



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

WL11G-2B2531



Model Name > [WL11G-2B2531](#)
Part No. > [1041390](#)



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 ¹⁾
Sensing range:	0 m ... 4 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	640 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 11-turn
Light spot size (distance):	Ø 25 mm (1.5 m)
Continuous threshold adaption:	-

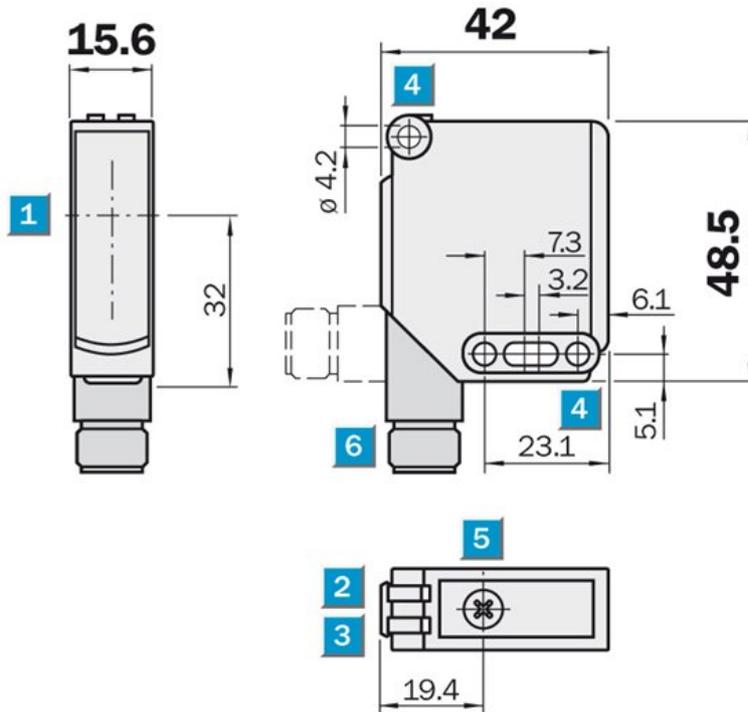
1) 2) PL80A 3) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\leq 5\text{ Vpp}$ ²⁾
Power consumption:	$\leq 30\text{ mA}$ ³⁾
Output type:	NPN, PNP
Switching mode:	Light/dark-switching
Switching mode selector:	0 V or not connected, light-switching, U_v , dark-switching, Selectable via L/D control wire
Signal voltage PNP HIGH/LOW:	$U_v - 3\text{ V}/\text{approx. } 0\text{ V}$
Signal voltage NPN HIGH/LOW:	Approx. $U_v / < 3\text{ V}$
Output current $I_{\text{max.}}$:	100 mA
Response time:	$\leq 330\text{ }\mu\text{s}$ ⁴⁾
Switching frequency:	1,500 Hz ⁵⁾
Attenuation along light beam:	$> 8\%$
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, C, D ^{6) 7) 8)}
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
Special feature:	For transparent objects
Ambient operating temperature:	$-30\text{ °C} \dots 60\text{ °C}$
Ambient storage temperature:	$-40\text{ °C} \dots 75\text{ °C}$
UL File No.:	NRKH.E181493 & NRKH7.E181493

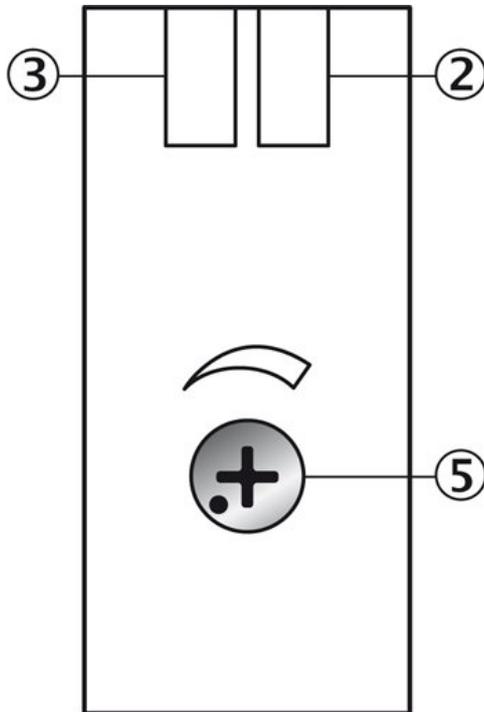
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs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

Dimensional drawing



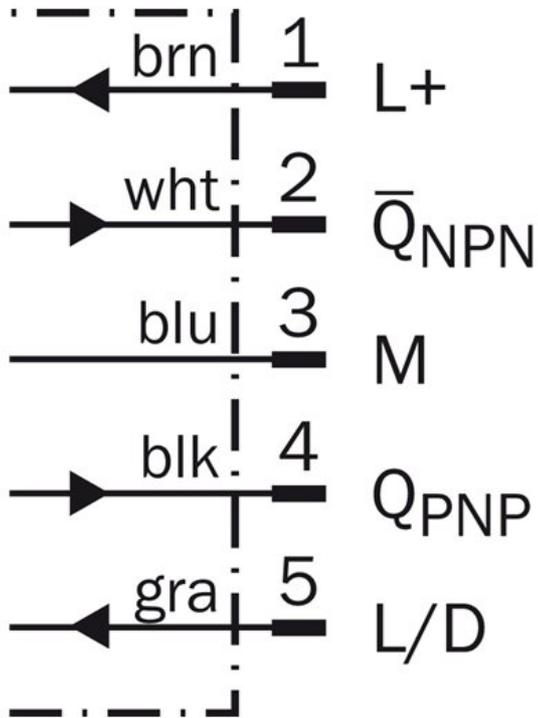
- [1] Center of optical axis
- [2] Status indicator LED green: power on
- [3] Status indicator LED, yellow: Status of received light beam
- [4] Mounting hole $\varnothing 4.2$ mm
- [5] Sensitivity adjustment: poti

Adjustments possible

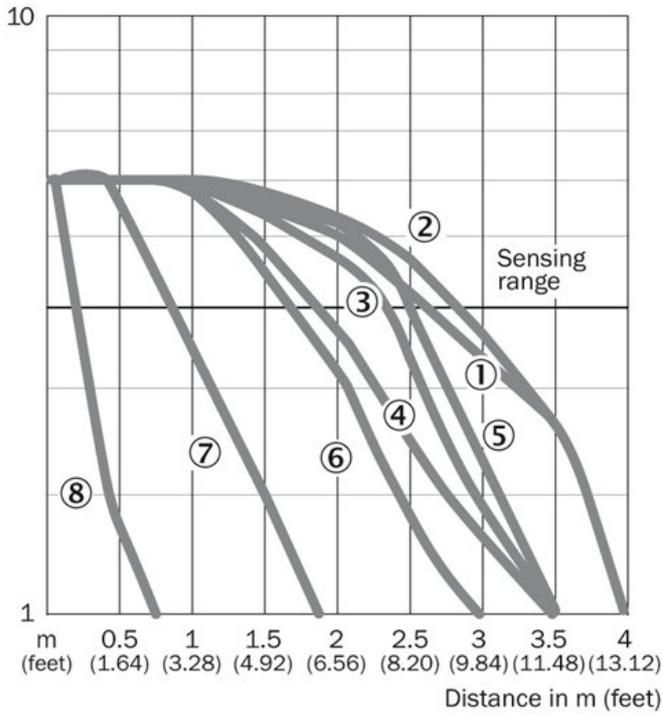


- [2] Status indicator LED green: power on
- [3] Status indicator LED, yellow: Status of received light beam
- [5] Sensitivity adjustment

Connection diagram

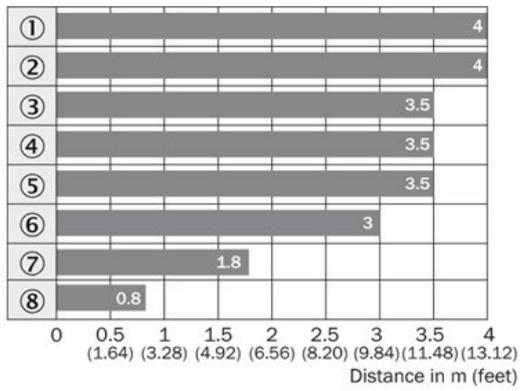


Characteristic curve



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

Sensing range diagram



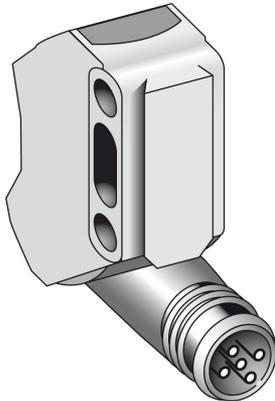
- |1| PL80A
- |2| C110A
- |3| P250F
- |4| PL50A
- |5| PL40A
- |6| PL30A
- |7| PL20A
- |8| Reflective tape Diamond Grade

■ 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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