GR18

Round, and cost-effective standard

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

GR18

PHOTOELECTRIC SENSORS

Technical data overview

Dimensions (W x H x D)	18 mm x 18 mm x 73.5 mm 18 mm x 18 mm x 71.5 mm 18 mm x 18 mm x 38.1 mm
Sensing range max.	3 mm ... 300 mm [1] 3 mm ... 115 mm [1] 3 mm ... 350 mm [1] 5 mm ... 550 mm [1] 5 mm ... 1,000 mm [1] 0.03 m ... 7.2 m [2] 0 m ... 15 m
Light source	PinPoint LED / LED (depending on type)
Type of light	Visible red light Visible blue light Infrared light (depending on type)
Enclosure rating	IP67
Housing material	Metal Nickel-plated brass and ABS Plastic ABS
Adjustment	Potentiometer / none (depending on type)

[1] Object with 90 % reflectance (referred to standard white, DIN 5033).
[2] Reflector PL80A.

Product description

The GR18 product family is enclosed in a cylindrical M18 housing and provides an optimal price-performance ratio. Due to its standard M18 housing design, it is suitable for universal use in many different applications. PinPoint LEDs, plastic and metal housing versions as well as status indicators that are easily visible from all angles round off the sensor's features.

At a glance

- Economical M18 cylindrical sensors with standard housing design
- Choice of plastic and metal housing variants with straight optical output
- Very bright and highly visible PinPoint LEDs
- Highly visible status indicator
- IP67 enclosure rating

Your benefits

- A whole range of mounting options thanks to the different housing types
- Simple alignment and precise detection using PinPoint LEDs
- Easy to mount with simple M18 hole mounting. No special mounting brackets required.
- Rugged and reliable operation due to proven SICK sensing technology
- Clearly visible status display reduces maintenance and service time

Fields of application

- Presence detection and positioning in the following applications: storage and conveyor systems material flow technology the packaging industry door and gate applications.
- Especially suitable for applications with limited space. No special mounting bracket is required for installation.
- Ideal for general sensing applications.
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Ordering information

- **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 ... 300 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRTB18-N1112	1076119
				GRTB18-N1117	1076118
			Male connector M12, 4-pin	GRTB18-N2412	1076121
				GRTB18-N2417	1076120
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTB18-P1112	1076115
				GRTB18-P1117	1076114
			Male connector M12, 4-pin	GRTB18-P2412	1076117
				GRTB18-P2417	1076116

[1] Do not bend below 0 °C.

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
3 mm ... 300 mm	PNP	Potentiometer	Male connector M12, 4-pin	GRTB18-P2487	1101819

- **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 [1]	GRTE18-N1112	1066541
				GRTE18-N1117	1066539
			Male connector M12, 4-pin	GRTE18-N2412	1067972
				GRTE18-N2417	1067971
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1112	1066542
				GRTE18-P1117	1066540
			Male connector M12, 4-pin	GRTE18-P2412	1066543
				GRTE18-P2417	1064923

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
5 mm ... 550 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-N1142	1066547
				GRTE18-N1147	1066544
			Male connector M12, 4-pin	GRTE18-N2442	1064243
				GRTE18-N2447	1067973
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1142	1066548
				GRTE18-P1147	1066545
			Male connector M12, 4-pin	GRTE18-P2442	1066549
				GRTE18-P2447	1066546

[1] 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.
3 mm ... 350 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-E1132	1094774
				GRTE18-N1132	1094756
				GRTE18-N1137	1094749
			Male connector M12, 4-pin	GRTE18-E2432	1104188
				GRTE18-N2432	1094779
				GRTE18-N2437	1094782
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1132	1094780
				GRTE18-P1137	1094781
				GRTE18-P1137S16	1104590
			Male connector M12, 4-pin	GRTE18-F2432	1104192
				GRTE18-F2437	1094773
				GRTE18-P2432	1094776
				GRTE18-P2437	1094750
5 mm ... 1,000 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-N1172	1075728
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1177	1073145
			Cable, 4-wire, 5 m [1]	GRTE18-P1277	1104721
5 mm ... 550 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-N1152	1091354
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1152	1074997
			Male connector M12, 4-pin [1]	GRTE18-P2452	1081995

[1] 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:** 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 [1]	GRTE18-N1162	1066551
				GRTE18-N1167	1064925
			Male connector M12, 4-pin	GRTE18-N2462	1067978
				GRTE18-N2467	1067975
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRTE18-P1162	1067976
				GRTE18-P1167	1067974
			Male connector M12, 4-pin	GRTE18-P2462	1066552
				GRTE18-P2467	1066550

[1] 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	Potentiometer	Cable, 4-wire, 2 m [1]	GRL18-N1132	1067980
				GRL18-N1137	1066553
				GRL18-N1152	1076985
				GRL18-N1157	1076979
			Male connector M12, 4-pin	GRL18-N2432	1067981
				GRL18-N2437	1067979
				GRL18-N2452	1076986
				GRL18-N2457	1076984
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRL18-P1132	1066556
				GRL18-P1137	1066554
				GRL18-P1152	1076982
				GRL18-P1157	1076980
			Male connector M12, 4-pin	GRL18-P2432	1066557
				GRL18-P2437	1066555
				GRL18-P2452	1076983
				GRL18-P2457	1076981

[1] 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:** 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	PNP	None	Connector M12, 3-pin	GRL18-F2336	1079784

- **Sensor principle:** Through-beam photoelectric sensor
- **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 m … 15 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	GRSE18-N1142	1066572
				GRSE18-N1147	1066558
			Male connector M12, 4-pin	GRSE18-N2442	1067985
				GRSE18-N2447	1067983
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRSE18-P1142	1067984
				GRSE18-P1147	1067982
			Male connector M12, 4-pin	GRSE18-P2442	1066573
				GRSE18-P2447	1064921

[1] 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	Potentiometer	Cable, 4-wire, 2 m [1]	GRSE18-N1122	1068334
				GRSE18-N1127	1068331
			Male connector M12, 4-pin	GRSE18-N2422	1068335
				GRSE18-N2427	1068332
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	GRSE18-P1122	1068333
				GRSE18-P1127	1068329
			Male connector M12, 4-pin	GRSE18-P2422	1068336
				GRSE18-P2427	1064922

[1] Do not bend below 0 °C.

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."

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