



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

WL150-N420



Model Name > [WL150-N420](#)
Part No. > [6020685](#)



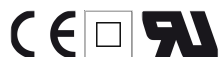
Illustration may differ

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 ¹⁾
Sensing range:	0.01 m ... 0.6 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Sensitivity adjustment:	Potentiometer, 270°
Angle of dispersion:	Ca. 7.5 °

^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

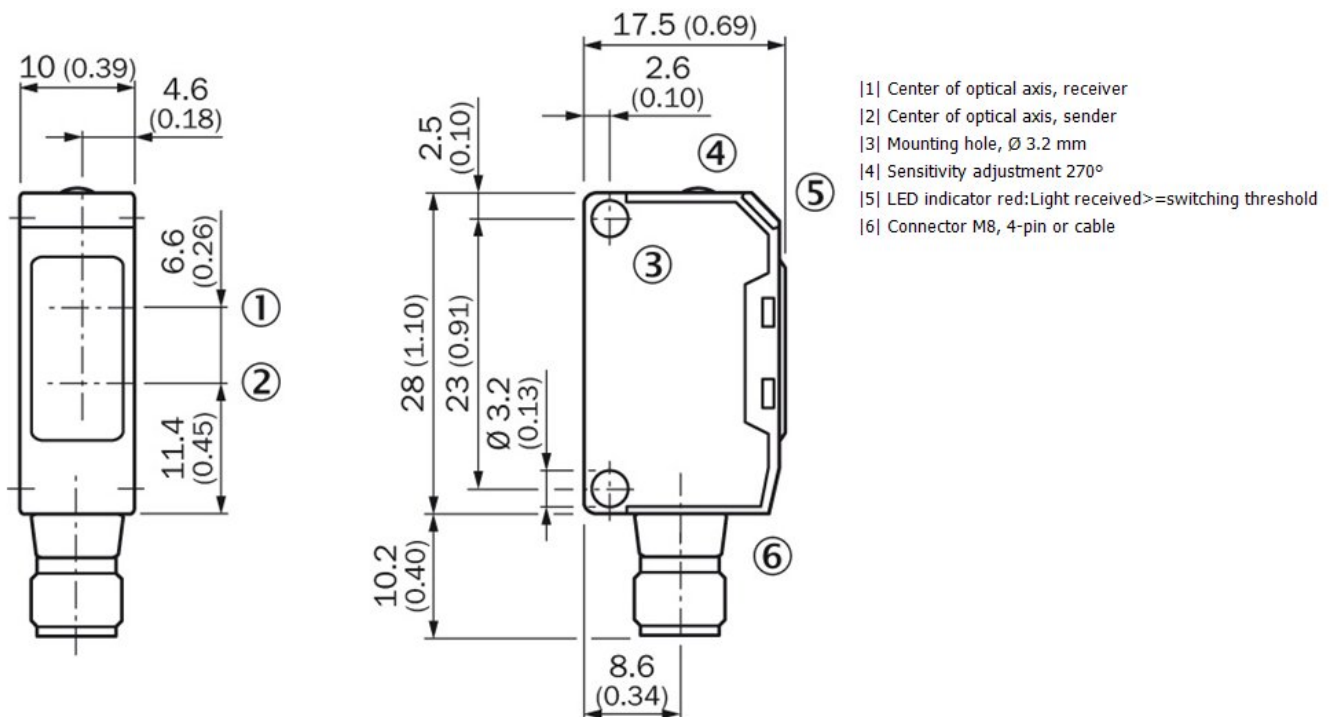
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN, Light/dark-switching, control cable, open collector
Output current I _{max} :	≤ 100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾

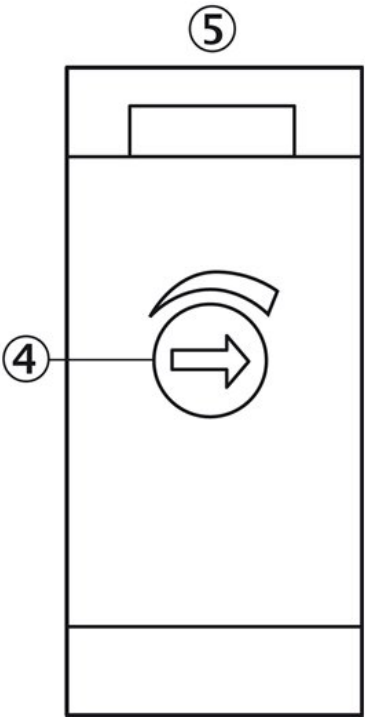
Attenuation along light beam:	> 20 %
Attenuation difference of object:	> 7.5 %
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, C, D ⁶⁾ ⁷⁾ ⁸⁾ ⁹⁾
Protection class:	II
Weight:	7 g
Polarisation filter:	✓
AS-Interface-Chip:	-
Housing material:	ABS
Optics material:	PC
Enclosure rating:	IP 67
Items supplied:	BEF-W150-A mounting bracket, Reflector PL20A
Special feature:	For transparent objects
Ambient operating temperature:	-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

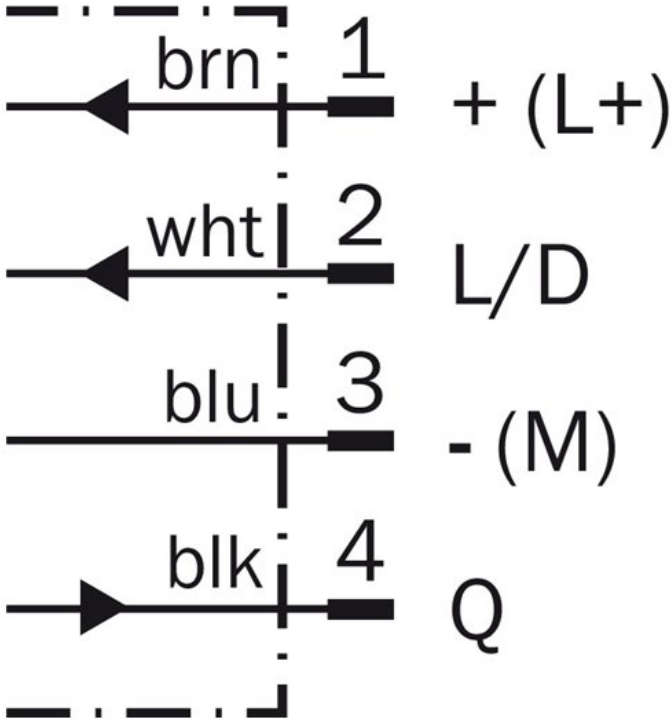


Adjustments possible

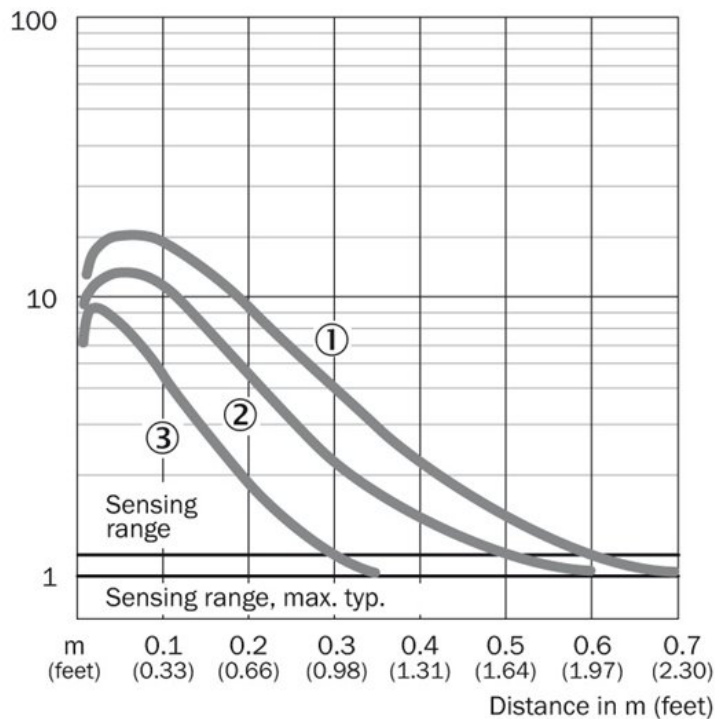


- |4| Sensitivity adjustment 270°
- |5| LED indicator red:Light received>=switching threshold

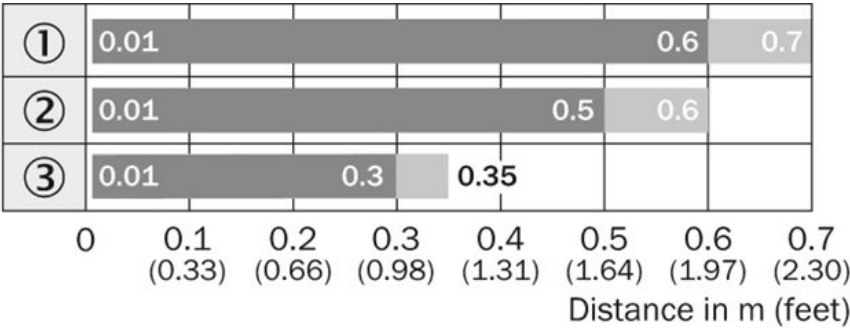
Connection diagram



Characteristic curve



Sensing range diagram

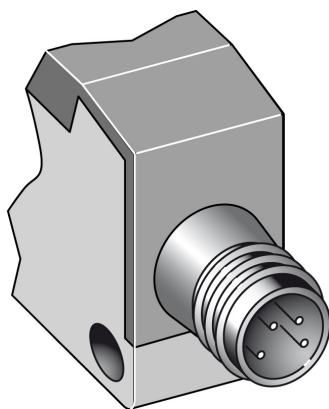


■ Sensing range ■ Sensing range typ. max.

Reflector type

- ① PL80A
- ② PL250
- ③ PL20A

Connection type



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