



GRSE18S-N2427

GR18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

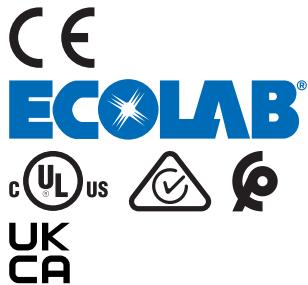


Ordering information

Type	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 green Operating indicatorStatic on: power on
	LED yellow Status of received light beamStatic on: object not presentStatic 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	NPN
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 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) Limit values. Operated in short-circuit protected network: max. 8 A.

2) May not fall below or exceed U_V tolerances.

3) At $U_V > 24$ V or ambient temperature > 49 °C, I_A 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 $U_V <= 24$ V and $I_A < 50$ mA.

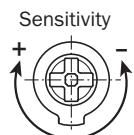
Certificates

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	✓

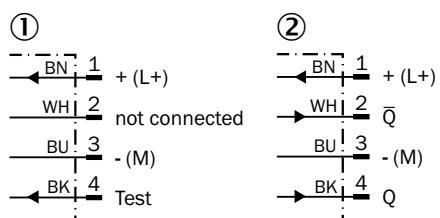
Classifications

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°



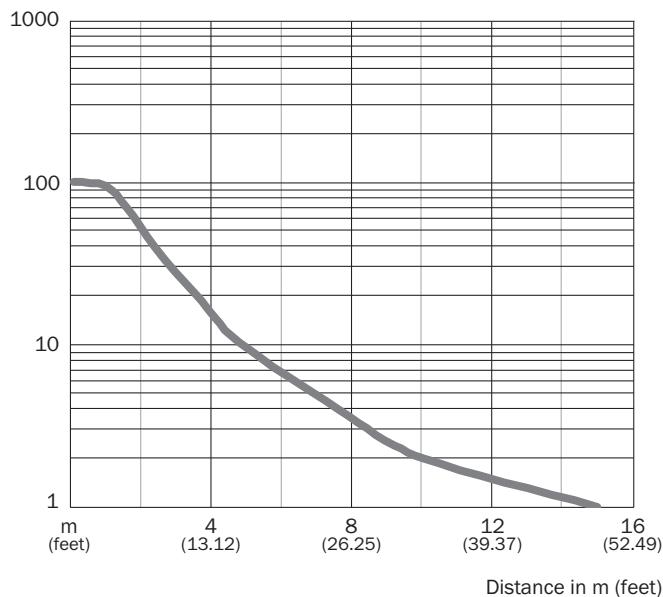
Connection diagram Cd-072



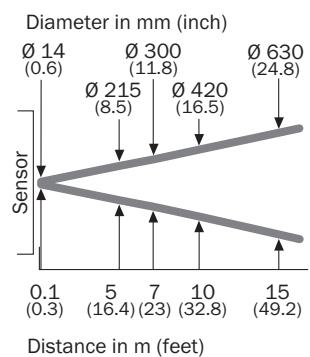
- ① sender
- ② receiver

Characteristic curve GRSE18S

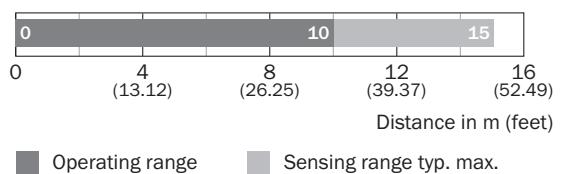
Operating reserve



Light spot size GRSE18, infrared light

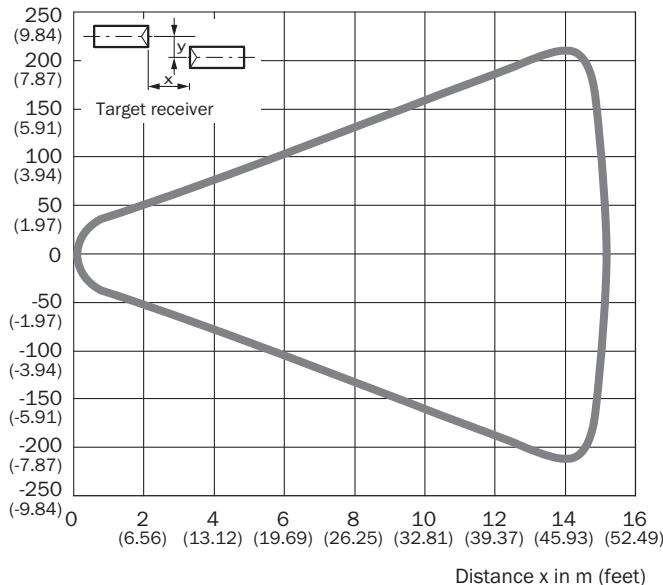


Sensing range diagram GRSE18S

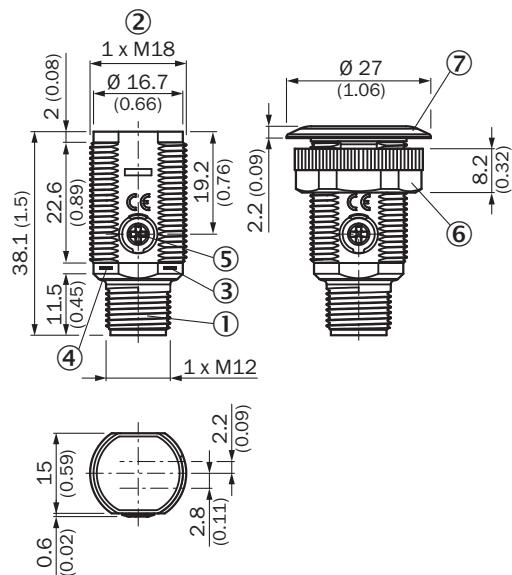


Response range GRSE18S

Parallel operating range y in mm (inch)



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	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">Description: Mounting bracket for M18 sensorsMaterial: SteelDetails: Steel, zinc coatedItems supplied: Without mounting hardwareSuitable for: GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446
connectors and cables			
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 5 m, 4-wire, PVCDescription: Sensor/actuator cable, unshieldedApplication: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none">Connection type head A: Male connector, M12, 4-pin, straight, A-codedDescription: UnshieldedConnection systems: Screw-type terminalsPermitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932

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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Contacts and other locations www.sick.com