Online data sheet



GRSE18S-F1336

GR18S

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
GRSE18S-F1336	1059544

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

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	Visible red light
Light source	PinPoint LED [1]
Light spot size (distance)	Ø 250 mm (10 m)
Wave length	650 nm
Adjustment	None

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	± 5 V_{pp} [2]
Power consumption	≤ 30 mA
Switching output	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 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.

Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	V_S - (≤ 3 V) / approx. 0 V
Output current $I_{max.}$	100 mA [3]
Response time	< 500 µs [4]
Switching frequency	1,000 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	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (4 x)
EMC	EN 60947-5-2
Ambient operating temperature	–25 °C ... +55 °C [10]
Ambient storage temperature	–40 °C ... +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498
Part number of individual components	2065196 GRS18S-D1336 2065198 GRE18S-F1336

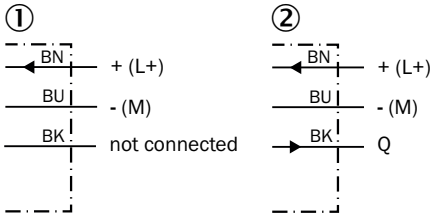
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Classifications

ECl@ss 5.0	27270901
ECl@ss 5.1.4	27270901
ECl@ss 6.0	27270901
ECl@ss 6.2	27270901
ECl@ss 7.0	27270901
ECl@ss 8.0	27270901
ECl@ss 8.1	27270901
ECl@ss 9.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
UNSPSC 16.0901	39121528

Connection diagram

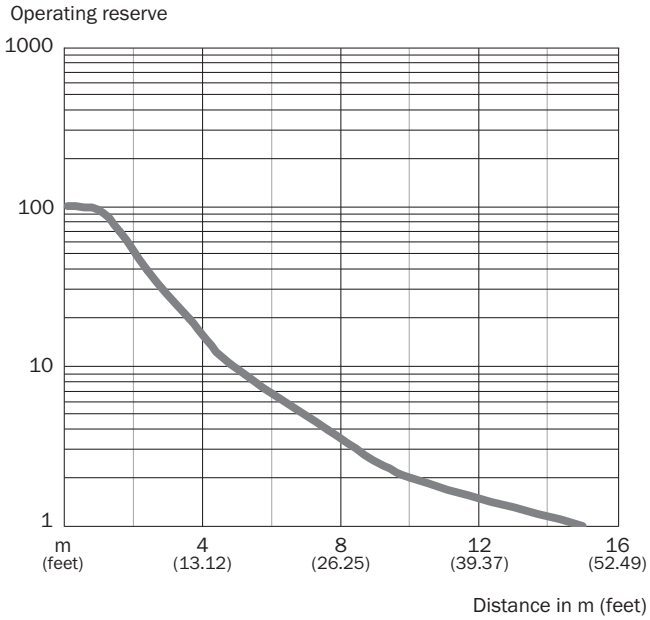
Cd-049



① Sender
② Receiver

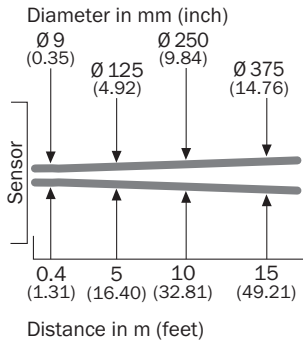
Characteristic curve

GRSE18S



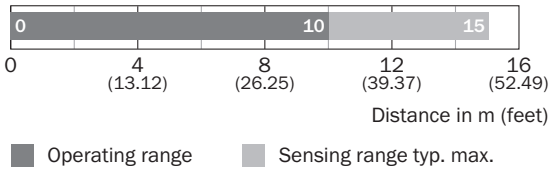
Light spot size

GRSE18, red light



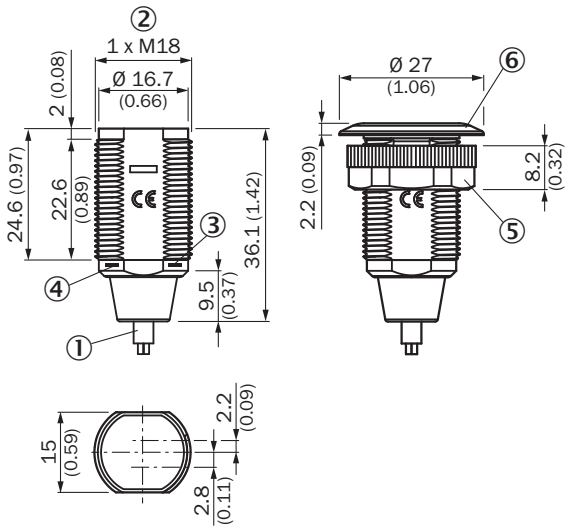
Sensing range diagram

GRSE18S



Dimensional drawing (Dimensions in mm (inch))

GR18S, plastic, cable, straight



① Connection cable 2 m
② Threaded mounting hole M18 x 1
③ LED indicator yellow
④ LED indicator green
⑤ Fastening nut; 22 mm hex, plastic
⑥ Mounting ring

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