WL9M4G-3P2232

W9-3 Glass

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WL9M4G-3P2232 | W9-3 Glass

SMALL PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	Part no.
WL9M4G-3P2232	1051899

Other models and accessories ➜ www.sick.com/W9-3_Glass

Detailed technical data

Features

Sensor/ detection principle	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D)	12.2 mm x 49.8 mm x 23.6 mm
Housing design (light emission)	Rectangular
Mounting hole	M4
Sensing range max.	0 m … 5 m [1]
Sensing range	0 m … 3 m [1]
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 45 mm (1.5 m)
Wave length	650 nm
Adjustment	Single teach-in button
AutoAdapt	✓
Special applications	Detecting transparent objects

[1] Reflector PL80A.

[2] 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	20 mA [3]
Switching output	PNP [4]
Output function	Complementary
Switching mode	Light/dark switching [4]
Output current $I_{max.}$	≤ 100 mA [5]
Response time	< 0.5 ms [6]
Switching frequency	1,000 Hz [7]
Connection type	Male connector M8, 4-pin
Circuit protection	A [8] B [9] C [10]
Protection class	III
Weight	13 g
Polarisation filter	✓
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Special feature	Detecting transparent objects
Ambient operating temperature	–40 °C ... +60 °C
Ambient storage temperature	–40 °C ... +75 °C
UL File No.	NRKH.E181493

[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] Q = light switching.

[5] At and above Tu 50 °C, a max. load current of Imax. = 50 mA is permitted.

[6] Signal transit time with resistive load.

[7] With light/dark ratio 1:1.

[8] A = V_S connections reverse-polarity protected.

[9] B = inputs and output reverse-polarity protected.

[10] C = interference suppression.

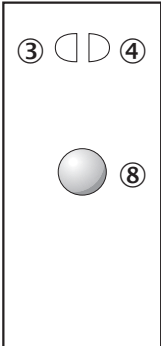## Classifications

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

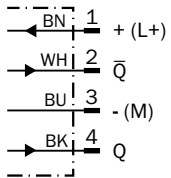| ECl@ss 9.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
UNSPSC 16.0901	39121528

Adjustments possible

Single teach-in button

③ LED indicator yellow: Status of received light beam
④ LED indicator green: power on
⑧ Teach-in button

Connection diagram

Cd-084

BN 1 + (L+)
WH 2 Q̄
BU 3 - (M)
BK 4 Q

Characteristic curve

WL9G-3
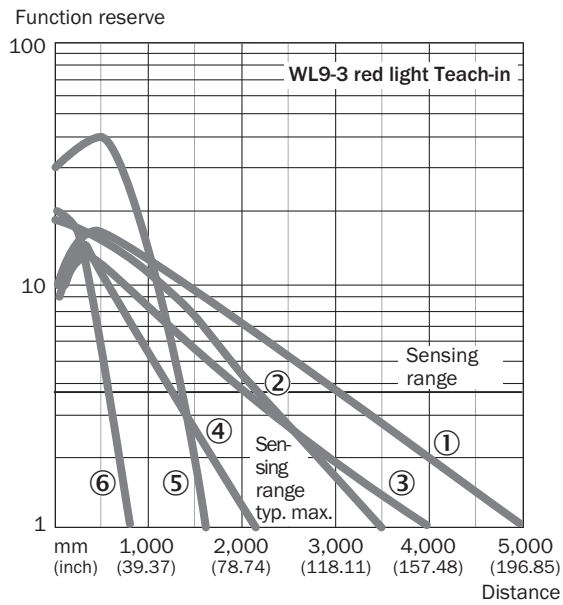
Function reserve

WL9-3 red light Teach-in

Sensing range

② Sensing range typ. max.

④ ① ⑥ ⑤ ③

| | mm (inch) | 1,000 (39.37) | 2,000 (78.74) | 3,000 (118.11) | 4,000 (157.48) | 5,000 (196.85) |

Distance

① Reflector PL80A
② Reflector P250F
③ Reflector PL40A
④ Reflector PL20F
⑤ PL10F reflector
⑥ Reflective tape REF-IRF-56

Light spot size

Ø 7 mm   Ø 25 mm   Ø 60 mm   Ø 120 mm   Ø 160 mm

Sensor

0   1,000   2,000   3,500   5,000

Distance [mm]
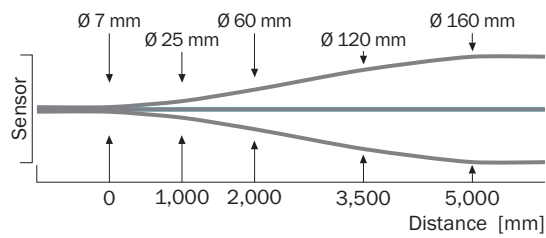
Sensing range diagram

WL9G-3

①	0	3.0	5.0
②	0	2.0	3.5
③	0	2.0	4.0
④	0	1.3	2.2
⑤	0	1.2	1.6
⑥	0 0.5	0.8	

0(m) 1.0 2.0 3.0 4.0 5.0

■ Sensing range   ■ Sensing range max.

① Reflector PL80A
② Reflector P250F
③ Reflector PL40A
④ Reflector PL20F
⑤ PL10F reflector
⑥ Reflective tape REF-IRF-56

Dimensional drawing (Dimensions in mm (inch))

WL9M4-3, WSE9M4-3

① Sender and receiver optical axis center
② Mounting hole M4 (Ø 4.1 mm)
③ LED indicator yellow: Status of received light beam
④ LED indicator green: power on
⑤ Connecting cable or connector
⑥ Male connector M8, 4-pin
⑦ Male connector M12, 4-pin

Recommended accessories

Other models and accessories → www.sick.com/W9-3_Glass

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N02	2051608
Mounting brackets and plates			
	Mounting bracket for wall mounting, steel, zinc coated, mounting hardware included	BEF-W160	5305197
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WN-W9-2	2022855
	Adapter plate, stainless steel	BEF-AP-W9	2022734
	Fastening plate with threaded sleeve M3, PMMA, Brass (Br)	BEF-GPM3-W9	4066039
Masks			
	Mask card, vertical/horizontal slots, slot width: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm	BL-9-2	4033253
Reflectors			
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Fine triple reflector, screw connection, suitable for laser sensors, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843
	Fine triple reflector, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210
	Fine triple reflector, screw connection, suitable for laser sensors, 38 mm x 16 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20F	5308844
	Fine triple reflector, screw connection, suitable for laser sensors, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30F	5326523
	Fine triple reflector, screw connection, suitable for laser sensors, 76 mm x 45 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL81-1F	5325060
	Suitable for laser sensors, self-adhesive, cut, see alignment note, 56.3 mm x 56.3 mm, self-adhesive	REF-AC1000-56	4063030
	Fine triple reflector, chemically resistant, screw connection, 18 mm x 18 mm, Plastic, Screw-on, 2 hole mounting	PL10F CHEM	5321636

	Brief description	Type	Part no.
	Chemically resistant, screw connection, suitable for laser sensors, 16 mm x 38 mm, Plastic, Screw-on, 2 hole mounting	PL20F-CHEM	5326089
	Stainless steel reflector, hygienic design, chemically resistant, enclosure rating IP69K, D12 adapter shaft, PMMA front screens, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), D12-adapter shaft	PLH25-D12	2063404
	Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, PMMA front screens, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), M12-adapter thread	PLH25-M12	2063403
	Stainless steel reflector, washdown design, chemically resistant, IP 69K enclosure rating, screw connection, PMMA front screens, 14 mm x 14 mm, Stainless steel V4A (1.4404, 316L), Screw-on, 2 hole mounting	PLV14-A	2063405

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**

SICK AG | Waldkirch | Germany | www.sick.com