



Photoelectric sensors  
W100, Photoelectric retro-reflective sensor,  
Standard optics

WL100-P4400S38



**Model Name** > [WL100-P4400S38](#)  
**Part No.** > [6042013](#)



*Illustration may differ*

**At a glance**

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Polarizing filter
- Light/dark switching and sensitivity adjustment via rotary switch possible
- All necessary accessories (BEF-W100-A and P250) are included with delivery (depending on type)

**Your benefits**

- Highly visible light spot simplifies alignment
- Less contamination due to high optical operating reserve
- Polarization filter allows reliable detection of objects with shiny surfaces and prevents false switching
- M3 threaded mounting holes provide easy installation
- Variants available for reliably detecting clear materials, min. attenuation 20 %
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs (depending on type)

**Product will be phased out and can be ordered until 31.12.2015.**



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.1 m ... 7.5 m <sup>1)</sup>
Sensing range:	0.1 m ... 6 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	645 nm
Angle of dispersion:	Ca. 2 °
Focus adjustable:	-
Special features:	Without adjustment pots, Without accessories
Light spot size (distance):	Ø 150 mm (4 m)

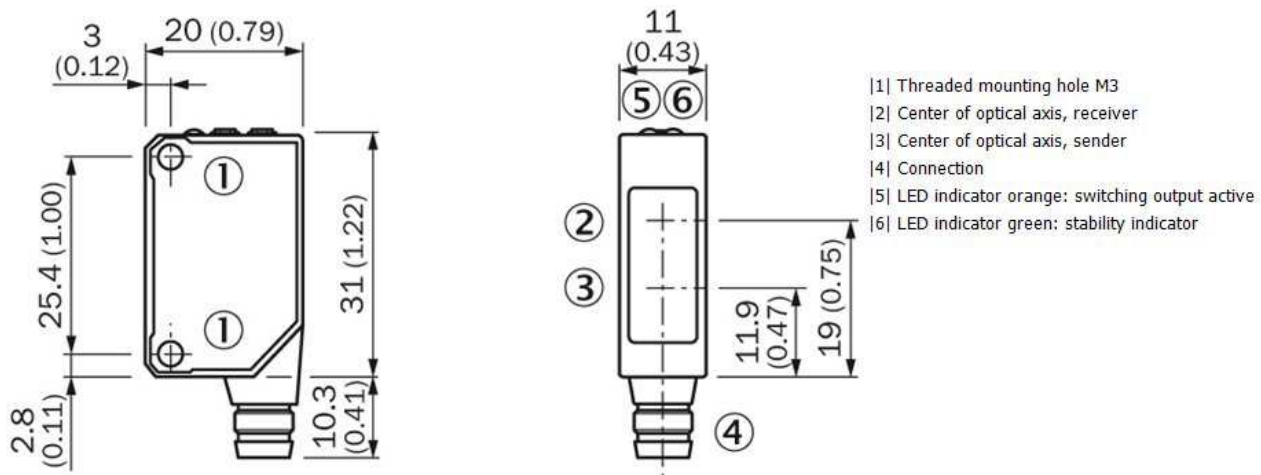
<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

**Mechanics/electronics**

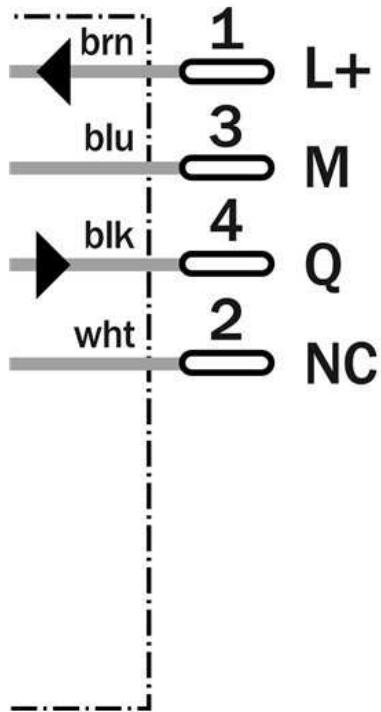
Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	± 10 % <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	PNP
Switching mode:	Light switching
Output current I <sub>max.</sub> :	≤ 100 mA <sup>4)</sup>
Response time:	≤ 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Weight:	9 g
Polarisation filter:	✓
Special device:	✓
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH2.E300503 & NRKH8.E300503
Signal voltage NPN HIGH/LOW:	Approx. VS / < 1.8 V
Housing material:	ABS/PC/POM, Plastic

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>7)</sup> B = inputs and output reverse-polarity protected <sup>8)</sup> D = outputs overcurrent and short-circuit protected

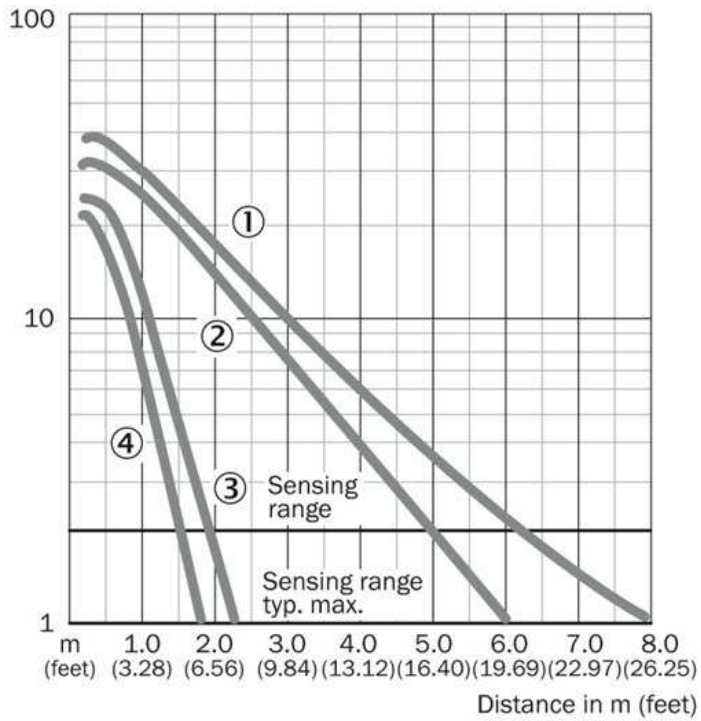
## Dimensional drawing



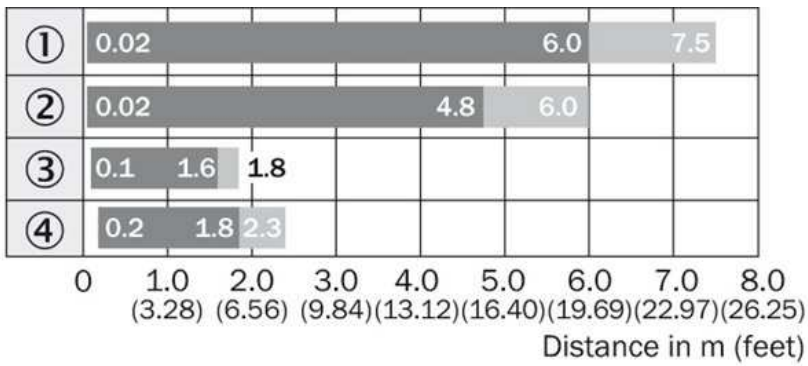
Connection diagram



Characteristic curve



## Sensing range diagram

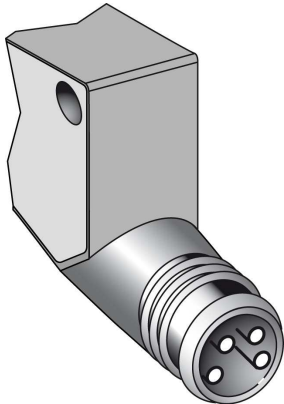


■ Sensing range      ■ Sensing range typ. max.

## Reflector type

- ① PL80A
- ② P250
- ③ P45
- ④ Reflective tape  
Diamond Grade

## Connection type



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