



Photoelectric sensors  
W150, Photoelectric retro-reflective sensor,  
Standard optics

WL150-P420



**Model Name** > [WL150-P420](#)  
**Part No.** > [6020688](#)



*Illustration may differ*

**At a glance**

- Standard optics
- Polfilter
- Sensing distance of up to 2.4 m
- Version for detection of transparent objects
- Sensitivity control on device via potentiometer
- Light/dark switching selectable via control wire
- Suitable for Diamond Grade reflective tape

**Your benefits**

- Polarizing filters prevent false readings on reflective surfaces, ensuring reliable object detection
- Reliable detection of transparent objects
- Reliable detection of objects moving at fast speeds
- Highly visible red light for easy alignment



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	10 mm x 28 mm x 17.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 0.7 m <sup>1)</sup>
Sensing range:	0.01 m ... 0.6 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Sensitivity adjustment:	Potentiometer, 270°
Angle of dispersion:	Ca. 7.5 °

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

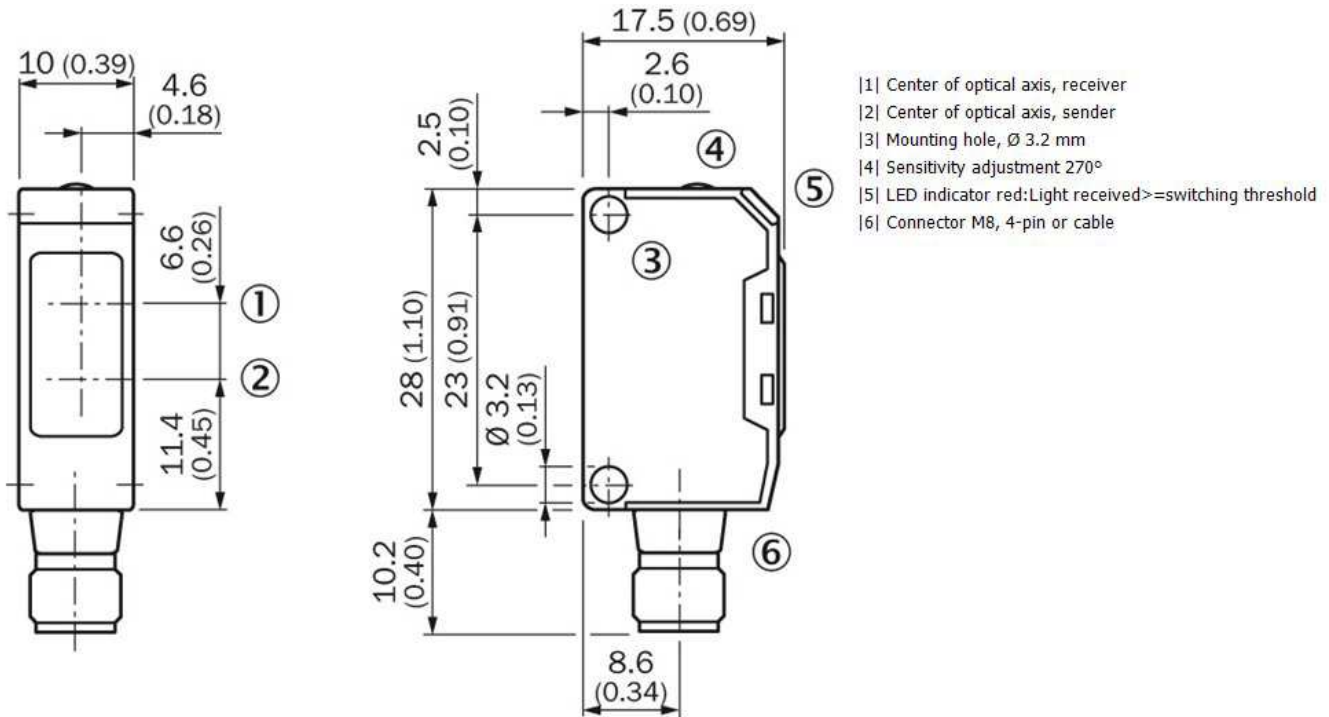
**Mechanics/electronics**

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, Light/dark-switching, control cable, open collector
Output current I <sub>max.</sub> :	≤ 100 mA
Response time:	≤ 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>

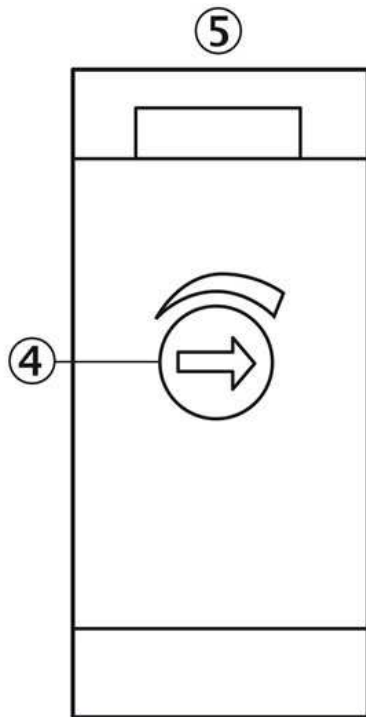
Attenuation along light beam:	> 20 %
Attenuation difference of object:	> 7.5 %
Electrical connection:	Connector M8, 4-pin
Circuit protection:::::	A, B, C, D <sup>6)</sup> <sup>7)</sup> <sup>8)</sup> <sup>9)</sup>
Protection class:	II
Weight:	7 g
Polarisation filter:	✓
Housing material:	ABS
Optics material:	PC
Enclosure rating:	IP 67
Items supplied:	BEF-W150-A mounting bracket, Reflector PL20A
Special feature:	For transparent objects
Ambient temperature operation:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRNT2.E128350 & cUL No. NRNT8.E128350

1) Limit values 2) May not exceed or fall short of  $V_S$  tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6)  $A = V_S$   
connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

### Dimensional drawing



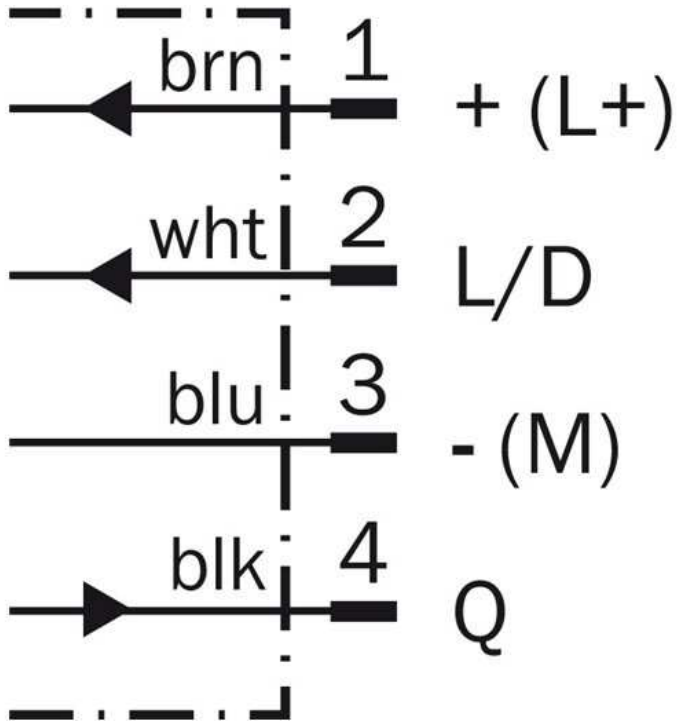
Adjustments possible



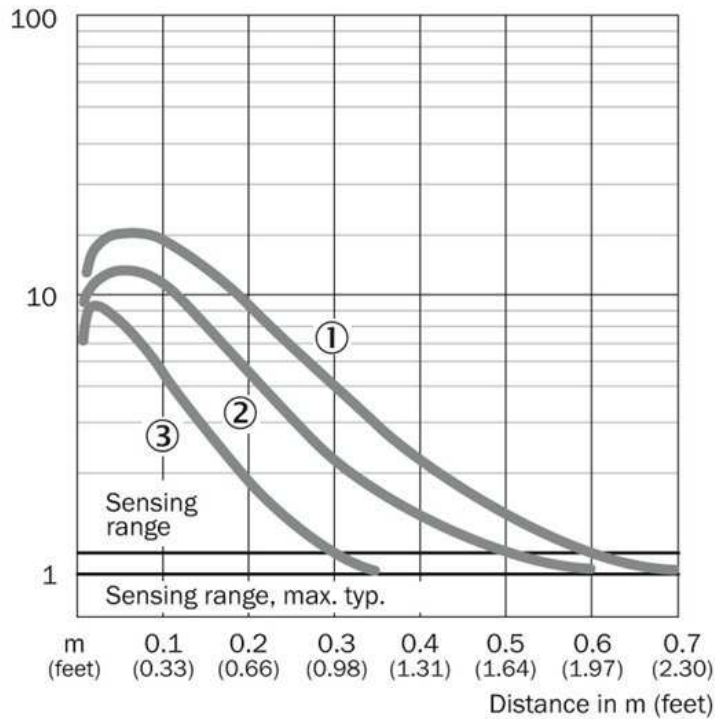
|4| Sensitivity adjustment 270°

|5| LED indicator red:Light received >= switching threshold

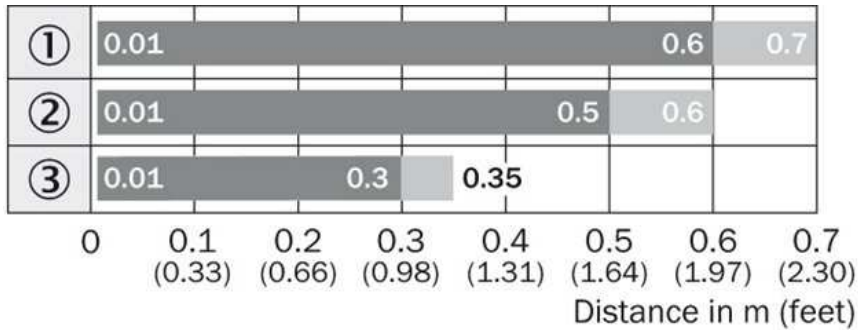
Connection diagram



## Characteristic curve



## Sensing range diagram



■ Sensing range

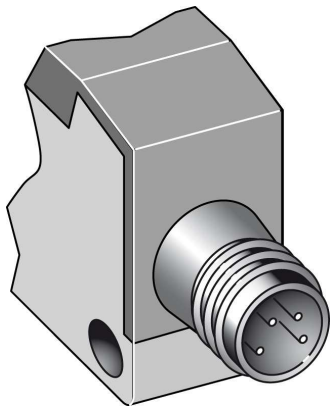
■ Sensing range typ. max.

## Reflector type

- ① PL80A
- ② PL250
- ③ PL20A

Connection type

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