Online data sheet



GRTE18S-P1112V

GR18 Inox

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
GRTE18S-P1112V	1085678

Other models and accessories ➜ www.sick.com/GR18_Inox

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, energetic
Housing design (light emission)	Cylindrical, straight
Housing length	55.9 mm
Thread length	31.7 mm
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, 270°

[1] Object with 90 % reflectance (referred to 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]
Power consumption	≤ 30 mA
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching [3]
Signal voltage PNP HIGH/LOW	V_S - (≤ 3 V) / approx. 0 V
Output current $I_{max.}$	100 mA [4]
Response time	< 1,000 µs [5]
Switching frequency	± 500 Hz [6]
Connection type	Cable, 4-wire, 2 m [7]
Cable material	PVC
Conductor cross-section	0.14 mm²
Cable diameter	4.8 mm
Circuit protection	A [8] B [9] D [10]
Protection class	III
Weight	100 g
Housing material	Stainless steel, Stainless steel V4A (1.4404, 316L)
Optics material	Plastic, PMMA
Tightening torque, max.	90 Nm
Enclosure rating	IP67 IP68 [11] IP69K [12]
Items supplied	Fastening nuts (2 x)
EMC	EN 60947-5-2
Ambient operating temperature	–25 °C ... +55 °C [13]
Ambient storage temperature	–30 °C ... +75 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

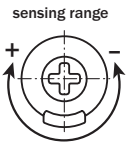
[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Q = light switching; $\bar{Q}$ = dark switching.
[4] At Uv > 24 V or ambient temperature > 49 °C, IA max. = 50 mA.
[5] Signal transit time with resistive load.
[6] With light/dark ratio 1:1.
[7] Do not bend below 0 °C.
[8] A = V_S connections reverse-polarity protected.
[9] B = inputs and output reverse-polarity protected.
[10] D = outputs overcurrent and short-circuit protected.
[11] According to EN 60529 (10 m water depth / 24 h).
[12] According to ISO 20653:2013-03.
[13] At U_V <=24V and I_A<50mA.

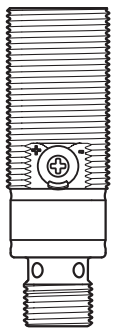
Classifications

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
ECl@ss 9.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
UNSPSC 16.0901	39121528

Adjustments possible

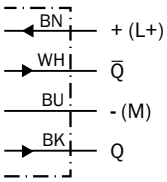
GRTB18(S) Inox, GRTE18(S) Inox, Sensing range setting: Potentiometer, 270°





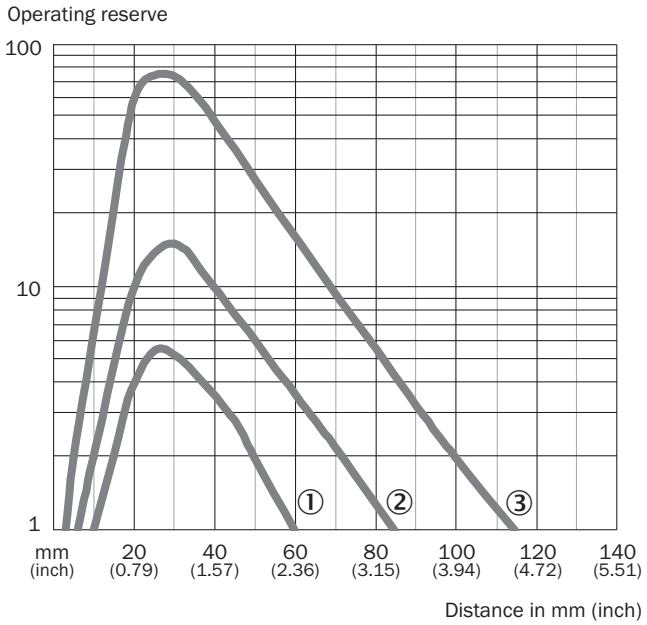
Connection diagram

Cd-094



Characteristic curve

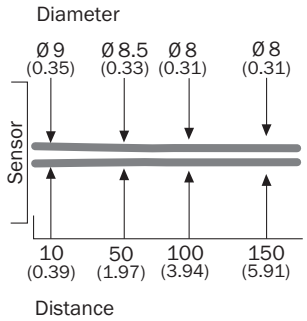
GRTE18S, 100 mm



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

Light spot size

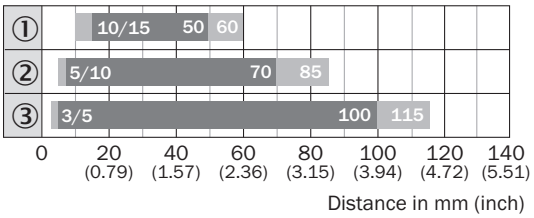
GRTE18S, 100 mm



Dimensions in mm (inch)

Sensing range diagram

GRTE18S, 100 mm

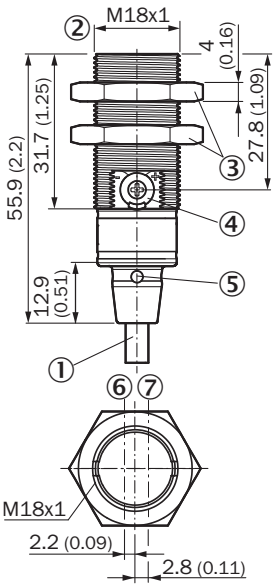


Sensing range Sensing range max.

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

Dimensional drawing (Dimensions in mm (inch))

GR18S Inox, cable, straight



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

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