

GRSE18S-F233W

GR18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
GRSE18S-F233W	1059551

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

Illustration may differ



Detailed technical data

Features

Functional principle		Through-beam photoelectric sensor
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		Radial, fully flush
Sensing range max.		0 m 15 m
Sensing range		0 m 10 m
Type of light		Visible red light
Light source		PinPoint LED ¹⁾
Light spot size (distance)		Ø 250 mm (10 m)
Wave length		650 nm
Adjustment		None
Display		
	LED green	Operating indicator Static on: power on
	LED yellow	Status of received light beam Static on: object not present Static off: object present

 $^{^{1)}}$ Average service life: 100,000 h at $\rm T_U$ = +25 $^{\circ}\rm C.$

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	Dark switching
Signal voltage PNP HIGH/LOW	$V_S - (\le 3 \text{ V}) / \text{approx. 0 V}$
Output current I _{max.}	\leq 100 mA $^{3)}$
Response time	< 500 µs ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Connector M12, 3-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Housing material	Metal, Nickel-plated brass and ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (4 x)
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-25 °C +55 °C ⁹⁾
Ambient temperature, storage	-40 °C +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498
Part number of individual components	2065208 GRS18S-D233W 2065278 GRE18S-F233W

 $^{^{1)}}$ 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	✓

²⁾ May not fall below or exceed 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.

 $^{^{6)}}$ A = V_S connections reverse-polarity protected.

 $^{^{7)}}$ B = inputs and output reverse-polarity protected.

⁸⁾ D = outputs overcurrent and short-circuit protected.

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

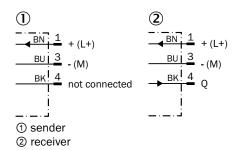
Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

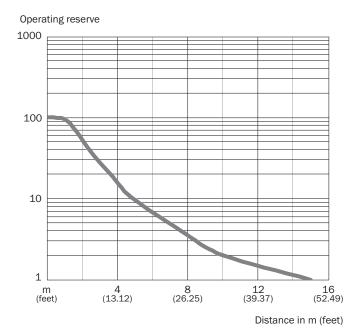
Connection type



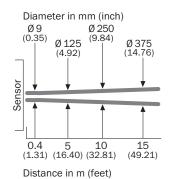
Connection diagram Cd-051



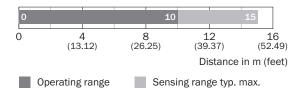
Characteristic curve GRSE18S



Light spot size GRSE18, red light

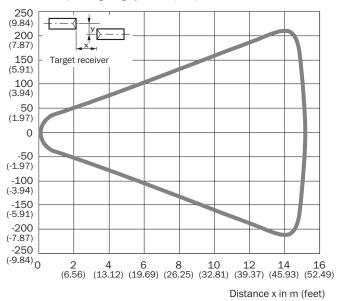


Sensing range diagram GRSE18S

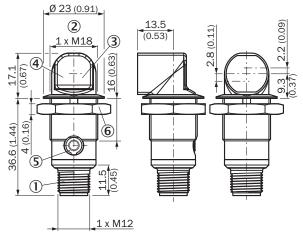


Response range GRSE18S

Parallel operating range y in mm (inch)



Dimensional drawing GR18S, metal, connector, angled, fully flush



Dimensions in mm (inch)

- ① Connector M12, 3-pin
- ② Threaded mounting hole M18 x 1
- 3 LED indicator yellow
- 4 LED indicator green
- ⑤ Dummy plug
- 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	 Description: Mounting bracket for M18 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: GR18, V180-2, V18, W15, Z1, Z2 	BEF-WN-M18	5308446				
(E)	 Description: Mounting tool for "fully flush" variants Usable for: GR18 Suitable for: GR18S, radial, fully flush 	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."

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