Product data sheet

WL12G-3P2582P04

W12G

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WL12G-3P2582P04	1059645

Included in delivery: P250F (1)

Other models and accessories ➜ www.sick.com/W12G

Detailed technical data

Features

Device type	Photoelectric sensors
Functional principle	Photoelectric retro-reflective sensor
Sensing range max.	0 m ... 3 m [1]
Polarisation filters	Yes
Emitted beam	
Light source	LED [2]
Type of light	Infrared light
Light spot size (distance)	Ø 25 mm (1.5 m)
Key LED figures	
Wave length	850 nm
Adjustment	Cable Single teach-in button
Special features	Different functions selectable by teach-in. Function 1 = Sensitivity adjustment. Function 2 = Operation mode selection (Mode I = 40 %, Mode II = 18 %, Mode III = 10 %). Function 3 = change pin 4 and pin 2 assignments
Special applications	Detecting transparent objects
Items supplied	Further details can be found in the operating instructions 8015091

[1] Reflector P250F.
[2] Average service life: 100,000 h at T_U = +25 °C.

Safety-related parameters

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

T_M (mission time)	20 years

Electrical data

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 [4]
Signal voltage PNP HIGH/LOW	Approx. V_S – 2.5 V / 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 333 µs [5]
Switching frequency	1,500 Hz [6]
Switching mode	Light switching [4]
Circuit protection	A [7] B C [8] D [9]
Special feature	Detecting transparent objects
Operating mode	Mode I, 40 % attenuation, Mode II, 18 % attenuation, Mode III, 10 % attenuation

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] Device has two switching outputs: PNP toff = 50 ms / PNP = 600 µs, 1,500 Hz.
[5] Signal transit time with resistive load.
[6] With light/dark ratio 1:1.
[7] A = V_S connections reverse-polarity protected.
[8] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.

Mechanical data

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

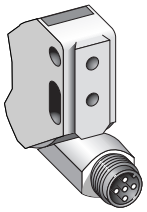
Ambient data

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

Classifications

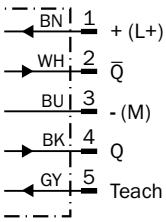
eCl@ss 5.0	27270902
eCl@ss 5.1.4	27270902
eCl@ss 6.0	27270902
eCl@ss 6.2	27270902
eCl@ss 7.0	27270902
eCl@ss 8.0	27270902
eCl@ss 8.1	27270902
eCl@ss 9.0	27270902
eCl@ss 10.0	27270902
eCl@ss 11.0	27270902
eCl@ss 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Connection type



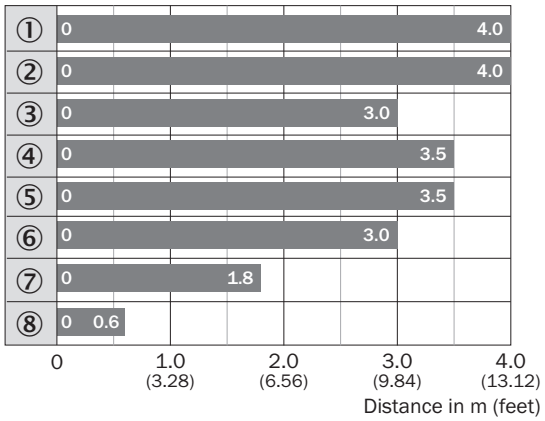
Connection diagram

Cd-146



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 / light attenuation	Objekttyp / object type	Teach-in-Zeit / *Teach-in time*	Ext. Teach-in über Leitung / *Ext. cable teach*	Anzeige-LED / *LED indicator*
I	40 %	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
III	10 %	dickwandige, farbige Glasflaschen/ thick-walled, colored glass bottles dickwandige Glasscheiben/ thick-walled glass panes opake Targets, z.B. dickwandiges Milchglas/ opaque targets, e.g. thick-walled frosted glass	9 ... 12 s	150 ... 200 ms	hellblau (weiß)/ bright blue (white)

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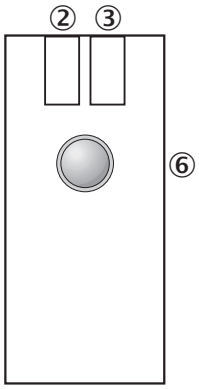
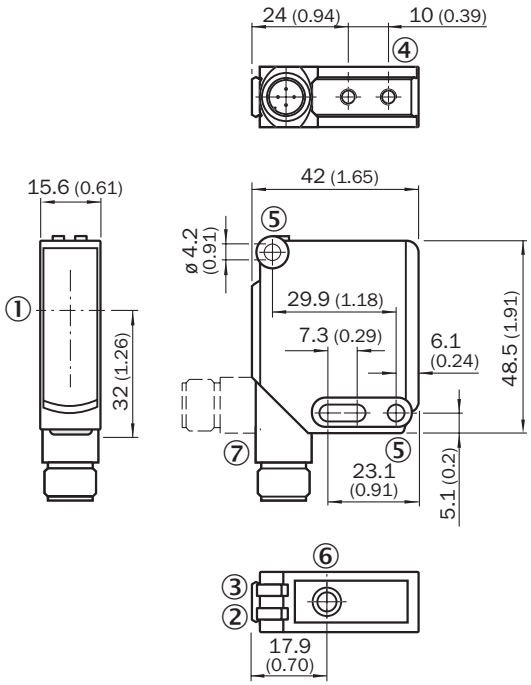
Adjustments

Teach-in



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

Dimensional drawing (Dimensions in mm (inch))



① Optical axis
② LED indicator yellow: Status of received light beam
③ Green LED indicator: supply voltage active, mode I is set, blue LED indicator: mode II is set, bright blue indicator: mode III is set
④ M4 threaded mounting hole, 4 mm deep
⑤ Mounting hole, Ø 4.2 mm
⑥ Sensitivity setting: single teach-in button
⑦ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/W12G

	Brief description	Type	Part no.
Mounting brackets and plates			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Reflectors			
	Fine triple reflector, screw connection, suitable for laser sensors, 52 mm x 62 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843

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