

GRSE18S-N2427

GR18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
GRSE18S-N2427	1069631

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 38.1 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	Infrared light	
Light source	LED ¹⁾	
Light spot size (distance)	Ø 420 mm (10 m)	
Wave length	850 nm	
Adjustment	Potentiometer, 270° Potentiometer	
Display		
LED gree	n Operating indicator Static on: power on	
LED yello	Status of received light beam Static on: object not present Static off: object present	

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

Mechanics/electronics

Supply voltage \mathbf{U}_{B}	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA
Switching output	NPN
Switching mode	Light/dark switching
Output current I _{max} .	\leq 100 mA $^{3)}$
Response time	< 500 µs ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Housing material	Plastic, 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 ⁹⁾
Ambient temperature, storage	-40 °C +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498
Part number of individual components	2075627 GRS18S-D2326 2075654 GRE18S-N2417

 $^{^{1)}\,\}mathrm{Limit}$ 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	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

²⁾ 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.

 $^{^{6)}}$ A = V_S connections reverse-polarity protected.

 $^{^{7)}}$ B = inputs and output reverse-polarity protected.

⁸⁾ D = outputs overcurrent and short-circuit protected.

 $^{^{9)}}$ At U_V <=24V and I_A<50mA.

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°

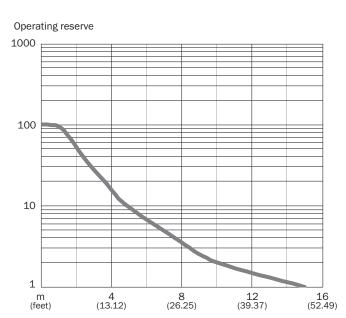




Connection diagram Cd-072

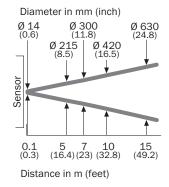
- ① sender
- 2 receiver

Characteristic curve GRSE18S

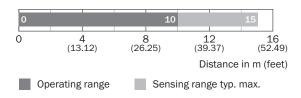


Distance in m (feet)

Light spot size GRSE18, infrared light

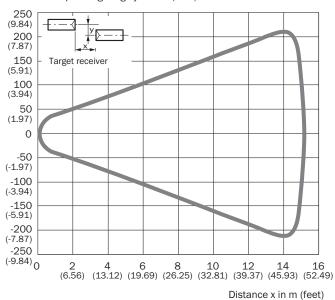


Sensing range diagram GRSE18S

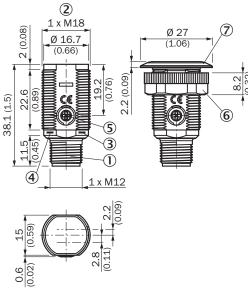


Response range GRSE18S





Dimensional drawing GR18S, plastic, connector, straight, adjustable



Dimensions in mm (inch)

- ① Connector M12, 3-pin
- ② Threaded mounting hole M18 x 1
- 3 LED indicator yellow
- 4 LED indicator green
- ⑤ sensitivity control: potentiometer 270°
- 6 fastening nut; 22 mm hex, plastic
- ⑦ Mounting ring

Recommended accessories

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

	Brief description	Туре	part no.		
Mounting syst	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 an	connectors and cables				
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235		
	 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		
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608		

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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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