Product data sheet



GRTE18S-P135ZS01

GR18

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
GRTE18S-P135ZS01	1065711

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

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 38.1 mm
Housing design (light emission)	Cylindrical
Thread diameter (housing)	M18 x 1
Optical axis	Axial, fully flush
Sensing range max.	5 mm ... 550 mm [1]
Sensing range	10 mm ... 400 mm [1]
Type of light	Infrared light
Light source	LED [2]
Light spot size (distance)	Ø 26 mm (400 mm)
Adjustment	Potentiometer, 270°
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 U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	30 mA
Switching output	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	V_S - (≤ 3 V) / approx. 0 V
Output current $I_{max.}$	≤ 100 mA [3]
Response time	< 1,000 µs [4]
Switching frequency	500 Hz [5]
Connection type	Cable, 3-wire, 2 m [6]
Cable material	Plastic, PVC
Circuit protection	A [7] B [8] D [9]
Protection class	III
Special device	✓
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.	NRKH.E348498 & NRKH7.E348498

[1] Limit values. Operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_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.

Classifications

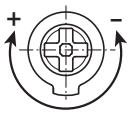
ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903

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

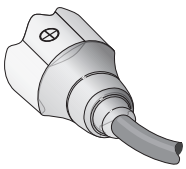
GRTB18(S), GRTE18(S), Sensing range setting: Potentiometer, 270°

Sensing range



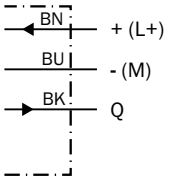


Connection type



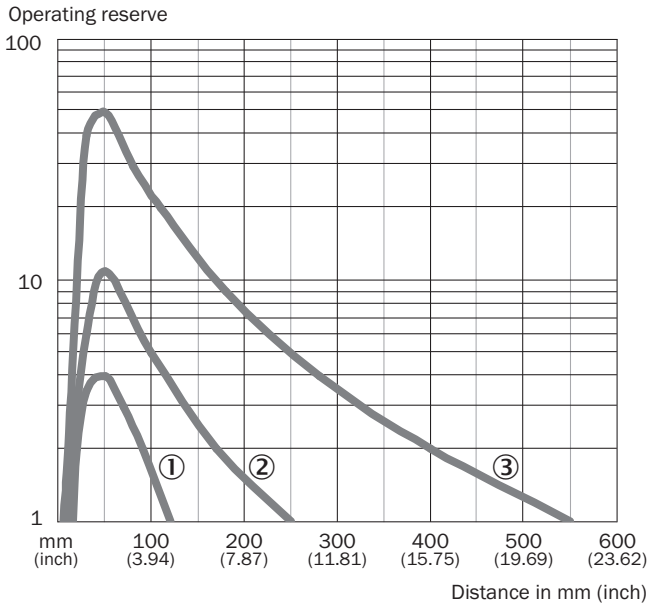
Connection diagram

Cd-044



Characteristic curve

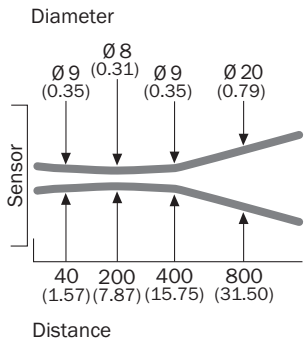
GRTE18S, 400 mm



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

Light spot size

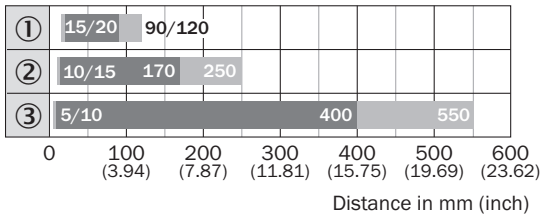
GRTE18S, 400 mm



Dimensions in mm (inch)

Sensing range diagram

GRTE18S, 400 mm

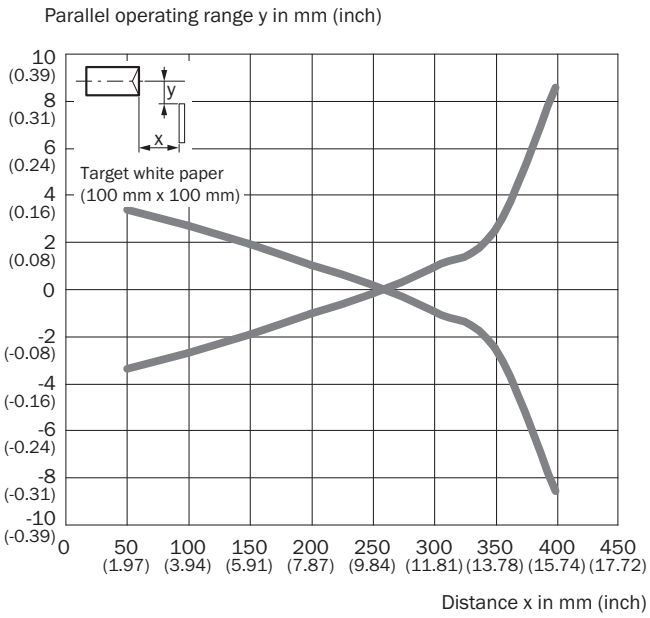


Sensing range Sensing range max.

① Sensing range on black, 6% remission factor
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③ Sensing range on white, 90% remission factor

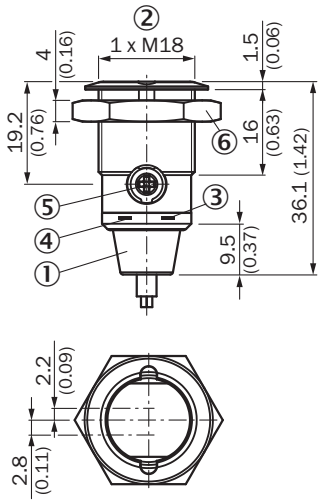
Response range

GRTE18S, 400 mm



Dimensional drawing (Dimensions in mm (inch))

GR18S, metal, cable, straight, fully flush, adjustable



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 nut; 24 mm hex, metal

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Other mounting accessories			
	Mounting tool for "fully flush" variants	BEF-TO-GR18S	4072132
Others			
	• **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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:

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Global Electronic Components Distributor

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PLV14-A 1016857 1040755 2095780 GL6-P6211 1041007 2095791 2107717 2109288
IME12-04BPSZW2S 1040855 1054695 1068252 DFS60B-BHPK10000 GL6-N1112 2106256
C4C-SA06030A10000 LFP2000-A4NMB S30A-XXXXBA WT150-P162 SBO-02F12-SM1
C4C-EA09030A10000 GL6-P1111 GSE6-P1212 L41E-33MA2A IME12-08NPSZW2K
YF8U14-020UA3XLEAX 1213222 1040876 EN2-2EX1 / 6041096