



G6 Inox, GR18(S) Inox

STRONG AND RELIABLE – STAINLESS-STEEL SENSORS
FOR WASHDOWN APPLICATIONS

Photoelectric sensors

SICK
Sensor Intelligence.

INOX – WHEN PUSH COMES TO SHOVE

With G6 Inox and GR18(S) Inox, it's all about using sensors that offer maximum reliability under the harshest of ambient conditions to optimize production processes. Due to their rust-free stainless-steel housing, both product families are highly durable. And their high chemical material resistance means they are a reliable option when faced with cleaning agents containing alcohols and alkalis as well as standard oils and lubricants used in industry. Thanks to this crucial advantage, the G6 Inox and GR18(S) Inox sensors are ideal for use in the food and beverage industry. In this sector in particular, hygiene takes top priority and is ensured by means of intensive cleaning and disinfection processes.



The G6 Inox and GR18(S) Inox product families don't just shine due to their stainless-steel housing. Thanks to careful material selection and considered design and build, Inox sensors from SICK meet all legal requirements and are aligned with applicable standards and directives.

Chemical resistance

The G6 Inox and GR18(S) Inox product families feature a corrosion-resistant V4A (316L) stainless-steel housing with chemically resistant plastic parts. This means they are able to withstand corrosion, intensive high-pressure cleaning and cleaning with alkalis and cleaning agents that contain alcohol, as well as oils and lubricants.



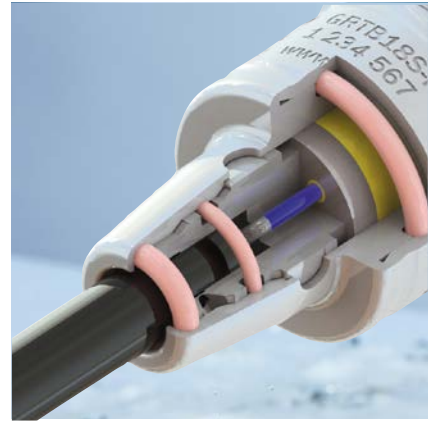
Thermal resistance

Stainless-steel sensors operate reliably in an ambient temperature from -25°C to $+55^{\circ}\text{C}$. They are also able to handle dramatic changes in temperature resulting from cleaning with water at $+80^{\circ}\text{C}$ in a cold environment between $+5^{\circ}\text{C}$ and $+10^{\circ}\text{C}$, for example. The highly resistant stainless steel is able to withstand changes in temperature and its high degree of tightness prevents moisture from being "sucked" into the device as a result of differences in pressure (pump effect).



Tightness

The reliable sealing afforded by the G6 Inox and GR18(S) Inox sensors is based on the use of chemically resistant seals and special high-performance adhesives. In addition to a water shock test, tests for enclosure ratings IP67, IP68, and IP69K, as well as a long-life test, the sensors' tightness is also inspected on a regular basis in accordance with SICK's internal washdown test criteria.



Design and material

The stainless-steel housing of the G6 Inox and GR18 Inox sensors ensures a high level of mechanical ruggedness. What's more, a special coating on the PMMA front screen provides additional resistance. The indestructible laser inscription means that the sensors' type designation will still be easy to read even after long-term use in a harsh environment. The rotary knobs for setting the sensitivity and sensing range are mounted in a user-friendly manner and are easy to reach in both product families.



ALWAYS THE FIRST CHOICE – ESPECIALLY IN HARSH CONDITIONS

Due to their exceptional properties, the G6 Inox and GR18(S) Inox stainless-steel sensors are particularly suited to use in industries with strict hygiene requirements and where conditions can be harsh.

Food and beverage

Daily disinfections of machines and plants are absolutely essential in the food and beverage industry. The stainless-steel sensors of the G6 Inox and GR18 Inox product families help when it comes to implementing specified cleaning schedules without prolonged machine downtimes.

Detection of transport crates on a conveyor belt



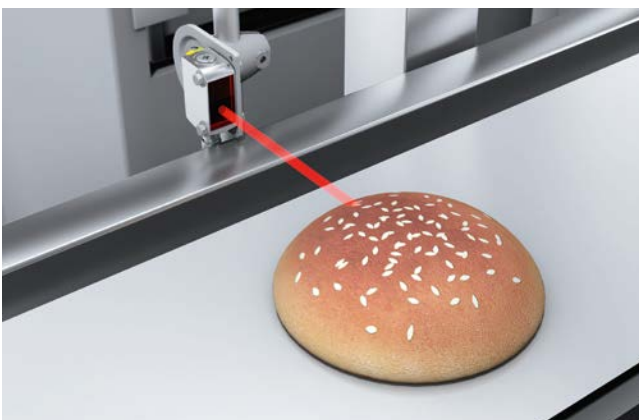
GL6 Inox photoelectric sensor – reliable detection in harsh ambient conditions.

Sensing of loading cart position



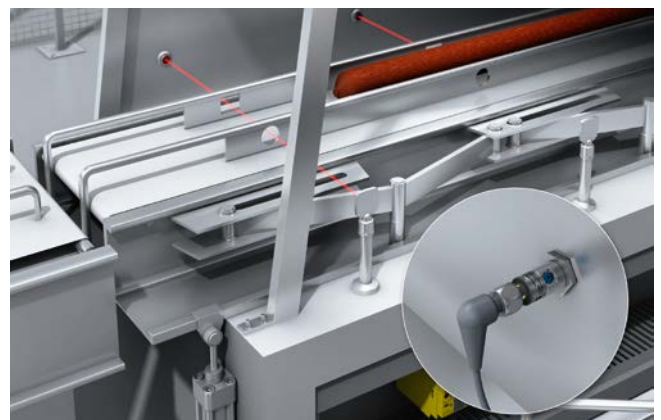
GRTB18(S) Inox photoelectric proximity sensor – perfectly incorporated into the machine design in a small space.

Product detection in a hygienic environment



GTB6 Inox photoelectric proximity sensor – background suppression for stable and reliable object detection.

Detection of a product being fed into a meat slicer



GRL18(S) Inox photoelectric retro-reflective sensor – precise switching behavior ensures an optimum cut.

Wood

In the wood industry, dust and chips can quickly lead to a sensor failure, causing production downtime. The mechanical ruggedness and resistance to dust afforded by the sensors of the G6 Inox and GR18(S) Inox product families ensure sustained and reliable operation.

Leading edge detection in furniture manufacturing



GRSE18(S) Inox through-beam photoelectric sensor – precise leading edge detection forming the first step toward a perfect piece of furniture.

Cutting edge and object detection

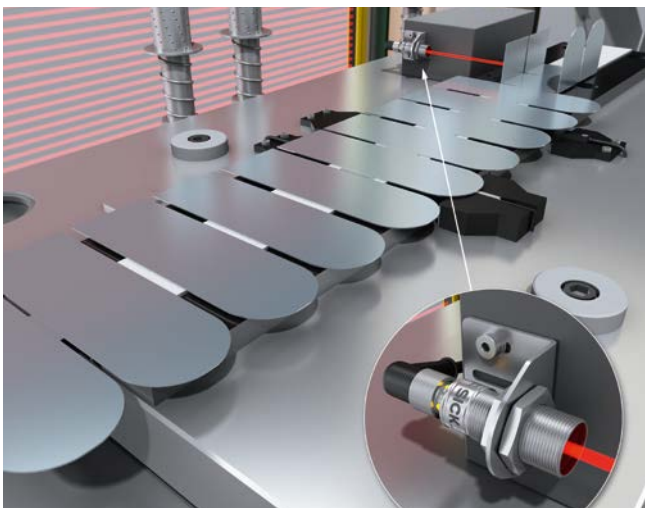


GSE6 Inox through-beam photoelectric sensor – reliable detection even in dusty ambient conditions.

Machine tools

The stainless-steel sensors of the G6 Inox and GR18(S) Inox product families set themselves apart by being extremely resistant to oils and cooling lubricants. Their durability is significantly higher than that of plastic sensors. They therefore have low maintenance requirements and ensure short machine downtimes as well as high levels of productivity.

Object detection in punching and bending machines



GRTB18(S) Inox photoelectric proximity sensor – reliable detection of shiny object surfaces.

Tool detection in lathes and milling machines



GTB6 Inox photoelectric proximity sensor – also resistant to coolants and lubricants.

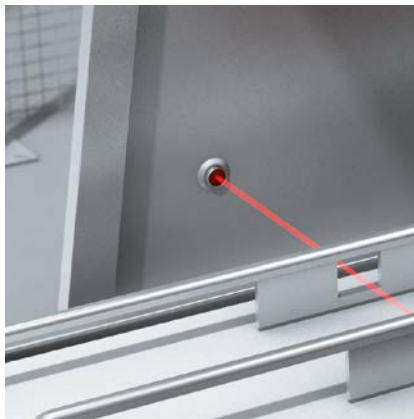
THE RIGHT SENSOR FOR YOUR APPLICATION

Thanks to their material resistance and tightness, all sensors of the G6 Inox and GR18 Inox product families have one thing in common – their high level of ruggedness. Depending on the application and associated installation situation, rectangular and round housing designs are available.

The rectangular housings of the G6 Inox product family offer a high level of flexibility during installation and adjustment as they can be mounted using mounting brackets.



The GR18(S) Inox sensors with round housings can be attached directly in the opening provided for mounting by means of their thread.

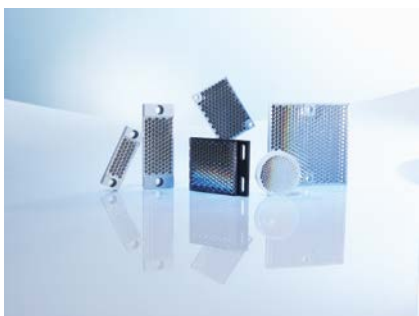


There is therefore often no need for additional mounting brackets.



THE RIGHT ACCESSORIES TO GET STARTED WITH ANY APPLICATION

Whether it is electrical connectivity, reflectors, mechanical mounting solutions, or individual extras – with a range of accessories perfectly tailored to the G6 Inox and GR18(S) Inox device generation, everything can be quickly integrated so your machine is ready to go.



Reflectors and optics

The large selection of standard and fine triple reflectors as well as reflective tapes guarantees optimal sensor operation at all times and perfect integration into systems.



Mounting systems

SICK is able to provide the right concepts and products for sensor mounting, alignment, and protection.



Plug connectors and cables

A wide range of connection cables for the many requirements of industrial automation are available.

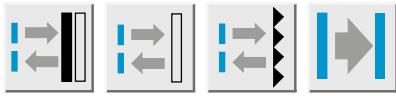
SELECTION GUIDE

		
	G6 Inox	GR18(S) Inox
	Small, strong, rugged – the ideal sensor for washdown applications	Round, strong, rugged – M18 stainless-steel sensors for washdown applications

Housing/mounting	1-inch hole mounting system	M18 thread mounting
Housing dimensions	33 mm x 21 mm x 14.5 mm	73.5 mm (long body version) 56 mm (short body version)
Connection type	M8 male connector or 2 m connecting cable	M12 male connector or 2 m connecting cable (PVC)
Sensing range		
Photoelectric proximity sensor (BGS)	5 mm ... 420 mm	3 mm ... 300 mm
Photoelectric proximity sensor (energetic)	30 mm ... 900 mm	3 mm ... 1,000 mm
Photoelectric retro-reflective sensor	0.03 m ... 6 m	0.06 m ... 7.2 m
Through-beam photoelectric sensor	0 m ... 15 m	0 m ... 15 m
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ROUND, STRONG, RUGGED – M18 STAINLESS STEEL SENSOR FOR WASH-DOWN APPLICATIONS



Product description

The cylindrical photoelectric sensors of the GR18 Inox product family are characterized by a corrosion-resistant V4A (316L) stainless-steel housing. Due to its M18 housing design in short and standard housing lengths, they can be used universally in many applications.

The special sealing concept, based on the chemical-resistant O-ring seals, prevents liquids from entering the sensor. Various male connector and connection variants round out the product portfolio.

At a glance

- High mechanical ruggedness due to stainless-steel housing 1.4404 /316L
- Ecolab-certified - resistant to acidic and alkaline cleaning and disinfecting agents
- IP67, IP68 and IP69K enclosure rating – for washdown applications
- M18 thread
- M12 male connector and 2 m cable variants

Your benefits

- Simple M18 thread design ensures quick and space-saving mounting
- 3 mm flat, chemically-resistant material of the front screen offers a long service life, reducing maintenance time and costs
- Reduction in false detections and increased throughput due to reliable object detection, even in harsh ambient conditions
- Ecolab certifies the use of the GR18 Inox in the field of food processing and in other areas with chemical cleaning processes
- Innovative stainless steel accessories provide fast and low-cost installation
- Simple electrical integration due to complementary outputs on the sensor



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→ www.sick.com/GR18_Inox

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

	GRTB18(S) Inox	GRTE18(S) Inox	GRL18(S) Inox	GRSE18(S) Inox
Sensor principle	Photoelectric proximity sensor		Photoelectric retro-reflective sensor	Through-beam photoelectric sensor
Detection principle	Background suppression	Energetic	Dual lens	–
Housing design (light emission)	Cylindrical, straight			
Housing length	73.5 mm / 55.9 mm (depending on type)			
Thread length	49.3 mm / 31.7 mm (depending on type)			
Thread diameter (housing)	M18 x 1			
Sensing range max.	3 mm ... 100 mm ¹⁾ 3 mm ... 200 mm ¹⁾ 3 mm ... 300 mm ¹⁾ (depending on type)	3 mm ... 115 mm ¹⁾ 3 mm ... 550 mm ¹⁾ 3 mm ... 1,000 mm ¹⁾ (depending on type)	0.03 m ... 7.2 m ²⁾	0 m ... 15 m
Sensing range	15 mm ... 100 mm ¹⁾ 15 mm ... 200 mm ¹⁾ 20 mm ... 150 mm ¹⁾ (depending on type)	5 mm ... 100 mm ¹⁾ 5 mm ... 400 mm ¹⁾ 5 mm ... 800 mm ¹⁾ (depending on type)	0.06 m ... 6 m ²⁾	0 m ... 10 m
Type of light	Visible red light			Infrared light
Light source	PinPoint LED ³⁾	LED ³⁾ PinPoint LED ³⁾ (depending on type)	PinPoint LED ³⁾	LED ³⁾
Light spot size (distance)	Ø 7 mm (100 mm)	Ø 45 mm (800 mm) Ø 9 mm (400 mm) Ø 8 mm (100 mm) (depending on type)	Ø 175 mm (7 m)	Ø 420 mm (10 m)
Wave length	650 nm			850 nm
Adjustment	None Potentiometer, 270° (depending on type)	Potentiometer, 270°	None	

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).²⁾ Reflector PL80A.³⁾ Average service life: 100,000 h at T₀ = +25 °C.

Mechanics/electronics

	GRTB18(S) Inox	GRTE18(S) Inox	GRL18(S) Inox	GRSE18(S) Inox
Supply voltage ¹⁾	10 V DC ... 30 V DC			
Ripple ²⁾	± 5 V _{pp}			
Power consumption	≤ 30 mA			
Output type	NPN PNP (depending on type)			
Output function	Complementary			
Switching mode ³⁾	Light/dark switching			
Signal voltage PNP HIGH/LOW	V _S - (≤ 3 V) / approx. 0 V			
Signal voltage NPN HIGH/LOW	Approx. V _S / ≤ 3 V			
Output current I_{max.} ⁴⁾	100 mA			
Response time ⁵⁾	< 500 µs	< 1,000 µs	< 500 µs	
Switching frequency ⁶⁾	± 1,000 Hz	± 500 Hz	± 1,000 Hz	

	GRTB18(S) Inox	GRTE18(S) Inox	GRL18(S) Inox	GRSE18(S) Inox
Connection type	Cable, 2 m ⁷⁾ Male connector, M12 (depending on type)			
Circuit protection	A ⁸⁾ B ⁹⁾ D ¹⁰⁾			
Protection class	III			
Weight				
Male connector M12, 4-pin (GR18S Inox)	35 g			65 g
Cable, 4-wire (GR18S Inox)	90 g			175 g
Male connector M12, 4-pin (GR18 Inox)	45 g			85 g
Cable, 4-wire (GR18 Inox)	100 g			190 g
Polarisation filter	–		✓	–
Housing material	Stainless steel V4A (1.4404, 316L)			
Optics material	Plastic, PMMA			
Tightening torque, max.	90 Nm			
Enclosure rating	IP67 IP68 ¹¹⁾ IP69K ¹²⁾			
Items supplied	Fastening nuts (2 x)			Fastening nuts (4 x)
EMC	EN 60947-5-2			
Test input	–			Sender OFF at “Test” 0 V
Ambient operating temperature ¹³⁾	–25 °C ... +55 °C			
Ambient storage temperature	–30 °C ... +75 °C			

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_v tolerances.

³⁾ Q = light switching; \bar{Q} = dark switching.

⁴⁾ At U_v > 24 V or ambient temperature > 49 °C, I_A max. = 50 mA.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ Do not bend below 0 °C.

⁸⁾ A = V_s connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

¹¹⁾ According to EN 60529 (10 m water depth / 24 h).

¹²⁾ According to ISO 20653:2013-03.



¹³⁾ At U_v ≤ 24V and I_A < 50mA.

Ordering information



Other models → www.sick.com/GR18_Inox

GRTB18(S) Inox

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Housing material:** Stainless steel
- **Type of light:** visible red light
- **Light spot size (distance):** Ø 7 mm (100 mm)
- **Switching mode:** Light/dark switching (Q = light switching; \bar{Q} = dark switching.)
- **Items supplied:** fastening nuts (2 x)

	Housing design	Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Output type	Adjustment	Connection	Connection diagram	Type	Part no.
		15 mm ... 100 mm	3 mm ... 100 mm	PinPoint LED	NPN	None	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18S-N1131V	1085820
					PNP	None	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18S-P1131V	1085747
		20 mm ... 150 mm	3 mm ... 300 mm	PinPoint LED	NPN	Potentiometer, 270°	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18S-N1112V	1085744
					PNP	Potentiometer, 270°	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18S-P1112V	1085819
	Short-body	15 mm ... 100 mm	3 mm ... 100 mm	PinPoint LED	NPN	None	Male connector M12, 4-pin	cd-084	GRTB18S-N2431V	1085748
					PNP	None	Male connector M12, 4-pin	cd-084	GRTB18S-P2431V	1085746
		20 mm ... 150 mm	3 mm ... 300 mm	PinPoint LED	NPN	Potentiometer, 270°	Male connector M12, 4-pin	cd-084	GRTB18S-N2412V	1085743
					PNP	Potentiometer, 270°	Male connector M12, 4-pin	cd-084	GRTB18S-P2412V	1085742



¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

	Housing design	Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Output type	Adjustment	Connection	Con- nection diagram	Type	Part no.
	Long-body	15 mm ... 100 mm	3 mm ... 100 mm	PinPoint LED	NPN	None	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18-N1131V	1085938
					PNP	None	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18-P1131V	1085937
		20 mm ... 150 mm	3 mm ... 300 mm	PinPoint LED	NPN	Potentiometer, 270°	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18-N1112V	1085936
					PNP	Potentiometer, 270°	Cable, 4-wire, 2 m, PVC	cd-094	GRTB18-P1112V	1085822
		15 mm ... 100 mm	3 mm ... 100 mm	PinPoint LED	NPN	None	Male connector M12, 4-pin	cd-084	GRTB18-N2431V	1085824
					PNP	None	Male connector M12, 4-pin	cd-084	GRTB18-P2431V	1085823
		20 mm ... 150 mm	3 mm ... 300 mm	PinPoint LED	NPN	Potentiometer, 270°	Male connector M12, 4-pin	cd-084	GRTB18-N2412V	1085750
					PNP	Potentiometer, 270°	Male connector M12, 4-pin	cd-084	GRTB18-P2412V	1085749



¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

GRTE18(S) Inox

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** energetic
- **Housing material:** Stainless steel
- **Type of light:** visible red light
- **Switching mode:** Light/dark switching (Q = light switching; \bar{Q} = dark switching.)
- **Adjustment:** Potentiometer, 270°
- **Items supplied:** fastening nuts (2 x)

	Housing design	Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Light spot size (distance)	Output type	Connection	Connection diagram	Type	Part no.
		5 mm ... 100 mm	3 mm ... 115 mm	PinPoint LED	Ø 8 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-N1112V	1085796
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-P1112V	1085678
		10 mm ... 400 mm	5 mm ... 550 mm	PinPoint LED	Ø 9 mm (400 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-N1142V	1085861
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-P1142V	1085818
		10 mm ... 800 mm	5 mm ... 1,000 mm	LED	Ø 45 mm (800 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-N1162V	1085862
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18S-P1162V	1085682
	Short-body	5 mm ... 100 mm	3 mm ... 115 mm	PinPoint LED	Ø 8 mm (100 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18S-N2412V	1085795
						PNP	Male connector M12, 4-pin	cd-084	GRTE18S-P2412V	1085676
		10 mm ... 400 mm	5 mm ... 550 mm	PinPoint LED	Ø 9 mm (400 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18S-N2442V	1085817
						PNP	Male connector M12, 4-pin	cd-084	GRTE18S-P2442V	1085679
		10 mm ... 800 mm	5 mm ... 1,000 mm	LED	Ø 45 mm (800 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18S-N2462V	1085681
						PNP	Male connector M12, 4-pin	cd-084	GRTE18S-P2462V	1085680




¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

	Housing design	Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Light spot size (distance)	Output type	Connection	Connection diagram	Type	Part no.
		5 mm ... 100 mm	3 mm ... 115 mm	PinPoint LED	Ø 8 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-N1112V	1085864
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-P1112V	1085686
		10 mm ... 400 mm	5 mm ... 550 mm	PinPoint LED	Ø 9 mm (400 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-N1142V	1085933
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-P1142V	1085689
		10 mm ... 800 mm	5 mm ... 1,000 mm	LED	Ø 45 mm (800 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-N1162V	1085935
						PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRTE18-P1162V	1085705
	Long-body	5 mm ... 100 mm	3 mm ... 115 mm	PinPoint LED	Ø 8 mm (100 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18-N2412V	1085821
						PNP	Male connector M12, 4-pin	cd-084	GRTE18-P2412V	1085683
		10 mm ... 400 mm	5 mm ... 550 mm	PinPoint LED	Ø 9 mm (400 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18-N2442V	1085932
						PNP	Male connector M12, 4-pin	cd-084	GRTE18-P2442V	1085688
		10 mm ... 800 mm	5 mm ... 1,000 mm	LED	Ø 45 mm (800 mm)	NPN	Male connector M12, 4-pin	cd-084	GRTE18-N2462V	1085934
						PNP	Male connector M12, 4-pin	cd-084	GRTE18-P2462V	1085704

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

GRL18(S) Inox

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Housing material:** Stainless steel
- **Type of light:** visible red light
- **Light spot size (distance):** Ø 175 mm (7 m)
- **Switching mode:** Light/dark switching (Q = light switching; \bar{Q} = dark switching.)
- **Adjustment:** none
- **Items supplied:** fastening nuts (2 x)

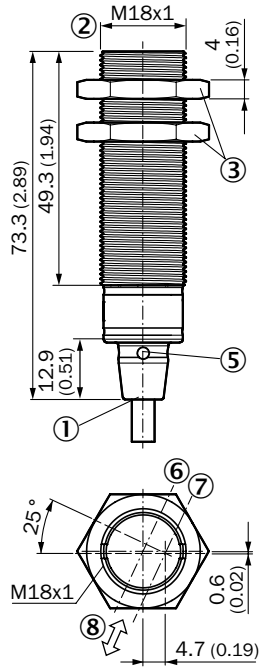
	Housing design	Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Output type	Connection	Connection diagram	Type	Part no.
	Short-body	0.06 m ... 6 m	0.03 m ... 7.2 m	PinPoint LED	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRL18S-N1131V	1085863
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRL18S-P1131V	1085707
	Short-body	0.06 m ... 6 m	0.03 m ... 7.2 m	PinPoint LED	NPN	Male connector M12, 4-pin	cd-084	GRL18S-N2431V	1085715
					PNP	Male connector M12, 4-pin	cd-084	GRL18S-P2431V	1085706
	Long-body	0.06 m ... 6 m	0.03 m ... 7.2 m	PinPoint LED	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GRL18-N1131V	1085965
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GRL18-P1131V	1085825
	Long-body	0.06 m ... 6 m	0.03 m ... 7.2 m	PinPoint LED	NPN	Male connector M12, 4-pin	cd-084	GRL18-N2431V	1085826
					PNP	Male connector M12, 4-pin	cd-084	GRL18-P2431V	1085716

¹⁾ Reflector PL80A.

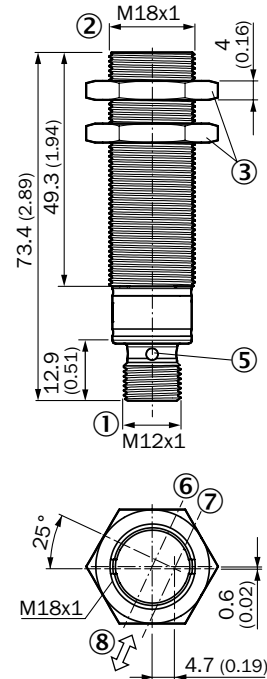
GRSE18(S) Inox

- **Sensor principle:** Through-beam photoelectric sensor
- **Housing material:** Stainless steel
- **Type of light:** Infrared light
- **Light spot size (distance):** Ø 420 mm (10 m)
- **Switching mode:** Light/dark switching (Q = light switching; \bar{Q} = dark switching.)
- **Adjustment:** none
- **Items supplied:** fastening nuts (4 x)

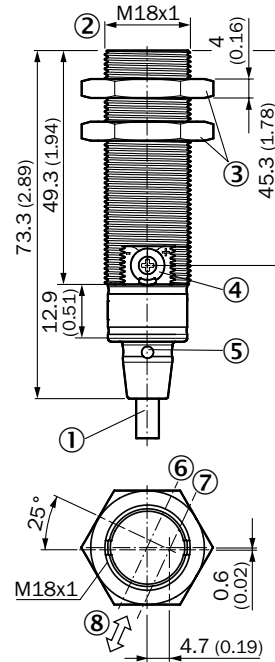
	Housing design	Sensing range	Sensing range max.	Light source	Output type	Connection	Connection diagram	Type	Part no.
 	Short-body	0 m ... 10 m	0 m ... 15 m	LED	NPN	Cable, 4-wire, 2 m, PVC	cd-088	GRSE18S-N1121V	1085783
					PNP	Cable, 4-wire, 2 m, PVC	cd-088	GRSE18S-P1121V	1085767
					NPN	Male connector M12, 4-pin	cd-072	GRSE18S-N2421V	1085766
					PNP	Male connector M12, 4-pin	cd-072	GRSE18S-P2421V	1085765
 	Long-body	0 m ... 10 m	0 m ... 15 m	LED	NPN	Cable, 4-wire, 2 m, PVC	cd-088	GRSE18-N1121V	1085939
					PNP	Cable, 4-wire, 2 m, PVC	cd-088	GRSE18-P1121V	1085785
					NPN	Male connector M12, 4-pin	cd-072	GRSE18-N2421V	1085787
					PNP	Male connector M12, 4-pin	cd-072	GRSE18-P2421V	1085784

Dimensional drawings (Dimensions in mm (inch))GRTB18 Inox, cable,
no adjustment possibility

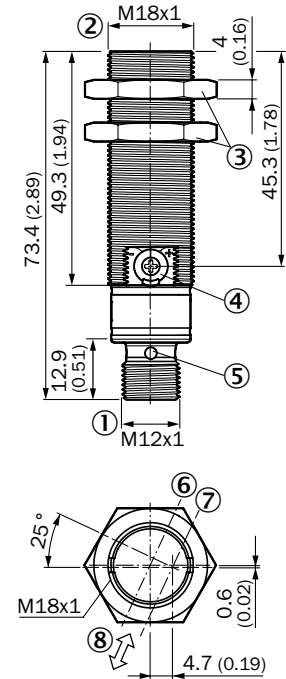
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18 Inox, connector,
no adjustment possibility

- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

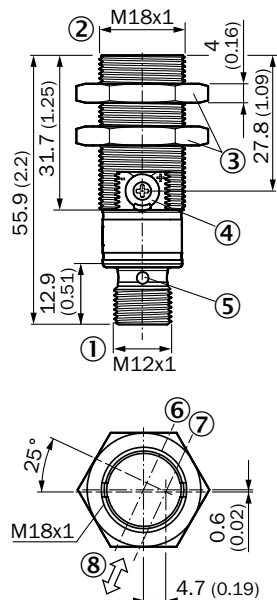
GRTB18 Inox, cable,
potentiometer, 270°

- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18 Inox, connector,
potentiometer, 270°

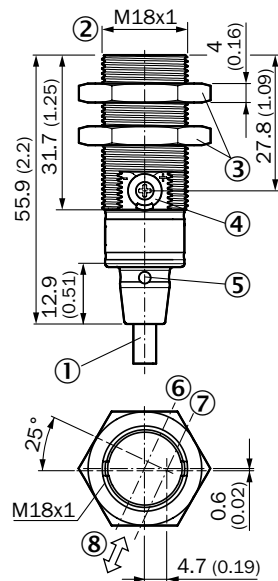
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18S Inox, connector, potentiometer, 270°



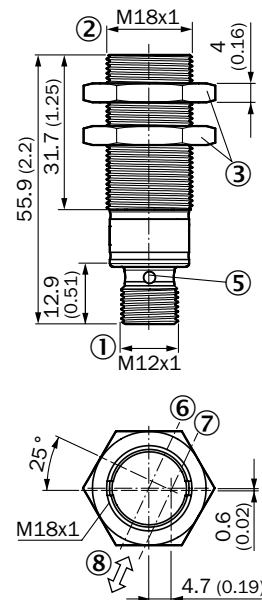
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18S Inox, cable, potentiometer, 270°



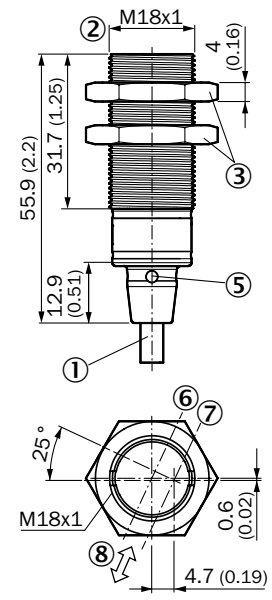
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18S Inox, connector, no adjustment possibility



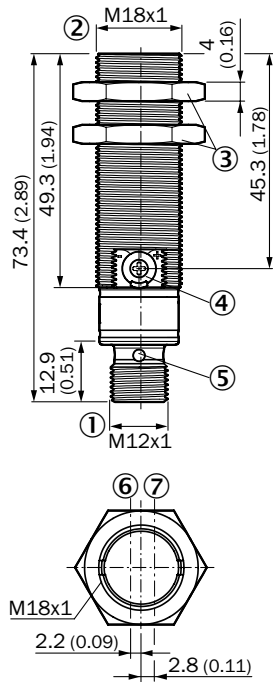
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTB18S Inox, cable, no adjustment possibility



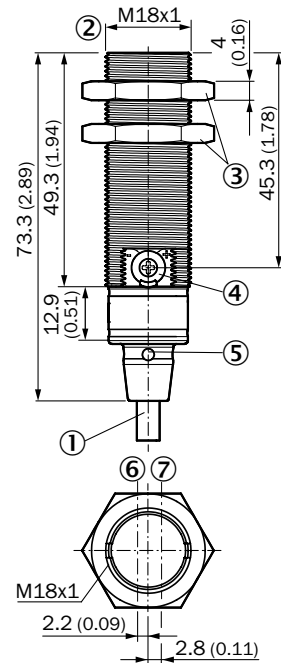
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender
- ⑧ Standard direction

GRTE18, GRL18, GRSE18
Inox, connector,
potentiometer, 270°



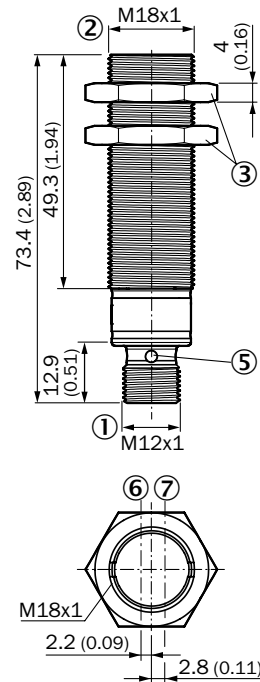
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18, GRL18, GRSE18
Inox, cable,
potentiometer, 270°



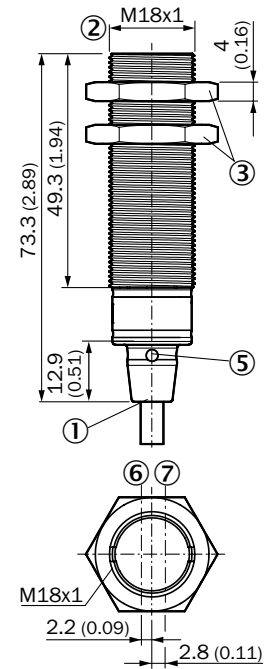
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18, GRL18, GRSE18
Inox, connector,
no adjustment possibility



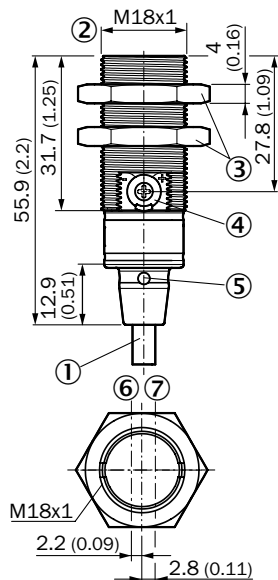
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18, GRL18, GRSE18
Inox, cable,
no adjustment possibility



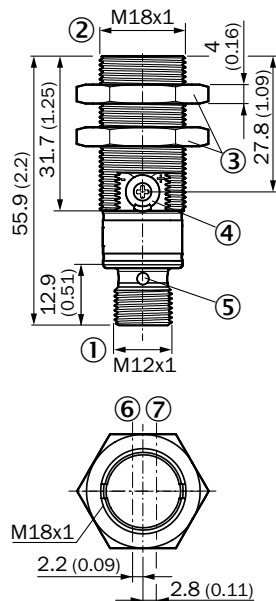
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x);
width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18S, GRL18S,
GRSE18S Inox, cable,
potentiometer, 270°



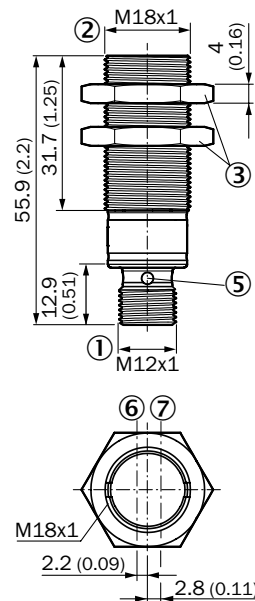
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18S, GRL18S,
GRSE18S Inox, connector
potentiometer, 270°



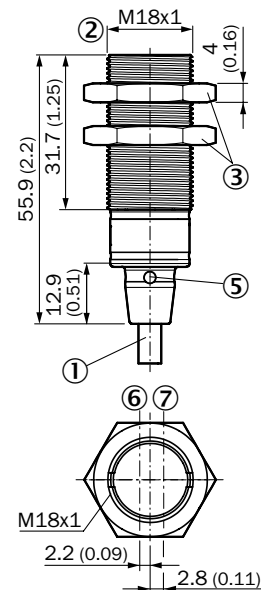
- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

GRTE18S, GRL18S,
GRSE18S Inox, connector,
no adjustment possibility



- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

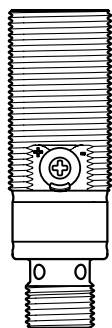
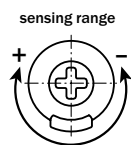
GRTE18S, GRL18S,
GRSE18S Inox, cable,
no adjustment possibility



- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ Fastening nuts (2 x); width across 24, stainless steel
- ⑤ LED indicator (4 x)
- ⑥ Optical axis receiver
- ⑦ Optical axis sender

Adjustments

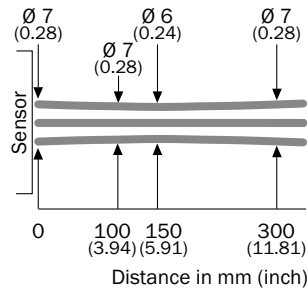
GRTB18(S) Inox, GRTE18(S)
Inox, Sensing range setting:
Potentiometer, 270°



Light spot diameter

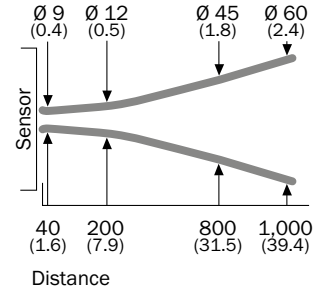
GRTB18(S) Inox

mm (inch)



GRTE18(S) Inox, 800 mm

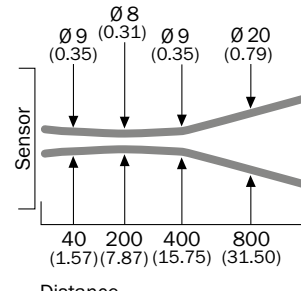
Diameter



Dimensions in mm (inch)

GRTE18(S) Inox, 400 mm

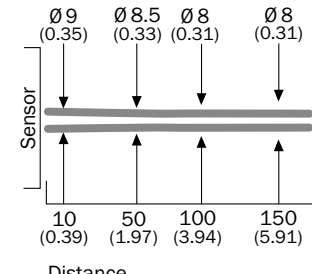
Diameter



Dimensions in mm (inch)

GRTE18(S) Inox, 100 mm

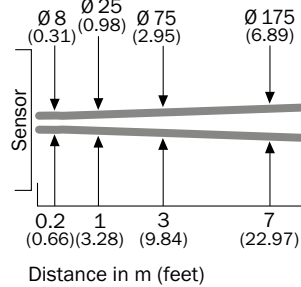
Diameter



Dimensions in mm (inch)

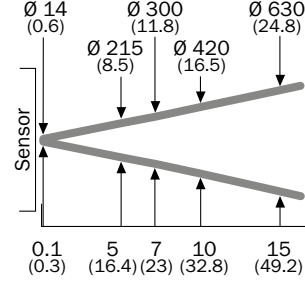
GRL18(S) Inox

Diameter in mm (inch)



GRSE18(S) Inox, infrared light

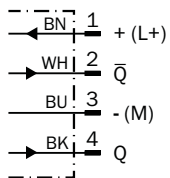
Diameter in mm (inch)



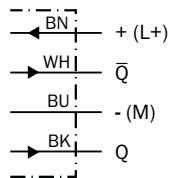
Distance in m (feet)

Connection diagram

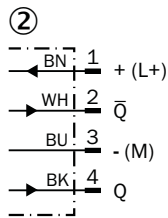
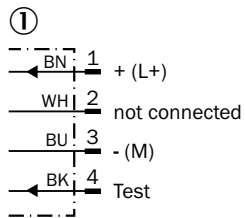
Cd-084



Cd-094

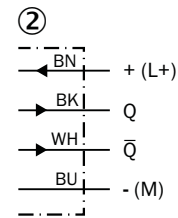
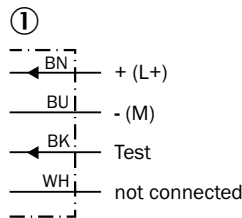


Cd-072



① Sender
② Receiver

Cd-088

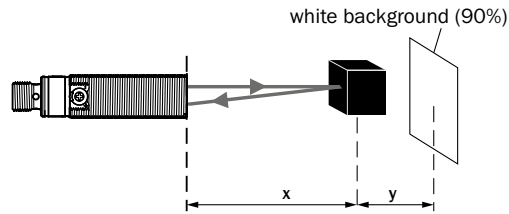
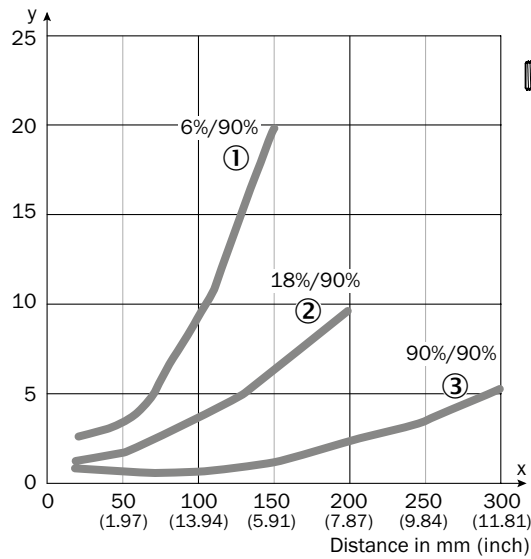


① Sender
② Receiver

Operating reserve

GRTB18(S) Inox, 150 mm

Minimum distance between set sensing range and background (white, 90%) in % of sensing range

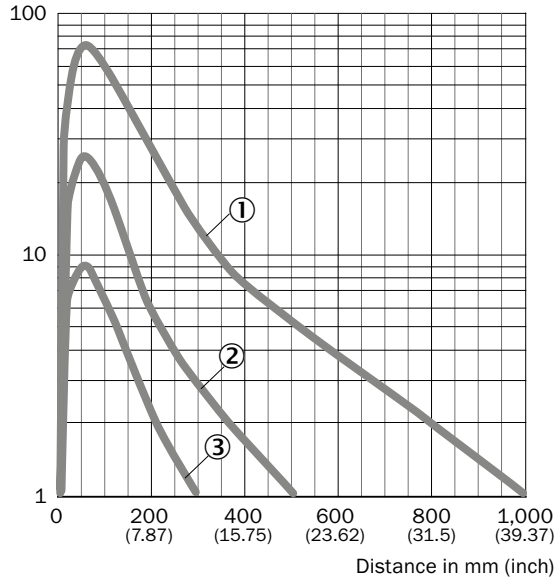


Example:
Sensing range on black, 6%
 $x = 100 \text{ mm}$, $y = (10\% \text{ of } 100 \text{ mm}) = 10 \text{ mm}$

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRTE18 (S) Inox, 800 mm

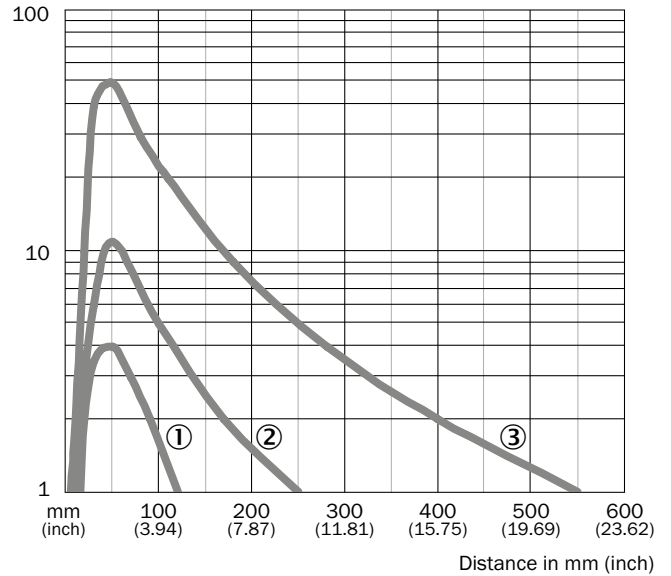
Operating reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRTE18(S) Inox, 400 mm

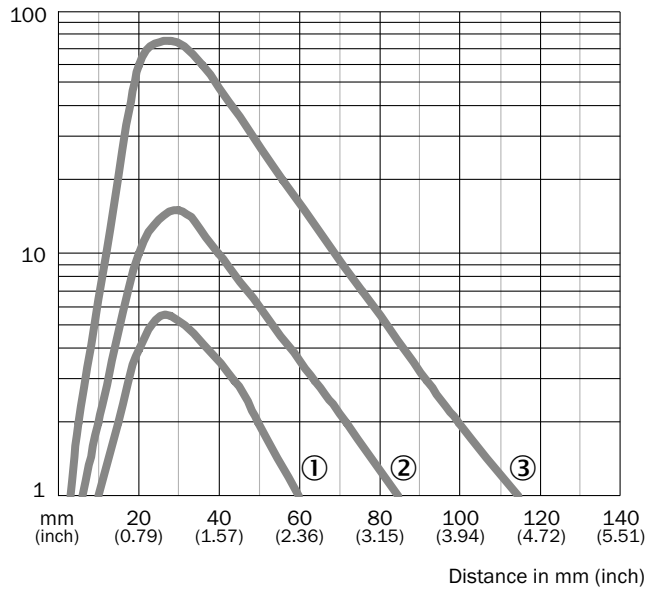
Operating reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRTE18(S) Inox, 100 mm

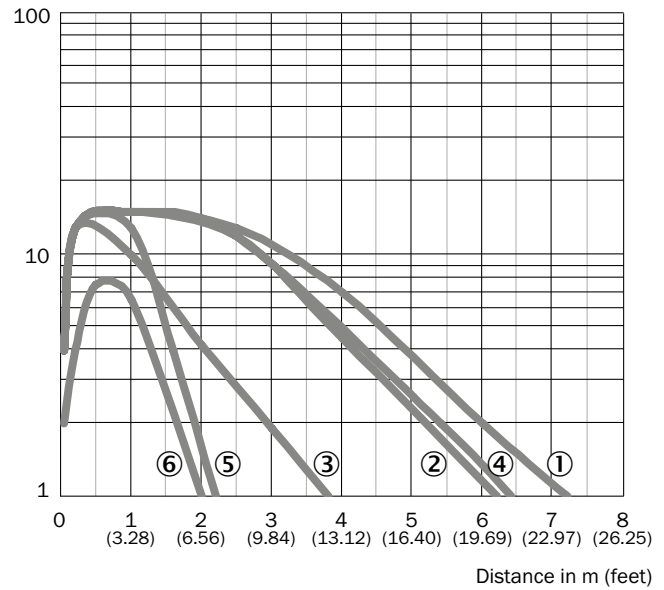
Operating reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRL18(S) Inox

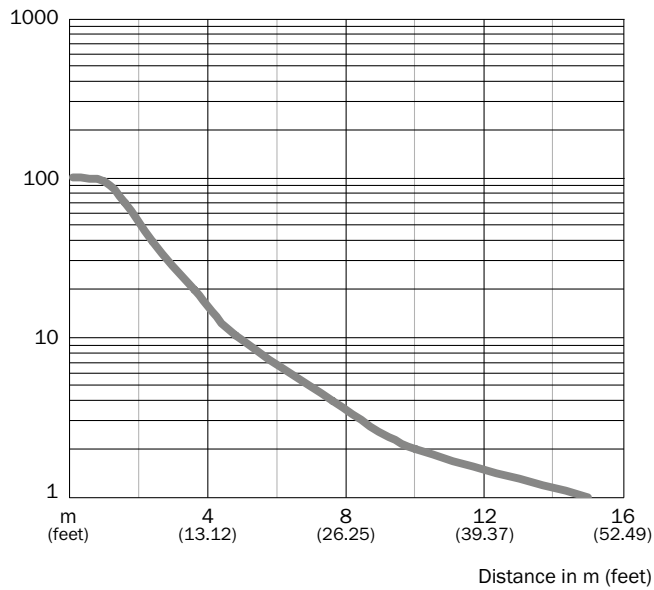
Operating reserve



- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ Reflector P250
- ⑤ Reflector PL22
- ⑥ Reflective tape REF-Plus 3436

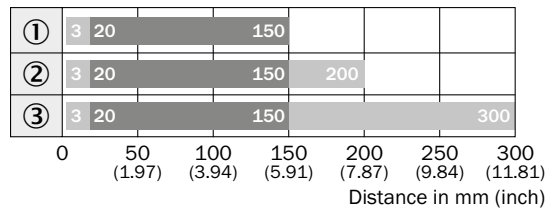
GRSE18(S) Inox

Operating reserve



Sensing range

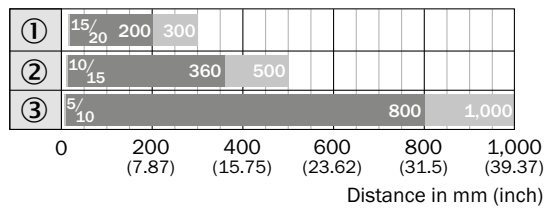
GRTB18(S) Inox, 150 mm



■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

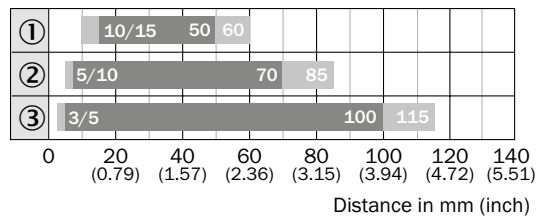
GRTE18 (S) Inox, 800 mm



■ Sensing range ■ Sensing range max. typ.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

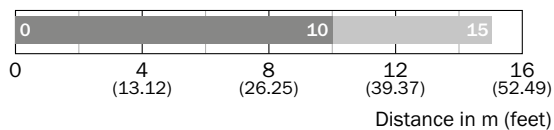
GRTE18(S) Inox, 100 mm



■ Sensing range ■ Sensing range max.

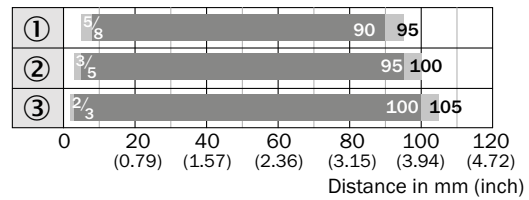
- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRSE18(S) Inox



■ Operating range ■ Sensing range typ. max.

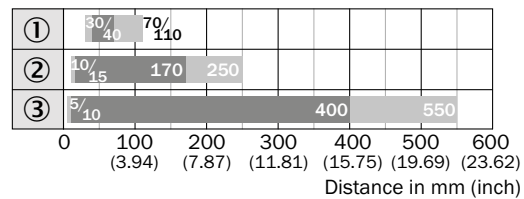
GRTB18(S) Inox, 100 mm



■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

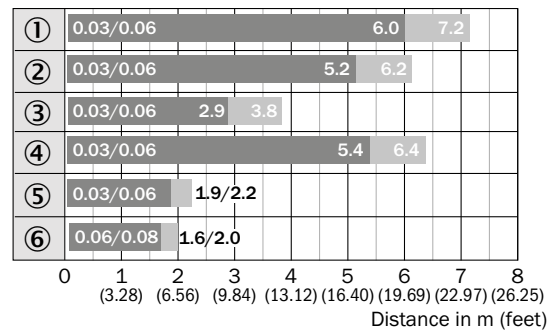
GRTE18(S) Inox, 400 mm



■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 20 % remission
- ③ Sensing range on white, 90% remission

GRL18(S) Inox



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ Reflector P250
- ⑤ Reflector PL22
- ⑥ Reflective tape REF-Plus 3436

SMALL, STRONG, RUGGED - THE IDEAL SENSOR FOR WASHDOWN APPLICATIONS



Product description

With its special sealing, the G6 Inox product family is particularly resistant to chemicals and washing detergents in washdown applications. The photoelectric sensors are available in different versions for different applications: With background suppression, as through-beam or photoelectric retro-reflective sensors. Complementary outputs enable

easy light/dark switching. The compact and rugged housing made of stainless steel 1.4404 (316L) also withstands heavy impacts; the reinforced and coated front screen is highly resistant to scratches. Mounting holes with M3 threads guarantee quick and simple mounting. The black background of the indicator LEDs ensure better visibility.

At a glance

- Housing made of stainless steel 1.4404 (316L), mounting holes with M3 thread
- Red light and infra-red LED versions
- Adjustable light/dark switching via cable connection
- Coated front screen for higher resistance to scratching
- IP69K enclosure rating
- Meets Ecolab tests requirements

Your benefits

- Detection of objects with variation in texture and color, with red and IR LED options
- IP69K enclosure rating, shock resistant stainless-steel housing suitable for Ecolab washing detergents
- Convenient light/dark switching via cable connection
- Easy mounting with M3 threaded mounting holes
- Superior optical performance and robustness using SICK ASIC
- Easy installation and adjustment with user friendly potentiometer and highly visible indicator LEDs



Additional information

Detailed technical data	27
Ordering information	29
Dimensional drawings	31
Light spot diameter	31
Connection diagram	32
Operating reserve	33
Sensing range	35

→ www.sick.com/G6_Inox

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

	GTB6 Inox	GTE6 Inox	GL6 Inox	GSE6 Inox
Sensor principle	Photoelectric proximity sensor		Photoelectric retro-reflective sensor	Through-beam photoelectric sensor
Detection principle	Background suppression	Energetic	Dual lens	–
Dimensions (W x H x D)	15 mm x 44 mm x 22 mm			
Housing design (light emission)	Rectangular			
Sensing range max.	5 mm ... 250 mm ¹⁾ 5 mm ... 400 mm ¹⁾ 5 mm ... 420 mm ¹⁾ (depending on type)	10 mm ... 300 mm ¹⁾ 30 mm ... 900 mm ¹⁾ (depending on type)	0.03 m ... 6 m ²⁾	0 m ... 15 m (depending on type)
Sensing range	35 mm ... 140 mm 50 mm ... 200 mm 50 mm ... 220 mm (depending on type)	15 mm ... 250 mm 40 mm ... 760 mm 45 mm ... 700 mm (depending on type)	0.07 m ... 5 m ²⁾	0 m ... 10 m
Type of light	Visible red light / Infrared light (depending on type)		Visible red light	Visible red light / Infrared light (depending on type)
Light source	PinPoint LED ³⁾ LED ³⁾ (depending on type)		PinPoint LED ³⁾	PinPoint LED ³⁾ LED ³⁾ (depending on type)
Light spot size (distance)				
Visible red light	Ø 6 mm (100 mm)		Ø 8 mm (350 mm)	Ø 310 mm (10 m)
Infrared light	Ø 8 mm (100 mm)		–	Ø 460 mm (10 m)
Wave length				
Visible red light	650 nm			
Infrared light	850 nm		–	850 nm
Adjustment	Mechanical spindle, 5 turns		Potentiometer, 270°	

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

²⁾ Reflector PL80A.

³⁾ Average service life: 100,000 h at T₀ = +25 °C.

Mechanics/electronics

	GTB6 Inox	GTE6 Inox	GL6 Inox	GSE6 Inox			
Supply voltage ¹⁾	10 V DC ... 30 V DC						
Ripple ²⁾	± 10 %						
Power consumption	≤ 30 mA ³⁾ ≤ 32 mA ³⁾ (depending on type)	≤ 30 mA ³⁾					
Output type	PNP NPN (depending on type)						
Output function	Complementary switching output						
Switching mode	Light/dark switching						
Signal voltage PNP HIGH/LOW	V _s - (≤ 3 V) / approx. 0 V						
Signal voltage NPN HIGH/LOW	Approx. V _s / ≤ 3 V						
Output current I _{max.} ⁴⁾	≤ 100 mA						
Response time ⁵⁾	< 1.25 ms		< 625 μs				
Switching frequency ⁶⁾	± 500 Hz		± 1,000 Hz				

	GTB6 Inox	GTE6 Inox	GL6 Inox	GSE6 Inox
Connection type	Cable with male connector, M12, 300 mm ⁷⁾ Male connector, M8 Cable, 2 m ⁷⁾ (depending on type)			Male connector, M8 Cable, 2 m ⁷⁾ (depending on type)
Circuit protection	A ⁸⁾ B ⁹⁾ D ¹⁰⁾			
Protection class	III			
Weight				
Cable with M12 male connector, 4-pin	70 g			–
Male connector M8, 4-pin	40 g			90 g
Cable, 4-wire	70 g			150 g
Polarisation filter	–		✓	–
Housing material	Stainless steel V4A (1.4404, 316L)			
Optics material	Plastic, PMMA			
Enclosure rating	IP67 IP68 ¹¹⁾ IP69K ¹²⁾			
Ambient operating temperature ¹³⁾	–25 °C ... +55 °C			
Ambient storage temperature	–30 °C ... +75 °C			

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U, tolerances.

³⁾ Without load.

⁴⁾ At U_v > 24 V, I_A max. = 50 mA.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ Do not bend below 0 °C.

⁸⁾ A = V_s connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

¹¹⁾ According to EN 60529 (10 m water depth / 24 h).

¹²⁾ According to ISO 20653:2013-03.

¹³⁾ Temperature stability following adjustment +/-10 °C.

Ordering information

Other models → www.sick.com/G6_Inox

GTB6 Inox

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Housing material:** Stainless steel
- **Switching mode:** Light/dark switching
- **Adjustment:** Mechanical spindle, 5 turns

Sensing range	Sensing range max. ¹⁾	Type of light	Light source	Light spot size (distance)	Output type	Connection	Con-nection diagram	Type	Part no.
35 mm ... 140 mm	5 mm ... 250 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	PNP	Cable with M12 male connector, 4-pin, 300 mm, PVC	cd-084	GTB6-F7411V	1084096
					NPN	Cable, 4-wire, 2 m, PVC	cd-094	GTB6-E2411V	1084090
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GTB6-F2411V	1084088
50 mm ... 220 mm	5 mm ... 400 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GTB6-E2431V	1084443
50 mm ... 200 mm	5 mm ... 420 mm	Infrared light	LED	Ø 8 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GTB6-E2421V	1084091
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GTB6-F2421V	1084089
35 mm ... 140 mm	5 mm ... 250 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	NPN	Connector M8, 4-pin	cd-084	GTB6-E4411V	1084094
					PNP	Connector M8, 4-pin	cd-084	GTB6-F4411V	1084092
50 mm ... 220 mm	5 mm ... 400 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	PNP	Connector M8, 4-pin	cd-084	GTB6-F4431V	1086172
50 mm ... 200 mm	5 mm ... 420 mm	Infrared light	LED	Ø 8 mm (100 mm)	PNP	Connector M8, 4-pin	cd-084	GTB6-F4421V	1084093

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

GTE6 Inox

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** energetic
- **Housing material:** Stainless steel
- **Switching mode:** Light/dark switching
- **Adjustment:** Mechanical spindle, 5 turns

Sensing range	Sensing range max. ¹⁾	Type of light	Light source	Light spot size (distance)	Output type	Connection	Con-nection diagram	Type	Part no.
15 mm ... 250 mm	10 mm ... 300 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	PNP	Cable with M12 male connector, 4-pin, 300 mm, PVC	cd-084	GTE6-F7411V	1084097
						Connector M8, 4-pin	cd-084	GTE6-F4411V	1084099
40 mm ... 760 mm	30 mm ... 900 mm	Visible red light	PinPoint LED	Ø 6 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GTE6-E2431V	1084447
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GTE6-F2431V	1086173
45 mm ... 700 mm	30 mm ... 900 mm	Infrared light	LED	Ø 8 mm (100 mm)	NPN	Cable, 4-wire, 2 m, PVC	cd-094	GTE6-E2421V	1084100
					PNP	Cable, 4-wire, 2 m, PVC	cd-094	GTE6-F2421V	1084098

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

GL6 Inox

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Housing material:** Stainless steel
- **Type of light:** visible red light
- **Light spot size (distance):** Ø 8 mm (350 mm)
- **Switching mode:** Light/dark switching
- **Adjustment:** Potentiometer, 270°

Sensing range ¹⁾	Sensing range max. ¹⁾	Light source	Output type	Connection	Connection diagram	Type	Part no.
0.07 m ... 5 m	0.03 m ... 6 m	PinPoint LED	PNP	Cable with M12 male connector, 4-pin, 300 mm, PVC	cd-084	GL6-F7411V	1084105
			NPN	Cable, 4-wire, 2 m, PVC	cd-094	GL6-E2411V	1084102
			PNP	Cable, 4-wire, 2 m, PVC	cd-094	GL6-F2411V	1084101
			NPN	Connector M8, 4-pin	cd-084	GL6-E4411V	1084104
			PNP	Connector M8, 4-pin	cd-084	GL6-F4411V	1084103

¹⁾ Reflector PL80A.

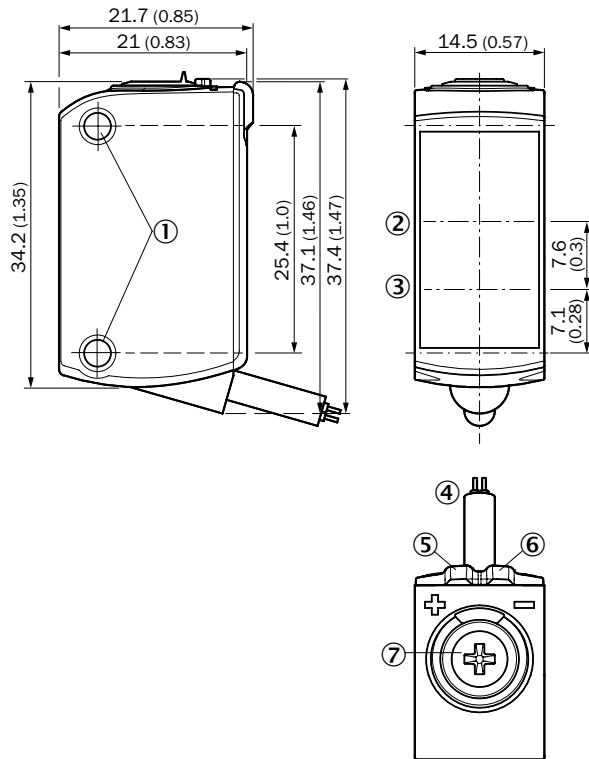
GSE6 Inox

- **Sensor principle:** Through-beam photoelectric sensor
- **Housing material:** Stainless steel
- **Switching mode:** Light/dark switching
- **Adjustment:** Potentiometer, 270°

Sensing range	Sensing range max.	Type of light	Light source	Light spot size (distance)	Output type	Connection	Connection diagram	Type	Part no.
0 m ... 10 m	0 m ... 15 m	Infrared light	LED	Ø 460 mm (10 m)	NPN	Cable, 4-wire, 2 m, PVC	cd-231	GSE6-E2421V	1084114
					PNP	Cable, 4-wire, 2 m, PVC	cd-231	GSE6-F2421V	1084113
	0 m ... 15 m	Visible red light	PinPoint LED	Ø 310 mm (10 m)	NPN	Cable, 4-wire, 2 m, PVC	cd-231	GSE6-E2411V	1084108
					PNP	Cable, 4-wire, 2 m, PVC	cd-231	GSE6-F2411V	1084106
	0 m ... 15s m	Infrared light	LED	Ø 460 mm (10 m)	NPN	Connector M8, 4-pin	cd-232	GSE6-E4421V	1084117
					PNP	Connector M8, 4-pin	cd-232	GSE6-F4421V	1084116
	0 m ... 15 m	Visible red light	PinPoint LED	Ø 310 mm (10 m)	NPN	Connector M8, 4-pin	cd-232	GSE6-E4411V	1084110
					PNP	Connector M8, 4-pin	cd-232	GSE6-F4411V	1084109

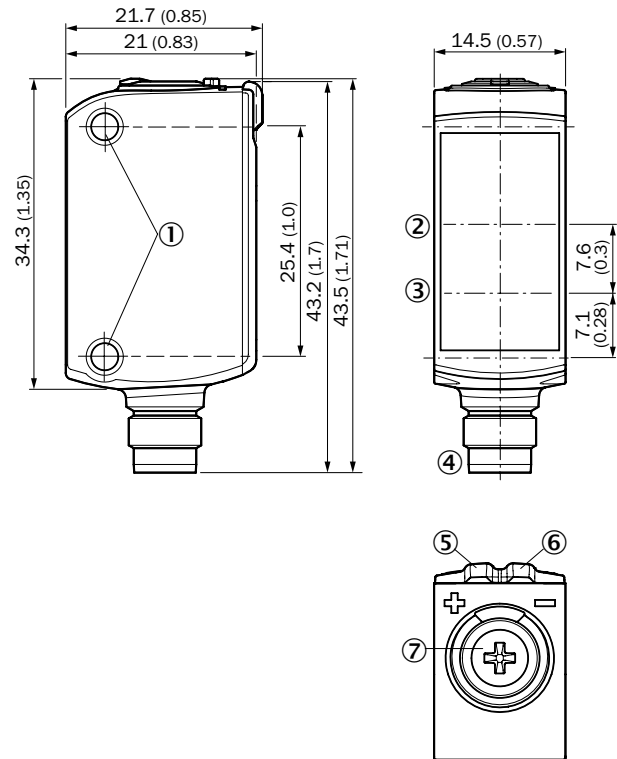
Dimensional drawings (Dimensions in mm (inch))

GTB6, GTE6, GL6, GSE6 Inox, cable (with male connector)



- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Potentiometer

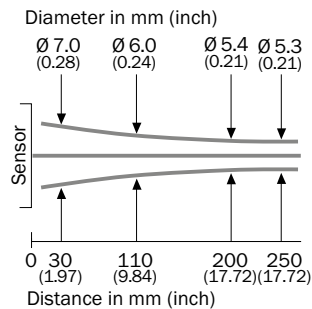
GTB6, GTE6, GL6, GSE6 Inox, male connector



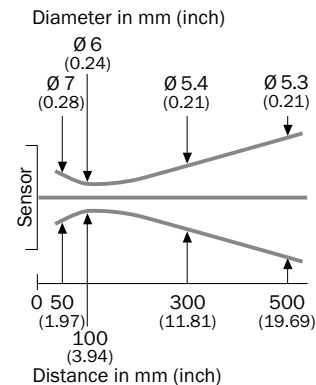
- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Potentiometer

Light spot diameter

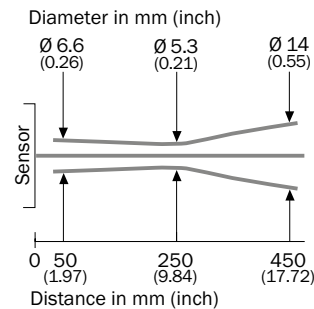
GTB6 Inox, visible red light, 140 mm



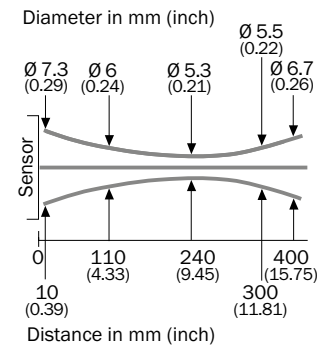
GTB6 Inox, infrared light, 200 mm



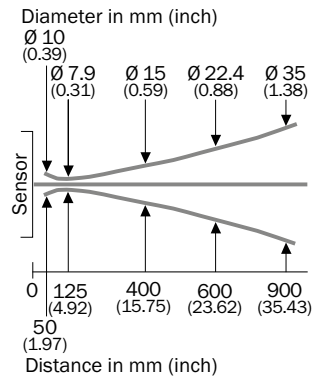
GTB6 Inox, visible red light, 220 mm



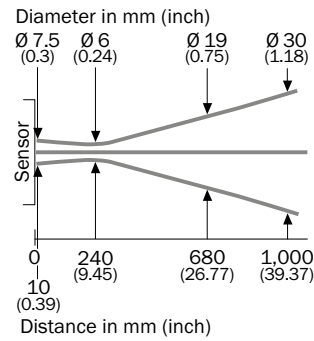
GTE6 Inox, visible red light, 250 mm



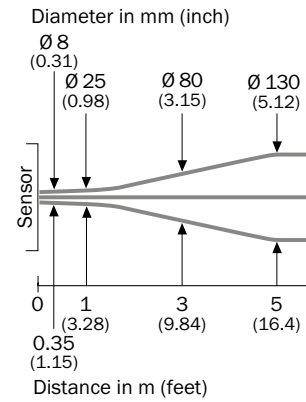
GTE6 Inox, infrared light,
700 mm



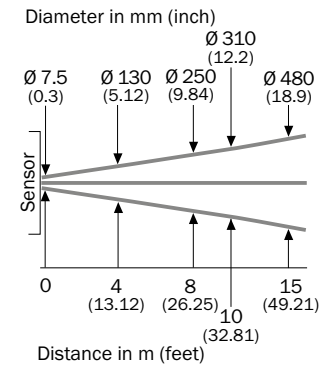
GTE6 Inox, visible red light,
760 mm



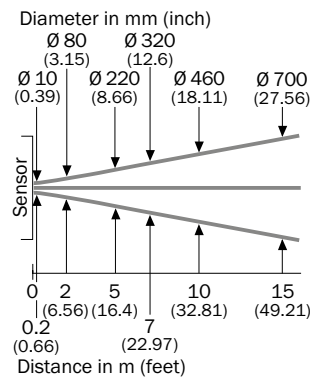
GL6 Inox, visible red light,
5 m



GSE6 Inox, visible red light,
10 m

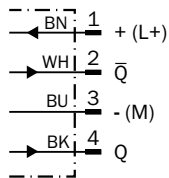


GSE6 Inox, infrared light,
10 m

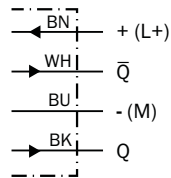


Connection diagram

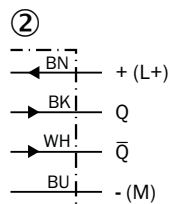
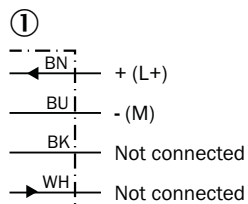
Cd-084



Cd-094

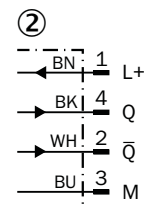
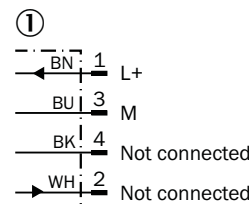


Cd-231



① Sender
② Receiver

Cd-232

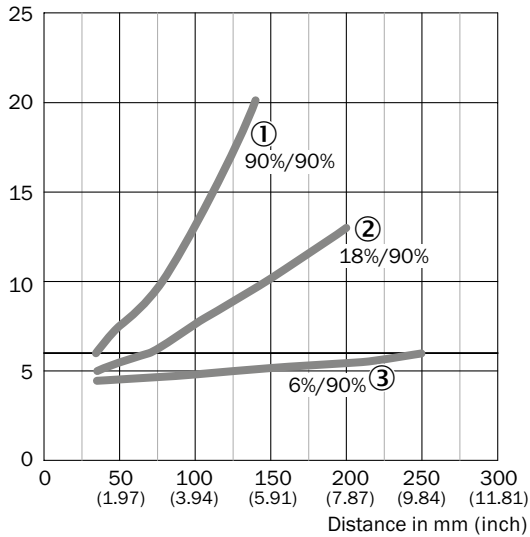


① Sender
② Receiver

Operating reserve

GTB6 Inox, visible red light, 140 mm

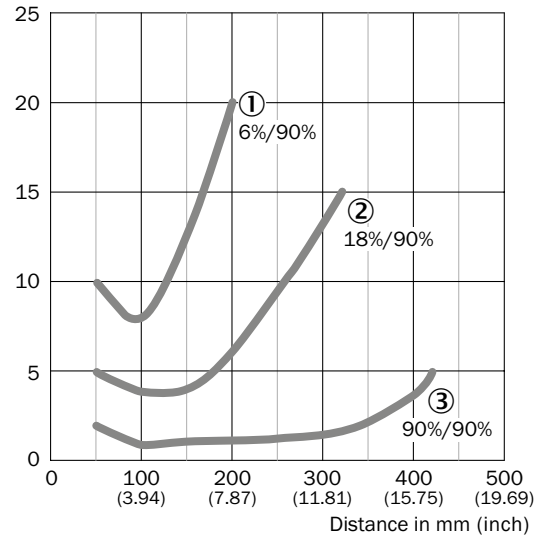
% of sensing range



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GTB6 Inox, infrared light, 200 mm

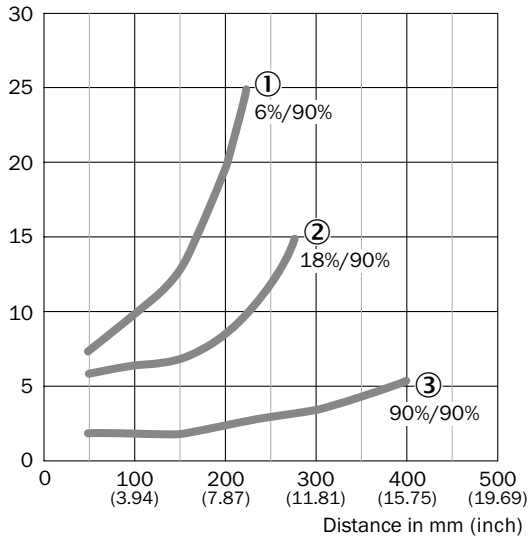
% of sensing range



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GTB6 Inox, visible red light, 220 mm

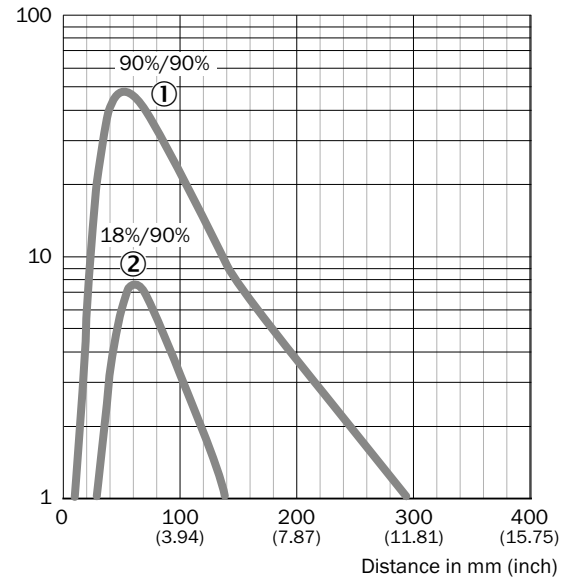
% of sensing range



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GTE6 Inox, visible red light, 250 mm

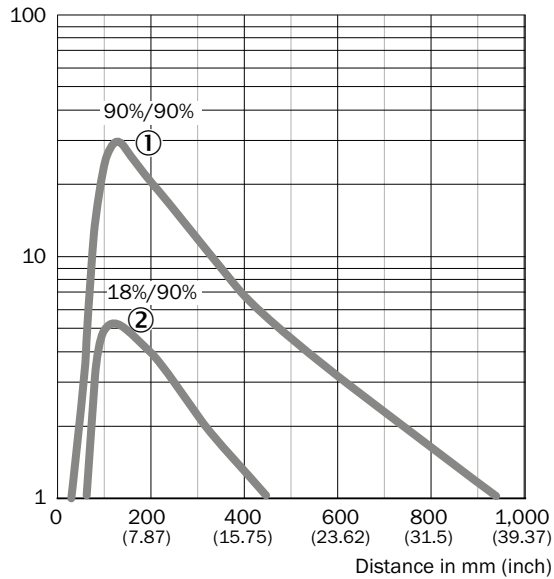
Function reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GTE6 Inox, infrared light, 700 nm

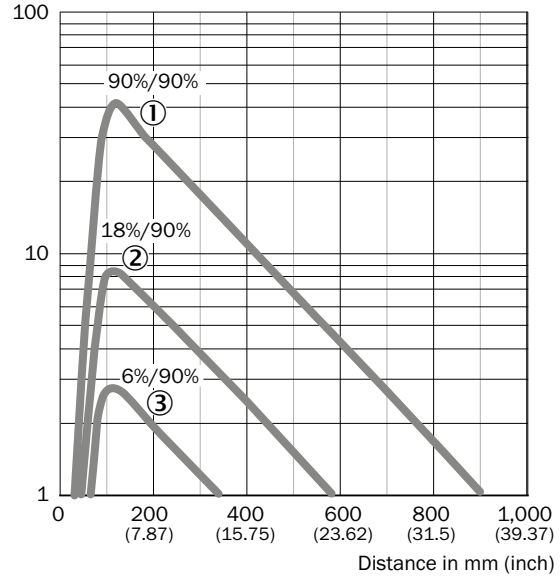
Function reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GTE6 Inox, visible red light, 760 nm

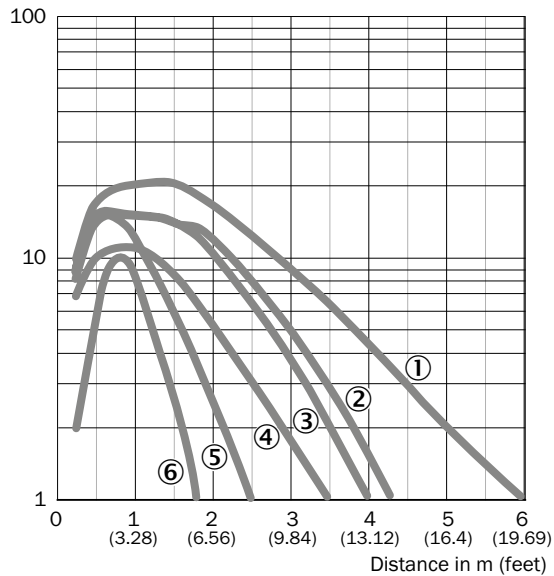
Function reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

GL6 Inox, visible red light, 5 m

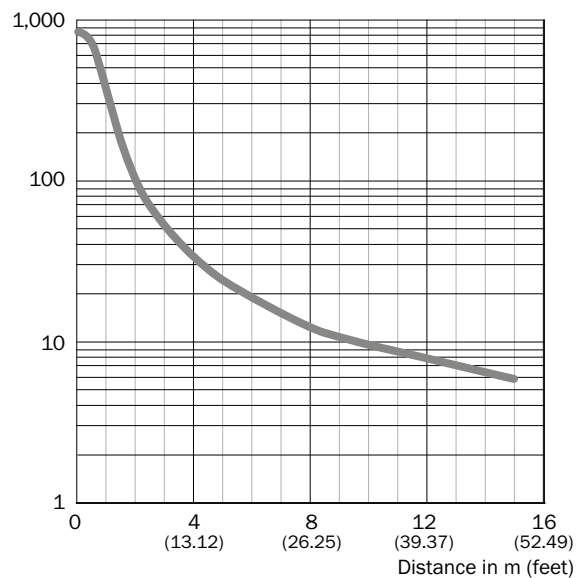
Function reserve



- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector P250
- ④ Reflector P250 CHEM
- ⑤ Reflector PL20A
- ⑥ Reflective tape REF-IRF-56

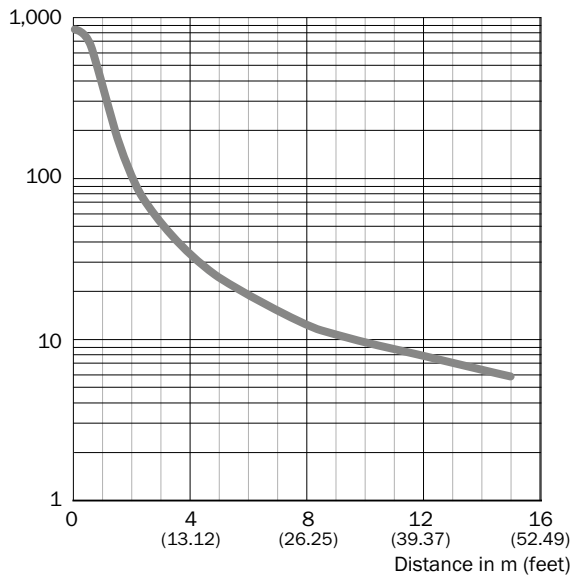
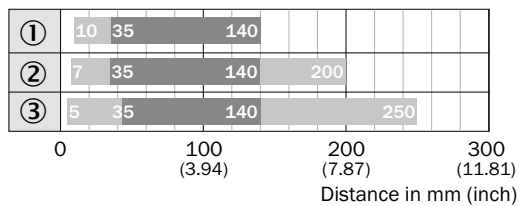
GSE6 Inox, visible red light, 10 m

Function reserve



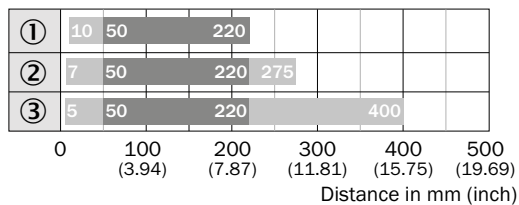
GSE6 Inox, infrared light, 10 m

Function reserve


Sensing range
GTB6 Inox, visible red light, 140 mm


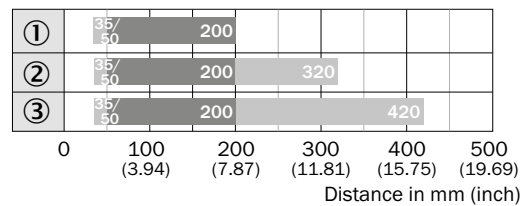
■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
- ③ Sensing range on white, 90% remission

GTB6 Inox, visible red light, 220 mm


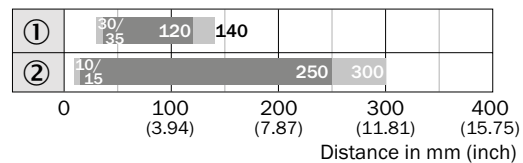
■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
- ③ Sensing range on white, 90% remission

GTB6 Inox, infrared light, 200 mm


■ Sensing range ■ Sensing range max.

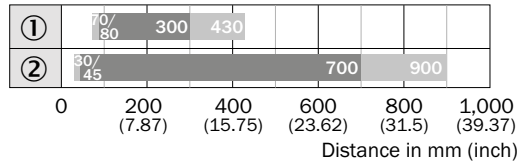
- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
- ③ Sensing range on white, 90% remission

GTE6 Inox, visible red light, 250 mm


■ Sensing range ■ Sensing range max.

- ① Sensing range on gray, 18% remission
- ② Sensing range on white, 90% remission

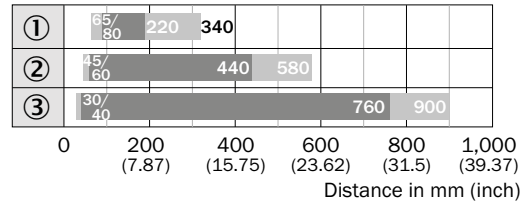
GTE6 Inox, infrared light, 700 mm



■ Sensing range ■ Sensing range max.

- ① Sensing range on gray, 18 % remission
- ② Sensing range on white, 90% remission

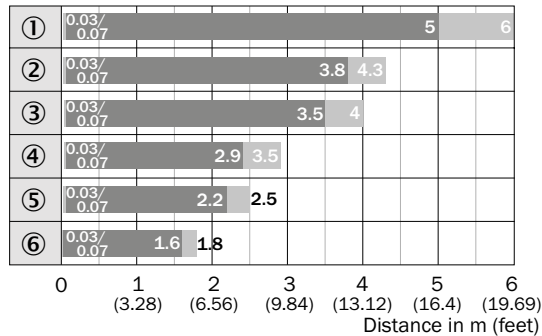
GTE6 Inox, visible red light, 760 mm



■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

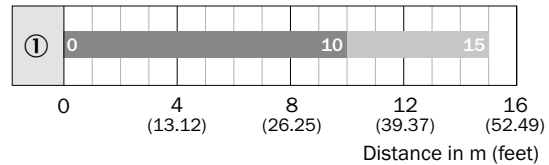
GL6 Inox, visible red light, 5 m



■ Sensing range ■ Sensing range max.

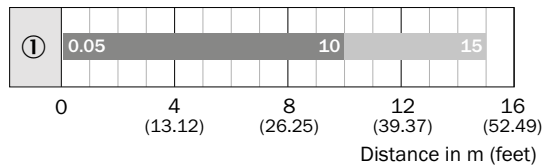
- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector P250
- ④ Reflector P250 CHEM
- ⑤ Reflector PL20A
- ⑥ Reflective tape REF-IRF-56

GSE6 Inox, visible red light, 10 m



■ Sensing range ■ Sensing range max.










GSE6 Inox, IR, 10 m



■ Sensing range ■ Sensing range max.

Accessories**Mounting systems**


Universal bar clamp systems

	Material	Description	Type	Part no.	GR18(S) Inox	G6 Inox
	Aluminum (clamp bar), stainless steel (bracket)	Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness	BEF-KHS-IS12G6	2086865	-	●
		Clamp bar to fix G6 sensors on rods of 10 mm, clamp-on design up to 4 mm wall thickness	BEF-KHS-ISG6	2075080	-	●
	Zinc diecast	Universal bar clamp for mounting bars with 12 mm diameter	BEF-KHS-KH3	5322626	-	●
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N02N for universal clamp bracket	BEF-KHS-N02N	2051618	-	●
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N06N for universal clamp bracket, M18	BEF-KHS-N06N	2051622	●	-
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N08N for universal clamp bracket	BEF-KHS-N08N	2051616	●	●
	Stainless steel (1.4571)	Mounting bar, straight, 200 mm, stainless steel	BEF-MS12G-NA	4058914	●	●
		Mounting bar, straight, 300 mm, stainless steel	BEF-MS12G-NB	4058915	●	●
	Stainless steel (1.4571)	Mounting bar, L-shaped, 150 mm x 150 mm, stainless steel	BEF-MS12L-NA	4058912	●	●
		Mounting bar, L-shaped, 250 mm x 250 mm, stainless steel	BEF-MS12L-NB	4058913	●	●
	Stainless steel (1.4571)	Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, stainless steel	BEF-MS12Z-NA	4058916	●	●
		Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, stainless steel	BEF-MS12Z-NB	4058917	●	●
	Aluminum	Bar clamp for bar diameter of 12 mm (fixing the mounting rod)	BEF-RMC-D12	5321878	●	●

Mounting systems






Device protection (mechanical)

Protective housings and protective pipes

	Material	Description	Type	Part no.	GR18(S) Inox	G6 Inox
	Stainless steel 1.4571	Safety bracket for floor mounting	BEF-SW-W4S	2051497	-	●


Mounting brackets and plates

Mounting brackets


	Material	Description	Type	Part no.	GR18(S) Inox	G6 Inox
	Stainless steel	Mounting bracket for wall mounting	BEF-W100-A	5311520	-	●
	Stainless steel 1.4571	Mounting bracket for wall mounting	BEF-W4-A	2051628	-	●
		Mounting bracket for floor mounting	BEF-W4-B	2051630	-	●
	Stainless steel	Mounting plate for M18 sensors	BEF-WG-M18N	5320948	●	-
	Stainless steel	Mounting bracket for M18 sensors	BEF-WN-M18N	5320947	●	-

Terminal and alignment brackets

Alignment brackets

	Material	Description	Type	Part no.	GR18 Inox	G6 Inox
	Plastic	Mounting bracket with ball-and-socket	BEF-WN-M18-ST02	5312973	●	-

Terminal brackets




	Material	Description	Type	Part no.	GR18 Inox	G6 Inox
	Stainless steel	Mounting ring	BEF-WN-MH15-2V	4053358	●	-

Connection systems

Plug connectors and cables



Connecting cables with female connector M12, 4-pin, PP, hygienic systems

- **Cable material:** PP
- **Connector material:** PP
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.

	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M12, 4-pin, straight, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-1204-G02MRN	6058291	●	●
			5 m, 4-wire, PP	DOL-1204-G05MRN	6058476	●	●
	Female connector, M12, 4-pin, angled with LED, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-1204-L02MRN	6058482	●	●
			5 m, 4-wire, PP	DOL-1204-L05MRN	6058483	●	●
	Female connector, M12, 4-pin, angled, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-1204-W02MRN	6058474	●	●
			5 m, 4-wire, PP	DOL-1204-W05MRN	6058477	●	●




Connecting cables with female connector M12, 4-pin, PVC, hygienic systems

- **Cable material:** PVC
- **Connector material:** PUR
- **Locking nut material:** stainless steel (V4A/1.4404)
- **Description:** This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., CYJV.E335179

	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M12, 4-pin, straight, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PVC	DOL-1204-G02MNI	6052613	●	●
			5 m, 4-wire, PVC	DOL-1204-G05MNI	6052615	●	●
	Female connector, M12, 4-pin, angled with LED, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PVC	DOL-1204-L02MNI	6052621	●	●
			5 m, 4-wire, PVC	DOL-1204-L05MNI	6052622	●	●
	Female connector, M12, 4-pin, angled, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PVC	DOL-1204-W02MNI	6052614	●	●
			5 m, 4-wire, PVC	DOL-1204-W05MNI	6052616	●	●

Connecting cables with female connector M8, 4-pin, PP, hygienic systems

- **Cable material:** PP
- **Connector material:** PP
- **Locking nut material:** stainless steel (V4A/1.4404/316L)
- **Description:** This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.

	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M8, 4-pin, straight, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-0804-G02MRN	6058510	-	●
			5 m, 4-wire, PP	DOL-0804-G05MRN	6058511	-	●
	Female connector, M8, 4-pin, straight with LED, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-0804-L02MRN	6058790	-	●
			5 m, 4-wire, PP	DOL-0804-L05MRN	6058791	-	●
	Female connector, M8, 4-pin, angled, unshielded	Open cable ends, Flying leads	2 m, 4-wire, PP	DOL-0804-W02MRN	6058514	-	●
			5 m, 4-wire, PP	DOL-0804-W05MRN	6058515	-	●

Connecting cables with female connector M8, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Locking nut material:** zinc die-cast, nickel-plated




Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M8, 4-pin, straight, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YF8U14-020UA3XLEAX	2094791	-	●
			5 m, 4-wire, unshielded	YF8U14-050UA3XLEAX	2094792	-	●
			5 m, 4-wire, shielded	YF8U24-050UA4XLEAX	2096200	-	●
	Female connector, M8, 4-pin, angled, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YG8U14-020UA3XLEAX	2095589	-	●
			5 m, 4-wire, unshielded	YG8U14-050UA3XLEAX	2095590	-	●
	Female connector, M8, 4-pin, angled, LED unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YI8U14-020UA3XLEAX	2095596	-	●
			5 m, 4-wire, unshielded	YI8U14-050UA3XLEAX	2095597	-	●

Illustration may differ

Connecting cables with female connector M8, 4-pin, PVC, chemical resistant

- **Cable material:** PVC
- **Connector material:** TPU
- **Locking nut material:** zinc die-cast, nickel-plated






Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M8, 4-pin, straight, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YF8U14-020VA3XLEAX	2095888	-	●
			5 m, 4-wire, unshielded	YF8U14-050VA3XLEAX	2095889	-	●

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M8, 4-pin, angled, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YG8U14-020VA3XLEAX	2095962	-	●
			5 m, 4-wire, unshielded	YG8U14-050VA3XLEAX	2095963	-	●




Connecting cables with female connector M12, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free
- **Connector material:** TPU
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M12, 4-pin, straight, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YF2A14-020UB3XLEAX	2095607	●	●
			5 m, 4-wire, unshielded	YF2A14-050UB3XLEAX	2095608	●	●
			5 m, 4-wire, shielded	YF2A24-050UB4XLEAX	2095729	●	●
	Female connector, M12, 4-pin, angled, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YG2A14-020UB3XLEAX	2095766	●	●
			5 m, 4-wire, unshielded	YG2A14-050UB3XLEAX	2095767	●	●
	Female connector, M12, 4-pin, angled with LED, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YI2A14-020UB3XLEAX	2095836	●	●
			5 m, 4-wire, unshielded	YI2A14-050UB3XLEAX	2095837	●	●

Connecting cables with female connector M12, 4-pin, PVC, chemical resistant








- **Cable material:** PVC
- **Connector material:** TPU
- **Locking nut material:** zinc die-cast, nickel-plated

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	GR18(S) Inox	G6 Inox
	Female connector, M12, 4-pin, straight, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YF2A14-020VB3XLEAX	2096234	●	●
			5 m, 4-wire, unshielded	YF2A14-050VB3XLEAX	2096235	●	●
			5 m, 4-wire, shielded	YF2A24-050VB4XLEAX	2096247	●	●
	Female connector, M12, 4-pin, angled, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YG2A14-020VB3XLEAX	2095895	●	●
			5 m, 4-wire, unshielded	YG2A14-050VB3XLEAX	2095897	●	●
			5 m, 4-wire, shielded	YG2A24-050VB4XLEAX	2096221	●	●
	Female connector, M12, 4-pin, angled with LED, unshielded	Cable, Flying leads	2 m, 4-wire, unshielded	YI2A14-020VB3XLEAX	2096222	●	●
			5 m, 4-wire, unshielded	YI2A14-050VB3XLEAX	2096223	●	●





Reflectors and optics

Reflectors


Angular

	Material	Description	Dimensions	Type	Part no.	GR18(S) Inox	G6 Inox
	PMMA/ABS	Rectangular, screw connection	21 mm x 37 mm	P22	5322051	●	●
			47 mm x 47 mm	P250	5304812	●	●
			38 mm x 15 mm	PL20A	1012719	●	●
			56 mm x 28 mm	PL30A	1002314	●	●
			37 mm x 56 mm	PL40A	1012720	●	●
			80 mm x 80 mm	PL80A	1003865	●	●
		Rectangular, screw connection, anti-fog reflector	84 mm x 9.1 mm x 84 mm	PL80A-AF	5334483	●	●




Fine triple reflectors

	Material	Description	Dimensions	Type	Part no.	GR18(S) Inox	G6 Inox
	PMMA/ABS	Fine triple reflector, screw connection, suitable for laser sensors	18 mm x 18 mm	PL10F	5311210	●	●
		Fine triple, planar, suitable for laser sensors	45 mm x 17 mm	PL15F	5313849	●	●
		Fine triple reflector, screw connection, suitable for laser sensors	38 mm x 16 mm	PL20F	5308844	●	●
			56 mm x 28 mm	PL30F	5326523	●	●

Reflective tape

	Description	Dimensions	Type	Part no.	GR18(S) Inox	G6 Inox
	Self-adhesive	50 mm x 60 mm	REF-IRF-56	5314244	●	●

Round

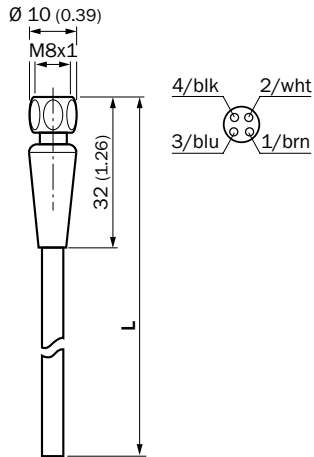
	Material	Description	Diameter	Type	Part no.	GR18(S) Inox	G6 Inox
	PMMA/ABS	Round, screw connection	80 mm	C110A	5304549	●	●
		Round, self-adhesive	22 mm	PL22-2	1003621	●	●
	Anodised Aluminium / borosilicate glass	High-temperature reflector, glass, screw connection	50 mm	SW50	1000131	●	●

Special reflectors

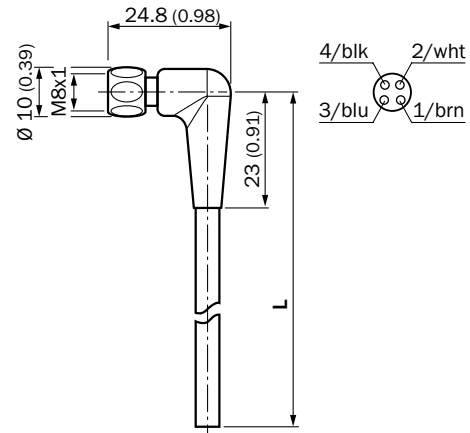
	Material	Description	Dimensions	Type	Part no.	GR18(S) Inox	G6 Inox
	Plastic	Chemically resistant, screw connection	47 mm x 47 mm	P250 CHEM	5321097	●	●
		Fine triple reflector, chemically resistant, screw connection	18 mm x 18 mm	PL10F CHEM	5321636	●	●
			20 mm x 32 mm	PL10FB-CHEM	5327722	●	●
		Chemically resistant, screw connection	38 mm x 15 mm	PL20 CHEM	5321089	●	●
		Chemically resistant, screw connection, suitable for laser sensors	16 mm x 38 mm	PL20F-CHEM	5326089	●	●
	PMMA/ABS	Anti-fog to prevent moisture condensation on the reflective surface, screw connection	56 mm x 37 mm	PL40A Antifog	5322011	●	●
	Plastic	Rectangular, M3 screw connection, countersunk screw head, chemically resistant	56 mm x 37 mm	PL40B-CHEM	5326088	●	●
	Stainless steel V4A (1.4404, 316L)	Stainless steel reflector, hygienic design, chemically resistant, enclosure rating IP69K, D12 adapter shaft	25 mm x 25 mm	PLH25-D12	2063404	●	●
		Stainless steel reflector, hygienic design, chemically resistant, enclosure rating IP69K, M12-adaptor thread	25 mm x 25 mm	PLH25-M12	2063403	●	●
		Stainless steel reflector, washdown design, chemically resistant, IP 69K enclosure rating, screw connection	14 mm x 14 mm	PLV14-A	2063405	●	●

Dimensional drawings Connection systems

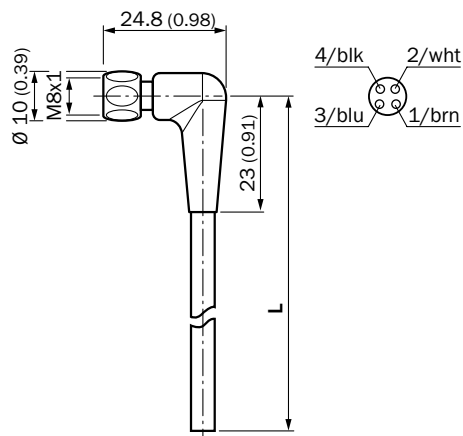
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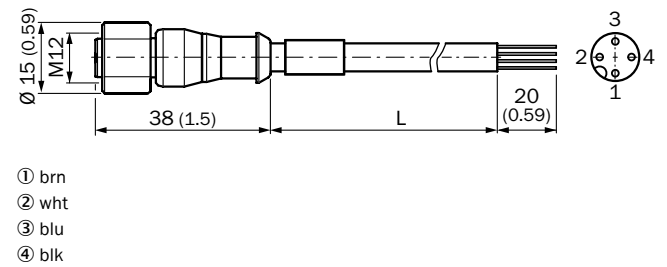
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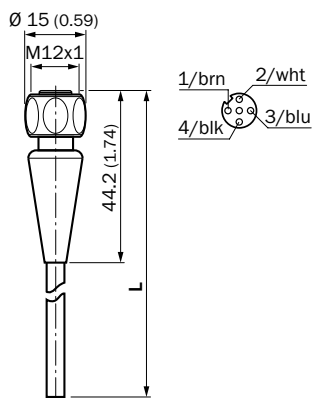
DOL-0804-LxxMRN, DOL-0804-WxxMRN



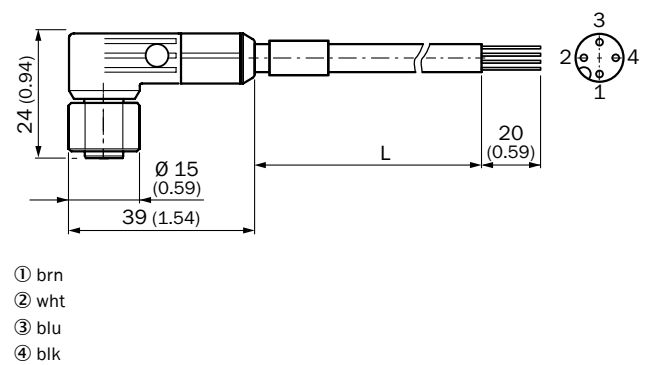
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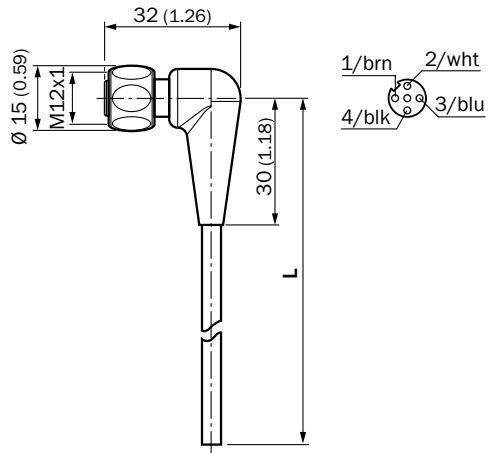
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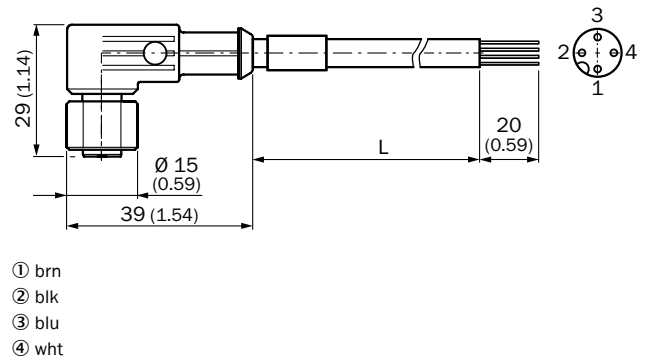
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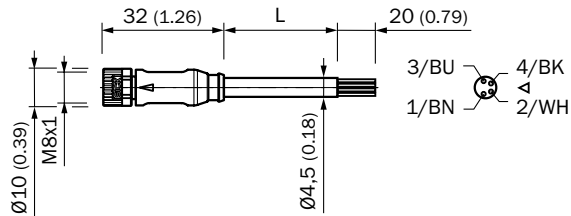
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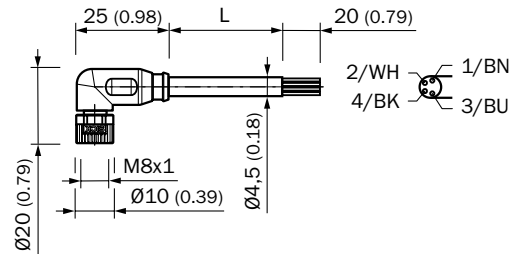
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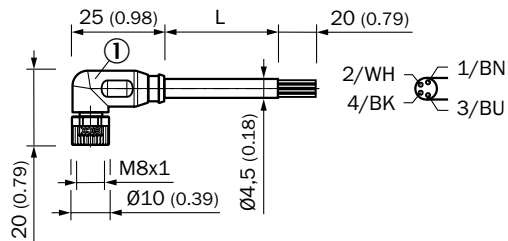
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YG8U14-xxxUA3XLEAX, PUR

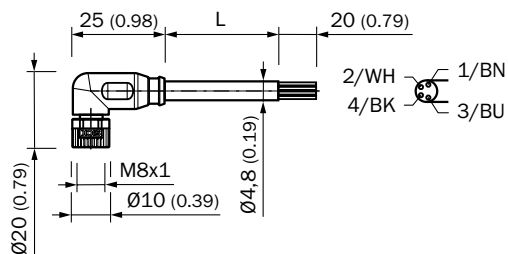


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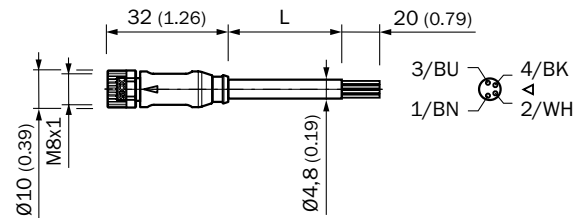


① LED

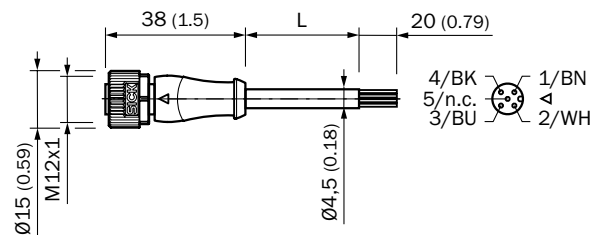
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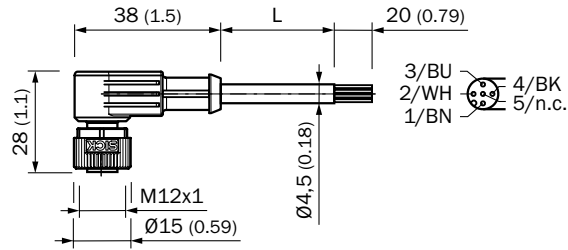
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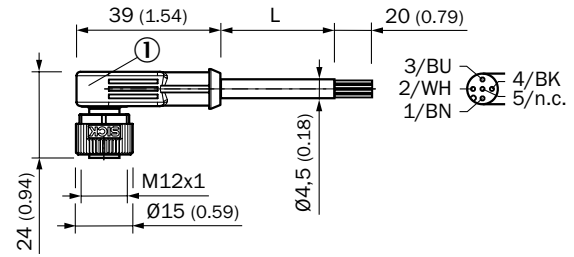
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YG2A14-xxxUB3XLEAX, PUR

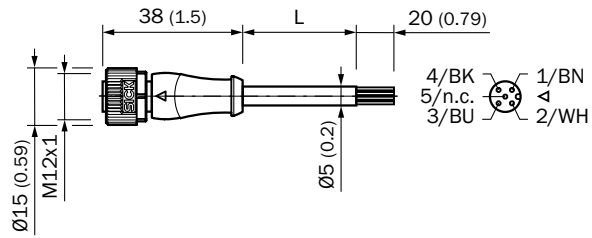


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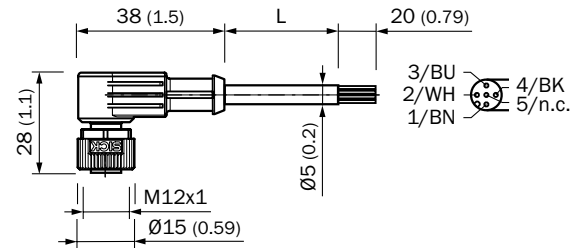


① LED

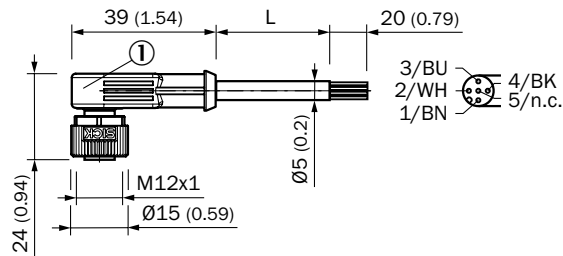
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YG2A14-xxxVB3XLEAX, PVC, YG2A24-xxxVB4XLEAX, PVC



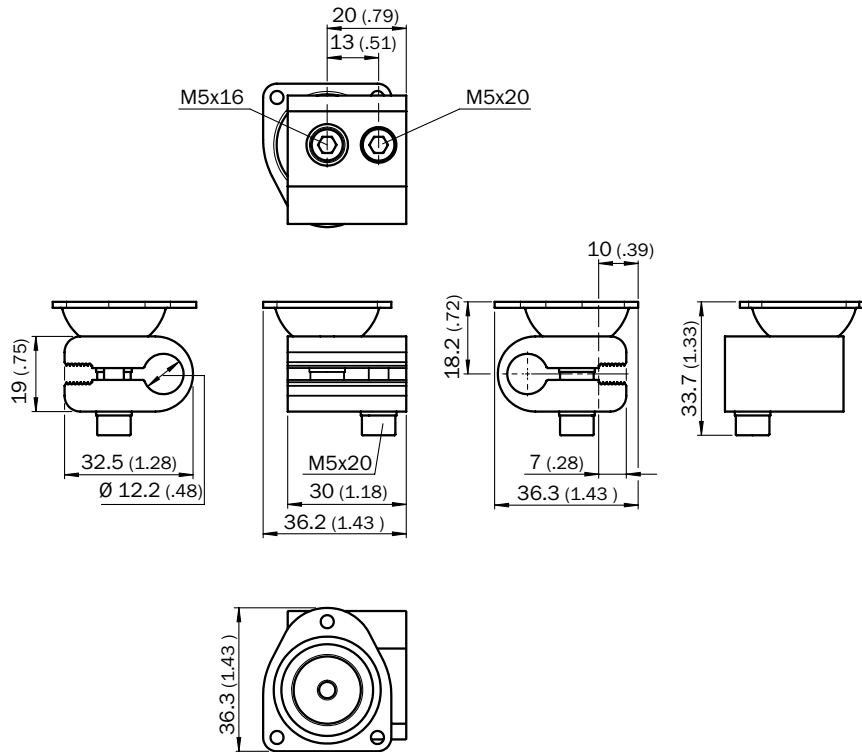
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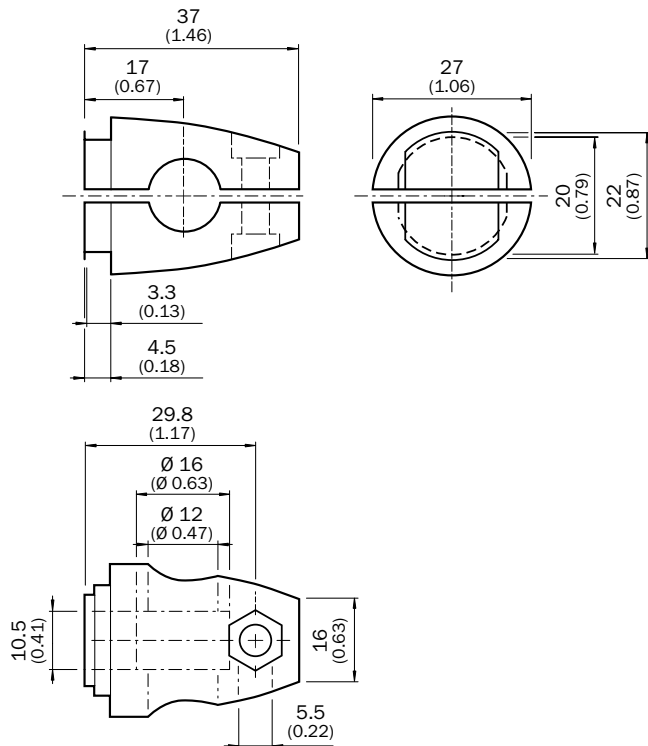
① LED

Dimensional drawings Mounting systems

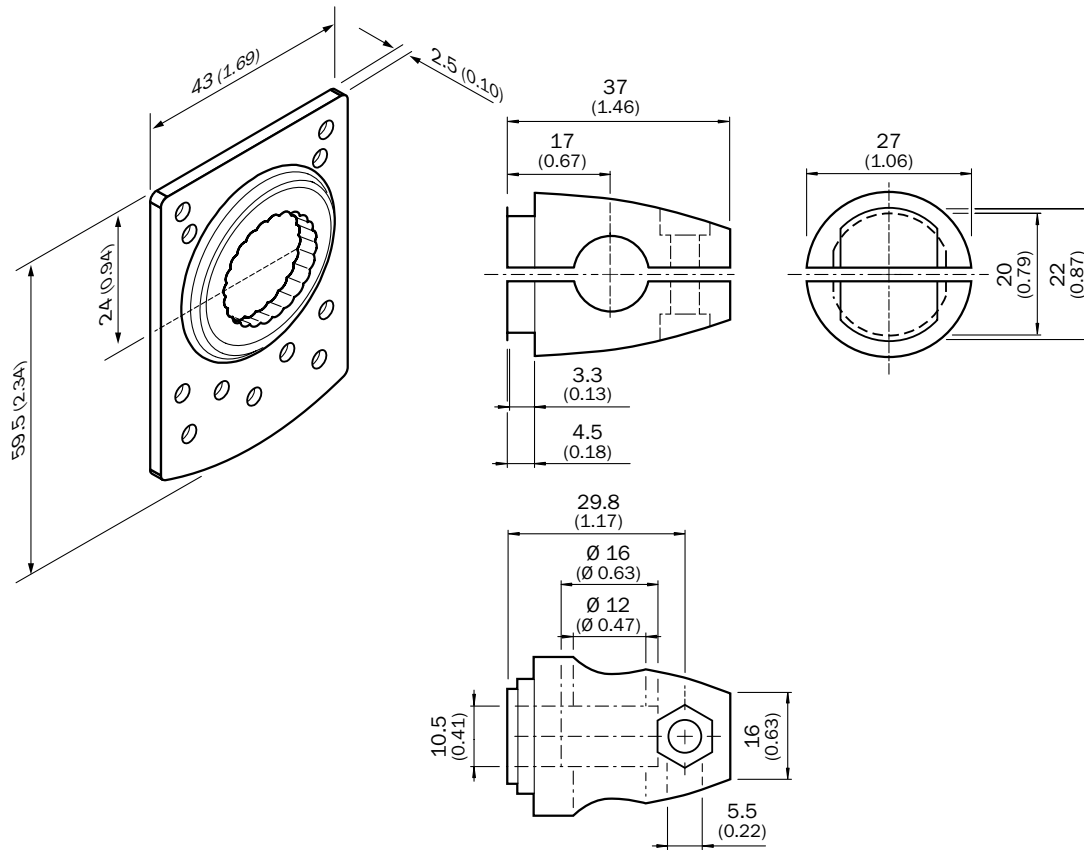
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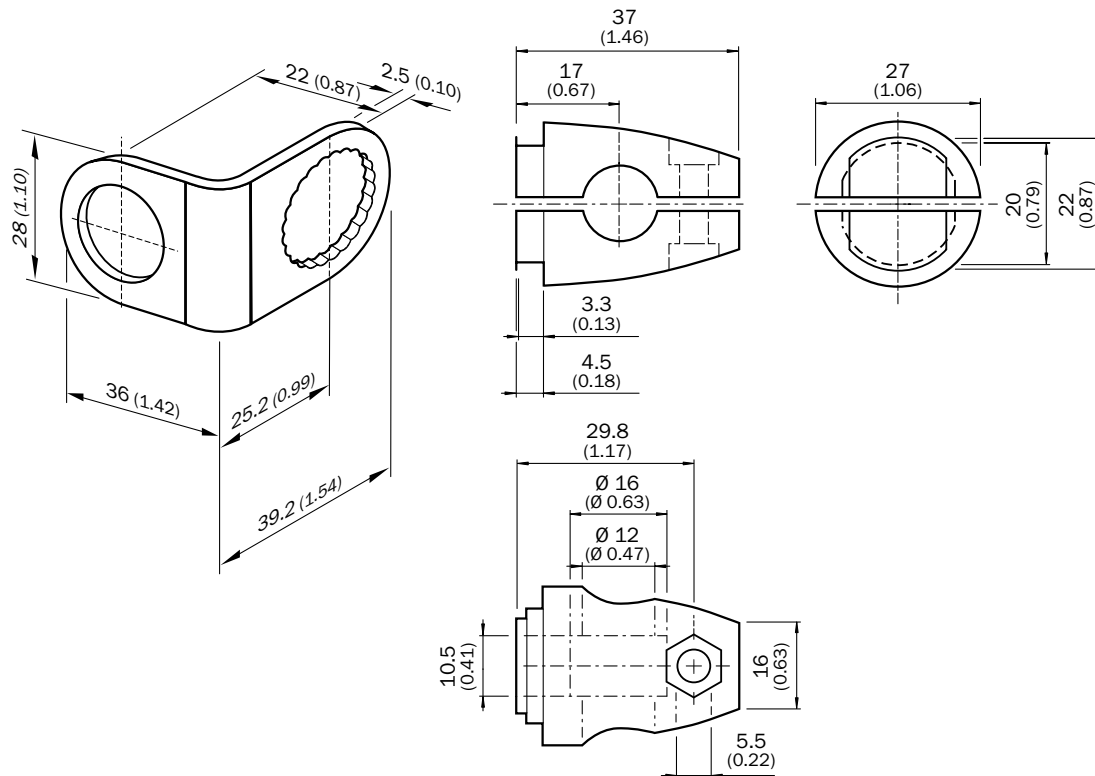
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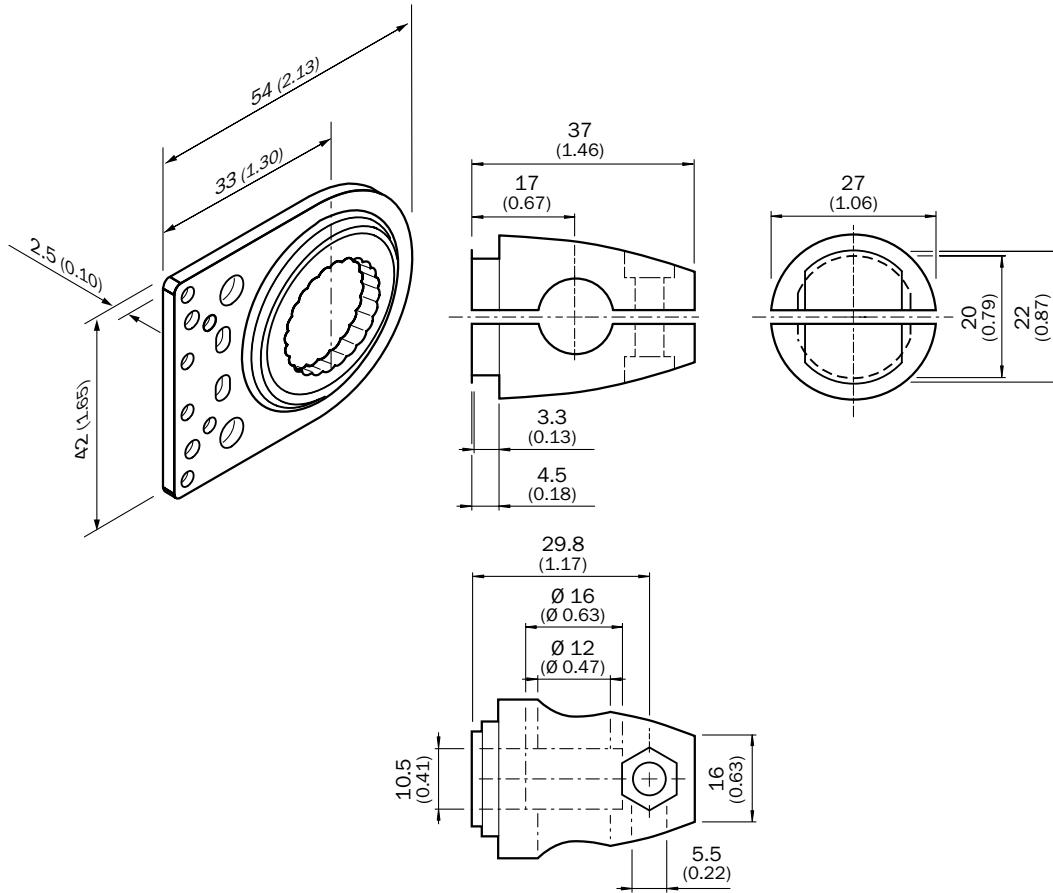
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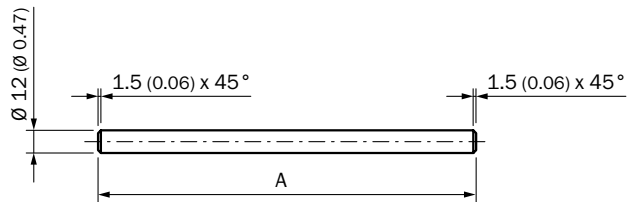
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BEF-KHS-N08, BEF-KHS-N08N



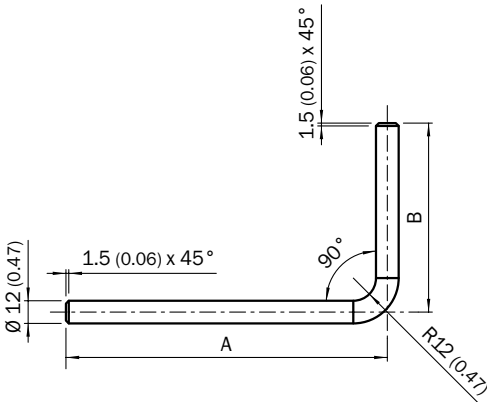
BEF-MS12G-NA, BEF-MS12G-NB



BEF-MS12G-(N)A: A = 200 mm

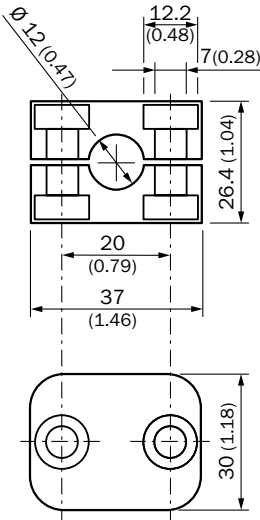
BEF-MS12G-(N)B: A = 300 mm

BEF-MS12L-NA, BEF-MS12L-NB

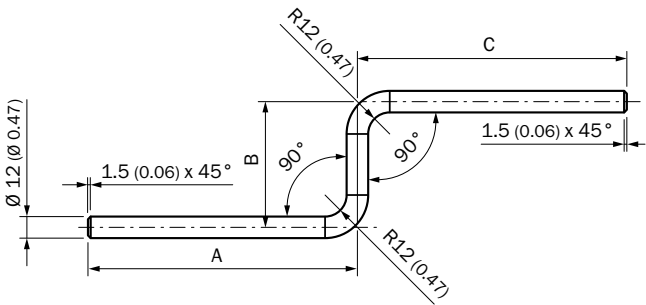


BEF-MS12L-NA: A = 200 mm, B = 150 mm
BEF-MS12L-NB: A = 250 mm, B = 250 mm

BEF-RMC-D12

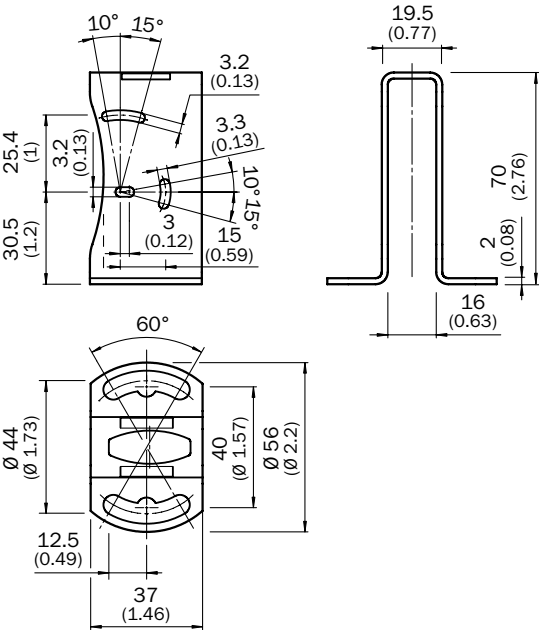


BEF-MS12Z-NA, BEF-MS12Z-NB

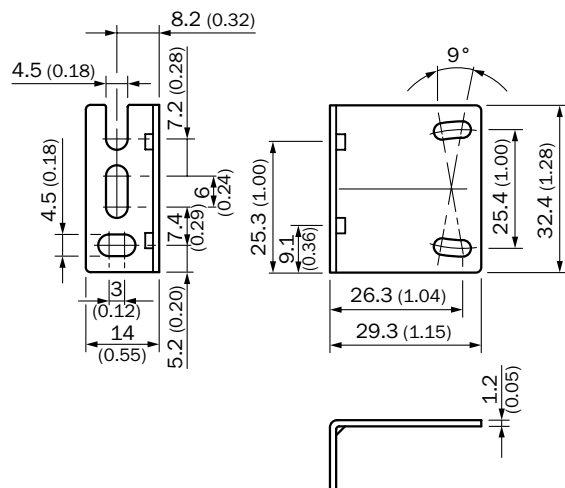


BEF-MS12Z-NA: A = 150 mm, B = 70 mm, C = 150 mm
BEF-MS12Z-NB: A = 150 mm, B = 70 mm, C = 250 mm

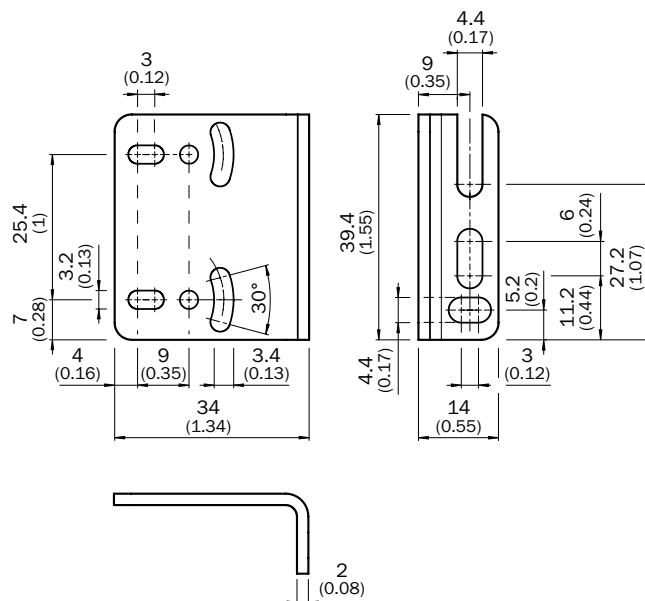
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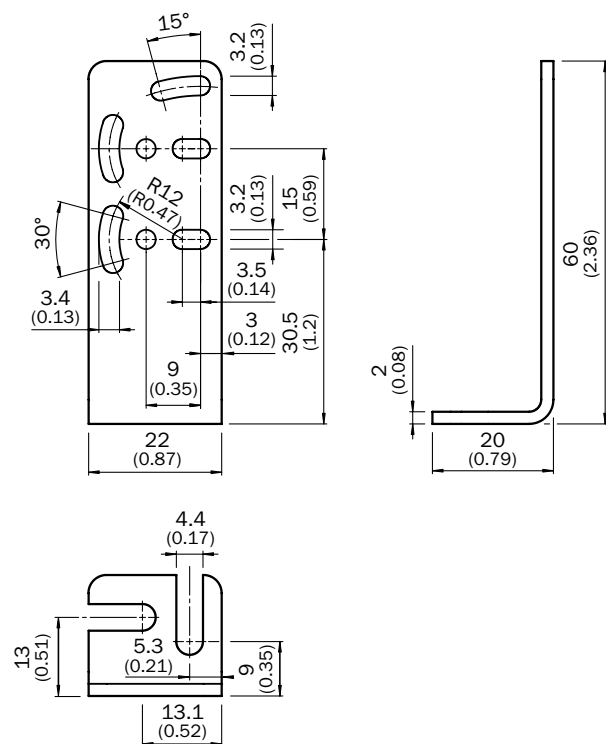
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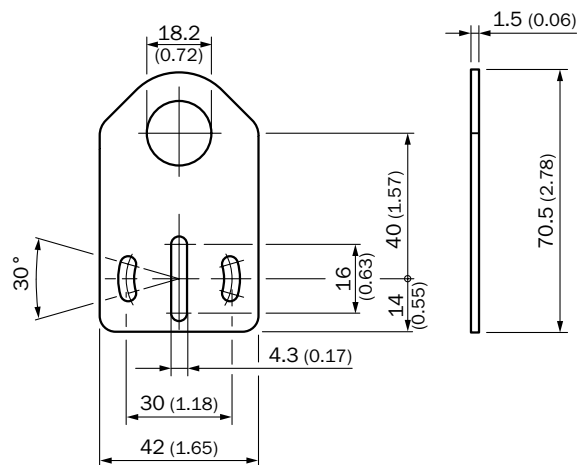
BEF-W4-A



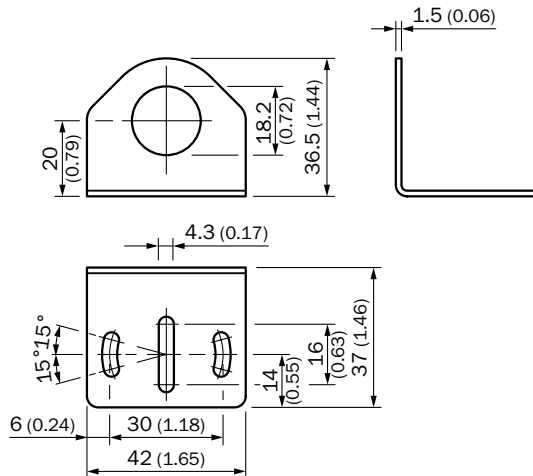
BEF-W4-B



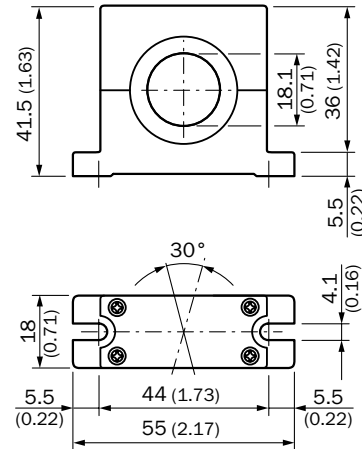
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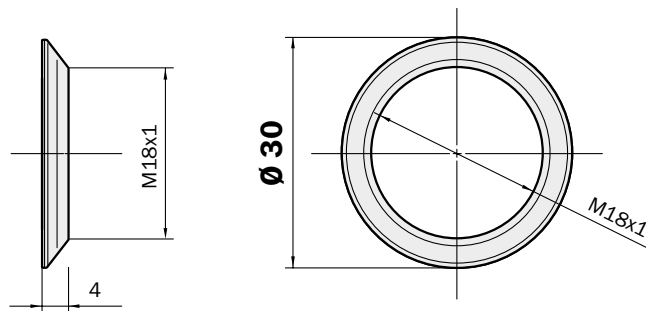
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BEF-WN-M18-ST02

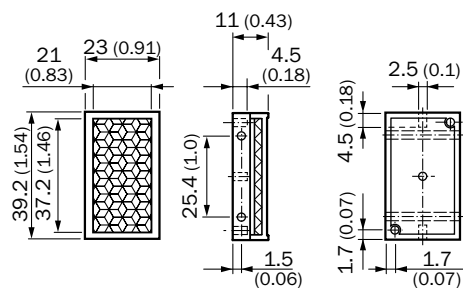


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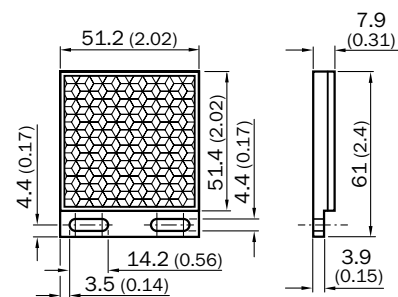


Dimensional drawings Reflectors and optics

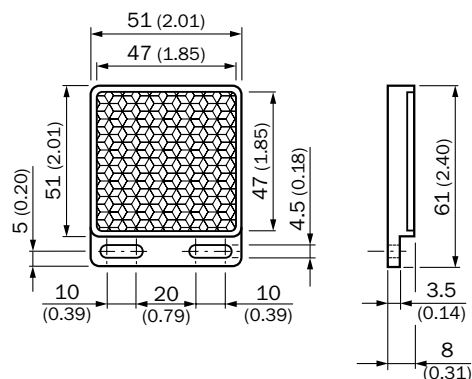
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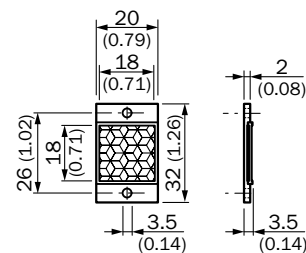
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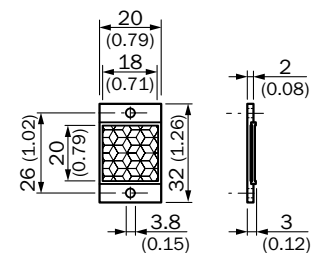
P250 CHEM



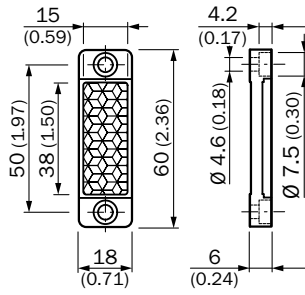
PL10F CHEM



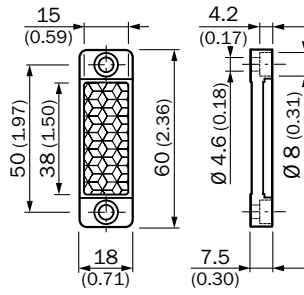
PL10FB-CHEM



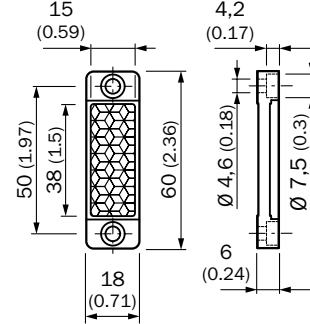
PL20 CHEM



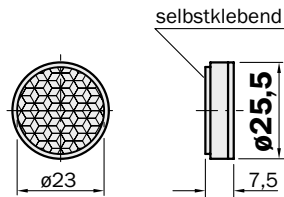
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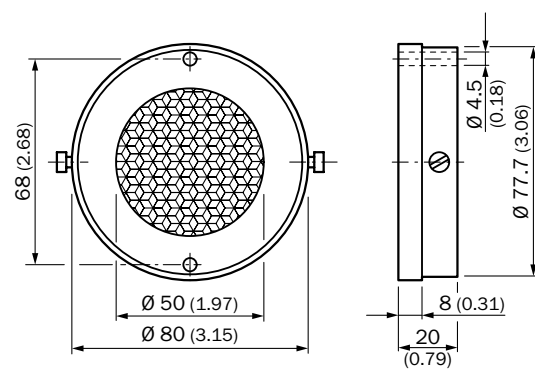
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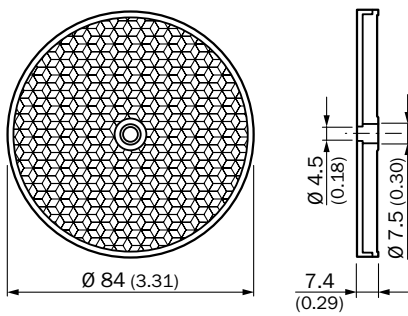
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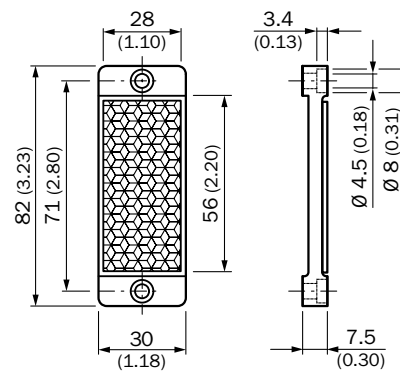
SW50



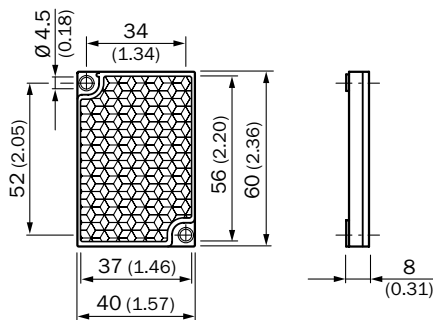
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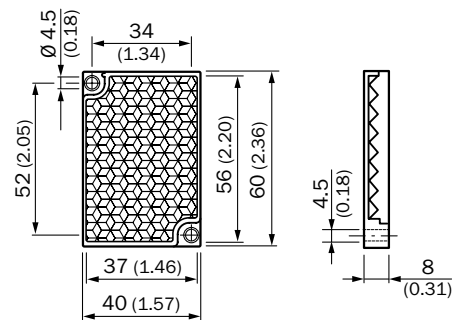
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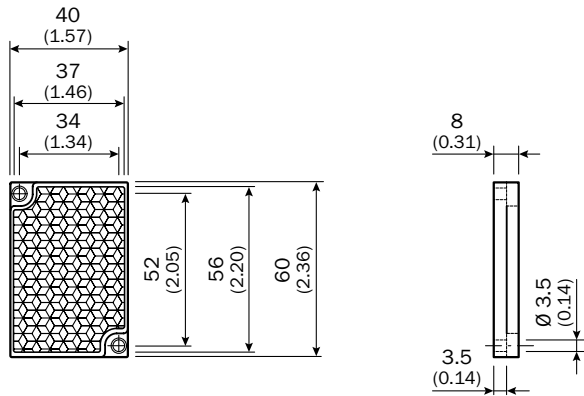
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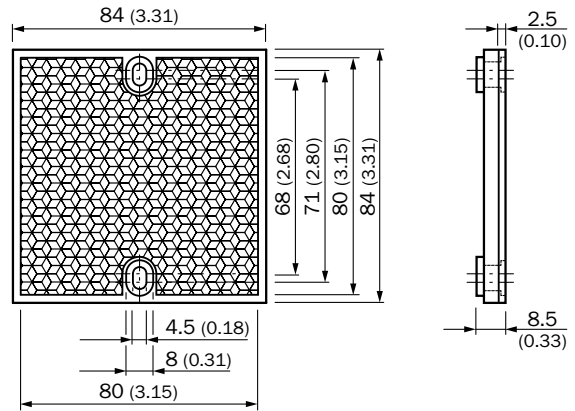
PL40A Antifog



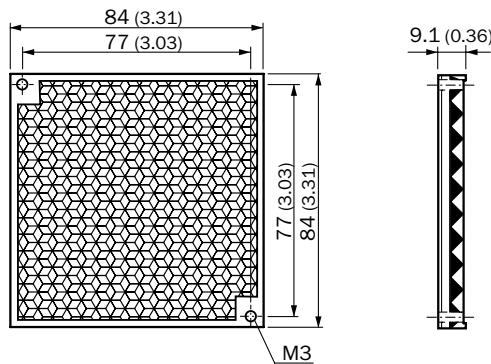
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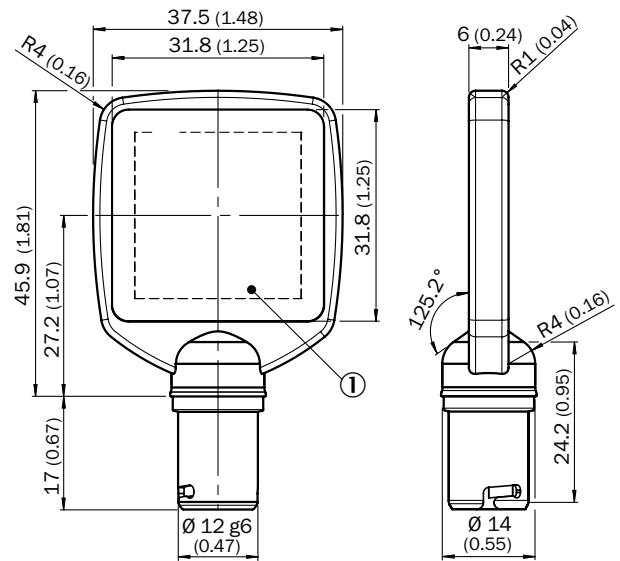
PL80A



PL80A-AF

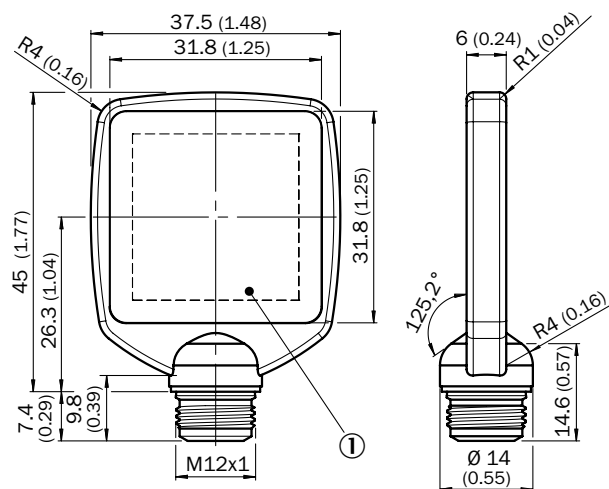


PLH25-D12



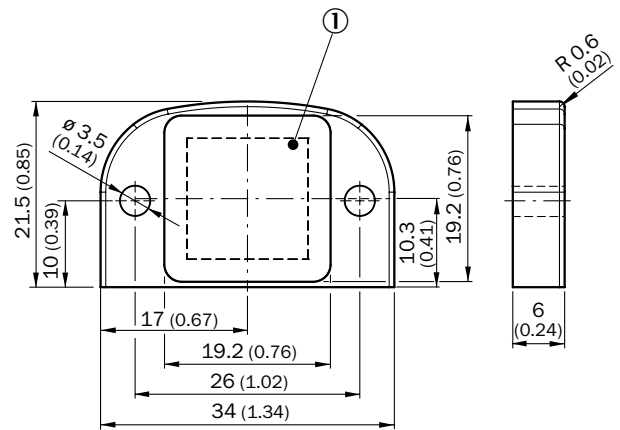
① Reflective area

PLH25-M12



① Reflective area

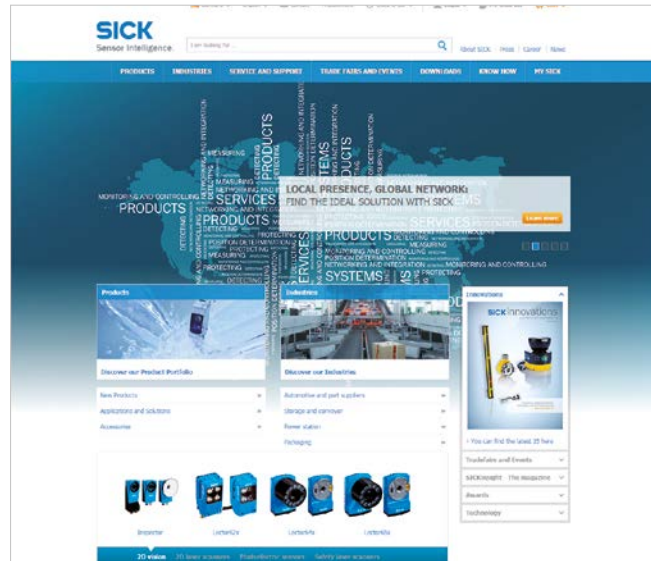
PLV14-A



① Reflective area

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- ✓ Direct ordering: submit even very complex orders in moments.
- ✓ View the status of quotations and orders at any time. Receive e-mail notifications of status changes.
- ✓ Easily repeat previous orders.
- ✓ Conveniently export quotations and orders to work with your systems.



SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



Consulting and design

Safe and professional



Product and system support

Reliable, fast and on-site



Verification and optimization

Safe and regularly inspected



Upgrade and retrofits

Easy, safe and economical



Training and education

Practical, focused and professional

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services round out our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com