



GRTE18-N2462V

GR18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

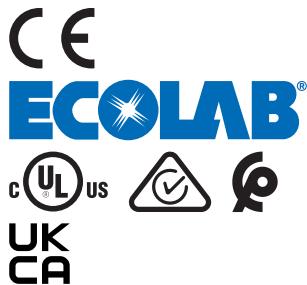


Ordering information

Type	part no.
GRTE18-N2462V	1085934

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	
Housing length	73.5 mm	
Thread length	49.3 mm	
Thread diameter (housing)	M18 x 1	
Optical axis	Axial	
Sensing range max.	5 mm ... 1,000 mm ¹⁾	
Sensing range	10 mm ... 800 mm ¹⁾	
Type of light	Visible red light	
Light source	LED ²⁾	
Light spot size (distance)	Ø 45 mm (800 mm)	
Wave length	650 nm	
Adjustment	Potentiometer, 270 °	
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.

Special applications	Hygienic and washdown zones
¹⁾ Object with 90% remission (based on standard white, DIN 5033).	
²⁾ Average service life: 100,000 h at $T_U = +25^\circ\text{C}$.	
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 ³⁾
Signal voltage NPN HIGH/LOW	Approx. $V_S / \leq 3\text{ V}$
Output current $I_{\text{max.}}$	$\leq 100\text{ mA}$ ⁴⁾
Response time	< 1,000 μs ⁵⁾
Switching frequency	500 Hz ⁶⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Protection class	III
Weight	65 g
Housing material	Metal, Stainless steel V4A (1.4404, 316L)
Optics material	Plastic, PMMA
Tightening torque, max.	90 Nm
Enclosure rating	IP67 IP68 ¹⁰⁾ IP69K ¹¹⁾
Items supplied	Fastening nuts (2 x)
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-25 $^\circ\text{C}$... +55 $^\circ\text{C}$ ¹²⁾
Ambient temperature, storage	-30 $^\circ\text{C}$... +75 $^\circ\text{C}$
UL File No.	E348498

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

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Q = light switching; \bar{Q} = dark switching.

⁴⁾ At $U_V > 24\text{ V}$ or ambient temperature $> 49^\circ\text{C}$, I_A max. = 50 mA.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

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⁾ According to EN 60529 (10 m water depth / 24 h).

¹¹⁾ According to ISO 20653:2013-03.

¹²⁾ At $U_V \leq 24\text{V}$ and $I_A < 50\text{mA}$.

Safety-related parameters

MTTF_D	1,408 years
DC_{avg}	0%
T_M (mission time)	20 years

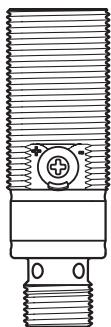
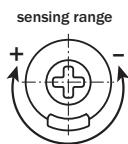
Certificates

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	✓

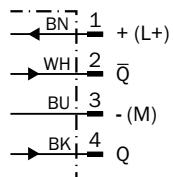
Classifications

ECLASS 5.0	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
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) Inox, GRTE18(S) Inox, Sensing range setting: Potentiometer, 270°

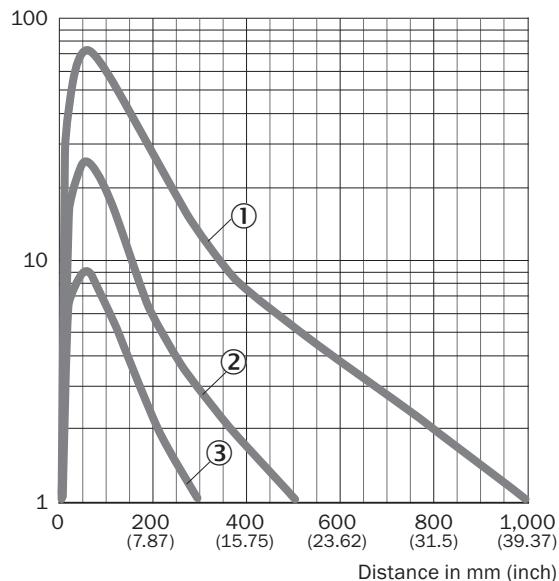


Connection diagram Cd-084



Characteristic curve GRTE18, 800 mm

Operating reserve

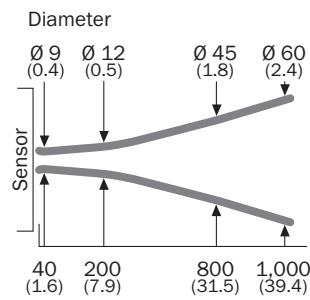


① Sensing range on black, 6% remission factor

② sensing range to gray, 20% remission factor

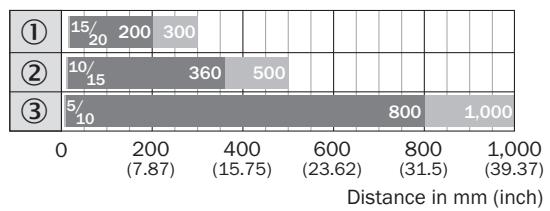
③ Sensing range on white, 90% remission factor

Light spot size GRTE18, 800 mm



Distance
dimensions in mm (inch)

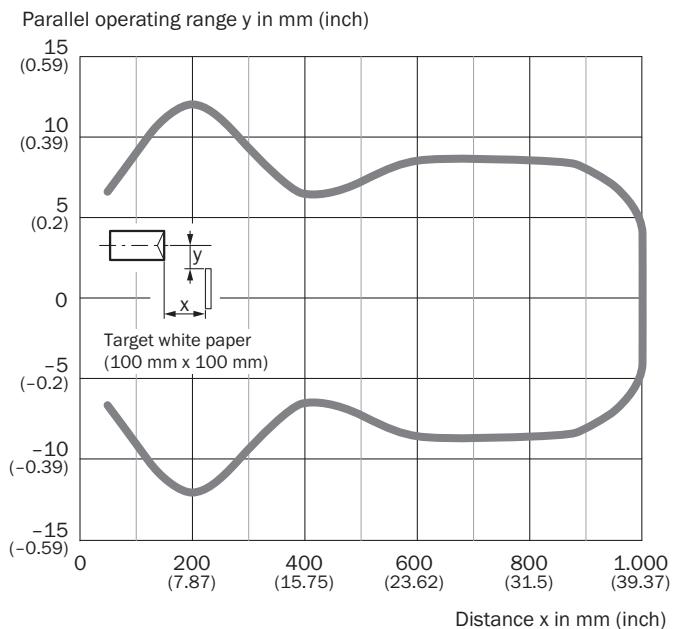
Sensing range diagram GRTE18, 800 mm



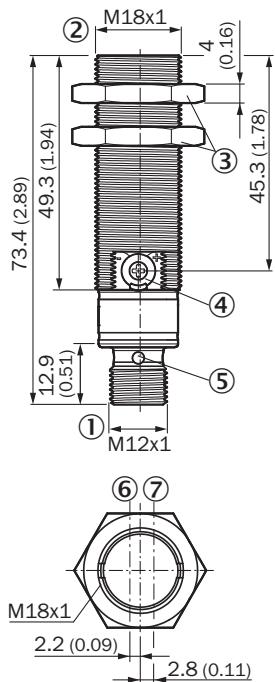
■ Sensing range ■ Sensing range max. typ.

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 GRTE18, 800 mm



Dimensional drawing GR18 Inox, connector, straight



Dimensions in mm (inch)

- ① Connection
- ② Threaded mounting hole M18 x 1
- ③ fastening nuts (2 x); width across 24, stainless steel
- ④ Potentiometer, 270°
- ⑤ LED indicator (4 x)
- ⑥ optical axis, receiver
- ⑦ optical axis, sender

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 sensors • Material: Stainless steel • Details: Stainless steel • Items supplied: Without mounting hardware 	BEF-WN-M18N	5320947

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones 	DOL-1204-G05MNI	6052615
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	DOL-1204-G05MRN	6058476

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."

WORLDWIDE PRESENCE:

Contacts and other locations www.sick.com