



GRTE18S-P1342

GR18S

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
GRTE18S-P1342	1058205

Other models and accessories → www.sick.de/GR18S

Detailed technical data

Features

Sensor/detection principle	Photoelectric proximity sensor, energetic
Housing design (light emission)	Cylindrical, straight
Optical axis	Axial
Sensing range max.	5 mm ... 550 mm ¹⁾
Sensing range	10 mm ... 400 mm ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 9 mm (400 mm)
Wave length	650 nm
Adjustment	PotentiometerPotentiometer

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

²⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	± 5 V _{pp} ²⁾
Power consumption	≤ 30 mA
Output type	PNP

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

²⁾ May not exceed or fall below U_v tolerances.

³⁾ At U_v > 24 V or ambient temperature > 49 °C, I_A 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.

Switching mode	Light switching
Signal voltage PNP HIGH/LOW	$V_S - (\leq 3 \text{ V}) / \text{approx. } 0 \text{ V}$
Output current I_{max}	100 mA ³⁾
Response time	$< 1,000 \mu\text{s}$ ⁴⁾
Switching frequency	500 Hz ⁵⁾
Connection type	Cable, 3-wire, 2 m ⁶⁾
Cable material	PVC
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Protection class	III
Housing material	Metal
Enclosure rating	IP 67
Items supplied	Fastening nuts (2 x)
Ambient operating temperature	$-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$ ¹⁰⁾
Ambient storage temperature	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
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) At $U_V > 24 \text{ V}$ or ambient temperature $> 49 \text{ }^\circ\text{C}$, $I_A \text{ max.} = 50 \text{ mA}$.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) Do not bend below $0 \text{ }^\circ\text{C}$.

7) A = V_S connections reverse-polarity protected.

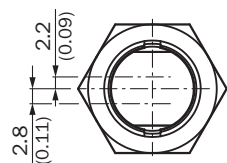
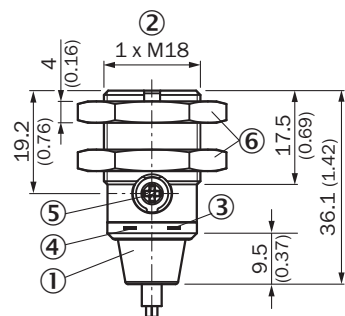
8) B = inputs and output reverse-polarity protected.

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

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

Dimensional drawing (Dimensions in mm (inch))

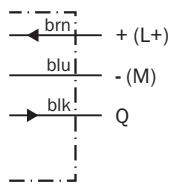
GRTE18S, metal, cable, straight



- 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 (2 x); width across 24, metal

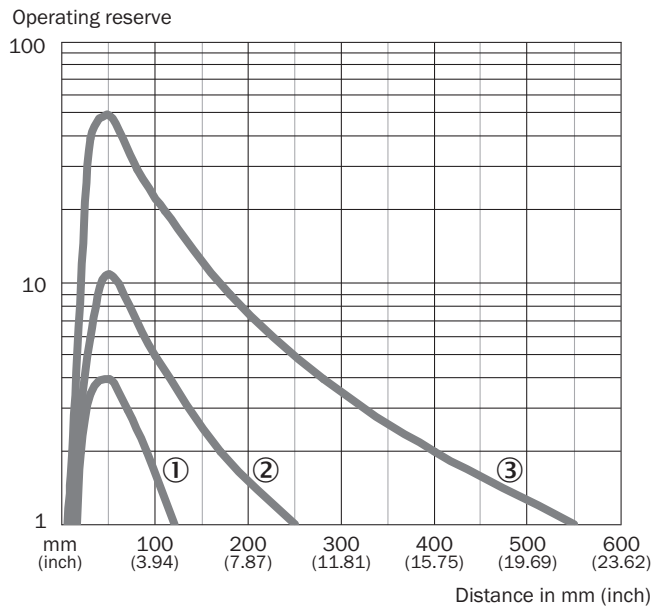
Connection diagram

Cd-044



Characteristic curve

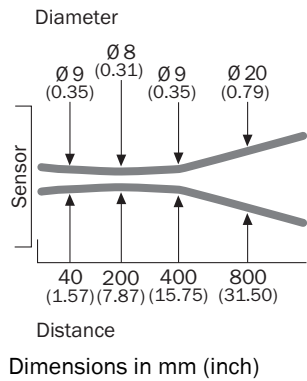
GRTE18S, 550 mm



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

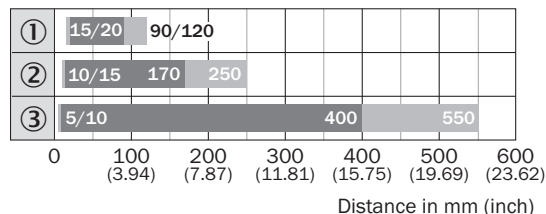
Light spot size

GRTE18S, 550 mm



Sensing range diagram

GRTE18S, 550 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

Recommended accessories

Other models and accessories → www.sick.de/GR18S

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, M18, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N06	2051612
Mounting brackets and mounting plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket, M18 thread, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Terminal and alignment brackets			
	Mounting bracket with ball-and-socket, plastic, mounting hardware included	BEF-WN-M18-ST02	5312973
	Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KH-M18	2051481
	Clamping block for round sensors M18, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M18	2051482
	Integrated adapter, Plastic (PA12)	BEF-WN-MH15-1	4039533
	Mounting ring, Stainless steel, without mounting hardware	BEF-WN-MH15-2V	4053358

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