



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

WL9-3P3030S01



**Model Name** > [WL9-3P3030S01](#)  
**Part No.** > [1050913](#)



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 M3 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 technology
- Quick and easy alignment with reliable object detection due to the highly visible PinPoint light spot
- M3 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 50 mm x 23.6 mm
Housing design (light emission):	Rectangular
Mounting hole:	M3
Sensing range max.:	0 m ... 5 m <sup>1)</sup>
Sensing range:	0 m ... 3 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Light spot size (distance):	Ø 45 mm (1.5 m)

<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

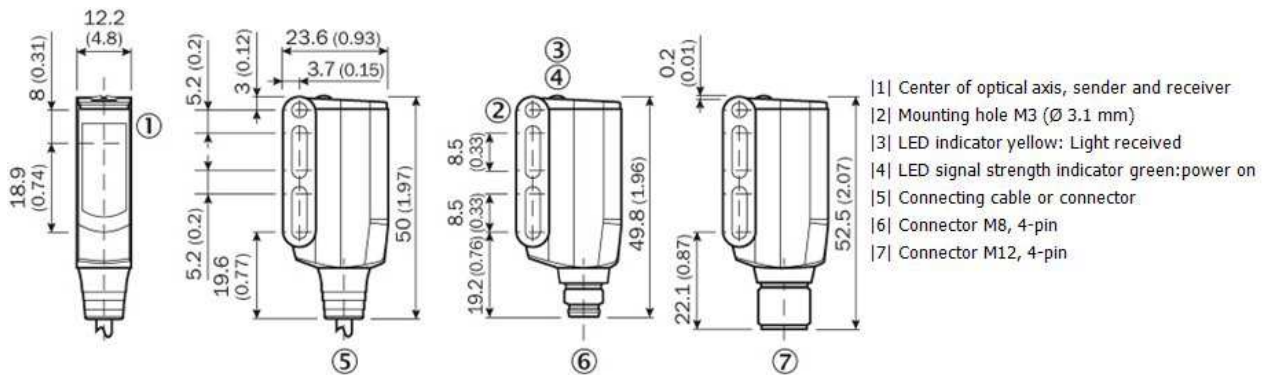
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	PNP <sup>4)</sup>
Output function:	Complementary
Switching mode:	Light/dark switching <sup>5)</sup>
Output current I <sub>max.</sub> :	≤ 100 mA <sup>6)</sup>

Response time:	< 0.5 ms <sup>7)</sup>
Switching frequency:	1,000 Hz <sup>8)</sup>
Connection type:	Cable with connector M12, 4-pin, 290 mm <sup>9)</sup>
Cable material:	PVC
Conductor cross-section:	0.14 mm <sup>2</sup>
Circuit protection:::	A, B, C <sup>10)</sup> <sup>11)</sup> <sup>12)</sup>
Protection class:	III
Weight:	80 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 <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4) 5)</sup> Q = light-switching <sup>6)</sup> As of Tu 50 °C, a max. load current I<sub>max.</sub> = 50 mA is permitted <sup>7)</sup> Signal transit time with resistive load <sup>8)</sup> With light/dark ratio 1:1 <sup>9)</sup> Do not bend below 0 °C <sup>10)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>11)</sup> B = inputs and output reverse-polarity protected <sup>12)</sup> C = interference suppression

## Dimensional drawing

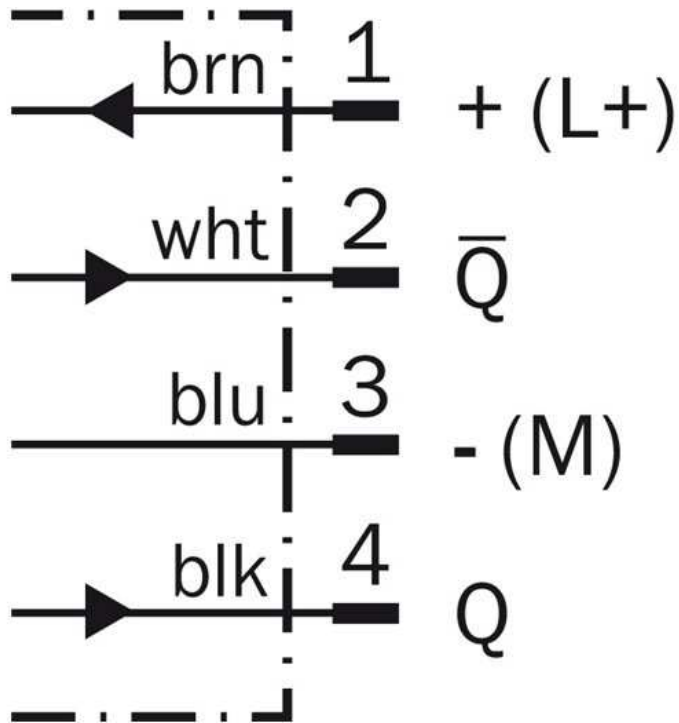


Adjustments possible

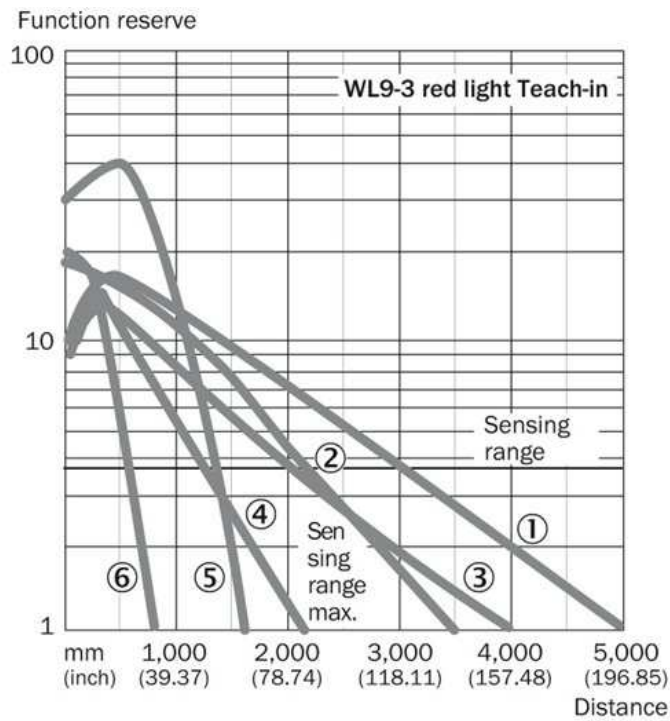


|3| LED indicator yellow: Light received  
|4| LED signal strength indicator green:power on

Connection diagram

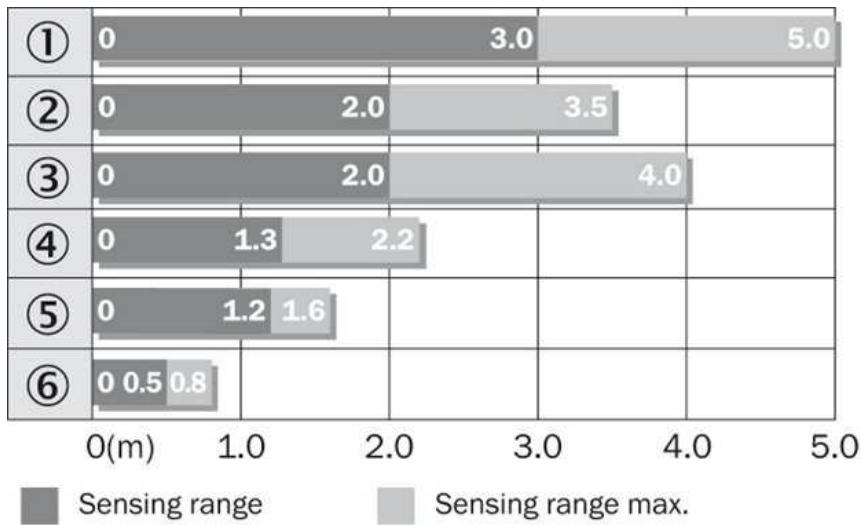


## Characteristic curve



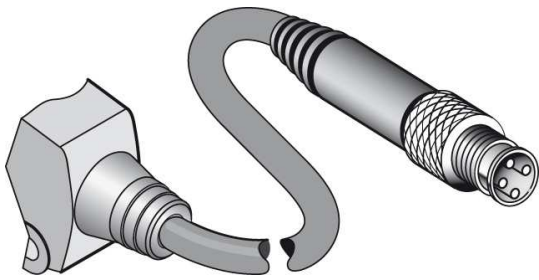
- |1| PL80A
- |2| P250
- |3| PL40A
- |4| PL20A
- |5| PL10F
- |6| REF-IRF-56

## Sensing range diagram

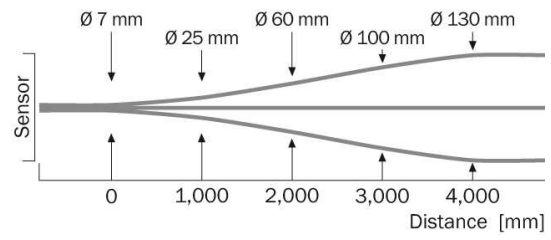


- |1| PL80A
- |2| P250F
- |3| PL40A
- |4| PL20F
- |5| PL10F
- |6| REF-IRF-56

## Connection type



## Light spot size



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