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DATA SHEET

WL12G-3P2572T01

W12
Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

PHOTOELECTRIC SENSORS

WL12G-3P2572T01

ORDERING INFORMATION

Type	part no.
WL12G-3P2572T01	1053546

Further device versions and accessories at www.sick.com/W12

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Sensing range max.	0 m ... 4 m [1]
Polarisation filter	Yes
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 25 mm (1.5 m)
Key LED figures	
Wave length	660 nm
Adjustment	Single teach-in button [3]
Special applications	Detecting transparent objects
AutoAdapt	✓

[1] Reflector PL80A.

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

[3] Mode I, 10 % attenuation.

SAFETY-RELATED PARAMETERS

$MTTF_D$	1,099 years
DC_{avg}	0 %

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	40 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. V_S – 2.5 V / 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 333 µs [4]
Switching frequency	1,500 Hz [5]
Circuit protection	A [6] B [7] C [8] D [9]
Special feature	Detecting transparent objects
Operating mode	Mode I, 10 % attenuation, Mode II, 18 % attenuation

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

[2] May not fall below or exceed U_v tolerances.

[3] Without load.

[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] C = interference suppression.

[9] D = outputs overcurrent and short-circuit protected.

MECHANICS

Housing	Rectangular
Dimensions (W x H x D)	15.5 mm x 48.5 mm x 42 mm
Connection	Plug, M12, 5-pin
Material	
Housing	Metal, zinc diecast Plastic, PTFE coating
Front screen	Plastic, PMMA
Weight	120 g

AMBIENT DATA

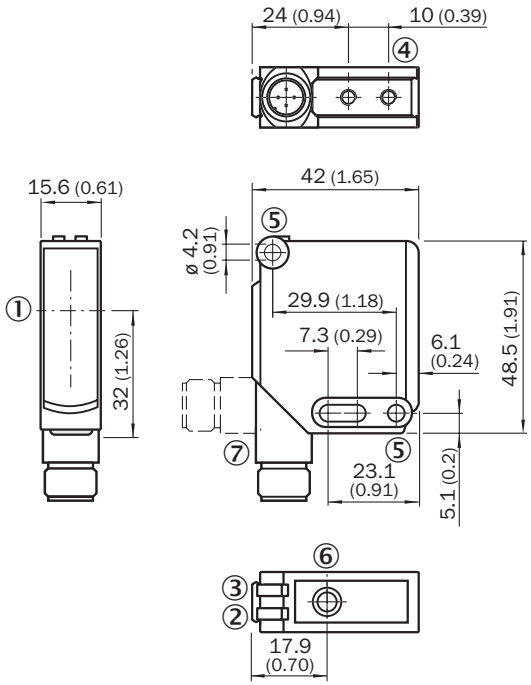
Enclosure rating	IP66 IP67
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓

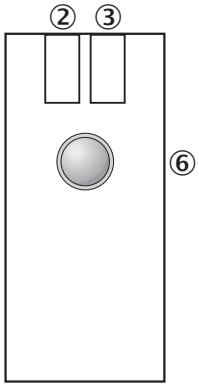
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

DIMENSIONAL DRAWING



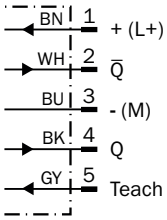
Dimensions in mm (inch)
① Optical axis
② LED indicator yellow: Status of received light beam
③ LED indicator green: Supply voltage active
④ M4 threaded mounting hole, 4 mm deep
⑤ Mounting hole, Ø 4.2 mm
⑥ Sensitivity setting: single teach-in button
⑦ Connection

ADJUSTMENTS TEACH-IN

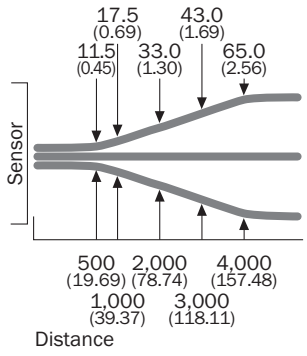


② LED indicator yellow: Status of received light beam
③ green LED indicator: power on, teach-in mode I
③ blue LED indicator: teach-in mode II
⑥ Single teach-in button,
⑥ function 1: teach-in sensitivity on reflector,
⑥ function 2: change operation/teach-in mode

CONNECTION DIAGRAM CD-146

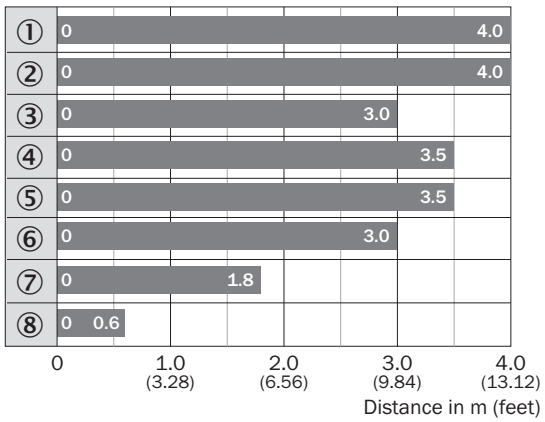


LIGHT SPOT SIZE



All dimensions in mm (inch)

SENSING RANGE DIAGRAM WL12G-3



Sensing range max.

① Reflector PL80A
② Reflector C110A
③ Reflector P250F
④ Reflector PL50A
⑤ Reflector PL40A
⑥ Reflector PL30A
⑦ Reflector PL20A
⑧ Reflective tape REF-IRF-56

FUNCTIONS

Teach-in-Modus für Objekte / ***Teach-in mode for objects***	**Lichtdämpfung /**	**Objekttyp /**	**Teach-in-Zeit /** ***Teach-in time***	**Ext. Teach-in über Leitung /** ***Ext. cable teach-in***	**Anzeige-LED /** ***LED indicator***
I	10 %	PET-Flasche / Folie /Glas / *PET-Flasche / Folie/ glas*	1 ... 5 s	30 ... 100 ms	grün / green
II	18 %	Farbglasflaschen/ Colored glass bottles	5 ... 10 s	100 ... 200 ms	blau / blue

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1053546

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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