



Photoelectric sensors
W9-3, Photoelectric retro-reflective sensor,
autocollimation

WL9M4-3N2232



Model Name > [WL9M4-3N2232](#)
Part No. > [1051893](#)



Illustration may differ

At a glance

- High-performance retro-reflective sensor in ultra-rugged VISTAL™ housing
- PinPoint LED for highly visible and precise light spot
- Autocollimation optics
- Variable mounting with M4 hole pattern
- Wide range of connection options

Your benefits

- Rugged VISTAL™ housing provides reliable installation and operation
- Reliable object detection in all situations using best-in-class performance
- Quick and easy alignment with reliable object detection due to the highly visible PinPoint light spot
- M4 slotted hole mounting for multiple mounting possibilities
- One housing with a wide range of options makes machine integration easy
- Variety of accessories for simple mounting



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 ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Teach-in:	Single teach-in button
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 45 mm (1.5 m)

1) 2) PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

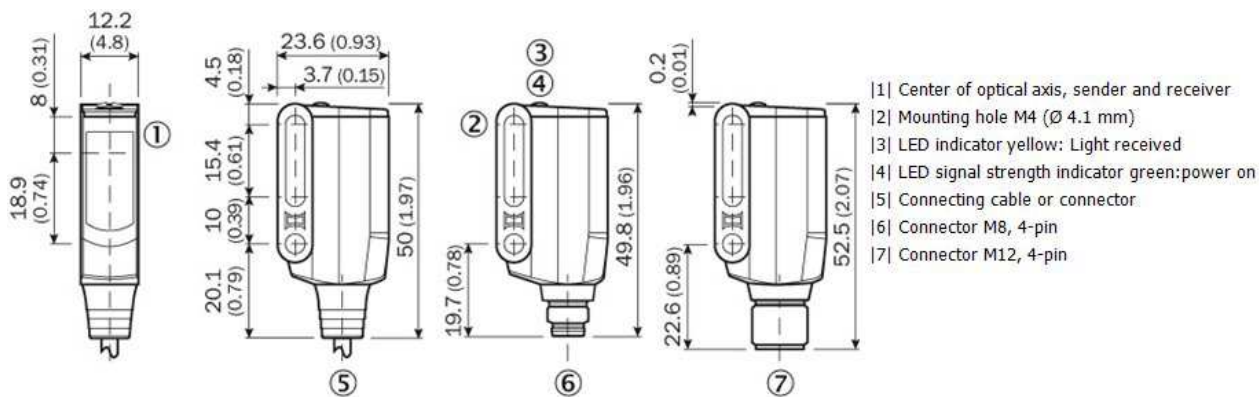
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN ⁴⁾
Output function:	Complementary

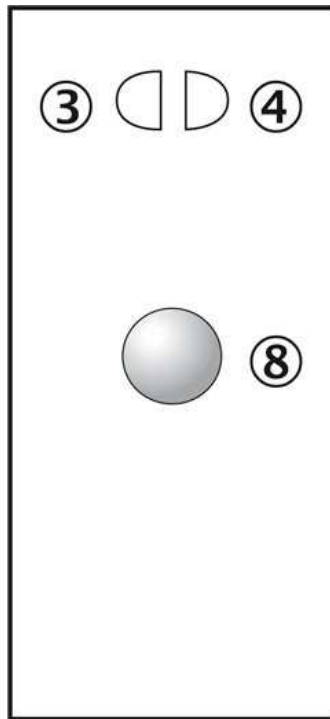
Switching mode:	Light/dark switching ⁵⁾
Output current I _{max.} :	≤ 100 mA ⁶⁾
Response time:	< 0.5 ms ⁷⁾
Switching frequency:	1,000 Hz ⁸⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, C ⁹⁾ ¹⁰⁾ ¹¹⁾
Protection class:	III
Weight:	13 g
Polarisation filter:	✓
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67 IP 69K
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493
Housing material:	Plastic, VISTAL

1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V_S tolerances 3) Without load 4) 5) Q = light-switching 6) As of Tu 50 °C, a max. load current I_{max.} = 50 mA is permitted 7) Signal transit time with resistive load 8) With light/dark ratio 1:1 9) A = V_S connections reverse-polarity protected 10) B = inputs and output reverse-polarity protected 11) C = interference suppression

Dimensional drawing

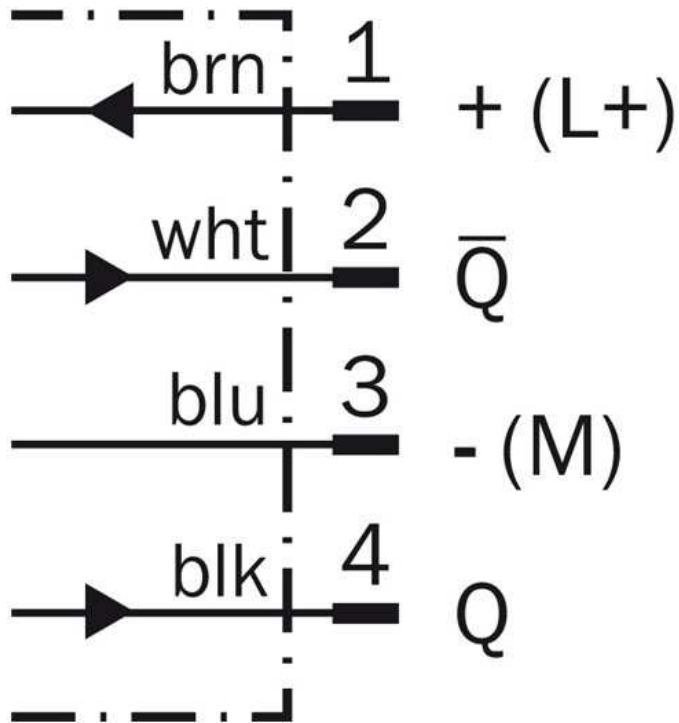


Adjustments possible

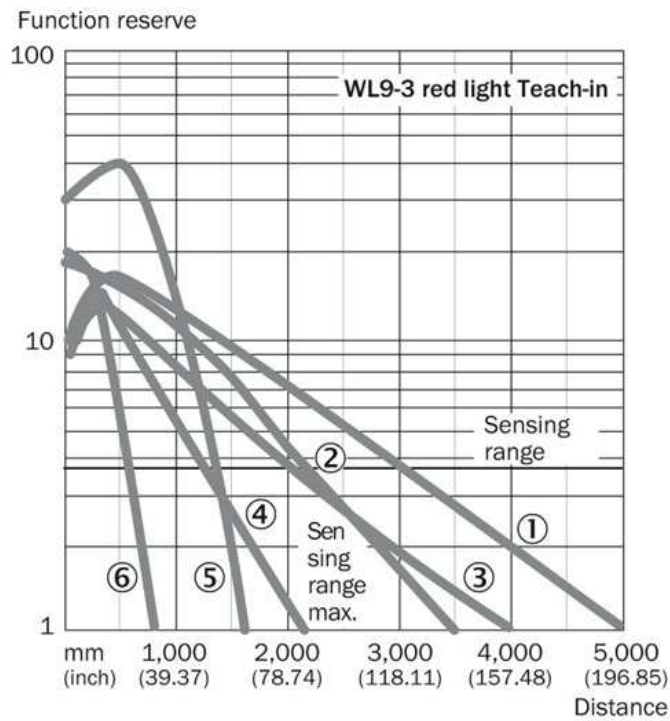


- |3| LED indicator yellow: Light received
- |4| LED signal strength indicator green:power on
- |8| Teach-in button

Connection diagram

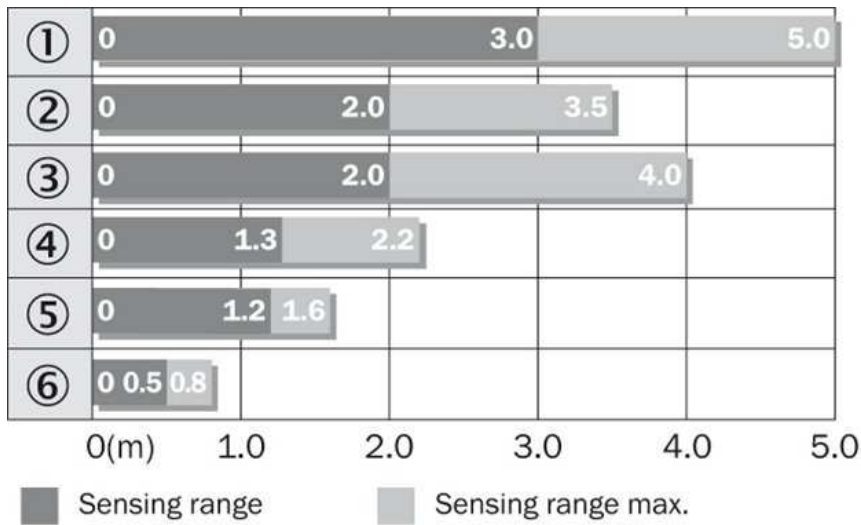


Characteristic curve



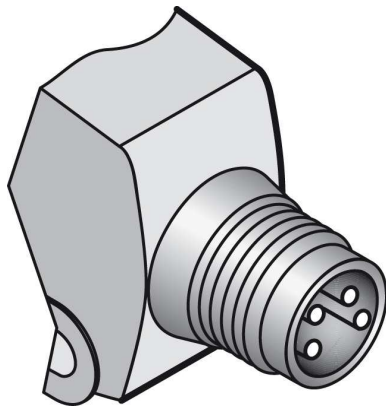
- |1| PL80A
- |2| P250
- |3| PL40A
- |4| PL20A
- |5| PL10F
- |6| REF-IRF-56

Sensing range diagram

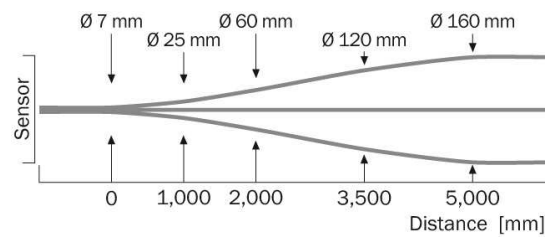


- |1| PL80A
- |2| P250F
- |3| PL40A
- |4| PL20F
- |5| PL10F
- |6| REF-IRF-56

Connection type



Light spot size



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