



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

WL9-3P1132



Model Name > [WL9-3P1132](#)
Part No. > [1049056](#)



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 ¹⁾ |
| Sensing range: | 0 m ... 3 m ²⁾ |
| Type of light: | Visible red light |
| Light source: | PinPoint LED ³⁾ |
| Wave length: | 650 nm |
| Teach-in: | Single teach-in button |
| Adjustment: | Teach-in |
| 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

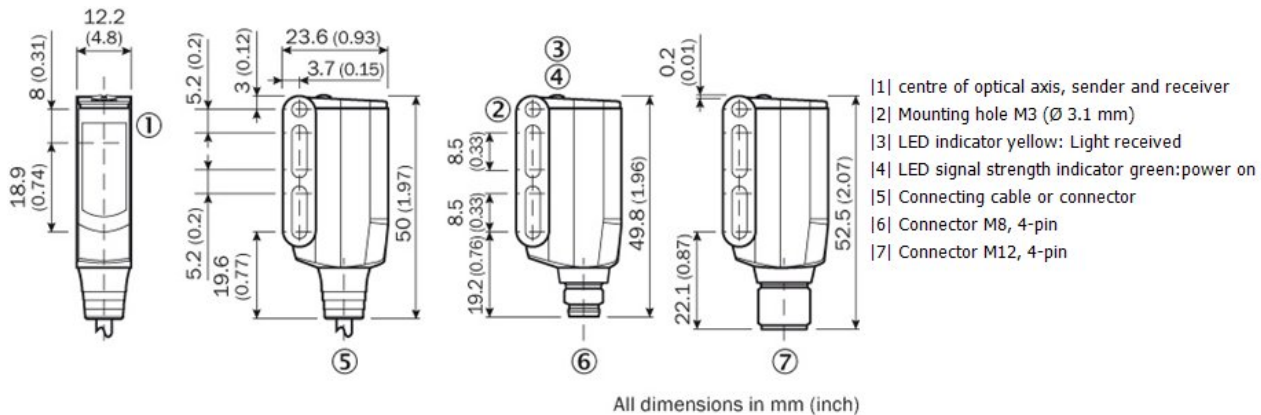
Mechanics/electronics

| | |
|--------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Power consumption: | ≤ 30 mA ²⁾ |
| Output type: | PNP ³⁾ |
| Output function: | Complementary |

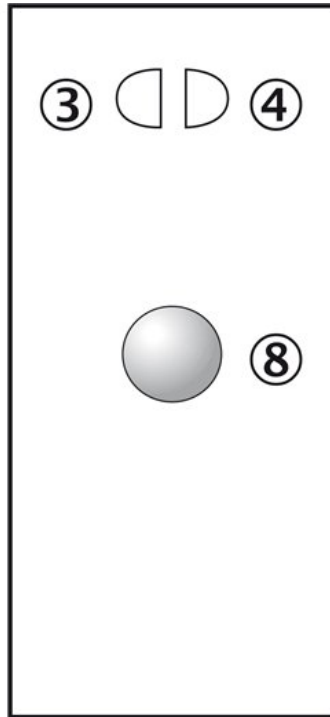
| | |
|------------------------------------|-----------------------------------------------------|
| Switching mode: | Light/dark-switching ⁴⁾ |
| Output current I _{max.} : | ≤ 100 mA ⁵⁾ |
| Response time: | < 0.5 ms ⁶⁾ |
| Switching frequency: | 1,000 Hz ⁷⁾ |
| Connection type: | Cable, 4-wire, 2 m ⁸⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.14 mm ² |
| Circuit protection::: | A, B, C ⁹⁾ ¹⁰⁾ ¹¹⁾ |
| Protection class: | III |
| Weight: | 80 g |
| Polarisation filter: | ✓ |
| Housing material: | Plastic, VISTAL |
| 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 |

1) Limit values, operation in short-circuit protected network max. 8 A ²⁾ Without load ³⁾ ⁴⁾ Q = light-switching ⁵⁾ As of Tu 50 °C, a max. load current I_{max.} = 50 mA is permitted ⁶⁾ Signal transit time with resistive load ⁷⁾ With light/dark ratio 1:1 ⁸⁾ Do not bend below 0 °C ⁹⁾ A = V_S connections reverse-polarity protected ¹⁰⁾ B = inputs and output reverse-polarity protected ¹¹⁾ C = interference suppression

Dimensional drawing

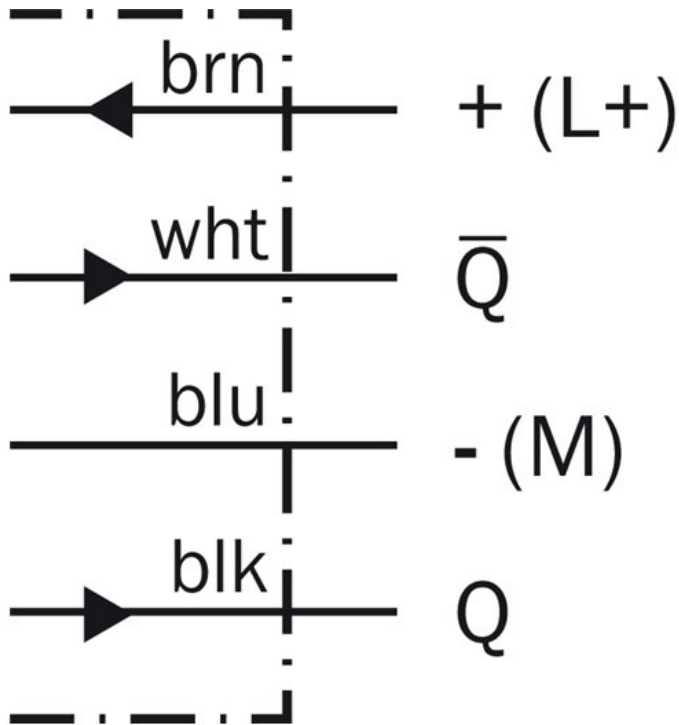


Adjustments possible

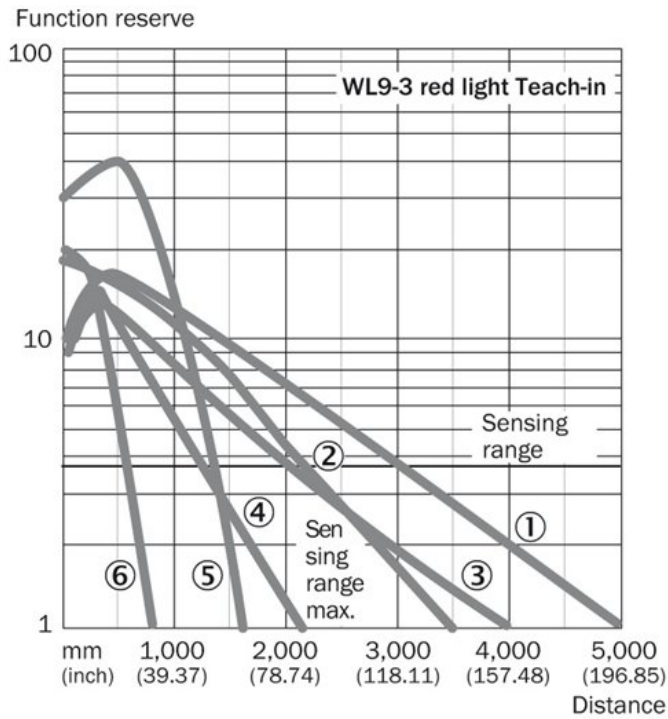


- |3| LED indicator yellow: Light received
- |4| LED signal strength indicator green: power on
- |8| Teach-in button

Connection diagram

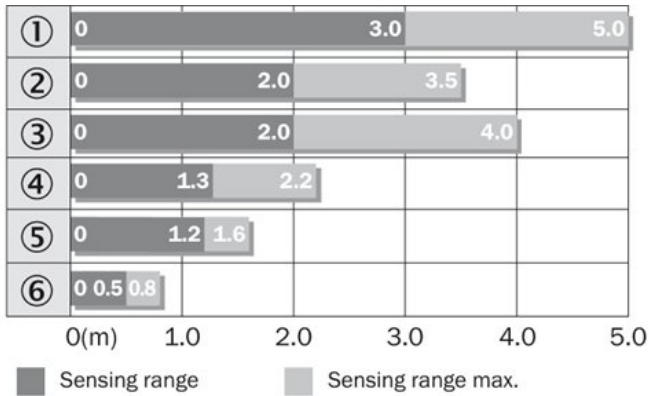


Characteristic curve



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

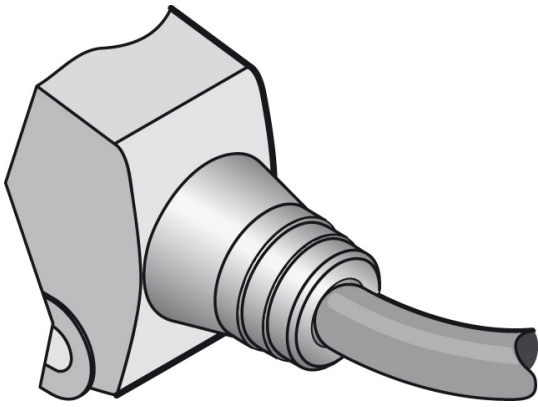
Sensing range diagram



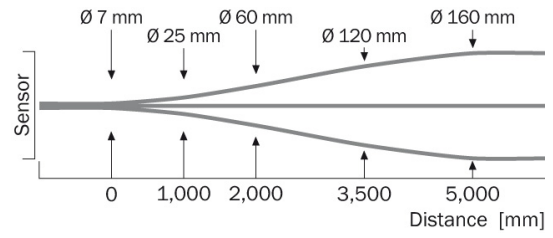
- |1| PL80A
- |2| P250F
- |3| PL40A
- |4| PL20F
- |5| PL10F
- |6| REF-IRF-56

| | Reflector type | Sensing range |
|---|----------------|---------------|
| ① | PL80A | 0 ... 3.0 m |
| ② | PL250F | 0 ... 2.0 m |
| ③ | PL40A | 0 ... 2.0 m |
| ④ | PL20F | 0 ... 1.3 m |
| ⑤ | PL10F | 0 ... 1.2 m |
| ⑥ | REF-IRF-56 | 0 ... 0.5 m |

Connection type



Light spot size



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