

# GRTE18S-F236Z

GR18

**PHOTOELECTRIC SENSORS** 





#### Ordering information

Туре	part no.
GRTE18S-F236Z	1069556

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 38.1 mm
Housing design (light emission)	Cylindrical
Thread diameter (housing)	M18 x 1
Optical axis	Axial, fully flush
Sensing range max.	5 mm 1,000 mm <sup>1)</sup>
Sensing range	10 mm 800 mm <sup>1)</sup>
Type of light	Visible red light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 45 mm (800 mm)
Wave length	650 nm
Adjustment	Potentiometer, 270°
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

 $<sup>^{1)}</sup>$  Object with 90% remission (based on standard white, DIN 5033).

<sup>&</sup>lt;sup>2)</sup> Average service life: 100,000 h at  $T_U$  = +25 °C.

#### Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption	30 mA
Switching output	PNP
Switching mode	Dark switching
Output current I <sub>max</sub> .	≤ 100 mA <sup>3)</sup>
Response time	< 1,000 µs <sup>4)</sup>
Switching frequency	500 Hz <sup>5)</sup>
Connection type	Connector M12, 3-pin
Circuit protection	A <sup>6)</sup> B <sup>7)</sup> D <sup>8)</sup>
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 <sup>9)</sup>
Ambient temperature, storage	-40 °C +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

 $<sup>^{1)}</sup>$  Limit values. Operated in short-circuit protected network: max. 8 A.

#### 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	✓

#### Classifications

ECLASS 5.0	27270903
------------	----------

 $<sup>^{2)}</sup>$  May not fall below or exceed  $U_V$  tolerances.

 $<sup>^{3)}</sup>$  At Uv > 24 V or ambient temperature > 49 °C, IA max. = 50 mA.

<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

 $<sup>^{6)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

 $<sup>^{8)}</sup>$  D = outputs overcurrent and short-circuit protected.

 $<sup>^{9)}</sup>$  At  $\rm U_{V}\,{<}{=}24V$  and  $\rm I_{A}{<}50mA.$ 

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

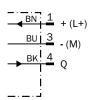
Adjustments GRTB18(S), GRTE18(S), Sensing range setting: Potentiometer, 270°



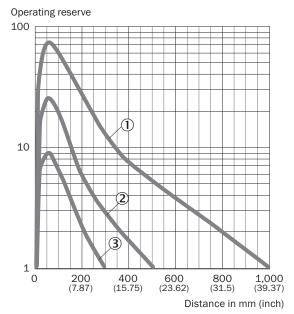




## Connection diagram Cd-045

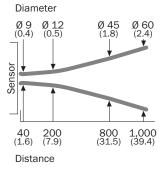


#### Characteristic curve GRTE18, 800 mm



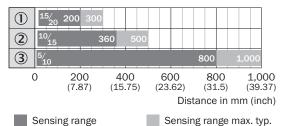
- ① Sensing range on black, 6% remission factor
- ② sensing range to gray, 20% remission factor
- 3 Sensing range on white, 90% remission factor

#### Light spot size GRTE18, 800 mm



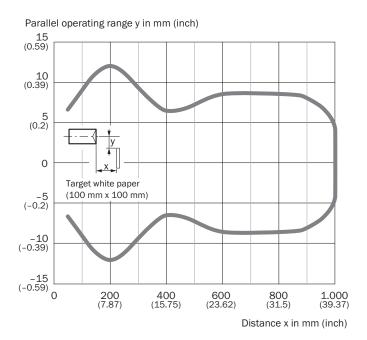
dimensions in mm (inch)

#### Sensing range diagram GRTE18, 800 mm

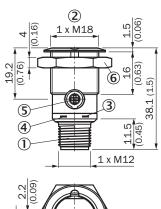


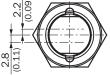
- Sensing range Sensing range max
- ① Sensing range on black, 6% remission factor
- 2 sensing range to gray, 20% remission factor3 Sensing range on white, 90% remission factor

#### Response range GRTE18, 800 mm



#### Dimensional drawing GR18S, metal, connector, straight, fully flush, adjustable





Dimensions in mm (inch)

- ① Connector M12, 3-pin
- 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	Туре	part no.	
Mounting systems				
40	<ul> <li>Description: Mounting bracket for M18 sensors</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Items supplied: Without mounting hardware</li> <li>Suitable for: GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WN-M18	5308446	
	<ul> <li>Description: Mounting tool for "fully flush" variants</li> <li>Usable for: GR18</li> <li>Suitable for: GR18S, radial, fully flush</li> </ul>	BEF-TO-GR18S	4072132	

## 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

