



Photoelectric sensors
Photoelectric retro-reflective sensor, Product
group W160

WL160-E440



Model Name > [WL160-E440](#)
Part No. > [6022766](#)



- Vertical models
- Polarization filter, consequently reliable detection of objects with shiny surfaces
- Red light as alignment aid
- Sensitivity adjustable
- LED indicator: operating reserve



Product features

| | |
|-----------------------------|------------------------------------|
| Sensing range min ... max:: | 0.01 m ... 4.5 m, 0.01 m ... 6.5 m |
| Light source:: | LED |
| Type of light: | Red light |
| Light spot diameter: | Approx. 300 mm at 3 m distance |
| Laser: | Red light |
| Sensing range max.: | 0.01 m ... 4.5 m, 0.01 m ... 6.5 m |
| Relating to: | Reflector PL80A |
| Sensitivity adjustment: | Potentiometer, 2 rotations |
| Wave length: | 680 nm |

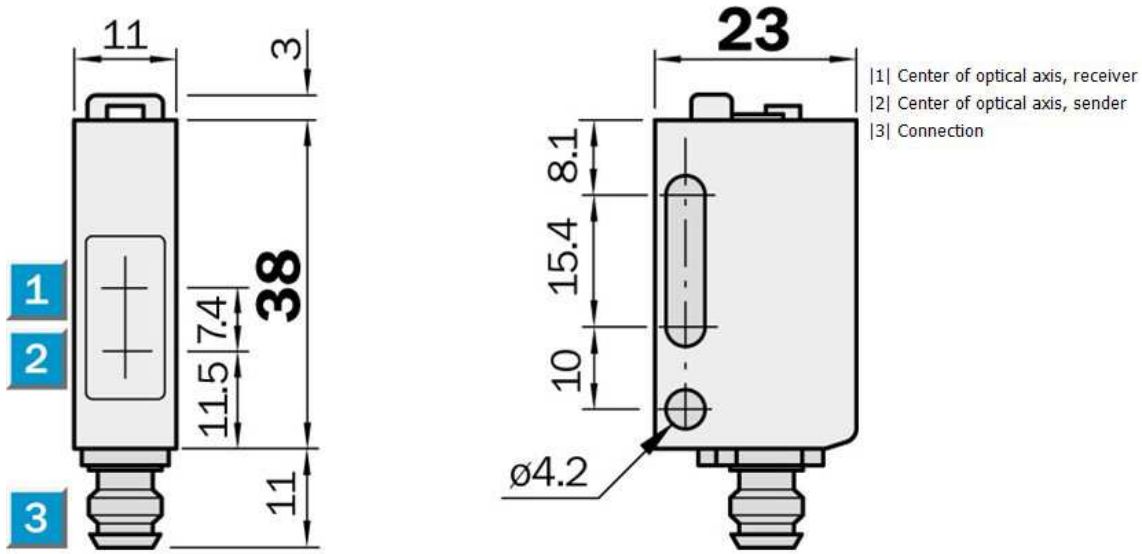
Technical data

| | |
|--|---|
| Design:: | Rectangular |
| Dimensions (W x H x D): | 11 mm x 38 mm x 23 mm |
| Supply voltage min ... max.: | DC 10 ... 30 V ¹⁾ |
| Ripple: | ± 10 % |
| Power consumption: | ≤ 25 mA |
| Output type: | NPN: open collector: Q |
| Switching mode: | Light/dark switching via rotary switch |
| Signal voltage NPN HIGH/LOW: | Approx. $V_S / <$ 1.8 V |
| Output current max.: | 100 mA |
| Response time.: | ≤ 0.5 ms |
| Switching frequency: | 1,000 Hz |
| Connection type: | Connector, M8, 4-pin |
| Circuit protection: | V_S connections reverse-polarity protected/In-/outputs short-circuit protected/Interference suppression/Outputs overcurrent and short-circuit protected |
| Enclosure rating.: | IP 67: EN 60529, IP 69K: EN 40050 |
| Ambient operation temperature, min ... max.: | -25 °C ... +55 °C |
| Ambient storage temperature, min ... max.: | -40 °C ... +70 °C |

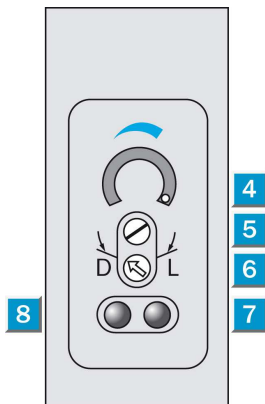
| | |
|----------------------|-----------|
| Weight: | Ca. 20 g |
| Housing material: | PBT |
| Angle of dispersion: | Ca. 5.8 ° |
| Series: | W160 |
| Optics material: | PMMA |
| Housing design: | Vertical |

1) Limit values, reverse-polarity protected operation in short-circuit protected network max. 8 A

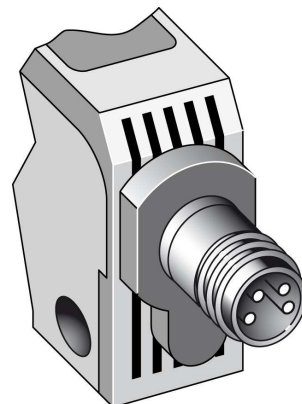
Dimensional drawing



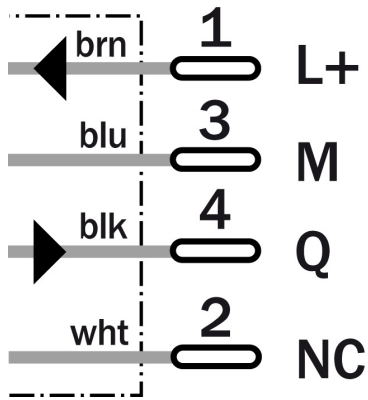
Adjustment possible



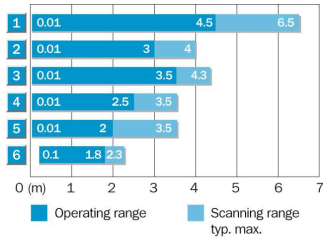
Connection type



Connection diagram

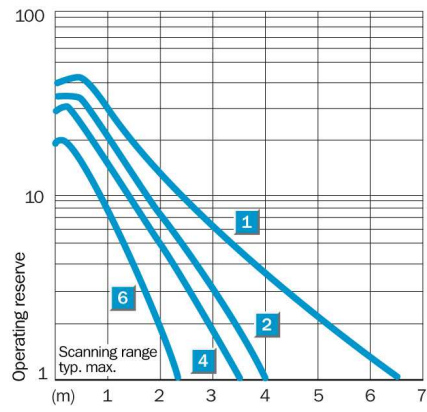


Sensing range diagram



| Reflector type | Operating range |
|----------------|---|
| 1 | PL80A 0.01 ... 4.5 m |
| 2 | P250 0.01 ... 3 m |
| 3 | PL50A/PL40A 0.01 ... 3.5 m |
| 4 | PL30A/PL31A 0.01 ... 2.5 m |
| 5 | PL20A 0.01 ... 2 m |
| 6 | Reflective tape Diamond Grade 0.1 ... 1.8 m (100 x 100 mm ²) |

Characteristic curve



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