

GRSE18-N2427

GR18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
GRSE18-N2427	1068332

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

Detailed technical data

Features

Sensor/ detection principle	Through-beam photoelectric sensor
Housing design (light emission)	Cylindrical, straight
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0 m ... 15 m
Sensing range	0 m ... 10 m
Type of light	Infrared light
Light source	LED ¹⁾
Light spot size (distance)	Ø 420 mm (10 m)
Wave length	850 nm
Adjustment	PotentiometerPotentiometer

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

Communication interface

Communication interface	-
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Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
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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⁾ 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 U_V ≤ 24V and I_A < 50mA.

Ripple	$\pm 5 V_{pp}^{2)}$
Power consumption	$\leq 30 \text{ mA}$
Output type	NPN
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. $V_S / \leq 3 \text{ V}$
Output current $I_{max.}$	$100 \text{ mA}^{3)}$
Response time	$< 500 \mu\text{s}^{4)}$
Switching frequency	$1,000 \text{ Hz}^{5)}$
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (4 x)
EMC	EN 60947-5-2
Test input	Sender OFF at "Test" 0 V
Ambient operating temperature	$-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}^{9)}$
Ambient storage temperature	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
UL File No.	E348498
Part number of individual components	2070571 GRS18-D2426 2074070 GRE18-N2417

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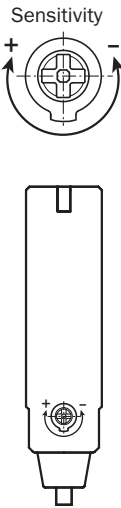
Classifications

ECI@ss 5.0	27270901
ECI@ss 5.1.4	27270901
ECI@ss 6.0	27270901
ECI@ss 6.2	27270901
ECI@ss 7.0	27270901
ECI@ss 8.0	27270901
ECI@ss 8.1	27270901
ECI@ss 9.0	27270901
ETIM 5.0	EC002716

ETIM 6.0	EC002716
UNSPSC 16.0901	39121528

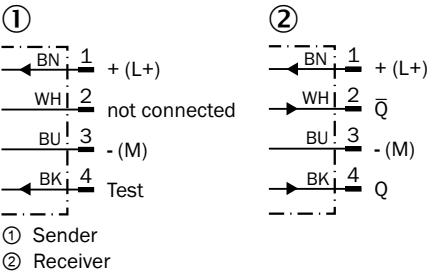
Adjustments possible

GRL18(S), GRSE18(S), Sensitivity setting: Potentiometer, 270°



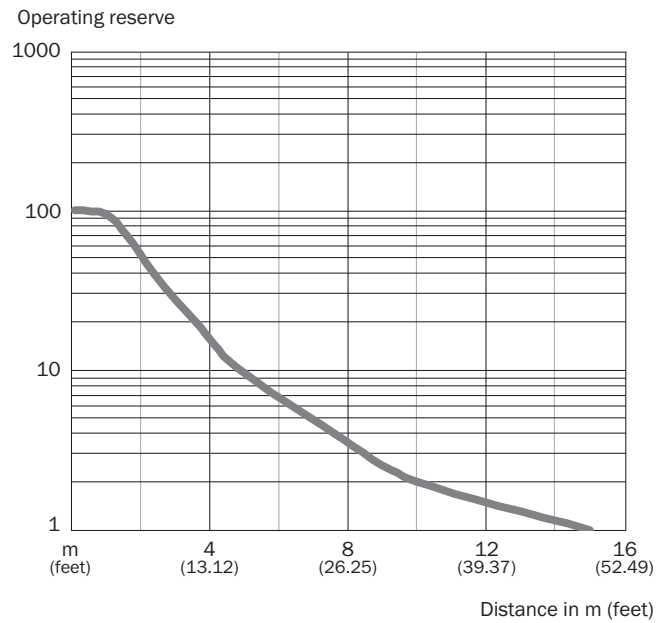
Connection diagram

Cd-072



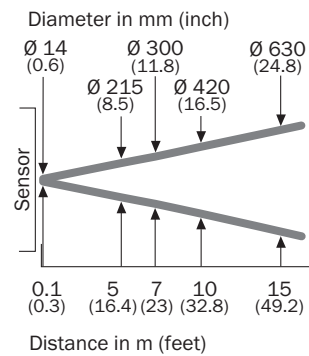
Characteristic curve

GRSE18S



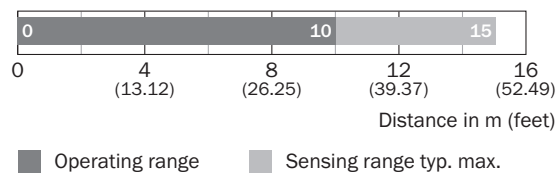
Light spot size

GRSE18, infrared light



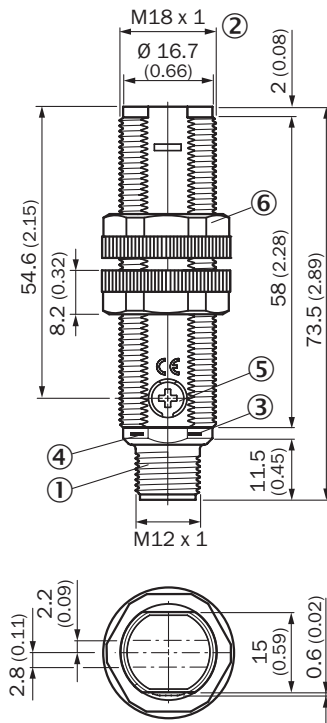
Sensing range diagram

GRSE18S



Dimensional drawing (Dimensions in mm (inch))

GRTE18, GRL18, GRSE18, plastic, connector, straight



- ① Male connector M12, 4-pin
- 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 22, plastic

Recommended accessories

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

	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 plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446

	Brief description	Type	Part no.
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

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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