

GRTE18-N2442 GR18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
GRTE18-N2442	1064243

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

Illustration may differ

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor	
Functional principle detail	Energetic	
Dimensions (W x H x D)	18 mm x 18 mm x 73.5 mm	
Housing design (light emission)	Cylindrical	
Thread diameter (housing)	M18 x 1	
Optical axis	Axial	
Sensing range max.	5 mm 550 mm ¹⁾	
Sensing range	10 mm 400 mm ¹⁾	
Type of light	Visible red light	
Light source	PinPoint LED ²⁾	
Light spot size (distance)	Ø 9 mm (400 mm)	
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 present Static off: object not present	

 $^{^{1)}}$ Object with 90% remission (based on standard white, DIN 5033).

²⁾ 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
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	< 1,000 µs ⁴⁾
Switching frequency	500 Hz ⁵⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Housing material	Metal, Nickel-plated brass and ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (2 x)
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-25 °C +55 °C ⁹⁾
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Ambient temperature, storage	-40 °C +70 °C

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

Classifications

ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904

 $^{^{2)}}$ May not fall below or exceed UV 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.

 $^{^{\}rm 8)}$ D = outputs overcurrent and short-circuit protected.

 $^{^{9)}}$ At $\rm U_{v}$ <=24V and $\rm I_{A}{<}50mA.$

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ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments GRTB18(S), GRTE18(S), Sensing range setting: Potentiometer, 270°

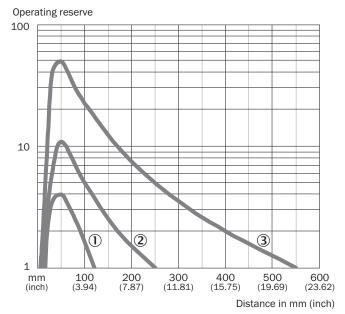






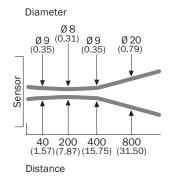
Connection diagram Cd-084

Characteristic curve GRTE18S, 400 mm



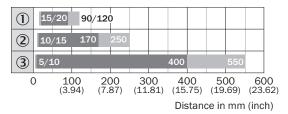
- ① Sensing range on black, 6% remission factor
- 2 sensing range to gray, 20% remission factor
- 3 Sensing range on white, 90% remission factor

Light spot size GRTE18S, 400 mm



dimensions in mm (inch)

Sensing range diagram GRTE18S, 400 mm



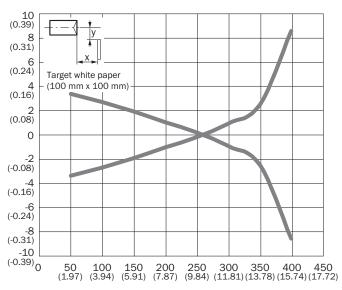
Sensing range Sensing range max.

- ① Sensing range on black, 6% remission factor
- ② sensing range to gray, 20% remission factor

3 Sensing range on white, 90% remission factor

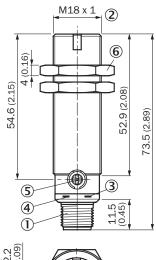
Response range GRTE18S, 400 mm

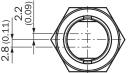
Parallel operating range y in mm (inch)



Distance x in mm (inch)

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





Dimensions in mm (inch)

- 1 male connector M12, 4-pin
- ② Threaded mounting hole M18 x 1
- ③ LED indicator yellow
- 4 LED indicator green

- (6) Fastening nuts (2x); width across 24, metal

Recommended accessories

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

	Brief description	Туре	part no.		
Mounting syst	rems				
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, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608		
	 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		

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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