



## GR18 Inox

Round, strong, rugged – M18 stainless steel sensor for wash-down applications

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Technical data overview

<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 73.5 mm 18 mm x 18 mm x 55.9 mm
<b>Sensing range max.</b>	3 mm ... 300 mm <sup>1)</sup> 3 mm ... 100 mm <sup>1)</sup> 3 mm ... 115 mm <sup>1)</sup> 5 mm ... 550 mm <sup>1)</sup> 5 mm ... 1,000 mm <sup>1)</sup> 0.03 m ... 7.2 m <sup>2)</sup> 0 m ... 15 m 3 mm ... 250 mm <sup>1)</sup> 3 mm ... 200 mm <sup>1)</sup>
<b>Light source</b>	PinPoint LED / LED (depending on type)
<b>Type of light</b>	Visible red light / Infrared light (depending on type)
<b>Enclosure rating</b>	IP67 IP68 <sup>3)</sup> IP69K <sup>4)</sup>
<b>Housing material</b>	Stainless steel V4A (1.4404, 316L)
<b>Adjustment</b>	Potentiometer, 270° / none (depending on type)

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

<sup>2)</sup> Reflector PL80A.

<sup>3)</sup> According to EN 60529 (10 m water depth / 24 h).

<sup>4)</sup> According to ISO 20653:2013-03.

### 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

### Fields of application

- Consumer goods industry, food and beverage industry (breweries, dairies, slaughterhouses, food processing and packaging lines), pharmaceutical industry
- Mechanical construction (machine tools, timber industry, handling and assembly)
- Automotive and parts suppliers (OEMs, automobile manufacturers)
- New fields of application, e.g. car washes, amusement parts, building automation, doors and gateways, outdoor applications

## Ordering information

Other models and accessories → [www.sick.com/GR18\\_Inox](http://www.sick.com/GR18_Inox)

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
3 mm ... 100 mm	NPN	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRTB18-N1131V	1085938
				GRTB18S-N1131V	1085820
			Male connector M12, 4-pin	GRTB18-N2431V	1085824
				GRTB18S-N2431V	1085748
	PNP	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRTB18-P1131V	1085937
				GRTB18S-P1131V	1085747
			Cable, 4-wire, 6 m <sup>1)</sup>	GRTB18S-P1031VS20	1111239
				Male connector M12, 4-pin	GRTB18-P2431V
			GRTB18S-P2431V		1085746
			3 mm ... 200 mm	PNP	None
3 mm ... 250 mm	PNP	None	Cable, 4-wire, 5 m <sup>1)</sup>	GRTB18S-P1201VS23	1122447
3 mm ... 300 mm	NPN	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTB18-N1112V	1085936
				GRTB18S-N1112V	1085744
			Male connector M12, 4-pin	GRTB18-N2412V	1085750
				GRTB18S-N2412V	1085743
	PNP	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTB18-P1112V	1085822
				GRTB18S-P1112V	1085819
			Cable, 4-wire, 6 m <sup>1)</sup>	GRTB18-P1012VS21	1113801
				Male connector M12, 4-pin	GRTB18-P2412V
			GRTB18S-P2412V		1085742
			GRTB18S-P2412VS01		1098275

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Energetic
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.			
3 mm ... 115 mm	NPN	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-N1112V	1085864			
				GRTE18S-N1112V	1085796			
			Male connector M12, 4-pin	GRTE18-N2412V	1085821			
				GRTE18S-N2412V	1085795			
	PNP	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-P1112V	1085686			
				GRTE18S-P1112V	1085678			
			Male connector M12, 4-pin	GRTE18-P2412V	1085683			
				GRTE18S-P2412V	1085676			
5 mm ... 550 mm	NPN	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-N1142V	1085933			
				GRTE18S-N1142V	1085861			
				Male connector M12, 4-pin	GRTE18-N2442V	1085932		
					GRTE18S-N2442V	1085817		
			GRTE18S-N2442VS16	1102422				
				PNP	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-P1142V	1085689
							GRTE18S-P1142V	1085818
						Male connector M12, 4-pin	GRTE18-P2442V	1085688
	GRTE18S-P2442V	1085679						

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- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Energetic
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
5 mm ... 1,000 mm	NPN	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-N1162V	1085935
				GRTE18S-N1162V	1085862
			Male connector M12, 4-pin	GRTE18-N2462V	1085934
				GRTE18S-N2462V	1085681
	PNP	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GRTE18-P1162V	1085705
				GRTE18S-P1162V	1085682
			Male connector M12, 4-pin	GRTE18-P2462V	1085704
				GRTE18S-P2462V	1085680

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.03 m ... 7.2 m	NPN	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRL18-N1131V	1085965
				GRL18S-N1131V	1085863
			Male connector M12, 4-pin	GRL18-N2431V	1085826
				GRL18S-N2431V	1085715
	PNP	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRL18-P1131V	1085825
				GRL18S-P1131V	1085707
			Male connector M12, 4-pin	GRL18-P2431V	1085716
				GRL18S-P2431V	1085706

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 15 m	NPN	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRSE18-N1121V	1085939
				GRSE18S-N1121V	1085783
			Male connector M12, 4-pin	GRSE18-N2421V	1085787
				GRSE18S-N2421V	1085766
	PNP	None	Cable, 4-wire, 2 m <sup>1)</sup>	GRSE18-P1121V	1085785
				GRSE18S-P1121V	1085767
			Male connector M12, 4-pin	GRSE18-P2421V	1085784
				GRSE18S-P2421V	1085765

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Energetic
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
5 mm ... 550 mm	PNP	Potentiometer	Male connector M12, 4-pin	GRTE18S-P2452V	1097227

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Dark/light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.03 m ... 7.2 m	PNP	None	Male connector M12, 4-pin	GRL18S-K2431V	1106933

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. 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 a wide range of 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 complete 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)