

GRTE18-P1117

GR18

CYLINDRICAL PHOTOELECTRIC SENSORS





Ordering information

Туре	Part no.
GRTE18-P1117	1066540

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.	3 mm 115 mm ¹⁾
Sensing range	5 mm 100 mm ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 8 mm (100 mm)
Wave length	650 nm
Adjustment	Potentiometer
Indication	
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	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA
Switching output	PNP
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	Cable, 4-wire, 2 m ⁶⁾
Cable material	PVC
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Protection class	III
Housing material	Plastic, 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.

Classifications

eCl@ss 5.0	27270903
eCl@ss 5.1.4	27270903
eCl@ss 6.0	27270903
eCl@ss 6.2	27270903
eCl@ss 7.0	27270903
eCl@ss 8.0	27270903
eCl@ss 8.1	27270903

 $^{^{2)}\,\}mbox{May}$ not exceed or fall below $\mbox{U}_{\mbox{\scriptsize V}}$ 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.

 $^{^{6)}}$ Do not bend below 0 °C.

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

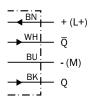
⁹⁾ D = outputs overcurrent and short-circuit protected.

 $^{^{10)}}$ At U_V <=24V and I_A<50mA.

eCl@ss 9.0	27270903
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram

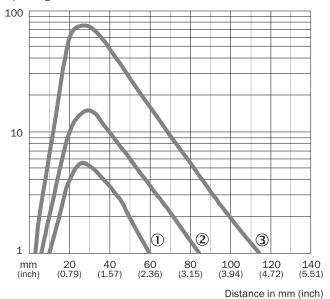
Cd-094



Characteristic curve

GRTE18S, 100 mm

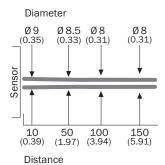
Operating reserve



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

Light spot size

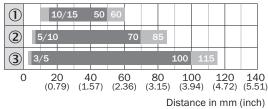
GRTE18S, 100 mm



Dimensions in mm (inch)

Sensing range diagram

GRTE18S, 100 mm



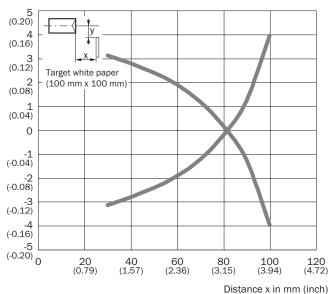
Sensing range Sensing range max.

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

Response range

GRTE18S, 100 mm

Parallel operating range y in mm (inch)



Adjustments

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

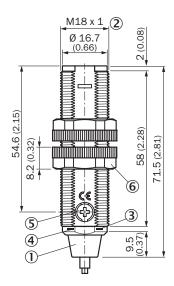
Sensing range

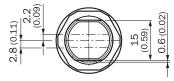




Dimensional drawing (Dimensions in mm (inch))

GRTE18, GRL18, GRSE18, plastic, cable, straight





- 1 Connection cable 2 m
- ③ LED indicator yellow
- 4 LED indicator green
- Sensitivity control: potentiometer 270°
- ⑤ Fastening nuts (2 x); width across 22, plastic

Recommended accessories

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

	Brief description	Туре	Part no.		
Mounting brackets and plates					
40	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446		
Plug connectors and cables					
Was .	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932		

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For us, that is "Sensor Intelligence."

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