

GRSE18-P1142 GR18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
GRSE18-P1142	1067984

Other models and accessories → www.sick.com/GR18

Illustration may differ



Detailed technical data

Features

Functional principle		Through-beam photoelectric sensor	
Dimensions (W x H x D)		18 mm x 18 mm x 71.5 mm	
Housing design (light emission)		Cylindrical	
Thread diameter (housing)		M18 x 1	
Optical axis		Axial	
Sensing range max.		0 m 15 m	
Sensing range		0 m 10 m	
Type of light		Visible red light	
Light source		PinPoint LED ¹⁾	
Light spot size (distance)		Ø 250 mm (10 m)	
Wave length		650 nm	
Adjustment		Potentiometer	
Display			
	LED green	Operating indicator Static on: power on	
	LED yellow	Status of received light beam Static on: object not present Static off: object present	

 $^{^{1)}}$ Average service life: 100,000 h at T_{U} = +25 °C.

Mechanics/electronics

Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	V_S - ($\leq 3 \text{ V}$) / approx. 0 V
Output current I _{max.}	\leq 100 mA $^{3)}$
Response time	< 500 µs ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Cable, 4-wire, 2 m ⁶⁾
Cable material	Plastic, PVC
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Protection class	III
Housing material	Metal, Nickel-plated brass and ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (4 x)
Electromagnetic compatibility (EMC)	EN 60947-5-2
Test input	Sender OFF at "Test" 0 V
Ambient operating temperature	-25 °C +55 °C ¹⁰⁾
Ambient temperature, storage	-40 °C +70 °C
UL File No.	E348498
Part number of individual components	2072235 GRS18-D1341 2073765 GRE18-P1132

 $^{^{1)}}$ Limit values. Operated in short-circuit protected network: max. 8 A.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

 $^{^{2)}\,\}mathrm{May}$ not fall below or exceed U_{V} tolerances.

 $^{^{3)}}$ At Uv > 24 V or ambient temperature > 49 °C, IA max. = 50 mA.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

 $^{^{6)}}$ Do not bend below 0 °C.

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

 $^{^{8)}}$ B = inputs and output reverse-polarity protected.

⁹⁾ D = outputs overcurrent and short-circuit protected.

 $^{^{10)}}$ At $\rm U_{v}$ <=24V and $\rm I_{A}\!\!<\!\!50mA.$

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PHOTOELECTRIC SENSORS

ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

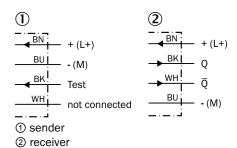
Adjustments GRL18(S), GRSE18(S), Sensitivity setting: Potentiometer, 270°



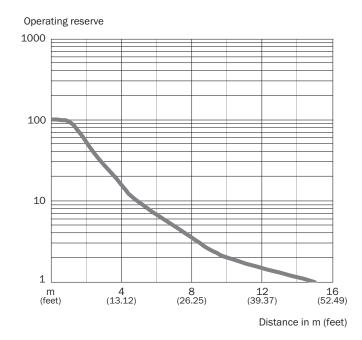




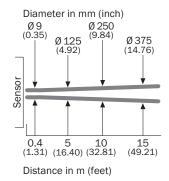
Connection diagram Cd-088



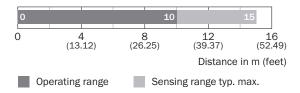
Characteristic curve GRSE18S



Light spot size GRSE18, red light

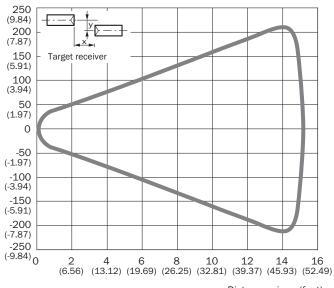


Sensing range diagram GRSE18S

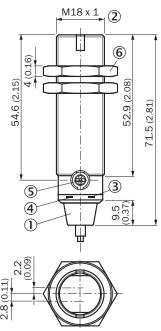


Response range GRSE18S

Parallel operating range y in mm (inch)



Dimensional drawing GRTE18, GRL18, GRSE18, metal, cable, straight



Dimensions in mm (inch)

- ① Connection cable 2 m
- ② Threaded mounting hole M18 x 1
- 3 LED indicator yellow
- 4 LED indicator green
- ⑤ sensitivity control: potentiometer 270°
- (6) Fastening nuts (2x); width across 24, metal

Recommended accessories

Other models and accessories → www.sick.com/GR18

	Brief description	Туре	part no.		
Mounting systems					
40	 Description: Mounting bracket for M18 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: GR18, V180-2, V18, W15, Z1, Z2 	BEF-WN-M18	5308446		
connectors and cables					
The state of the s	 Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932		

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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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