



Photoelectric sensors  
W11G-2, Photoelectric retro-reflective sensor,  
autocollimation

WL11G-2B2531P04



**Model Name** > [WL11G-2B2531P04](#)  
**Part No.** > [1047437](#)



*Illustration may differ*

**At a glance**

- Retro-reflective for detection of clear material objects
- Rugged housing for industrial use
- PinPoint LED technology with a highly visible light spot
- Space-saving plastic housing in chemically, thermally or mechanically resistant designs
- Dovetail mounting - standard mounting holes and oblong holes
- Highly visible 360° status LEDs
- Simple sensitivity adjustment via potentiometer

**Your benefits**

- Superior ASIC ensures reliable detection of transparent objects
- PinPoint LED technology provides a bright, small and precise light spot that enables quick and easy sensor alignment
- Precise switching characteristics ensure high performance even in changing application conditions
- Highly visible 360° status LEDs provide fast and easy commissioning
- Rugged housing design withstands harsh environments, reducing downtime and maintenance effort
- Uniform housing, mounting and connection systems reduce mounting and installation time
- High immunity to optical interferences reduces false readings and downtime



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 4 m <sup>1)</sup>
Sensing range:	0 m ... 4 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	640 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 11 turns
Light spot size (distance):	Ø 25 mm (1.5 m)

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

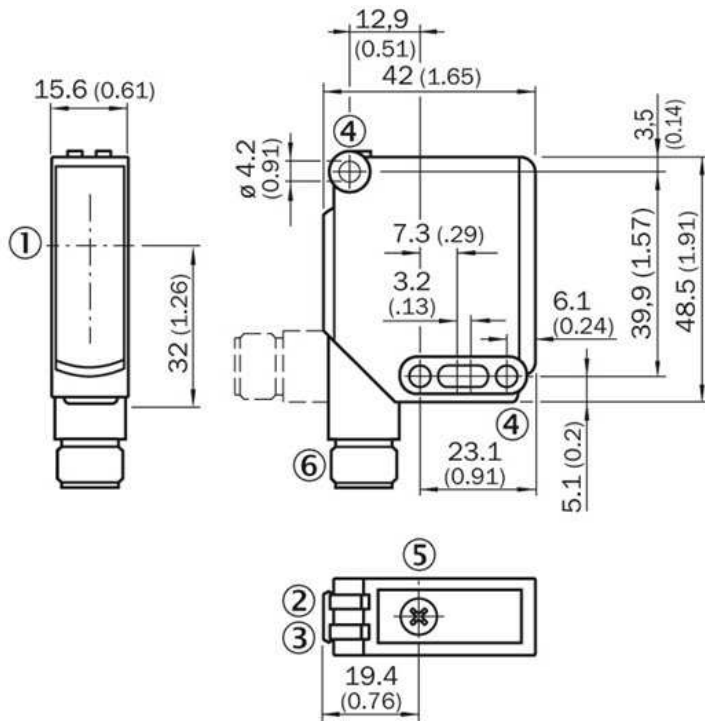
## Mechanics/electronics

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Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	$\leq 5 \text{ Vpp}$ <sup>2)</sup>
Power consumption:	$\leq 30 \text{ mA}$ <sup>3)</sup>
Output type:	NPN, PNP
Switching mode:	Light/dark switching
Switching mode selector:	0 V or not connected, light switching, Uv, dark switching, Selectable via L/D control wire
Signal voltage PNP HIGH/LOW:	Uv - 3 V / approx. 0 V
Signal voltage NPN HIGH/LOW:	Approx. Uv / < 3 V
Output current I <sub>max.</sub> :	100 mA
Response time:	$\leq 330 \mu\text{s}$ <sup>4)</sup>
Switching frequency:	1,500 Hz <sup>5)</sup>
Attenuation along light beam:	> 8 %
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Protection class:	II
Weight:	120 g
Polarisation filter:	✓
Special device:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67 IP 69K
Items supplied:	Reflector P250F
Special feature:	For transparent objects
Ambient operating temperature:	-30 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

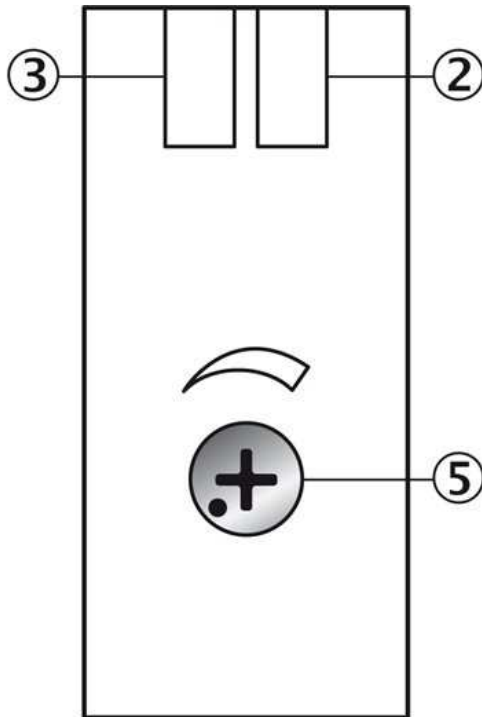
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A =  $V_S$  connections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

## Dimensional drawing



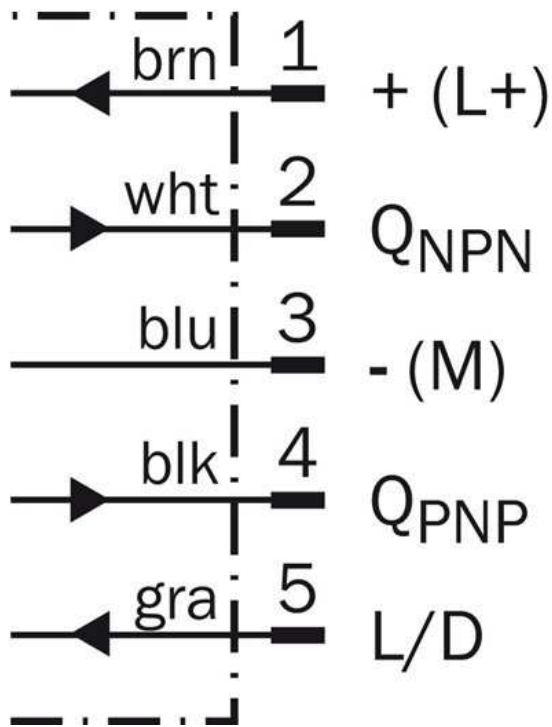
- |1| Center of optical axis
- |2| Status indicator LED green: power on
- |3| Status indicator LED, yellow: Status of received light beam
- |4| Mounting hole  $\varnothing$  4.2 mm
- |5| Sensitivity adjustment: poti

## Adjustments possible

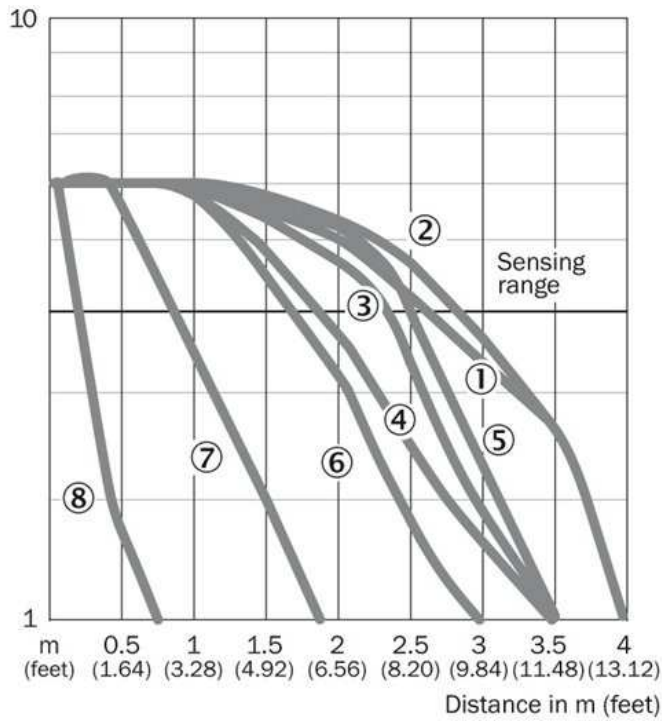


- |2| Status indicator LED green: power on
- |3| Status indicator LED, yellow: Status of received light beam
- |5| Sensitivity adjustment

Connection diagram

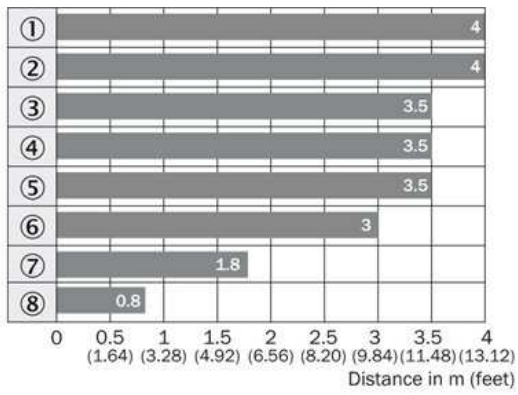


Characteristic curve



- [1] PL80A
- [2] C110A
- [3] P250F
- [4] PL50A
- [5] PL40A
- [6] PL30A
- [7] PL20A
- [8] Reflective tape Diamond Grade

## Sensing range diagram



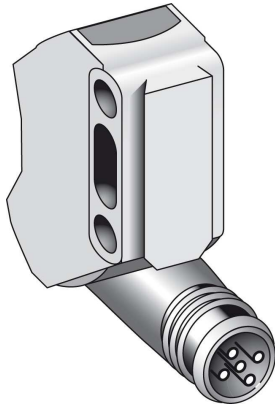
- |1| PL80A
- |2| C110A
- |3| P250F
- |4| PL50A
- |5| PL40A
- |6| PL30A
- |7| PL20A
- |8| Reflective tape Diamond Grade

■ Sensing range

### Reflector type

- ① PL80A
- ② C110A
- ③ P250F
- ④ PL50A
- ⑤ PL40A
- ⑥ PL30A
- ⑦ PL20A
- ⑧ Reflective tape Diamond Grade

## Connection type



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