
through non-metallic container wall (max. 4 mm thickness)
- Granules, pellets, powder, sand etc.
- Objects in outer packaging (volume or presence)
- Oils, grease, water, alcohol etc.

Benefit
The concentrated electrical field enables also to detect media with a low dielectric constant reliably. (electrically weak or non-conductive, non-metallic materials).



Level detection
- Non-flush mount: improved adhesion compensation
- User adjustable sensitivity



Non-flush mount Global sensors are ideal for level detection of bulk materials or liquids in direct contact. Material deposits are suppressed reliably in the process.

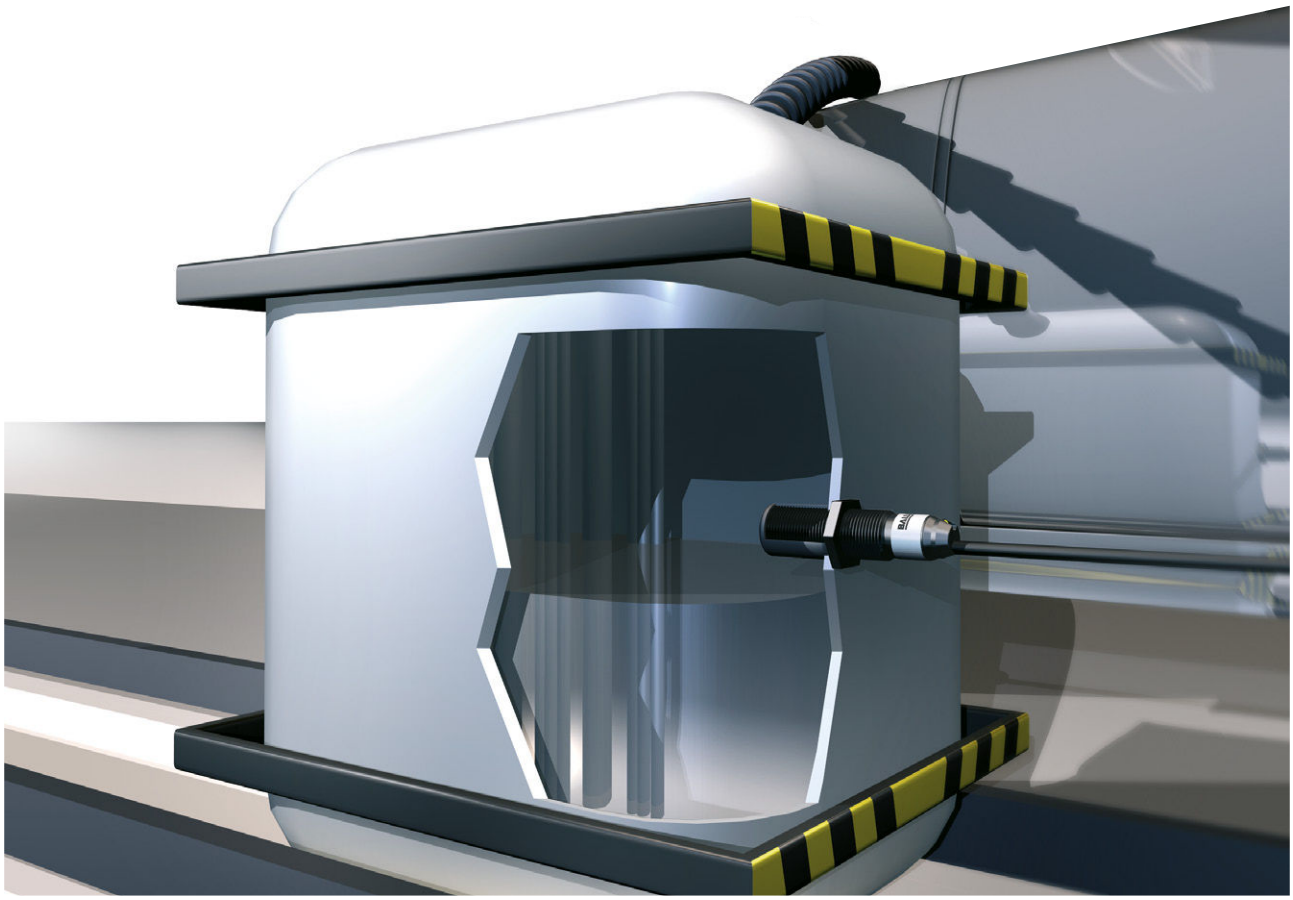
Non-flush sensors
Fields of application

Level detection
in contact with the media

Bulk material
Granules, pellets, powder, sand etc.

Liquids
(slightly viscous or liquid media) oils, grease, water, alcohol etc.

Benefit
Their spherical electrical field effectively compensates for material adhesion on the sensing face.



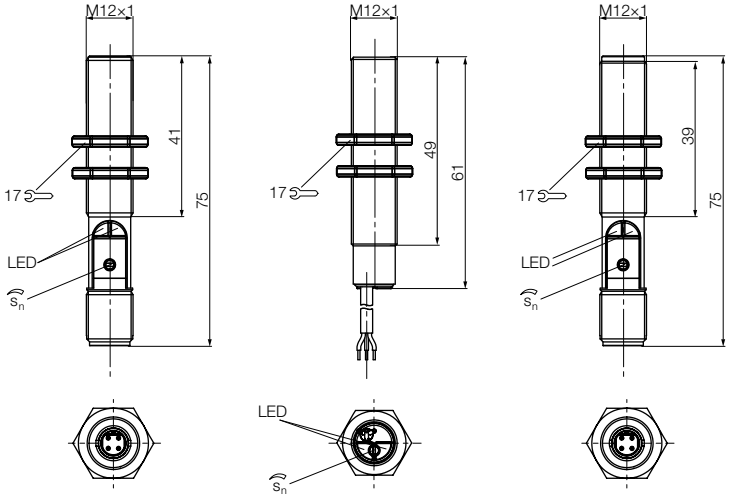
Preferred variants available immediately





Size		**M12×1**	**M12×1**	**M12×1**
Installation type		Flush	Flush	Flush
Rated switching distance s_n		**1…4 mm**	**1…4 mm**	**1…4 mm**
PNP, NO	**Order code**	**BCS00P0**	**BCS00R4**	**BCS00PJ**
	Part number	BCS M12B4G2-PSC40D-S04K	BCS M12B4I1-PSC40D-EP02	BCS M12BBG2-PSC40D-S04K
PNP, NC	**Order code**	**BCS00P1**	**BCS00P8**	**BCS00PK**
	Part number	BCS M12B4G2-POC40D-S04K	BCS M12B4I1-POC40D-EP02	BCS M12BBG2-POC40D-S04K
NPN, NO	**Order code**	**BCS00P2**	**BCS00P9**	**BCS00PL**
	Part number	BCS M12B4G2-NSC40D-S04K	BCS M12B4I1-NSaC40D-EP02	BCS M12BBG2-NSC40D-S04K
NPN, NC	**Order code**	**BCS00P3**	**BCS00PA**	**BCS00PM**
	Part number	BCS M12B4G2-NOC40D-S04K	BCS M12B4I1-NOC40D-EP02	BCS M12BBG2-NOC40D-S04K
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 1.5 V	≤ 1.5 V	≤ 1.5 V
Rated insulation voltage U_i		75 V DC	75 V DC	75 V DC
Output current max.		100 mA	100 mA	100 mA
No-load supply current I_0 max.		≤ 15 mA	≤ 15 mA	≤ 15 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25…+85 °C	–25…+85 °C	–25…+85 °C
Switching frequency f		100 Hz	100 Hz	100 Hz
Supply voltage/output function indicator		Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Material	Housing	Stainless steel	Stainless steel	PBT
	Sensing surface	PBT	PBT	PBT
	Cover	PA 12, PBT	PA 12	PA 12, PBT
Connection		M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.14 mm²	M12 connector, 4-pin, A-coded

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036P**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036N**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00C0**
Mounting bracket	**BAM00EY**

You can find additional mechanical accessories in our catalog **Accessories Line**.

Capacitive Global Sensors

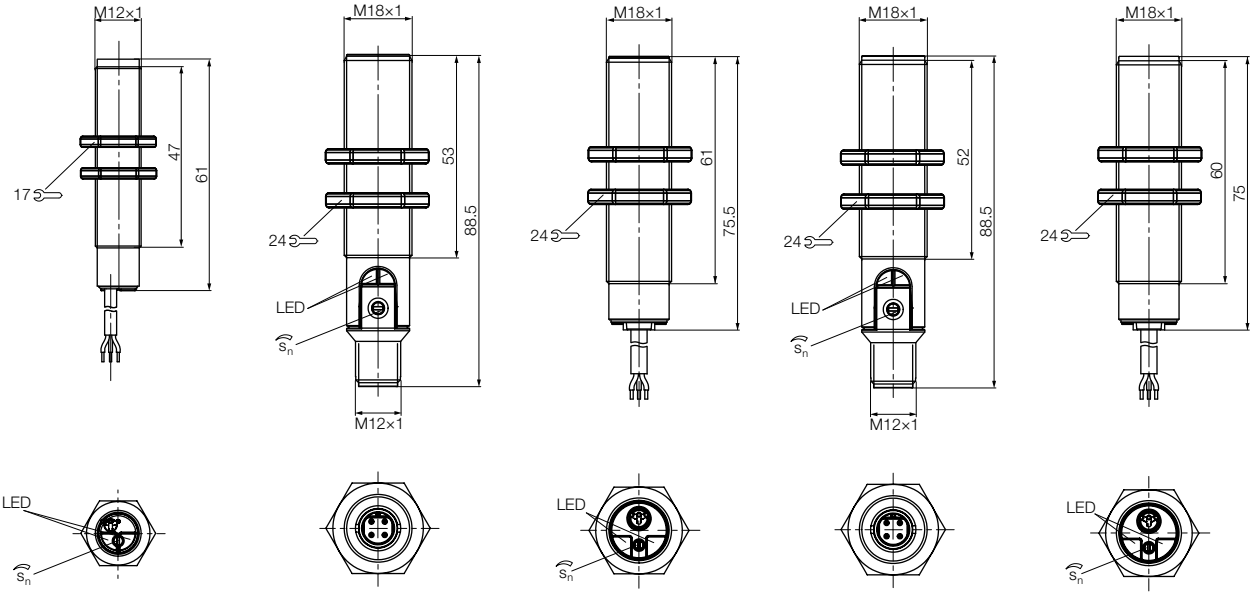
For object detection, cylinder design, DC 3-wire M12×1, M18×1, range 4 mm, 8 mm







	M12×1	**M18×1**	**M18×1**	**M18×1**	**M18×1**
	Flush	Flush	Flush	Flush	Flush
	1…4 mm	**2…8 mm**	**2…8 mm**	**2…8 mm**	**2…8 mm**
	BCS00PU	**BCS00MF**	**BCS00LK**	**BCS00M8**	**BCS00NZ**
	BCS M12BBI1-PSC40D-EP02	BCS M18B4I3-PSC80D-S04K	BCS M18B4N1-PSC80D-EP02	BCS M18BBI3-PSC80D-S04K	BCS M18BBN1-PSC80D-EP02
	BCS00PW	**BCS00M4**	**BCS00LR**	**BCS00MH**	**BCS00M1**
	BCS M12BBI1-POC40D-EP02	BCS M18B4I3-POC80D-S04K	BCS M18B4N1-POC80D-EP02	BCS M18BBI3-POC80D-S04K	BCS M18BBN1-POC80D-EP02
	BCS00PY	**BCS00M5**	**BCS00LN**	**BCS00MJ**	**BCS00M2**
	BCS M12BBI1-NSC40D-EP02	BCS M18B4I3-NSC80D-S04K	BCS M18B4N1-NSC80D-EP02	BCS M18BBI3-NSC80D-S04K	BCS M18BBN1-NSC80D-EP02
	BCS00PZ	**BCS00M6**	**BCS00LP**	**BCS00MK**	**BCS00M3**
	BCS M12BBI1-NOC40D-EP02	BCS M18B4I3-NOC80D-S04K	BCS M18B4N1-NOC80D-EP02	BCS M18BBI3-NOC80D-S04K	BCS M18BBN1-NOC80D-EP02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V
	75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA	100 mA
	≤ 15 mA	≤ 15 mA	≤ 15 mA	≤ 15 mA	≤ 15 mA
	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
	–25…+85 °C	–25…+85 °C	–25…+85 °C	–25…+85 °C	–25…+85 °C
	100 Hz	100 Hz	100 Hz	100 Hz	100 Hz
	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED
	IP 67	IP 67	IP 67	IP 67	IP 67
	PBT	Stainless steel	Stainless steel	PBT	PBT
	PBT	PBT	PBT	PBT	PBT
	PA 12	PA 12, PBT	PA 12	PA 12, PBT	PA 12
	2 m PUR cable, 3×0.14 mm²	M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²	M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²



Capacitive Global Sensors

For object detection, cylinder design, DC 3-wire
M30×1.5, range 15 mm

M30
Global

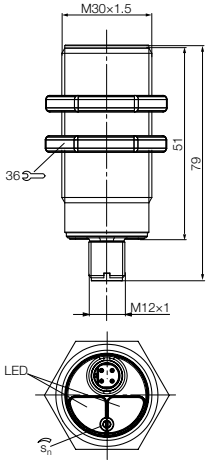
Preferred variants available immediately

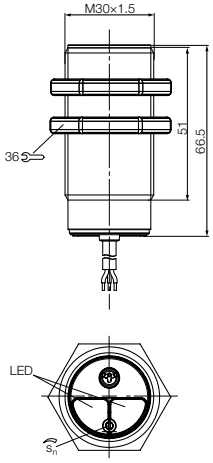




Size		**M30×1.5**	**M30×1.5**
Installation type		Flush	Flush
Rated switching distance s_n		**2…15 mm**	**2…15 mm**
PNP, NO	**Order code**	**BCS00MR**	**BCS00N2**
	Part number	BCS M30B4I2-PSC15D-S04K	BCS M30B4I1-PSC15D-EP02
PNP, NC	**Order code**	**BCS00MT**	**BCS00N3**
	Part number	BCS M30B4I2-POC15D-S04K	BCS M30B4I1-POC15D-EP02
NPN, NO	**Order code**	**BCS00MU**	**BCS00N4**
	Part number	BCS M30B4I2-NSC15D-S04K	BCS M30B4I1-NSC15D-EP02
NPN, NC	**Order code**	**BCS00MW**	**BCS00N5**
	Part number	BCS M30B4I2-NOC15D-S04K	BCS M30B4I1-NOC15D-EP02
Supply voltage U_S		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 1.5 V	≤ 1.5 V
Rated insulation voltage U_i		75 V DC	75 V DC
Output current max.		100 mA	100 mA
No-load supply current I_0 max.		≤ 15 mA	≤ 15 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25…+85 °C	–25…+85 °C
Switching frequency f		100 Hz	100 Hz
Supply voltage/output function indicator		Green LED/Yellow LED	Green LED/Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Material	Housing	Stainless steel	Stainless steel
	Sensing surface	PBT	PBT
	Cover	PA 12, PBT	PA 12, PBT
Connection		M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036P**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036N**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00HH**
Clamping holders	**BAM015H**
Mounting cuff	**BAM00HN**

You can find additional mechanical accessories in our catalog **Accessories Line**.

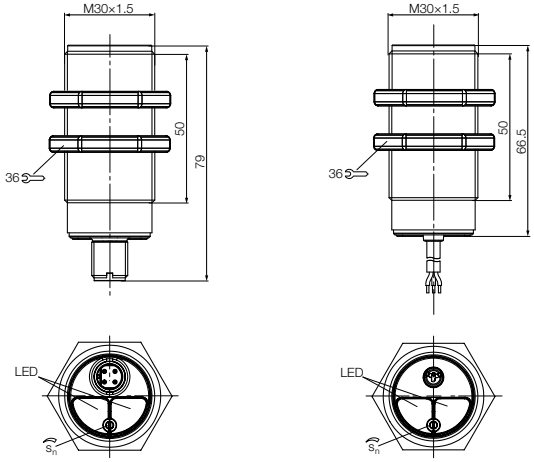
Capacitive Global Sensors

For object detection, cylinder design, DC 3-wire M30×1.5, range 15 mm





M30×1.5	**M30×1.5**			
Flush	Flush			
2…15 mm	**2…15 mm**			
BCS00NA	**BCS00NM**			
BCS M30BBI2-PSC15D-S04K	BCS M30BBI1-PSC15D-EP02			
BCS00NC	**BCS00NN**			
BCS M30BBI2-POC15D-S04K	BCS M30BBI1-POC15D-EP02			
BCS00NE	**BCS00NP**			
BCS M30BBI2-NSC15D-S04K	BCS M30BBI1-NSC15D-EP02			
BCS00NF	**BCS00NR**			
BCS M30BBI2-NOC15D-S04K	BCS M30BBI1-NOC15D-EP02			
10...30 V DC	10...30 V DC			
≤ 1.5 V	≤ 1.5 V			
75 V DC	75 V DC			
100 mA	100 mA			
≤ 15 mA	≤ 15 mA			
Yes/Yes/Yes	Yes/Yes/Yes			
–25…+85 °C	–25…+85 °C			
100 Hz	100 Hz			
Green LED/Yellow LED	Green LED/Yellow LED			
IP 67	IP 67			
PBT	PBT			
PBT	PBT			
PA 12, PBT	PA 12, PBT			
M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²			



Capacitive Global Sensors

For object detection, block design, DC 3-wire
40×40×10 mm Uniflat, range 20 mm

40×40×10 mm
16×34×8 mm

Global

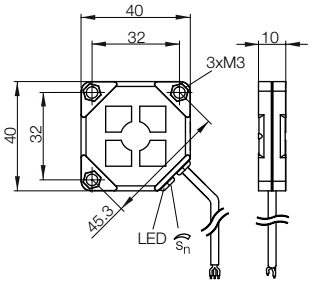


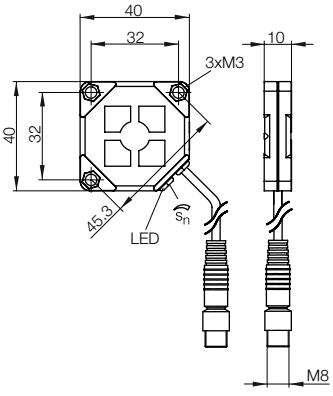


Preferred variants available immediately

Size		**40×40×10 mm** Uniflat	**40×40×10 mm** Uniflat
Installation type		Flush	Flush
Rated switching distance s_n		**1...20 mm**	**1...20 mm**
PNP/NPN and NO/NC, can be coded	**Order code**	**BCS00TR**	
	Part number	BCS Q40BBAA-GPC20C-EP02	
PNP, NO	**Order code**		**BCS00U6**
	Part number		BCS Q40BBAA-PSC20C-EP00,3-GS49
PNP, NC	**Order code**		**BCS00U5**
	Part number		BCS Q40BBAA-POC20C-EP00,3-GS49
Supply voltage U_S		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U_i		75 V DC	75 V DC
Output current max.		100 mA	100 mA
No-load supply current I_0 max.		≤ 15 mA	≤ 15 mA
Polarity reversal protected/transposition protected/ short-circuit protected		No/No/Yes	Yes/Yes/Yes
Ambient temperature T_a		–5...+85 °C	–5...+85 °C
Switching frequency f		100 Hz	100 Hz
Supply voltage/output function indicator		Green LED/Yellow LED	Green LED/Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Material	Housing	PBT	PBT
	Sensing surface	PBT	PBT
	Cover	PBT	PBT
Connection		2 m PUR cable, 3×0.14 mm²	0.3 m PUR cable with M8 plug, 3-pin

Other variants on our website or on request.





Suitable connectors

Size/design	Length/cable material	Order code
M8, 3-pin/straight	2 m/PVC	**BCC02NU**
M8, 3-pin/angled	5 m/PVC	**BCC02NW**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Ø 20 mm sensor holder	**BAM01UL**

You can find additional mechanical accessories in our catalog **Accessories Line**.

Capacitive Global Sensors

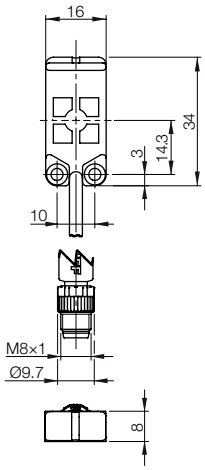
For object detection, block design, DC 3-wire
16×34×8 mm Micro-Box

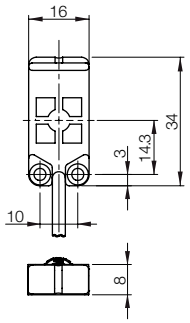


Preferred variants available immediately

Size		**16×34×8 mm** MicroBox	**16×34×8 mm** MicroBox
Mounting type		Flush	Flush
Rated switching distance s_n		**1...8 mm**	**1...8 mm**
PNP, NO	**Order code**	**BCS012T**	**BCS012A**
	Part number	BCS R08RRE-PSM80C-EP00,3-GS75	BCS R08RRE-PSM80C-EP02
PNP, NC	**Order code**	**BCS012U**	**BCS012C**
	Part number	BCS R08RRE-POM80C-EP00,3-GS75	BCS R08RRE-POM80C-EP02
NPN, NO	**Order code**	**BCS012W**	**BCS012E**
	Part number	BCS R08RRE-NSM80C-EP00,3-GS75	BCS R08RRE-NSM80C-EP02
NPN, NC	**Order code**	**BCS012Y**	**BCS012F**
	Part number	BCS R08RRE-NOM80C-EP00,3-GS75	BCS R08RRE-NOM80C-EP02
Supply voltage U_S		12…30 V DC	12…30 V DC
Voltage drop U_d at I_e		≤ 1.5 V	≤ 1.5 V
Rated insulation voltage U_i		75 V DC	75 V DC
Output current max.		50 mA	50 mA
No-load supply current I_0 max.		≤ 12 mA	≤ 12mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25…+70 °C	–25…+70 °C
Switching frequency f		50 Hz	50 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Material	Housing	PP	PP
	Sensing surface	PP	PP
Connection		0.3 m PUR cable, 4×0.14 mm² with M8 connector, 4-pin	2 m PUR cable, 4×0.14 mm²

Other variants on our website or on request.





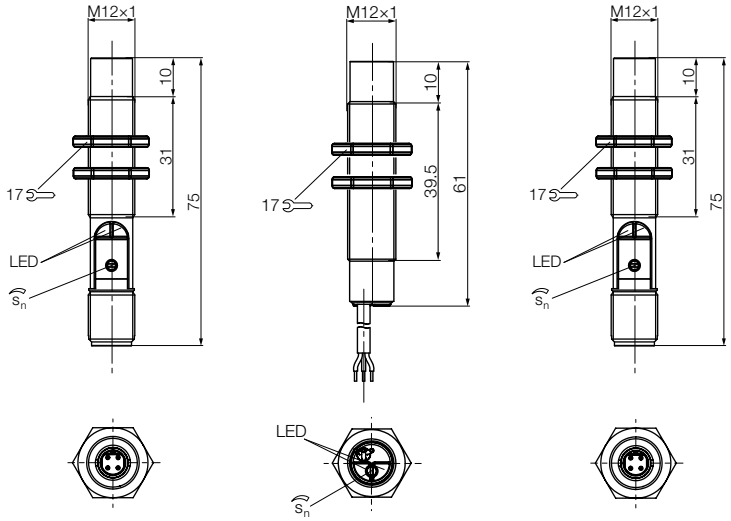
Preferred variants available immediately





Size		**M12×1**	**M12×1**	**M12×1**
Installation type		Non-flush	Non-flush	Non-flush
Rated switching distance s_n		**1…8 mm**	**1…8 mm**	**1…8 mm**
PNP, NO	**Order code**	**BCS00P4**	**BCS00PC**	**BCS00PN**
	Part number	BCS M12B4E2-PSC80H-S04K	BCS M12B4G1-PSC80H-EP02	BCS M12BBE2-PSC80H-S04K
PNP, NC	**Order code**	**BCS00P5**	**BCS00PE**	**BCS00PP**
	Part number	BCS M12B4E2-POC80H-S04K	BCS M12B4G1-POC80H-EP02	BCS M12BBE2-POC80H-S04K
NPN, NO	**Order code**	**BCS00P6**	**BCS00PF**	**BCS00PR**
	Part number	BCS M12B4E2-NSC80H-S04K	BCS M12B4G1-NSC80H-EP02	BCS M12BBE2-NSC80H-S04K
NPN, NC	**Order code**	**BCS00P7**	**BCS00PH**	**BCS00PT**
	Part number	BCS M12B4E2-NOC80H-S04K	BCS M12B4G1-NOC80H-EP02	BCS M12BBE2-NOC80H-S04K
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 1.5 V	≤ 1.5 V	≤ 1.5 V
Rated insulation voltage U_i		75 V DC	75 V DC	75 V DC
Output current max.		100 mA	100 mA	100 mA
No-load supply current I_0 max.		≤ 15 mA	≤ 15 mA	≤ 15 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25…+85 °C	–25…+85 °C	–25…+85 °C
Switching frequency f		100 Hz	100 Hz	100 Hz
Output function indicator		Yellow LED	Yellow LED	Green LED/Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Material	Housing	Stainless steel	Stainless steel	Stainless steel
	Sensing surface	PBT	PBT	PBT
	Cover	PA 12, PBT	PA 12	PA 12, PBT
Connection		M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.14 mm²	M12 connector, 4-pin, A-coded

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036P**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036N**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00C0**
Mounting bracket	**BAM00EY**
Clamping holder with positive stop	**BAM00CY**

You can find additional mechanical accessories in our catalog **Accessories Line**.

Capacitive Global Sensors

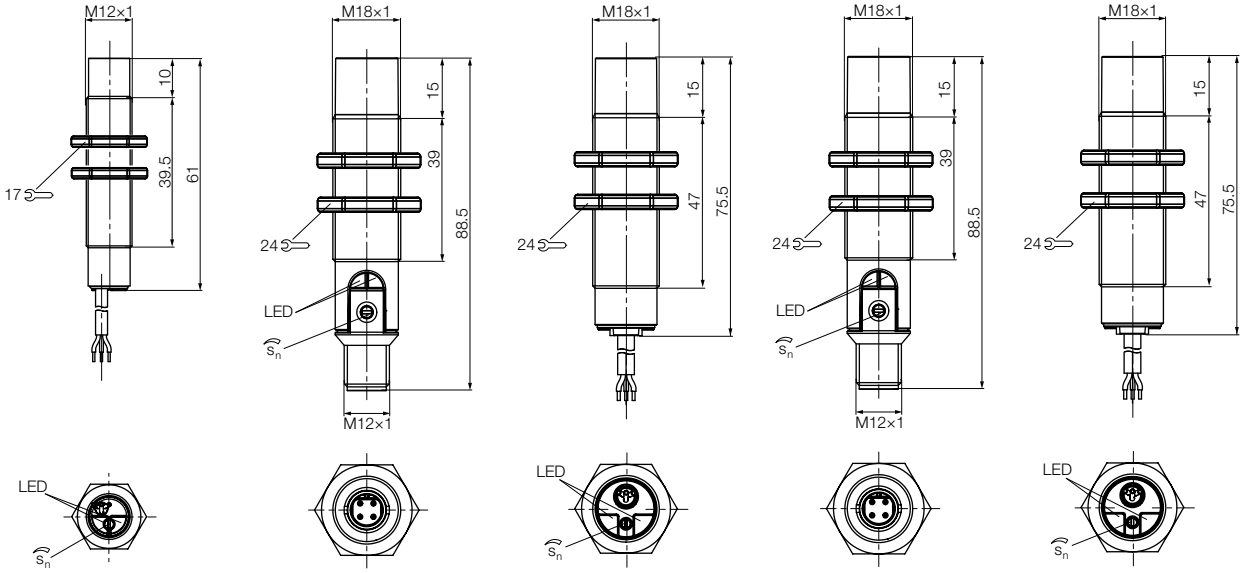
For level detection, cylinder design, DC 3-wire
M12×1, M18x1







	M12×1	**M18×1**	**M18×1**	**M18×1**	**M18×1**
	Non-flush	Non-flush	Non-flush	Non-flush	Non-flush
	1…8 mm	**2..15 mm**	**2..15 mm**	**2..15 mm**	**2..15 mm**
	BCS00R0	**BCS00ME**	**BCS00M7**	**BCS00LM**	**BCS00LL**
	BCS M12BBG1-PSC80H-EP02	BCS M18B4G2-PSC15H-S04K	BCS M18B4H1-PSC15H-EP02	BCS M18BBG2-PSC15H-S04K	BCS M18BBH1-PSC15H-EP02
	BCS00R1	**BCS00ML**	**BCS00M9**	**BCS00LT**	**BCS00LY**
	BCS M12BBG1-POC80H-EP02	BCS M18B4G2-POC15H-S04K	BCS M18B4H1-POC15H-EP02	BCS M18BBG2-POC15H-S04K	BCS M18BBH1-POC15H-EP02
	BCS00R2	**BCS00MM**	**BCS00MA**	**BCS00LU**	**BCS00LZ**
	BCS M12BBG1-NSC80H-EP02	BCS M18B4G2-NSC15H-S04K	BCS M18B4H1-NSC15H-EP02	BCS M18BBG2-NSC15H-S04K	BCS M18BBH1-NSC15H-EP02
	BCS00R3	**BCS00MN**	**BCS00MC**	**BCS00LW**	**BCS00M0**
	BCS M12BBG1-NOC80H-EP02	BCS M18B4G2-NOC15H-S04K	BCS M18B4H1-NOC15H-EP02	BCS M18BBG2-NOC15H-S04K	BCS M18BBH1-NOC15H-EP02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V	≤ 1.5 V
	75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA	100 mA
	≤ 15 mA	≤ 15 mA	≤ 15 mA	≤ 15 mA	≤ 15 mA
	Yes/Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
	–25…+85 °C	–25…+85 °C	–25…+85 °C	–25…+85 °C	–25…+85 °C
	100 Hz	100 Hz	100 Hz	100 Hz	100 Hz
	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED	Green LED/Yellow LED
	IP 67	IP 67	IP 67	IP 67	IP 67
	PBT	Stainless steel	Stainless steel	PBT	PBT
	PBT	PBT	PBT	PBT	PBT
	PA 12	PA 12, PBT	PA 12	PA 12, PBT	PA 12
	2 m PUR cable, 3×0.14 mm²	M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²	M12 connector, 4-pin, A-coded	2 m PUR cable 3×0.34 mm²



Capacitive Global Sensors
For level detection, cylinder design, DC 3-wire
M30×1.5

M30
Global

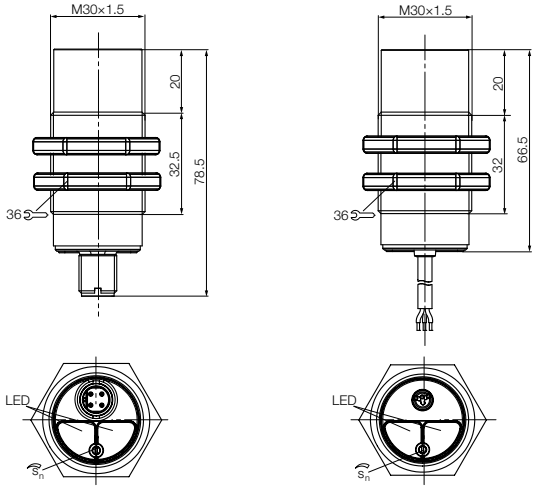
Preferred variants available immediately





Size		**M30×1.5**	**M30×1.5**
Installation type		Non-flush	Non-flush
Rated switching distance s_n		**1…25 mm**	**1…25 mm**
PNP, NO	**Order code**	**BCS00MY**	**BCS00N6**
	Part number	BCS M30B4E2-PSC25H-S04K	BCS M30B4E1-PSC25H-EP02
PNP, NC	**Order code**	**BCS00MZ**	**BCS00N7**
	Part number	BCS M30B4E2-POC25H-S04K	BCS M30B4E1-POC25H-EP02
NPN, NO	**Order code**	**BCS00N0**	**BCS00N8**
	Part number	BCS M30B4E2-NSC25H-S04K	BCS M30B4E1-NSC25H-EP02
NPN, NC	**Order code**	**BCS00N1**	**BCS00N9**
	Part number	BCS M30B4E2-NOC25H-S04K	BCS M30B4E1-NOC25H-EP02
Supply voltage U_S		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 1.5 V	≤ 1.5 V
Rated insulation voltage U_i		75 V DC	75 V DC
Output current max.		100 mA	100 mA
No-load supply current I_0 max.		≤ 15 mA	≤ 15 mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		–25…+85 °C	–25…+85 °C
Switching frequency f		100 Hz	100 Hz
Supply voltage/output function indicator		Green LED/Yellow LED	Green LED/Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Material	Housing	Stainless steel	Stainless steel
	Sensing surface	PBT	PBT
	Cover	PA 12, PBT	PA 12, PBT
Connection		M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²

Other variants on our website or on request.



Suitable connectors

Size/design	Length/cable material	Order code
M12, 4-pin/straight	2 m/PVC	**BCC0367**
M12, 4-pin/angled	2 m/PVC	**BCC036P**
M12, 4-pin/straight	5 m/PVC	**BCC0368**
M12, 4-pin/angled	5 m/PVC	**BCC036N**

You can find additional electrical accessories in our catalog **Industrial Networking and Connectivity**.

Recommended accessories

Description	Order code
Mounting bracket	**BAM00HH**
Mounting cuff	**BAM00HN**

You can find additional mechanical accessories in our catalog **Accessories Line**.

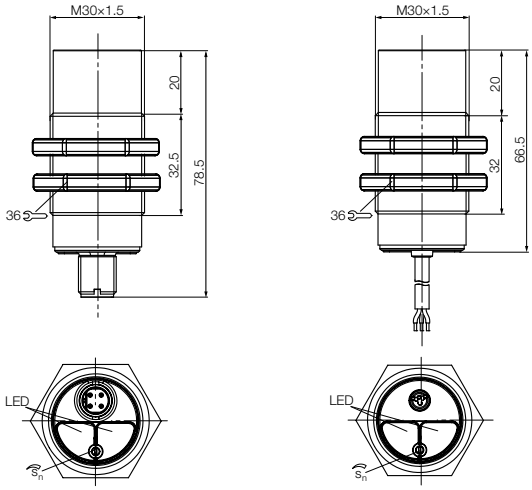
Capacitive Global Sensors

For level detection, cylinder design, DC 3-wire M30×1.5





	M30×1.5	**M30×1.5**		
	Non-flush	Non-flush		
	1…25 mm	**1…25 mm**		
	BCS00NH	**BCS00NT**		
	BCS M30BBE2-PSC25H-S04K	BCS M30BBE1-PSC25H-EP02		
	BCS00NJ	**BCS00NU**		
	BCS M30BBE2-POC25H-S04K	BCS M30BBE1-POC25H-EP02		
	BCS00NK	**BCS00NW**		
	BCS M30BBE2-NSC25H-S04K	BCS M30BBE1-NSC25H-EP02		
	BCS00NL	**BCS00NY**		
	BCS M30BBE2-NOC25H-S04K	BCS M30BBE1-NOC25H-EP02		
	10...30 V DC	10...30 V DC		
	≤ 1.5 V	≤ 1.5 V		
	75 V DC	75 V DC		
	100 mA	100 mA		
	≤ 15 mA	≤ 15 mA		
	Yes/Yes/Yes	Yes/Yes/Yes		
	–25…+85 °C	–25…+85 °C		
	100 Hz	100 Hz		
	Green LED/Yellow LED	Green LED/Yellow LED		
	IP 67	IP 67		
	PBT	PBT		
	PBT	PBT		
	PA 12, PBT	PA 12, PBT		
	M12 connector, 4-pin, A-coded	2 m PUR cable, 3×0.34 mm²		



Magnetic Global Cylinder Sensors

Magnetic Global cylinder sensors – for perfect grip in the pneumatic cylinder

Our compact magnetic Global cylinder sensors offer the perfect grip. They are precisely matched to the different cylinder groove shapes. Therefore, they can not only be installed flush in the respective slot, but also fit in completely.

- Insertion from above or the side
- Cable or connector versions
- Compact design

For the C-slot: BMF 204 and BMF 214

BMF 204 – for 3.8 mm slot
BMF 214 – for 4 mm slot

- Can be inserted via the groove end
- Exceptional grip
- Miniature design for grippers and short-stroke cylinders
- Exactly positionable

For the T-slot: BMF 235

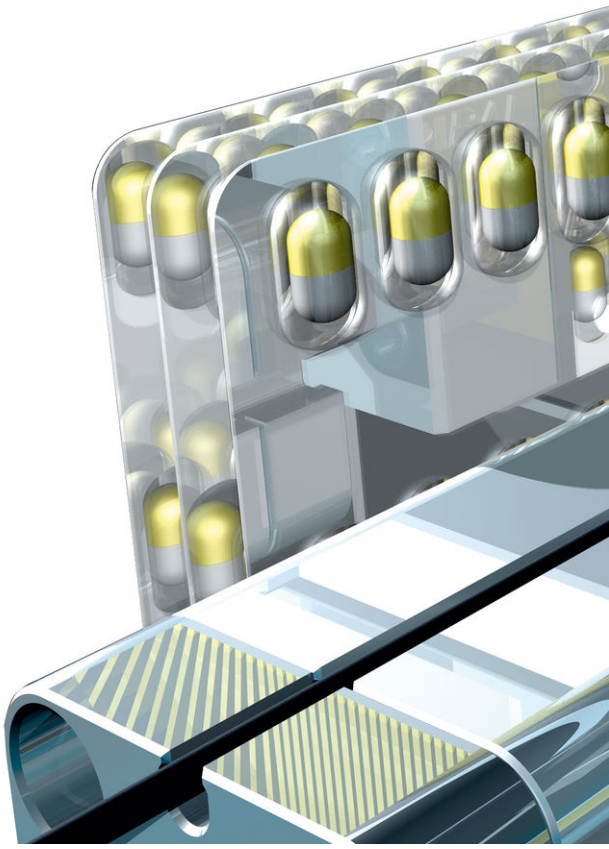
BMF 235 – the standard

- Large and extremely bright LED for simple diagnostics
- Can be installed in the T-slot from above (drop-in installation)
- with standard screwdriver or 1.5 mm Allen key
- Short, compact design with outstanding grip

V-Twin® – one plug for two sensors

In M8 or M12

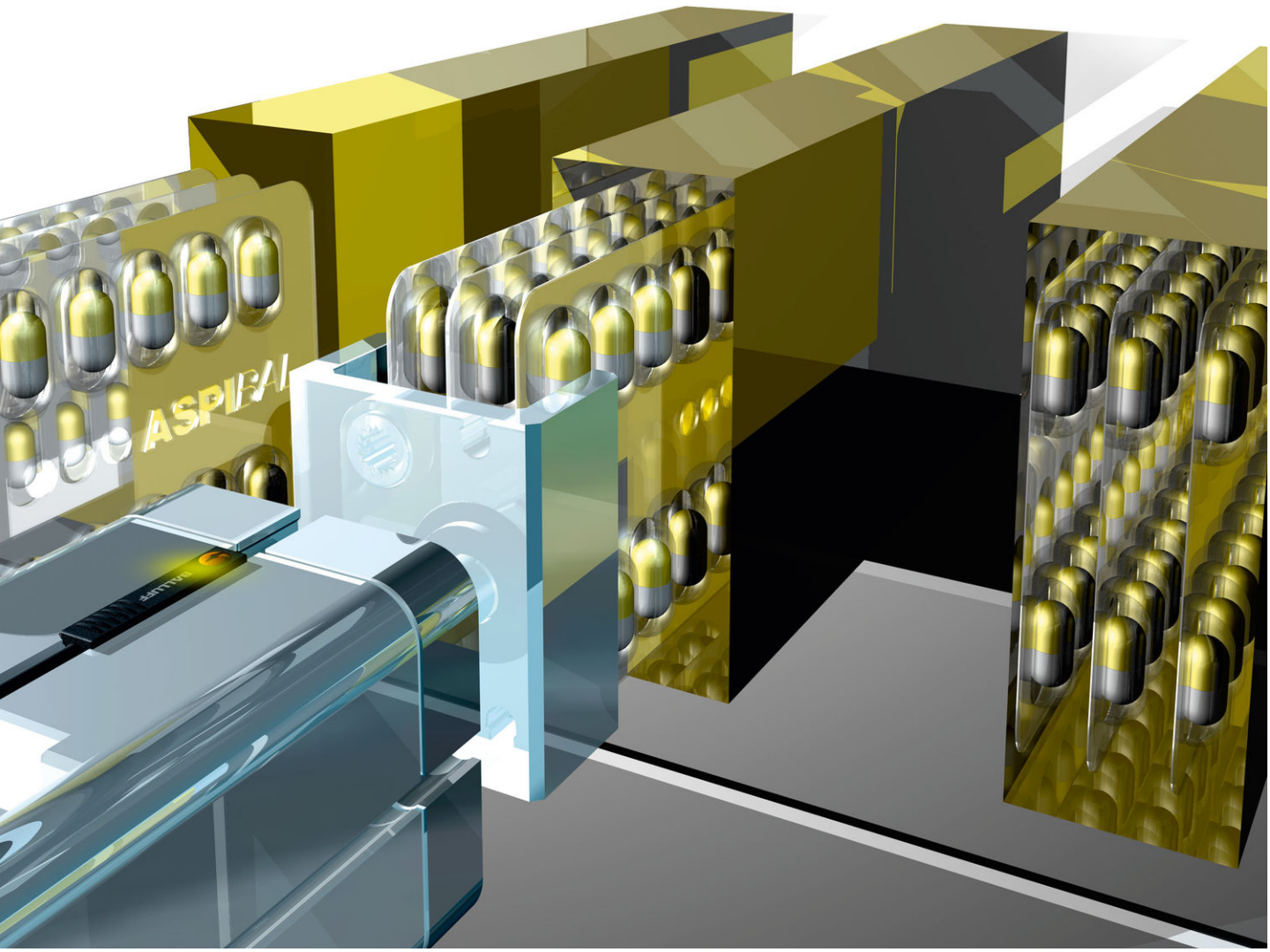
- With one 4-core or 3-core cables
- Reduces use of materials
- Fast installation
- Lowers costs
- Simply double sensors on a multi-interface block/sensor splitter



Magnetic Global Cylinder Sensors
Contents

Compact Design

BMF 204	70
BMF 214	72
BMF 243	74
BMF 235	76

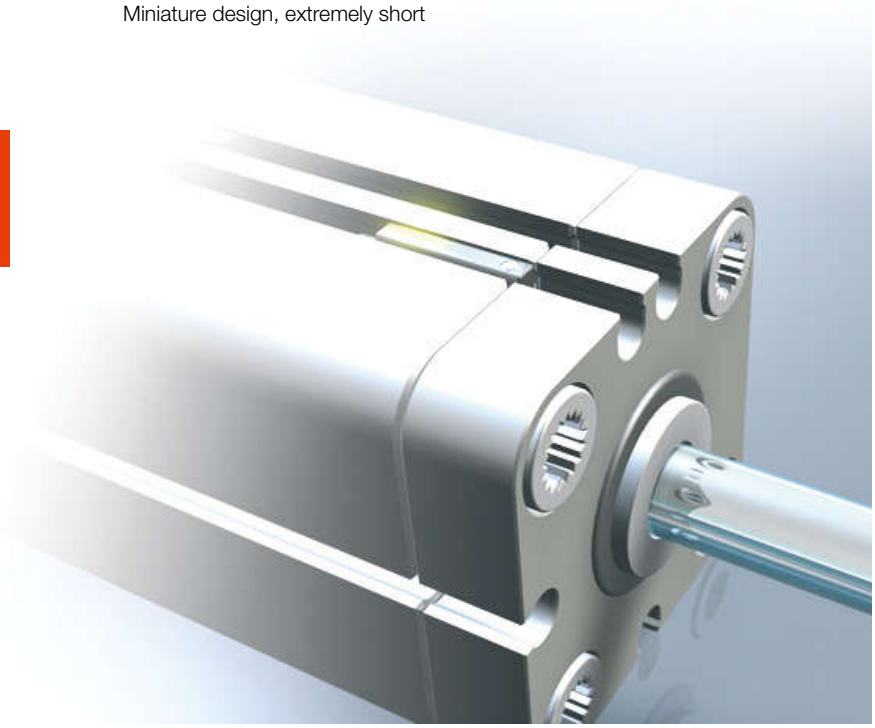


Secure hold in the slot
The design is adapted to the slot, i.e. the sensor can be inserted into the slot.

Installed and adjusted quickly and easily
The retaining element is integrated into the sensor.

Can also be used in space-critical applications
Flush-mounted, the sensor "disappears" in the slot.

Optimum solution for every gripper and short-stroke cylinder
Miniature design, extremely short





The BMF 204 and BMF 214 have an impressive, extremely compact design.

Preferred variants available immediately

Series		
Properties		
PNP, NO	**Order code**	
	Part number	
Supply voltage U_S		
Voltage drop U_d		
Rated insulation voltage U_i		
Rated operating current I_e		
No-load supply current I_0 max.		
Polarity reversal protected/transposition protected/ short-circuit protected		
Rated switching field strength I H_n I		
Assured switching field strength I H_a I		
Temperature drift of switch-on point of I H_n I		
On/off delay		
Ambient temperature T_a		
Degree of protection as per IEC 60529		
Approval		
Material	Housing	
Connection		
Assembly		
Slot		

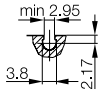
Other variants on our website or on request.

Recommended accessories
(please order separately)



Special accessories for magnetic cylinder sensors, such as **installation tools, cable clips, or hose clamps,** can be found in the Object Detection catalog on page 879.

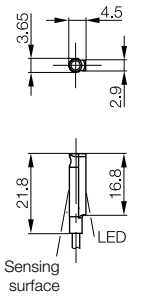
Slot dimension
C-slot (size 10 slot)
e.g. Festo

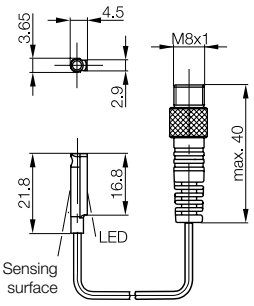


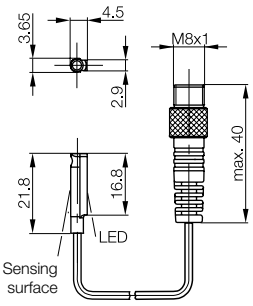


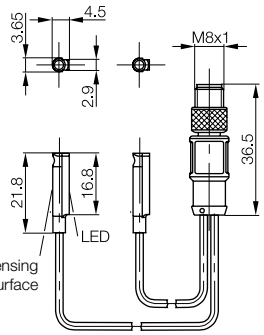



	BMF 204	**BMF 204**	**BMF 204**	**BMF 204**
	Small housing for the Festo C-slot with direct PUR cable	Small housing for the Festo C-slot with M8 connector	Small housing for the Festo C-slot with M8 connector	Small housing for the Festo C-slot with M12 connector
	BMF0001	**BMF0002**	**BMF0003**	**BMF00A6**
	BMF 204K-PS-C-2A-PU-02	BMF 204K-PS-C-2A-SA2-S49-00,3	BMF 204K-PS-C-2A-SA2-S49-00,5	BMF 204K-PS-C-2A-SA2-S4-00,3
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA
	≤ 8 mA	≤ 8 mA	≤ 8 mA	≤ 8 mA
	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
	1.2 kA/m	1.2 kA/m	1.2 kA/m	1.2 kA/m
	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m
	≤ 0.3%/°C	≤ 0.3%/°C	≤ 0.3%/°C	≤ 0.3%/°C
	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms
	–25...+85 °C	–25...+85 °C	–25...+85 °C	–25...+85 °C
	IP 67	IP 67	IP 67	IP 67
	CE, cULus	CE, cULus	CE, cULus	CE, cULus
	PA12	PA12	PA12	PA12
	2 m PUR cable, 3×0.1 mm²	0.3 m PUR cable with M8 connector, 3-pin	0.5 m PUR cable with M8 connector, 3-pin	0.3 m PUR cable with M12 connector, 4-pin
	Can be inserted from the side C-slot (size 10 slot)	Can be inserted from the side C-slot (size 10 slot)	Can be inserted from the side C-slot (size 10 slot)	Can be inserted from the side C-slot (size 10 slot)







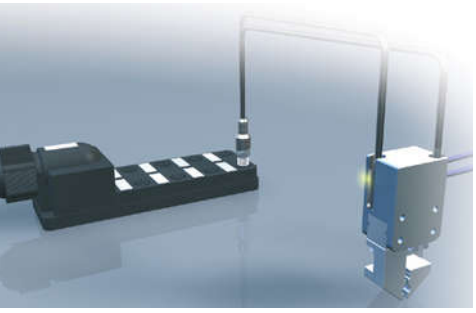


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Miniature design, extremely short.



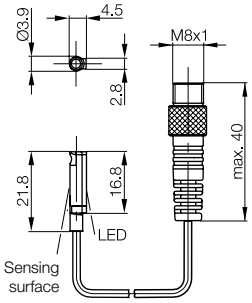
V-Twin – two sensors, one connector
- Save on connectors and increase value creation.
- Just one plug-in position for two sensors
- Flexibly detect multiple positions on pneumatic grippers and cylinders.

Preferred variants available immediately



Series		**BMF 214**
Properties		Small housing for the SMC C-slot with M8 connector
PNP, NO	**Order code**	**BMF00A2**
	Part number	BMF 214K-PS-C-2A-SA2-S49-00,3
Supply voltage U_S		10...30 V DC
Voltage drop U_d		≤ 2.5 V
Rated insulation voltage U_i		75 V DC
Rated operating current I_e		100 mA
No-load supply current I_0 max.		≤ 8 mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/Yes
Rated switching field strength I H_n I		1.2 kA/m
Assured switching field strength I H_a I		≥ 2 kA/m
Temperature drift of switch-on point of I H_n I		≤ 0.3%/°C
On/off delay		≤ 0.07 ms/≤ 0.07 ms
Ambient temperature T_a		–25...+85 °C
Degree of protection as per IEC 60529		IP 67
Approval		CE, cULus
Material	Housing	PA12
Connection		0.3 m PUR cable with M8 connector, 3-pin
Assembly		Can be inserted from the side
Slot		℧ C-slot (rounded groove)

Other variants on our website or on request.



Recommended accessories
(please order separately)



Special accessories for magnetic cylinder sensors, such as **installation tools, cable clips, or hose clamps,** can be found in the Object Detection catalog on page 879.

Slot dimension
C-slot (rounded groove)
e.g. SMC



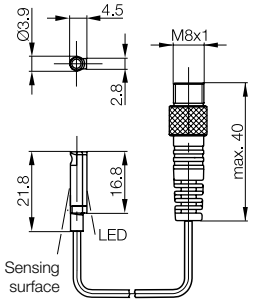


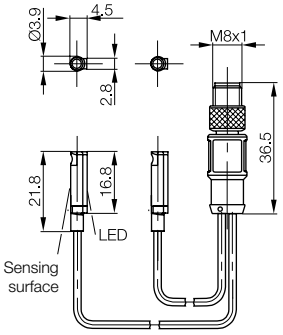


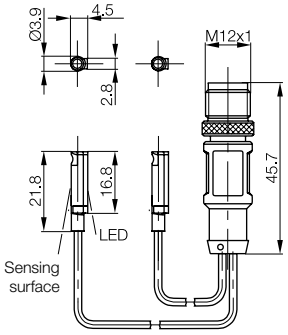


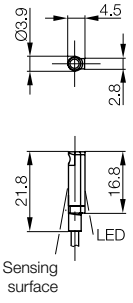


	BMF 214	**BMF 214**	**BMF 214**	**BMF 214**
	Small housing	Small housing	Small housing	Small housing
	for the SMC C-slot	for the SMC C-slot	for the SMC C-slot	for the SMC C-slot
	with M8 connector	with M8 connector	with M12 connector	with direct PUR cable
	BMF00A3	**BMF00A5**	**BMF00A4**	**BMF00A1**
	BMF 214K-PS-C-2A-SA2-S49-00,5	BMF 214K-PS-C-2A-SA95-S75-00,3	BMF 214K-PS-C-2A-SA95-S4-00,3	BMF 214K-PS-C-2A-PU-02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA
	≤ 8 mA	≤ 8 mA	≤ 8 mA	≤ 8 mA
	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
	1.2 kA/m	1.2 kA/m	1.2 kA/m	1.2 kA/m
	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m
	≤ 0.3%/°C	≤ 0.3%/°C	≤ 0.3%/°C	≤ 0.3%/°C
	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms
	–25...+85 °C	–25...+85 °C	–25...+85 °C	–25...+85 °C
	IP 67	IP 67	IP 67	IP 67
	CE, cULus	CE, cULus	CE, cULus	CE, cULus
	PA12	PA12	PA12	PA12
	0.5 m PUR cable	0.3 m PUR cable	0.3 m PUR cable	2 m PUR cable,
	with M8 connector, 3-pin	with M8 connector, 4-pin	with M12 connector, 4-pin	3×0.1 mm²
	Can be inserted from the side	Can be installed from above	Can be installed from above	Can be installed from above
	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)









C-slot (rounded groove)

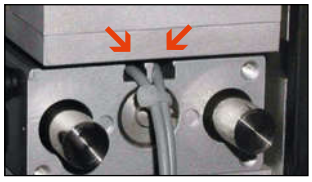
Global



New mounting concept
Solid hold in the slot, sensor cannot be wrenched from the slot.



Can be installed in the slot from above
Can be installed even on cylinders with a covered slot



Compact design, i.e. can be mounted flush
Can also be used in space-critical applications



As short as possible (24 mm)
Can also be used in space-critical applications



Preferred variants available immediately

Series		
Properties		
PNP, NO	**Order code**	
	Part number	
PNP, NC	**Order code**	
	Part number	
NPN, NO	**Order code**	
	Part number	
NPN, NC	**Order code**	
	Part number	
Supply voltage U_S		
Voltage drop U_d		
Rated insulation voltage U_i		
Rated operating current I_e		
No-load supply current I_0 max.		
Polarity reversal protected/transposition protected/ short-circuit protected		
Rated switching field strength I H_n I		
Assured switching field strength I H_a I		
On/off delay		
Ambient temperature T_a		
Degree of protection as per IEC 60529		
Approval		
Material	Housing	
Connection		
Assembly		
Slot		

Other variants on our website or on request.

Recommended accessories
(please order separately)



Special accessories for magnetic cylinder sensors, such as **installation tools, cable clips, or hose clamps,** can be found in the Object Detection catalog on page 879.

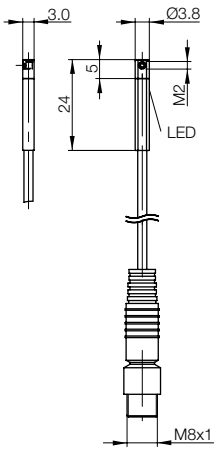


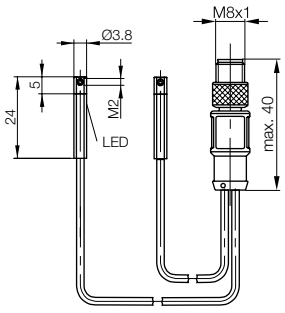


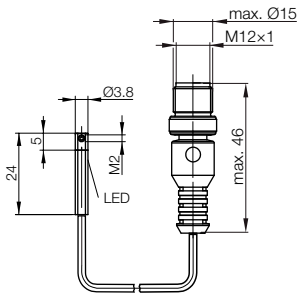


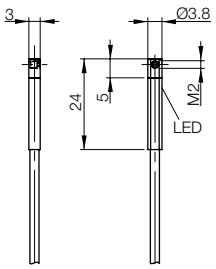


	BMF 243	**BMF 243**	**BMF 243**	**BMF 243**
	The new benchmark for every C-slot (rounded groove) with M8 connector	The new benchmark for every C-slot (rounded groove) with M8 connector	The new benchmark for every C-slot (rounded groove) with M12 connector	The new benchmark for every C-slot (rounded groove) with direct PUR cable
	BMF00EL	**BMF00ET**	**BMF00ER**	**BMF00EF**
	BMF 243K-PS-C-2A-SA2-S49-00,3	BMF 243K-PS-C-2A-SA95-S75-00,3	BMF 243K-PS-C-2A-SA2-S4-00,3	BMF 243K-PS-C-2A-PU-02
	BMF00EM			**BMF00EH**
	BMF 243K-PO-C-2A-SA2-S49-00,3			BMF 243K-PO-C-2A-PU-02
	BMF00EN			**BMF00EJ**
	BMF 243K-NS-C-2A-SA2-S49-00,3			BMF 243K-NS-C-2A-PU-02
	BMF00EP			**BMF00EK**
	BMF 243K-NO-C-2A-SA2-S49-00,3			BMF 243K-NO-C-2A-PU-02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 2.4 V	≤ 2.4 V	≤ 2.4 V	≤ 2.4 V
	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA
	7.5 mA	7.5 mA	7.5 mA	7.5 mA
	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
	2 kA/m	2 kA/m	2 kA/m	2 kA/m
	≥ 2.4 kA/m	≥ 2.4 kA/m	≥ 2.4 kA/m	≥ 2.4 kA/m
	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms	≤ 0.07 ms/≤ 0.07 ms
	–25...+85 °C	–25...+85 °C	–25...+85 °C	–25...+85 °C
	IP 67	IP 67	IP 67	IP 67
	CE, cULus	CE, cULus	CE, cULus	CE, cULus
	PA 12 and A2 steel	PA 12 and A2 steel	PA 12 and A2 steel	PA 12 and A2 steel
	0.3 m PUR cable with M8 connector, 3-pin	0.3 m PUR cable with M8 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin	2 m PUR cable, 3×0.10 mm²
	Can be installed from above	Can be installed from above	Can be installed from above	Can be installed from above
	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)	℧ C-slot (rounded groove)











Very bright LED
Reliable detection of switching function from far away (25 m in bright factory building).

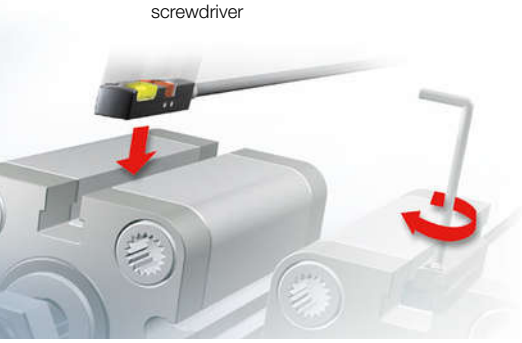


New mounting concept
Solid hold in the slot, sensor cannot be wrenched from the slot.



Knurled screw
Sensor screws in firmly, extremely secure hold in any slot (e.g. Parker, Festo, SMC, Bosch).

Can be installed from above.
Easy installation with Allen or slotted screwdriver



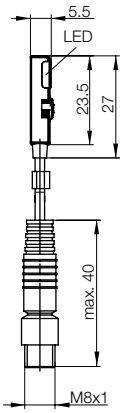
Preferred variants available immediately

c UL us LISTED CE



Series		**BMF 235**
Properties		The new benchmark for every T-slot with M8 connector
PNP, NO	**Order code**	**BMF00C4**
	Part number	BMF 235K-PS-C-2A-SA2-S49-00,3
PNP, NC	**Order code**	**BMF00C6**
	Part number	BMF 235K-PO-C-2A-SA2-S49-00,3
NPN, NO	**Order code**	**BMF00C2**
	Part number	BMF 235K-NS-C-2A-SA2-S49-00,3
NPN, NC	**Order code**	**BMF00C3**
	Part number	BMF 235K-NO-C-2A-SA2-S49-00,3
Supply voltage U_S		10...30 V DC
Voltage drop U_d		≤ 2.5 V
Rated insulation voltage U_i		75 V DC
Rated operating current I_e		100 mA
No-load supply current I_0 max.		6 mA
Polarity reversal protected/transposition protected/ short-circuit protected		Yes/No/Yes
Rated switching field strength I H_n I		1.2 kA/m
Assured switching field strength I H_a I		≥ 2 kA/m
Temperature drift of switch-on point of I H_n I		≤ 0.3 %/°C
On/off delay		≤ 0.1 ms/≤ 0.1 ms
Ambient temperature T_a		–25...+85 °C
Degree of protection as per IEC 60529		IP 67
Approval		CE, cULus
Material	Housing	PA12
Connection		0.3 m PUR cable with M8 connector, 4-pin
Assembly		Can be installed from above
Slot		T-slot

Other variants on our website or on request.



Recommended accessories
(please order separately)



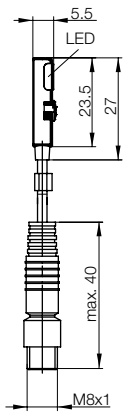
Special accessories for magnetic cylinder sensors, such as **installation tools, cable clips, or hose clamps,** can be found in the Object Detection catalog on page 879.

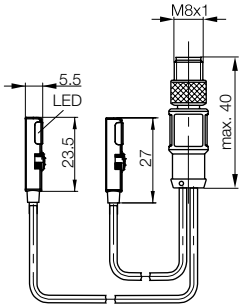


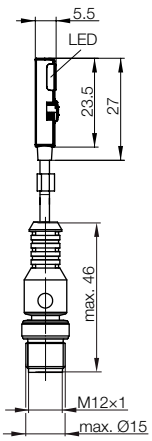


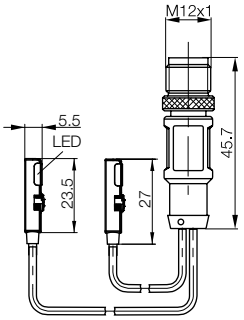


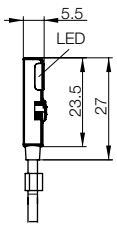
	BMF 235	**BMF 235**	**BMF 235**	**BMF 235**	**BMF 235**
	The new benchmark for every T-slot with M8 connector	The new benchmark for every T-slot with M8 connector	The new benchmark for every T-slot with M12 connector	The new benchmark for every T-slot with M12 connector	The new benchmark for every T-slot with direct PUR cable
	BMF00CF	**BMF00CA**	**BMF00C5**	**BMF00C9**	**BMF00AR**
	BMF 235K-PS-C-2A-SA2-S49-00,5	BMF 235K-PS-C-2A-SA95-S75-00,3	BMF 235K-PS-C-2A-SA2-S4-00,3	BMF 235K-PS-C-2A-SA95-S4-00,3	BMF 235K-PS-C-2A-PU-02
					BMF00AT
					BMF 235K-PO-C-2A-PU-02
					BMF00AU
					BMF 235K-NS-C-2A-PU-02
					BMF00AW
					BMF 235K-NO-C-2A-PU-02
	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
	75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
	100 mA	100 mA	100 mA	100 mA	100 mA
	6 mA	6 mA	6 mA	6 mA	6 mA
	Yes/No/Yes	Yes/No/Yes	Yes/No/Yes	Yes/No/Yes	Yes/No/Yes
	1.2 kA/m	1.2 kA/m	1.2 kA/m	1.2 kA/m	1.2 kA/m
	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m	≥ 2 kA/m
	≤ 0.3 %/°C	≤ 0.3 %/°C	≤ 0.3 %/°C	≤ 0.3 %/°C	≤ 0.3 %/°C
	≤ 0.1 ms/≤ 0.1 ms	≤ 0.1 ms/≤ 0.1 ms	≤ 0.1 ms/≤ 0.1 ms	≤ 0.1 ms/≤ 0.1 ms	≤ 0.1 ms/≤ 0.1 ms
	–25...+85 °C	–25...+85 °C	–25...+85 °C	–25...+85 °C	–25...+85 °C
	IP 67	IP 67	IP 67	IP 67	IP 67
	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus
	PA12	PA12	PA12	PA12	PA12
	0.5 m PUR cable with M8 connector, 4-pin	0.3 m PUR cable with M8 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin	2 m PUR cable, 3×0.1 mm²
	Can be installed from above	Can be installed from above	Can be installed from above	Can be installed from above	Can be installed from above
	T-slot	T-slot	T-slot	T-slot	T-slot







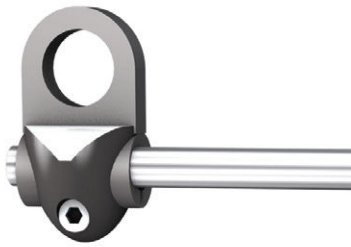




Accessories

Accessories – a partial listing from our extensive product line

Fitting accessories are the optimal peripherals for sensors: We provide reliable products for time and cost-saving integration into your automation system and for reliable operation. We have put together a selection for you from our comprehensive product line.





Contents

Accessories

M8 Connectors	80
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Power Supplies	88
Mounting Brackets, Reflectors	96
Mounting Brackets, Mounting Adapters	97
Mounting Brackets, Hose Clamp	98
Mounting Brackets, Mounting Cuffs	99

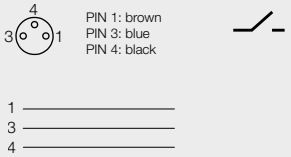
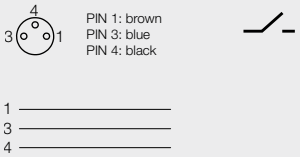


M8 female straight and right-angle, 3-pin, no LED

Preferred variants available immediately

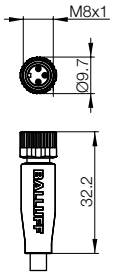


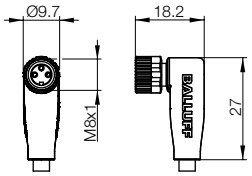


Connector diagram and wiring			
Max. supply voltage AC U_S		60 V AC	60 V AC
Max. supply voltage DC U_S		60 V DC	60 V DC
Cable		Molded	Molded
Number of conductors × conductor cross-section		3×0.34 mm²	3×0.34 mm²
Degree of protection as per IEC 60529		IP 67	IP 67
Ambient temperature T_a Static/moving	PUR	–25...+90 °C/–25...+90 °C (UL 80 °C)	–25...+90 °C/–25...+90 °C (UL 80 °C)
	PVC	–25...+105 °C/–5...+90 °C (UL 80 °C)	–25...+105 °C/–5...+90 °C (UL 80 °C)

Cable material	Color	Length	Order code Part number	
PVC	gray	2 m	**BCC02NU** BCC M313-0000-10-001-VX8334-020	**BCC02P5** BCC M323-0000-10-001-VX8334-020
PVC	gray	5 m	**BCC02NW** BCC M313-0000-10-001-VX8334-050	**BCC02P6** BCC M323-0000-10-001-VX8334-050
PVC	gray	10 m	**BCC02NY** BCC M313-0000-10-001-VX8334-100	**BCC02P7** BCC M323-0000-10-001-VX8334-100

Other variants on our website or on request.

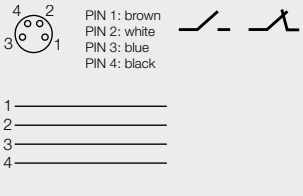
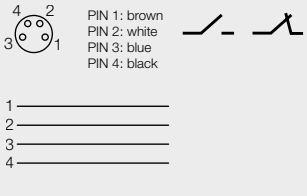
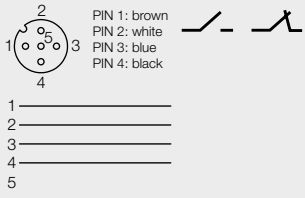
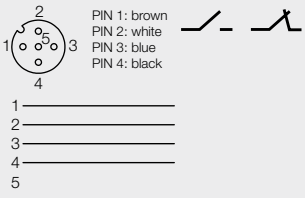


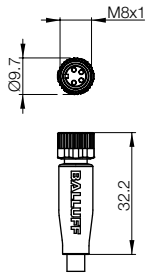


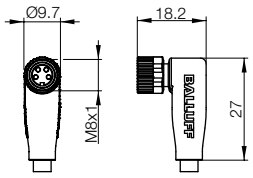
M8, M12 female straight and right-angle, 4-pin, no LED

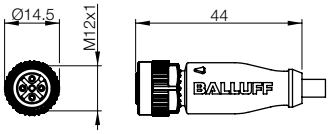


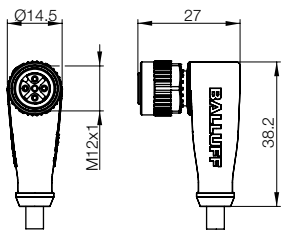



				
	30 V AC	30 V AC	250 V AC	250 V AC
	30 V DC	30 V DC	250 V DC	250 V DC
	Molded	Molded	Molded	Molded
	4×0.34 mm²	4×0.34 mm²	4×0.34 mm²	4×0.34 mm²
	IP 67	IP 67	IP 68	IP 68
	–25...+90 °C/–25...+90 °C (UL 80 °C)	–25...+90 °C/–25...+90 °C (UL 80 °C)	–40...+90 °C/–25...+90 °C (UL 80 °C)	–40...+90 °C/–25...+90 °C (UL 80 °C)
	–25...+105 °C/-5...+90 °C (UL 80 °C)	–25...+105 °C/-5...+90 °C (UL 80 °C)	–40...+105 °C/–5...+105 °C (UL 80 °C)	–40...+105 °C/–5...+105 °C (UL 80 °C)
	Order code			
	Part number			
	BCC02PL	**BCC02PZ**	**BCC0367**	**BCC036N**
	BCC M314-0000-10-003-VX8434-020	BCC M324-0000-10-003-VX8434-020	BCC M415-0000-1A-003-VX8434-020	BCC M425-0000-1A-003-VX8434-020
	BCC02PM	**BCC02R0**	**BCC0368**	**BCC036P**
	BCC M314-0000-10-003-VX8434-050	BCC M324-0000-10-003-VX8434-050	BCC M415-0000-1A-003-VX8434-050	BCC M425-0000-1A-003-VX8434-050
	BCC02PN	**BCC02R1**	**BCC0369**	**BCC036R**
	BCC M314-0000-10-003-VX8434-100	BCC M324-0000-10-003-VX8434-100	BCC M415-0000-1A-003-VX8434-100	BCC M425-0000-1A-003-VX8434-100





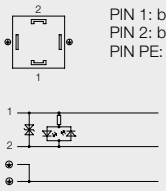
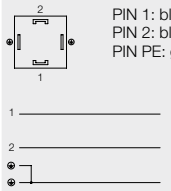




Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

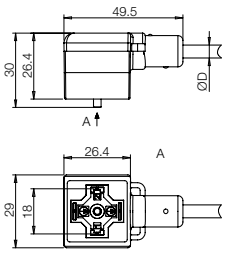


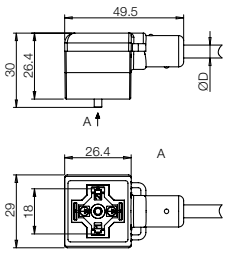


Connector diagram and wiring	 PIN 1: black PIN 2: blue PIN PE: green/yellow	 PIN 1: black PIN 2: blue PIN PE: green/yellow	
Cable outlet	**0°/180°**	**0°/180°**	
Supply voltage AC U_S	24 V AC	230 V AC	
Supply voltage DC U_S	24 V DC	230 V DC	
Cable	Molded	Molded	
Current rating	4.0 A	4.0 A	
Suppressor	Suppressor diode	No	
No. of wires × conductor cross-section	3×0.5 mm²	3×0.5 mm²	
Degree of protection as per IEC 60529	IP 67	IP 67	
Ambient temperature T_a PUR	–25…+90 °C/–25…+80 °C	–25…+90 °C/–25…+80 °C	
static/moving PVC	–25…+105 °C/–25…+105 °C	–25…+105 °C/–25…+105 °C	
LED	1× (PNP), yellow	1× (PNP), yellow	

Cable material	Color	Length	Order code		
			Part number		
PVC	Gray	2 m	**BCC04W3**	**BCC04W9**	
			BCC VA04-0000-10-053-VX8350-020	BCC VA04-0000-10-054-VX8350-020	
PVC	Gray	5 m	**BCC04W4**	**BCC04WA**	
			BCC VA04-0000-10-053-VX8350-050	BCC VA04-0000-10-054-VX8350-050	
PVC	Gray	10 m	**BCC04W5**	**BCC04WC**	
			BCC VA04-0000-10-053-VX8350-100	BCC VA04-0000-10-054-VX8350-100	

Other variants on our website or on request.

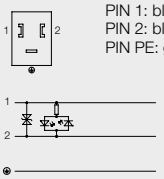
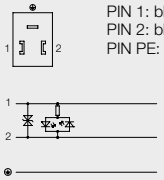




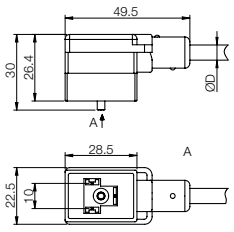
Style B, DIN, 10 mm, 3-pin

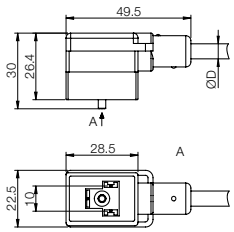




 PIN 1: black PIN 2: blue PIN PE: green/yellow	 PIN 1: black PIN 2: blue PIN PE: green/yellow	
0°	**180°**	
24 V AC	24 V AC	
24 V DC	24 V DC	
Molded	Molded	
4.0 A	4.0 A	
Suppressor diode	Suppressor diode	
3×0.5 mm²	3×0.5 mm²	
IP 67	IP 67	
–25…+90 °C/–25…+80 °C	–25…+90 °C/–25…+80 °C	
–25…+105 °C/–25…+105 °C	–25…+105 °C/–25…+105 °C	
1× (PNP), yellow	1× (PNP), yellow	

Order code	
Part number	
BCC03ZZ	**BCC0402**
BCC VB03-0000-10-055-VX8350-020	BCC VB23-0000-10-055-VX8350-020
BCC0400	**BCC0403**
BCC VB03-0000-10-055-VX8350-050	BCC VB23-0000-10-055-VX8350-050
BCC0401	**BCC0404**
BCC VB03-0000-10-055-VX8350-100	BCC VB23-0000-10-055-VX8350-100

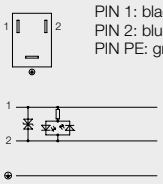
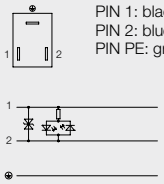




Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

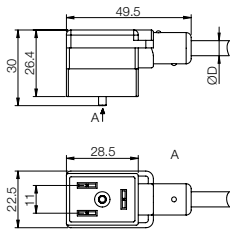


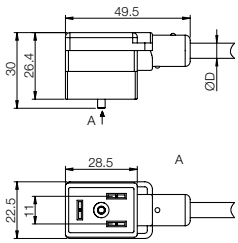


Connector diagram and wiring	 PIN 1: black PIN 2: blue PIN PE: green/yellow	 PIN 1: black PIN 2: blue PIN PE: green/yellow	
Cable outlet	**0°**	**180°**	
Supply voltage AC U_S	24 V AC	24 V AC	
Supply voltage DC U_S	24 V DC	24 V DC	
Cable	Molded	Molded	
Current rating	4.0 A	4.0 A	
Suppressor	Suppressor diode	Suppressor diode	
No. of wires × conductor cross-section	3×0.5 mm²	3×0.5 mm²	
Degree of protection as per IEC 60529	IP 67	IP 67	
Ambient temperature T_a PUR	–25…+90 °C/–25…+80 °C	–25…+90 °C/–25…+80 °C	
static/moving PVC	–25…+105 °C/–25…+105 °C	–25…+105 °C/–25…+105 °C	
LED	1× (PNP), yellow	1× (PNP), yellow	

Cable material	Color	Length	Order code		
			Part number		
PVC	Gray	2 m	**BCC0405**	**BCC0408**	
			BCC VB43-0000-10-055-VX8350-020	BCC VB63-0000-10-055-VX8350-020	
PVC	Gray	5 m	**BCC0406**	**BCC0409**	
			BCC VB43-0000-10-055-VX8350-050	BCC VB63-0000-10-055-VX8350-050	
PVC	Gray	10 m	**BCC0407**	**BCC040A**	
			BCC VB43-0000-10-055-VX8350-100	BCC VB63-0000-10-055-VX8350-100	

Other variants on our website or on request.

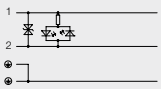
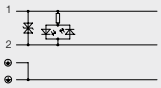




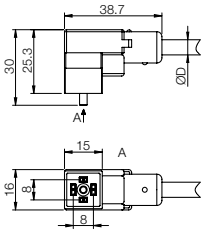
Style C, DIN, 8 mm, 4-pin

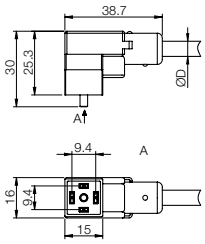




 PIN 1: black PIN 2: blue PIN PE: green/yellow	 PIN 1: black PIN 2: blue PIN PE: green/yellow	
		
0°/180°	**0°/180°**	
24 V AC	24 V AC	
24 V DC	24 V DC	
Molded	Molded	
4.0 A	4.0 A	
Suppressor diode	Suppressor diode	
3×0.5 mm²	3×0.5 mm²	
IP 67	IP 67	
–25…+90 °C/–25…+80 °C	–25…+90 °C/–25…+80 °C	
–25…+105 °C/–25…+105 °C	–25…+105 °C/–25…+105 °C	
1× (PNP), yellow	1× (PNP), yellow	

Order code	
Part number	
BCC04N2	**BCC04RK**
BCC VC04-0000-10-053-VX8350-020	BCC VC44-0000-10-053-VX8350-020
BCC04N3	**BCC04RL**
BCC VC04-0000-10-053-VX8350-050	BCC VC44-0000-10-053-VX8350-050
BCC04N4	**BCC04RM**
BCC VC04-0000-10-053-VX8350-100	BCC VC44-0000-10-053-VX8350-100





Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

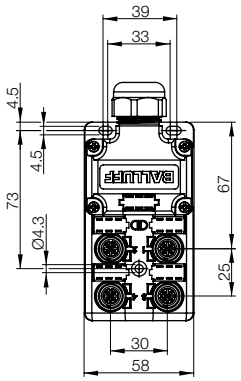


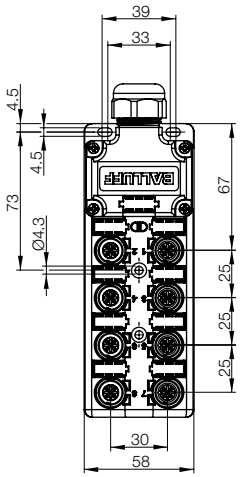


Preferred variants available immediately

Description	**4-way, M12 with LEDs**	**8-way, M12 with LEDs**
Order code	**BPI007K**	**BPI007H**
Part number	BPI 4M4A5P-2K-00-TPSG	BPI 8M4A5P-2K-00-TPSN
Rated operating voltage U_e	24 V DC	24 V DC
Supply voltage U_S	10...30 V DC	10...30 V DC
Function indicator	Yes	Yes
Power-on indicator	Green LED	Green LED
Sensor connection	5-pin female, M12×1	5-pin female, M12×1
Controller connection	Cap connection without cable	Cap connection without cable
Number of sockets	4	8
Current load capacity	2 A	2 A
Total current	6 A	6 A
Housing material	PBT, GF, fully potted	PBT, GF, fully potted
Degree of protection as per IEC 60529	IP 67 (when screwed into place)	IP 67 (when screwed into place)
Ambient temperature T_a	–25...+80 °C	–25...+80 °C
Use	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)
Recommended connector - port	BCC M415...	BCC M415...

Other variants on our website or on request.





Passive Splitters
BPI, 5-pin



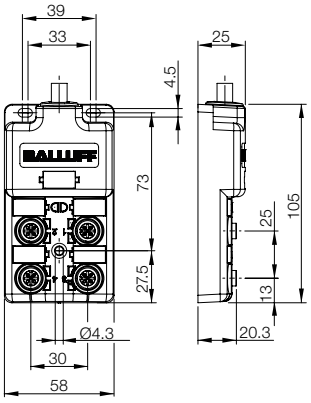


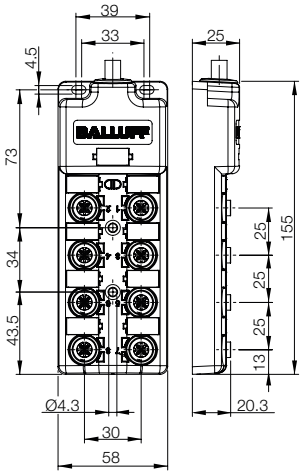
Preferred variants available immediately

Description	**4-way, M12 with LEDs**	**8-way, M12 with LEDs**
Rated operating voltage U_e	24 V DC	24 V DC
Supply voltage U_B	10…30 V DC	10…30 V DC
Function indicator	Yes	Yes
Power-on indicator	Green LED	Green LED
Sensor connection	5-pin female, M12×1	5-pin female, M12×1
Controller connection	Fixed cable	Fixed cable
Number of sockets	4	8
Current load capacity	2 A	2 A
Total current	8 A	8 A
Housing material	PBT, GF	PBT, GF
Degree of protection as per IEC 60529	IP 67 (when connected)	IP 67 (when connected)
Ambient temperature T_a	–25…+80 °C	–25…+80 °C

Cable material	**Order code** Part number	
PUR	**BPI009W** BPI 4M4A5P-2K-B0-KPXB0-030	**BPI0098** BPI 8M4A5P-2K-B0-KPXL0-030
PUR	**BPI009Y** BPI 4M4A5P-2K-B0-KPXB0-050	**BPI0099** BPI 8M4A5P-2K-B0-KPXL0-050
PUR	**BPI009Z** BPI 4M4A5P-2K-B0-KPXB0-100	**BPI009A** BPI 8M4A5P-2K-B0-KPXL0-100
PUR	**BPI00A0** BPI 4M4A5P-2K-B0-KPXB0-150	**BPI009C** BPI 8M4A5P-2K-B0-KPXL0-150

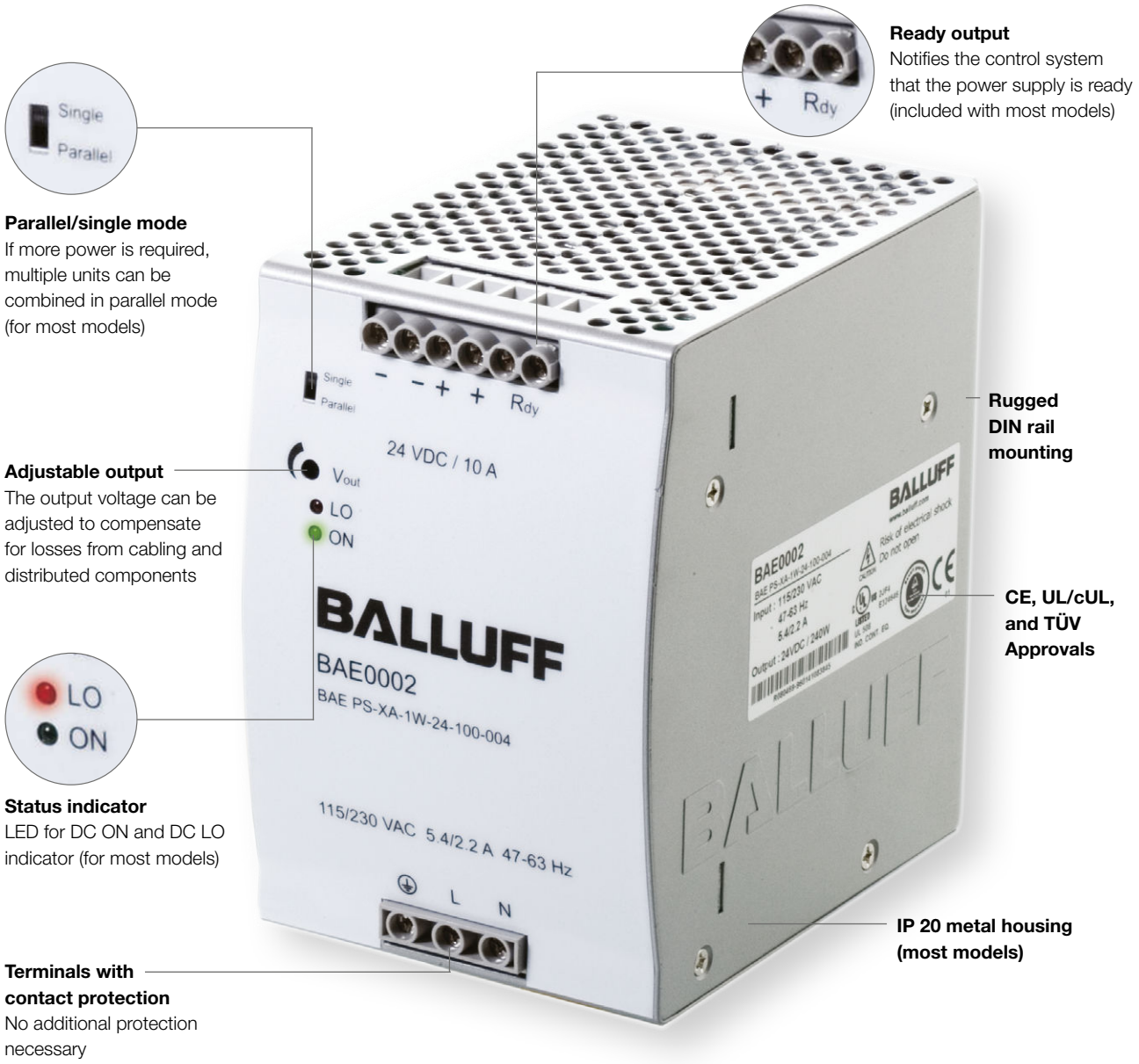
Other variants on our website or on request.





Reliable performance for complex industrial automation

- **Ultra-reliable power supplies**
  for protecting sensitive control electronics
- **Protection against unforeseen events**
  Integrated overload and overvoltage protection
- **Wide selection of models**
  Individual devices or individually combinations of different models available
- **Clean, precise power supply for particularly demanding systems**
  Load regulation ± 1% for all models, ripple and noise under 50 mV for most models
- **Long service life for less system downtime**
  MTBF (Mean Time Between Failure) up to 800,000 hours/ 91 years



Ready output
Notifies the control system that the power supply is ready (included with most models)

Parallel/single mode
If more power is required, multiple units can be combined in parallel mode (for most models)

Adjustable output
The output voltage can be adjusted to compensate for losses from cabling and distributed components

Rugged DIN rail mounting

CE, UL/cUL, and TÜV Approvals

Status indicator
LED for DC ON and DC LO indicator (for most models)

IP 20 metal housing (most models)

Terminals with contact protection
No additional protection necessary

Power for controllers and networks
Specially designed for control devices, Balluff power supplies are easily integrated into your control package and offer extra security.

The PS series of ultra-reliable power supply units is available in a wide range of 12, 24, and 48 V DC models with single or 3-phase input. With a bandwidth of 18 W to 960 W, they truly leave nothing to be desired. If you need even more power, simply connect multiple power supplies together in parallel (parallel mode).

If you need different voltages, simply contact us.





Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

Output voltage (24 V DC)									Features			Product information	
0.75 A/18 W	1.25 A/30 W	2.5 A/60 W	3.8 A/91.20 W	5 A/120 W	10 A/240 W	20 A/480 W	40 A/960 W	Input voltage	Housing material	Parallel mode	Ready output	**Order code**	Part number
■								Single-phase[1]	Plastic			**BAE0001**	BAE-PS-XA-1W-24-007-001
	■							Single-phase[1]	Plastic		■	**BAE0004**	BAE-PS-XA-1W-24-012-002
		■						Single-phase[1]	Plastic		■	**BAE0005**	BAE-PS-XA-1W-24-025-002
			■					Single-phase[2]	Metal	■	■	**BAE003J**	BAE-PS-XA-1W-24-038-003
				■				Single-phase[2]	Metal	■	■	**BAE0006**	BAE-PS-XA-1W-24-050-003
					■			Single-phase[2]	Metal	■	■	**BAE0002**	BAE-PS-XA-1W-24-100-004
						■		Single-phase[2]	Metal	■	■	**BAE0003**	BAE-PS-XA-1W-24-200-005
				■				3-phase[3]	Metal		■	**BAE0007**	BAE-PS-XA-3Y-24-050-009
					■			3-phase[3]	Metal	■	■	**BAE0008**	BAE-PS-XA-3Y-24-100-006
						■		3-phase[3]	Metal	■	■	**BAE0009**	BAE-PS-XA-3Y-24-200-007
							■	3-phase[3]	Metal	■	■	**BAE003R**	BAE-PS-XA-3Y-24-400-010

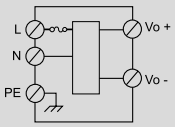
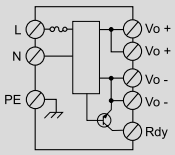
[1] = 100...240 V AC
[2] = 115/230 V AC (Auto-Select)
[3] = 340...575 V AC

Single-phase input voltage
0.75 A, 1.25 A

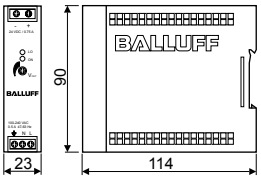


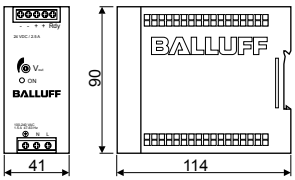


Preferred variants available immediately

Output current	0.75 A	1.25 A
Output power	18 W	30 W
Output voltage	24 V DC (SELV)	24 V DC (SELV)
Input voltage	100...240 V AC	100...240 V AC
Order code	**BAE0001**	**BAE0004**
Part number	BAE PS-XA-1W-24-007-001	BAE PS-XA-1W-24-012-002
Input voltage range	90...264 V AC/120...375 V DC	85...264 V AC/90...375 V DC
Frequency range	47...63 Hz	47...63 Hz
Input fuse	T2 A/250 V AC internal	T2 A/250 V AC internal
Voltage adjustment range	22.5...28.5 V DC	22.5...28.5 V DC
Status indicator DC ON	Green LED	Green LED
Status indicator DC LOW	Red LED	
Efficiency	77 %	86 %
Response	Hiccup mode	Forward characteristic
Ambient temperature	–20...+70 °C	–40...+70 °C
Derating	–2.5%/°C of +61 °C	–2.5%/°C of +61 °C
Degree of protection as per IEC 60529	IP 20	IP 20
Ready output	No	DC OK output
Cooling	Free convection	Free convection
Approvals	CE, UL/cUL, TÜV	CE, UL/cUL, TÜV
Wiring diagram		

*SELV = Safety Extra Low Voltage



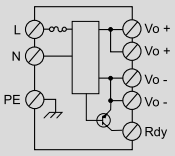
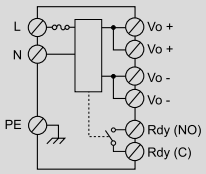
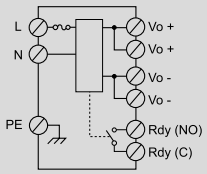


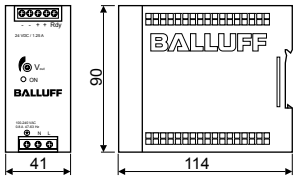
Power Supplies
Single-phase input voltage
2.5 A, 3.8 A, 5 A

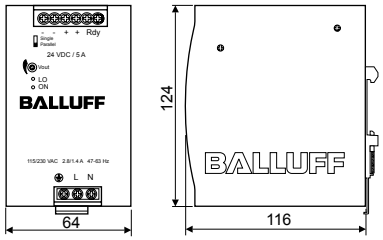


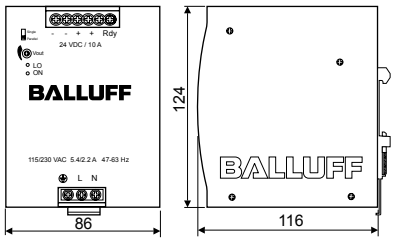




2.5 A	3.8 A	5 A
60 W	91.20 W	120 W
24 V DC (SELV)	24 V DC (SELV)	24 V DC (SELV)
100...240 V AC	115/230 V AC (Auto-Select)	115/230 V AC (Auto-Select)
BAE0005	**BAE003J**	**BAE0006**
BAE PS-XA-1W-24-025-002	BAE PS-XA-1W-24-038-003	BAE PS-XA-1W-24-050-003
85...264 V AC/90...375 V DC	90...132 V AC; 180...264 V AC/210...375 V DC	90...132 V AC; 180...264 V AC/210...375 V DC
47...63 Hz	47...63 Hz	47...63 Hz
T2 A/250 V AC internal	T3.15 A/250 V AC internal	T3.15 A/250 V AC internal
22.5...28.5 V DC	22.5...24.5 V DC	22.5...28.5 V DC
Green LED	Green LED	Green LED
	Red LED	Red LED
89 %	86 %	86 %
Forward characteristic	Forward characteristic	Forward characteristic
–40...+70 °C	–35...+70 °C	–35...+70 °C
–2.5%/°C of +61 °C	–2.5%/°C of +61 °C	–2.5%/°C of +61 °C
IP 20	IP 20	IP 20
DC OK output	DC OK output relay	DC OK output relay
Free convection	Free convection	Free convection
CE, UL/cUL, TÜV	CE, UL/cUL, TÜV, ODVA	CE, UL/cUL, TÜV
		





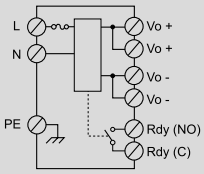
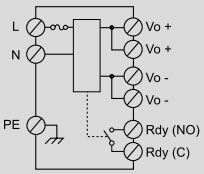


Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

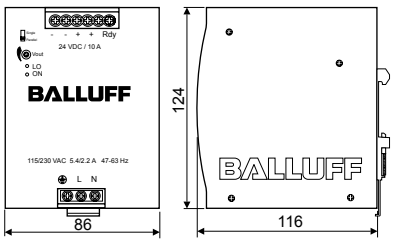


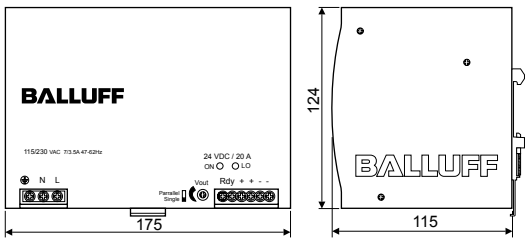


Preferred variants available immediately

Output current	10 A	20 A
Output power	240 W	480 W
Output voltage	24 V DC (SELV)	24 V DC (SELV)
Input voltage	115/230 V AC (Auto-Select)	115/230 V AC (Auto-Select)
Order code	**BAE0002**	**BAE0003**
Part number	BAE PS-XA-1W-24-100-004	BAE PS-XA-1W-24-200-005
Input voltage range	90...132 V AC; 180...264 V AC/210...375 V DC	90...264 V AC/120...370 V DC
Frequency range	47...63 Hz	47...63 Hz
Input fuse	T6.3 A/250 V AC internal	T10 A/250 V AC internal
Voltage adjustment range	22.5...28.5 V DC	22.5...28.5 V DC
Status indicator DC ON	Green LED	Green LED
Status indicator DC LOW	Red LED	Red LED
Efficiency	89 %	89 %
Response	Forward characteristic	Forward characteristic
Ambient temperature	–40...+70 °C	–40...+70 °C
Derating	–2.5%/°C of +61 °C	–2.5%/°C of +56 °C
Degree of protection as per IEC 60529	IP 20	IP 20
Ready output	DC OK output relay	DC OK output relay
Cooling	Free convection	Free convection
Approvals	CE, UL/cUL, TÜV	CE, UL/cUL, TÜV
Wiring diagram		

*SELV = Safety Extra Low Voltage

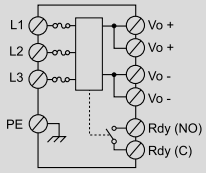
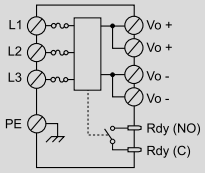


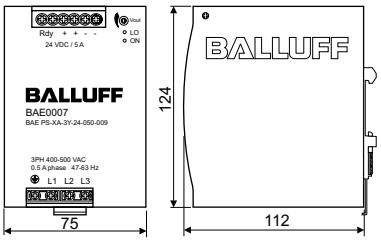


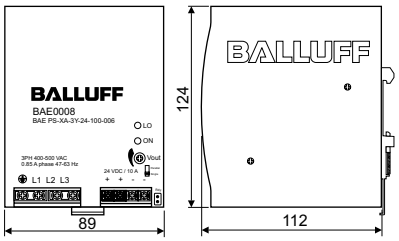
Power Supplies
3-phase input voltage
5 A, 10 A





5 A	10 A
120 W	240 W
24 V DC (SELV)	24 V DC (SELV)
3× 400...500 V AC	3× 400...500 V AC
BAE0007	**BAE0008**
BAE PS-XA-3Y-24-050-009	BAE PS-XA-3Y-24-100-006
340...575 V AC/480...820 V DC	340...575 V AC/480...820 V DC
47...63 Hz	47...63 Hz
2 A/600 V AC internal/phase	T2 A/600 V AC internal/phase
22.5...28.5 V DC	22.5...28.5 V DC
Green LED	Green LED
Red LED	Red LED
89 %	90 %
Hiccup mode	Hiccup mode
–40...+70 °C	–40...+70 °C
–2.5%/°C of +61 °C	–2.5%/°C of +61 °C
IP 20	IP 20
DC OK output relay	DC OK output relay
Free convection	Free convection
CE, UL/cUL, TÜV	CE, UL/cUL, TÜV
	





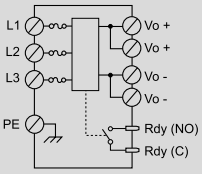
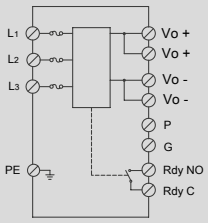
Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

3-phase input voltage
20 A, 40 A

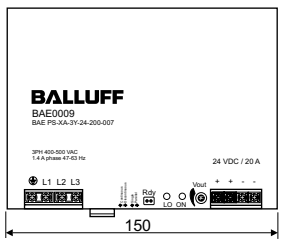




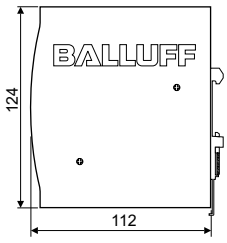
■ **Preferred variants available immediately**

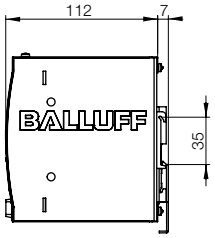
Output current	20 A	40 A
Output power	480 W	960 W
Output voltage	24 V DC (SELV)	24 V DC (SELV)
Input voltage	3× 400...500 V AC	3× 400...500 V AC
Order code	**BAE0009**	**BAE003R**
Part number	BAE PS-XA-3Y-24-200-007	BAE PS-XA-3Y-24-400-010
Input voltage range	340...575 V AC/480...820 V DC	340...575 V AC/480...820 V DC
Frequency range	47...63 Hz	47...63 Hz
Input fuse	3.15 A/500 V AC internal/phase	T5 A/500 V AC internal/phase
Voltage adjustment range	22.5...28.5 V DC	22.5...28.5 V DC
Status indicator DC ON	Green LED	Green LED
Status indicator DC LOW	Red LED	Red LED
Efficiency	90 %	92 %
Response	Forward characteristic (C), restart after 30 s (D), Shutoff within 3 s, (C)/(D) togglable	Hiccup mode
Ambient temperature	–30...+70 °C	–40...+70 °C
Derating	–2.5%/°C of +61 °C	–3.5%/°C above +61 °C
Degree of protection as per IEC 60529	IP 20	IP 20
Ready output	DC OK output relay	No
Cooling	Free convection	Free convection
Approvals	CE, UL/cUL, TÜV	CE, UL/cUL, TÜV
Wiring diagram		

*SELV = Safety Extra Low Voltage







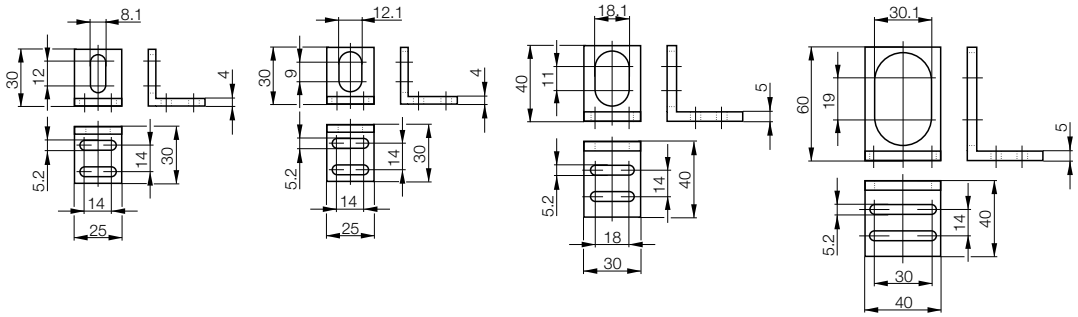




Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs

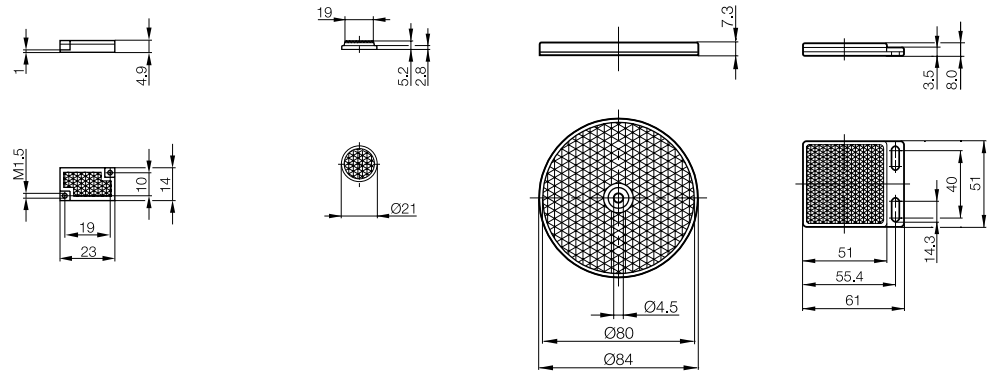


Description	**Mounting bracket**	**Mounting bracket**	**Mounting bracket**	**Mounting bracket**
Use	For sensors and clamps **M8**	For sensors and clamps **M12**	for **M18** sensors	for **M30** sensors
Order code	**BAM009U**	**BAM00C0**	**BAM00EY**	**BAM00HH**
Part number	BES 08,0-HW-1	BES 12,0-HW-1	BES 18,0-HW-1	BES 30,0-HW-1
Material	Anodized aluminum	Anodized aluminum	Anodized aluminum	Anodized aluminum





Description	**Reflector 14×23 mm**	**Reflector Ø 21 mm**	**Reflector Ø 84 mm**	**Reflector 51×61 mm**
Fastener	Two M1.5 screws	Glue	M4 screw	two M4 screws
Order code	**BAM00UM**	**BAM00UT**	**BAM00UK**	**BAM00WL**
Part number	BOS R-12	BOS R-16	BOS R-1	BOS R-9
Material	PMMA/ABS	PMMA/ABS	PMMA/ABS	PMMA/ABS
Triple size	0.9 mm	1.2 mm	4 mm	4 mm
Special features	for laser retroreflective sensors	for laser retroreflective sensors	for Retroreflective sensors	for Retroreflective sensors
Temperature range	–20...+60 °C	–20...+60 °C	–20...+60 °C	–20...+60 °C

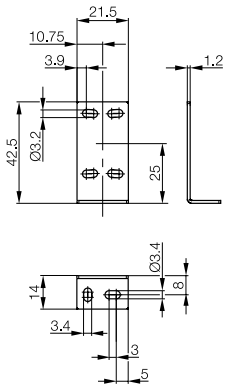


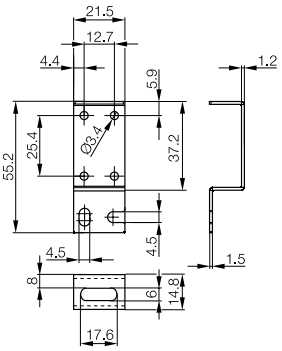


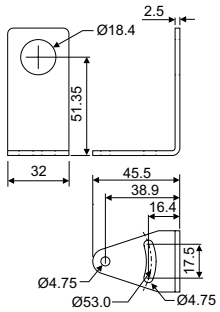


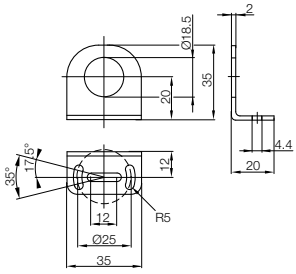


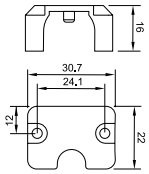
	Mounting bracket	**Mounting bracket**	**Small L bracket**	**Mounting bracket**	**Mounting adapters**
	for BOS 5K	for BOS 5K	Two M3 screws	for BOS 18	for BOS 18KF/KW
	BAM00U5	**BAM00U6**	**BAM00PT**	**BAM00RY**	**BAM00RW**
	BOS 5-HW-1	BOS 5-HW-2	BOS 11-HW-1	BOS 18,0-HW-1	BOS 18,0-BS-3
	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Durethan









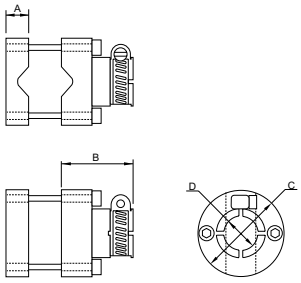


Accessories
M8 Connectors
M12 Connectors
Valve Connectors
Passive Splitter
Power Supplies
Mounting Brackets, Reflectors, Mounting Adapters
Mounting Brackets, Hose Clamp, Mounting Cuffs





Description		**Mounting brackets**	**Mounting brackets**	**Mounting brackets**	
Use		for **M12** sensors	for **M18** sensors	for **M30** sensors	
Order code		**BAM015E**	**BAM015F**	**BAM015H**	
Part number		BCSA-SG-12-D	BCSA-SG-18-D	BCSA-SG-30-D	
Size	A	10.5 mm	11.7 mm	19.1 mm	
	B	29.5 mm	38.1 mm	67.8 mm	
	C	38.1 mm	45.0 mm	69.9 mm	
	D	12.1 mm	18.1 mm	30.1 mm	
Diameter		9.4...20.6 mm	9.4...20.6 mm	25.4...44.5 mm	

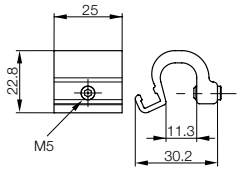


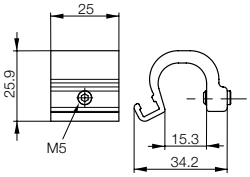






Mounting bracket for Slot	**BMF 235** Profile/tie rod	**BMF 235** Profile/tie rod
Order code	**BAM01M9**	**BAM01MA**
Part number	BMF 235-HW-109	BMF 235-HW-110
Cylinder type, for example	For profile/tie rod cylinders **5…11 mm** in conjunction with T-slot holder, for example BAM00L2	For profile/tie rod cylinders **9…15 mm** in conjunction with T-slot holder, for example BAM00L2







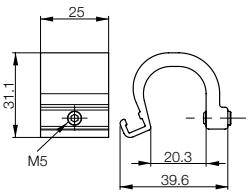


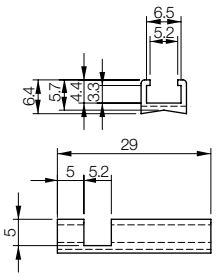
Piston diameter	**Hose clamp BMF size_ for BMF 235**	
≤ 8 mm	0	**BAM00N2**
8...10 mm	1	**BAM00N3**
12 mm	1	
16 mm	1	
20 mm	2	**BAM00N4**
25 mm	2	
32 mm	3	**BAM00N5**
40 mm	4	**BAM00N6**
50 mm	5	**BAM00N7**
63 mm	6	**BAM00N8**
70 mm	8	**BAM00N9**
80 mm	7	**BAM00NA**
90 mm	10	**BAM01TC**
100 mm	9	**BAM01F4**





	BMF 235	**BMF 235**		
	Profile/tie rod			
	BAM01MC	**BAM01Y9**		
	BMF 235-HW-111	BMF 307-HW-112		
	For profile/tie rod cylinders **14…20 mm** in conjunction with T-slot holder, for example BAM00L2	Piston diameter **< 8...110 mm** pneumatic cylinder, round without slot or tie rod		





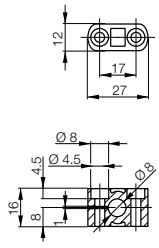


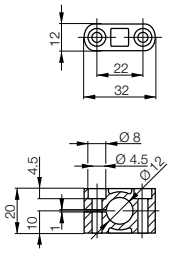


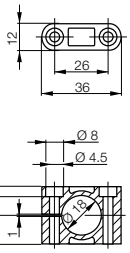


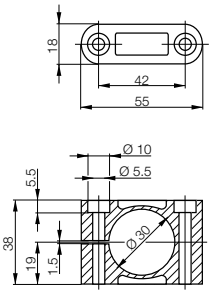


Description	**Mounting cuff**	**Mounting cuff**	**Mounting cuff**	**Mounting cuff**
Use	Ø 8 mm	Ø 12 mm	Ø 18 mm	Ø 30 mm
Order code	**BAM00A2**	**BAM00C4**	**BAM00F2**	**BAM00HN**
Part number	BES 08,0-BS-1	BES 12,0-BS-1	BES 18,0-BS-1	BES 30,0-BS-1
Material	PA 6	PA 6	PA 6	PA 6





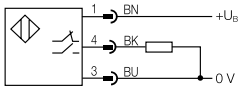




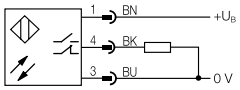
Photoelectric Wiring diagram

Fork sensors BGL

PNP

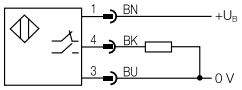


NPN

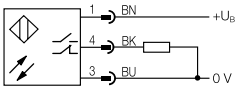


Angle sensors BWL

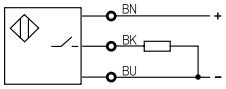
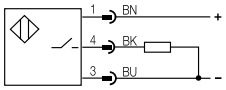
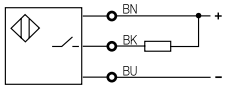
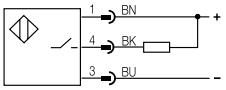
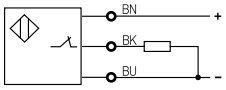
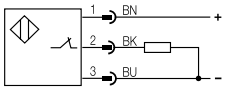
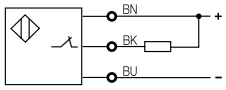
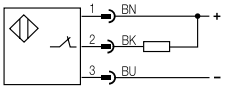
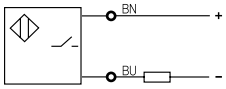
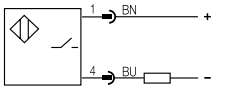
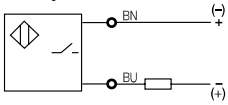
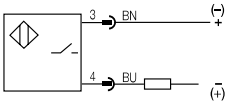
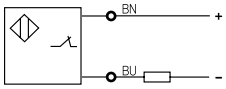
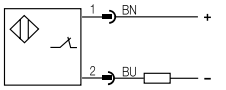
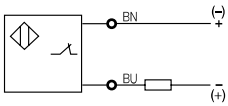
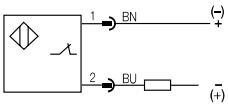
PNP



NPN



Inductive (BES) Wiring diagrams

	Cable/terminals	Male	Cable/terminals	Male
DC 3/4 wire Normally open	**PNP (+) sourcing**		**NPN (–) sinking**	
				
Normally closed				
DC 2-wire Normally open	**polarized**		**non-polarized**	
				
Normally closed				

Correction factors

The correction factor indicates the reduction of the switching distance in damping materials which deviate from Fe 360.

Material	Factor
Steel	1.0
Copper	0.25...0.45
Brass	0.35...0.50
Aluminum	0.30...0.45
Stainless steel	0.60...1.00
Nickel	0.65...0.75
Cast iron	0.93...1.05

Further and additional information can be found on our website.

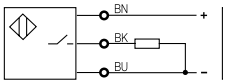
Capacitive (BCS) Wiring diagrams

DC 3/4 wire

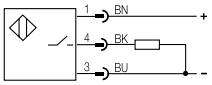
PNP (+) sourcing

Cable/terminals

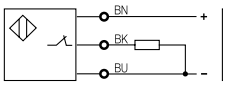
Normally open

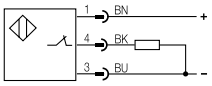


Male



Normally closed



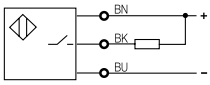


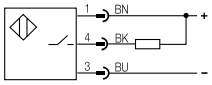
NPN (–) sinking

Cable/terminals

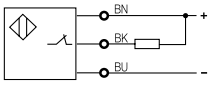
Male

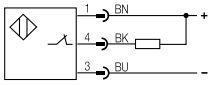
Normally open





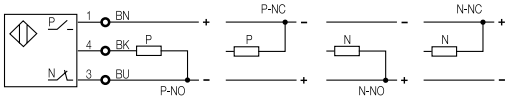
Normally closed





PNP/NPN selectable

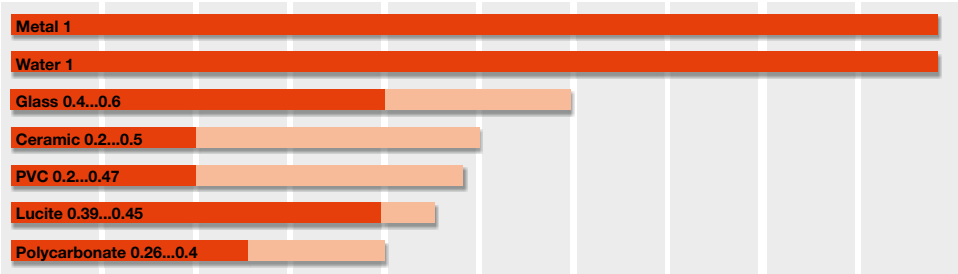
NO/NC selectable



Operating conditions and correction factors

If an electrically non-conducting actuation element (target) enters the sensor field, the capacitance changes proportionally to ε_r and to the immersion depth or to the distance to the sensing surface. As the rated switching distance s_n based on a grounded standard target made of Fe 360, the switching distances must be corrected when using other materials.

Correction factors for typical materials

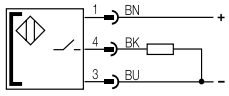


Correction factors should be determined using the target material directly.

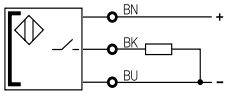
Magnetic (BMF) Wiring diagrams

Normally open

PNP/cable

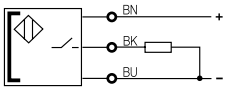


PNP/connector

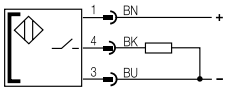


Normally open

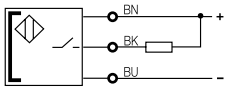
PNP/cable



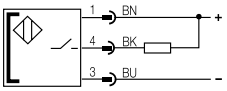
PNP/connector



NPN/cable

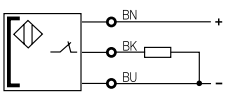


NPN/connector

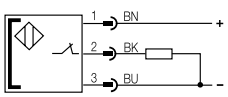


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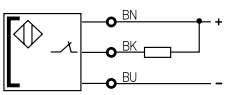
PNP/cable



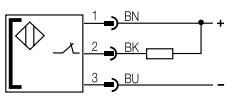
PNP/connector



NPN/cable

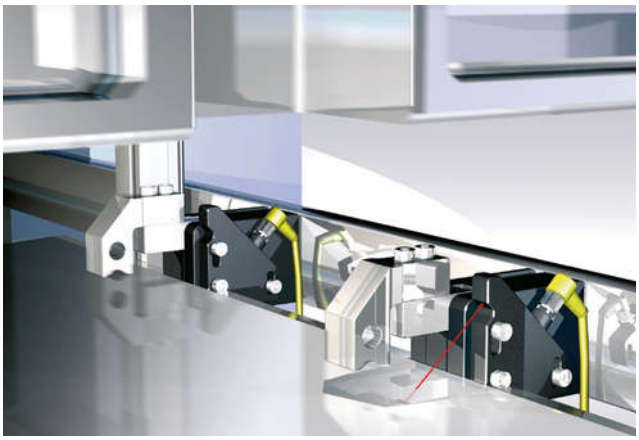


NPN/connector



Global sensors

Quality at a fair price – for your standard application



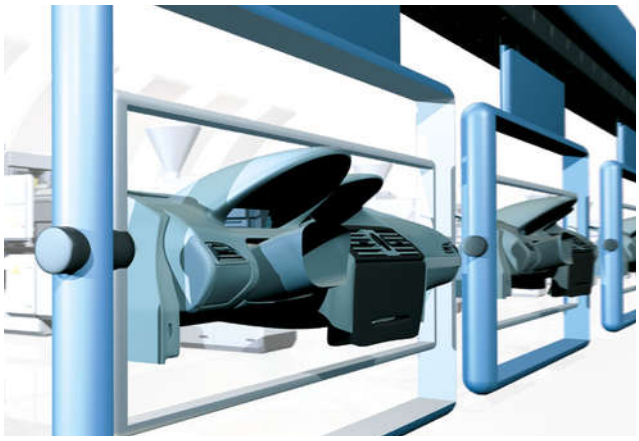
Angle sensors enable reliable position detection.



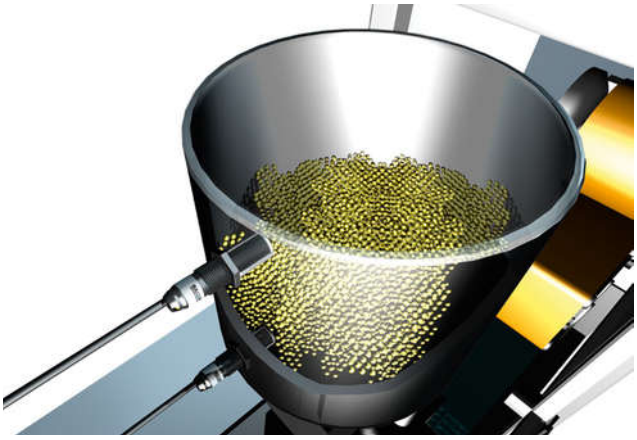
Inductive sensors detect positions reliably.



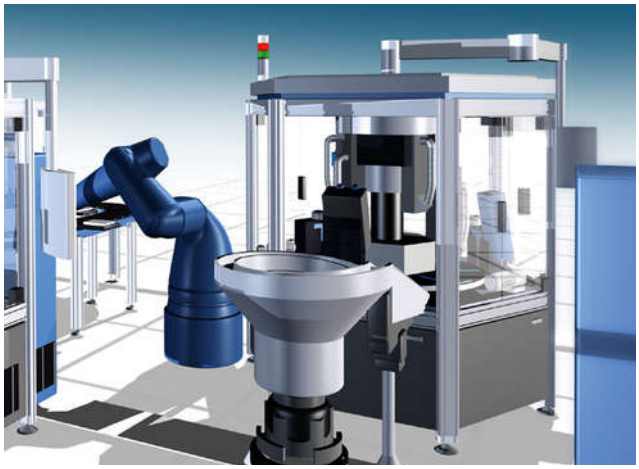
Whether at the injection molding machine or for assembly and automation, different sensor technologies control the material feed precisely.



The harmonious interaction between various sensors ensures optimal process in component production.



Capacitive sensors guarantee correct level detection.



Photoelectric sensors optimize positioning tasks.



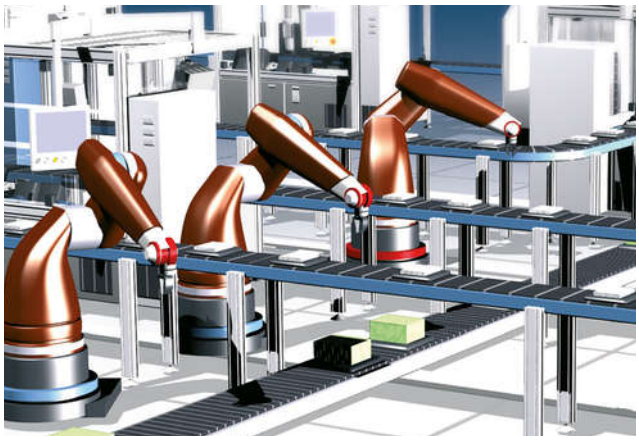
Multiple sensors support the correct process in tire production.



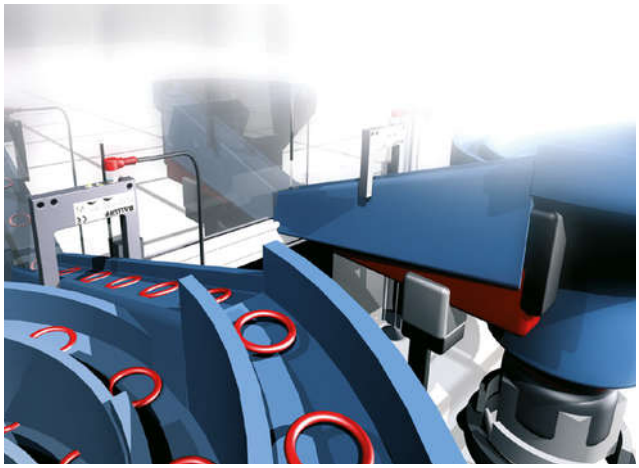
Sensors check packaging with reliability.



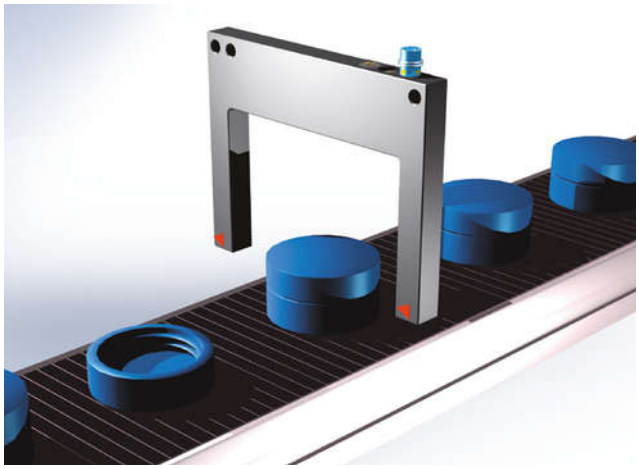
Reliable sensors carry out frequent format changes, for example, when cartoning, in a flexible manner.



Different sensors are perfectly tuned to take over the handling and assembly tasks of robotics.



Fork sensors provide the visual information you need at vibrating conveyors and part separators.



Fork sensors are easy to operate. Receivers and emitters in a single housing guarantee an easy installation.

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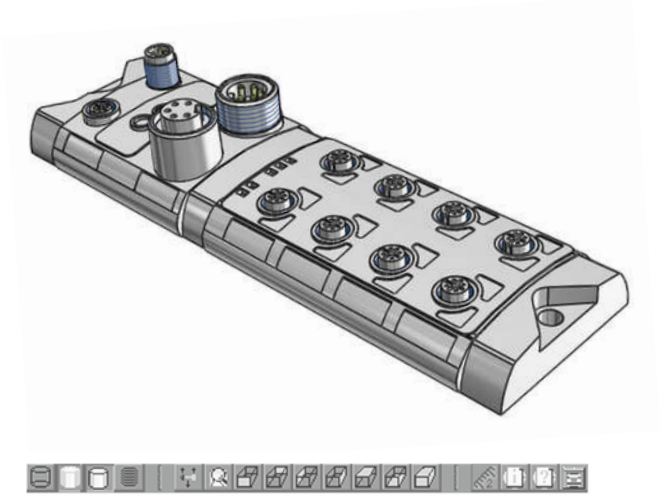
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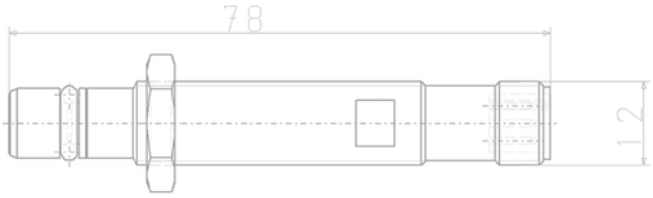
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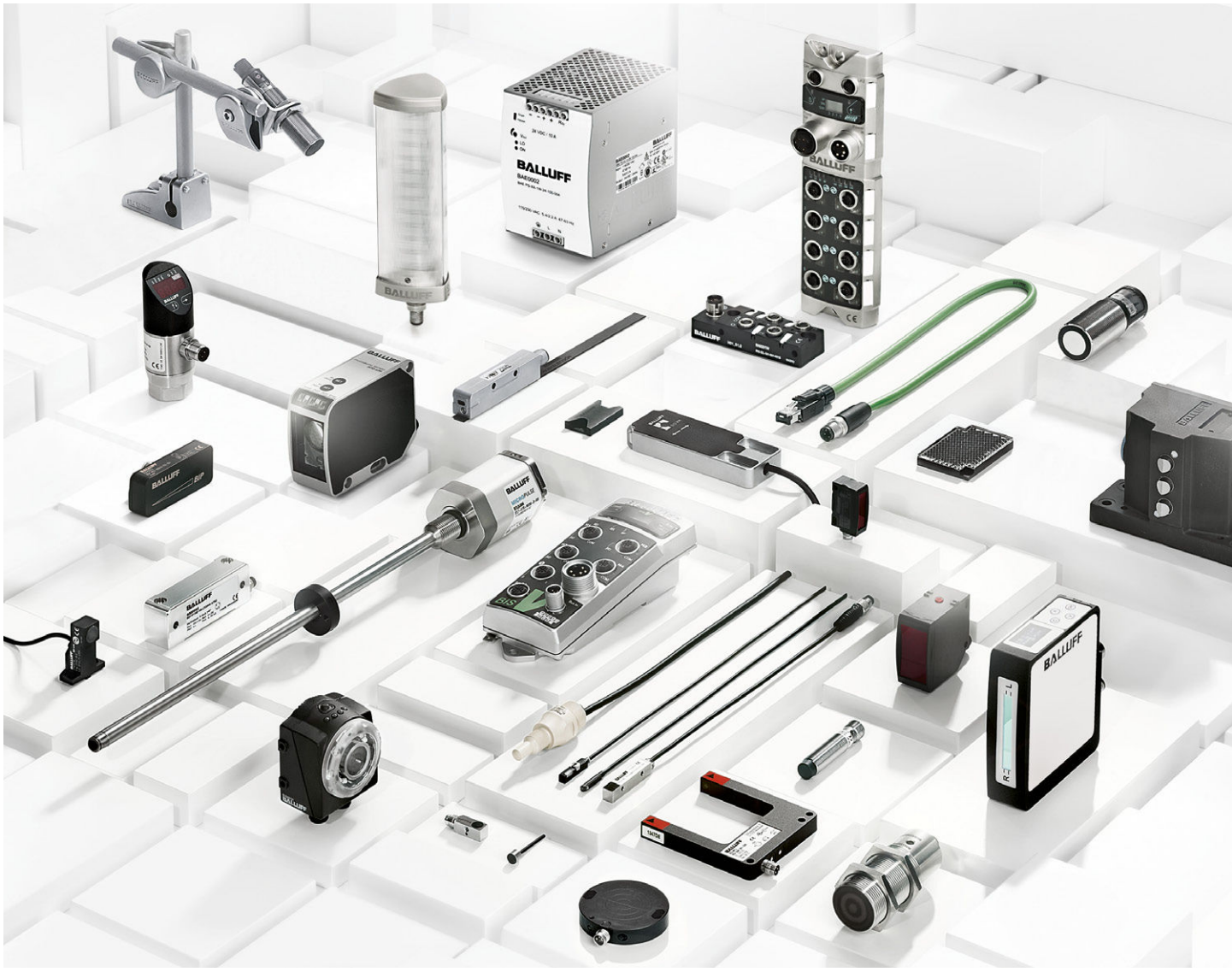
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Doc. No. 895102/Mat. No. 230267 EN
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