



GRTE18-N1162

GR18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

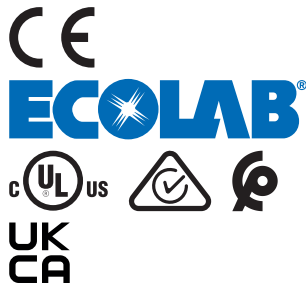


Ordering information

Type	part no.
GRTE18-N1162	1066551

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 71.5 mm
Housing design (light emission)		Cylindrical
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
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 NPN HIGH/LOW	Approx. $V_S / \leq 3 \text{ V}$
Output current $I_{\max.}$	$\leq 100 \text{ mA}$ ³⁾
Response time	< 1,000 μs ⁴⁾
Switching frequency	500 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 (2 x)
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-25 °C ... +55 °C ¹⁰⁾
Ambient temperature, storage	-40 °C ... +70 °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⁾ At $U_V > 24 \text{ V}$ or ambient temperature > 49 °C, $I_A \text{ max.} = 50 \text{ mA}$.

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

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓

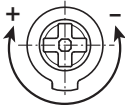
Photobiological safety (DIN EN 62471) certificate	✓
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Classifications

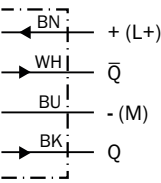
ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

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

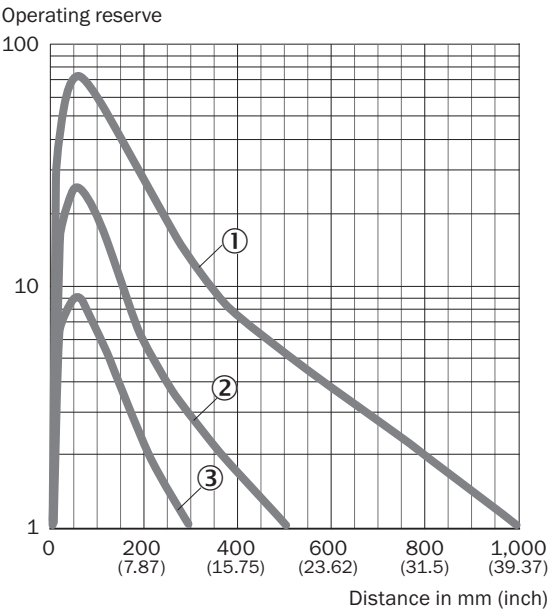
Sensing range



Connection diagram Cd-094

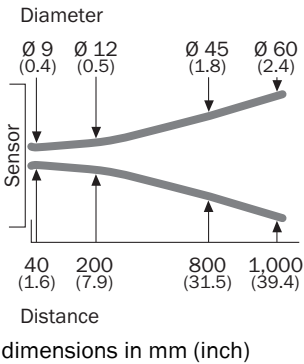


Characteristic curve GRTE18, 800 mm



- 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 GRTE18, 800 mm



①	$\frac{15}{20}$	200	300										
②	$\frac{10}{15}$			360			500						
③	$\frac{5}{10}$								800				1,000

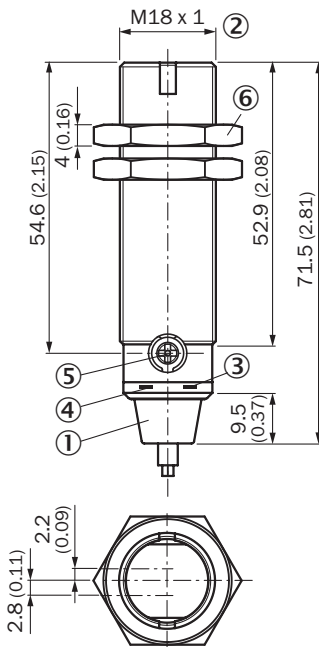
Distance in mm (inch)

0
 200
(7.87)
 400
(15.75)
 600
(23.62)
 800
(31.5)
 1,000
(39.37)

- Response range GRTE18, 800 mm



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	Type	part no.
Mounting systems			
	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			
	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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com