



Photoelectric sensors
W280-2, Photoelectric retro-reflective sensor,
Standard optics

WL280-2R1531



Model Name > [WL280-2R1531](#)
Part No. > [6044761](#)



Illustration may differ

At a glance

- Highly visible red light spot thanks to the BrightLight LED
- Potentiometer for sensitivity control
- Light/dark switching (DC devices)
- Rotatable connector, cable connector or terminal chamber
- Versions for 10 - 30 V DC or 24 - 240 V DC/AC voltage supply
- Stainless steel mounting bracket and P250 reflector are included in delivery
- AC/DC devices (-2Hxxxx) are compliant with EN 61000-6-3 (electromagnetic interference for "residential, commercial and light-industrial environments")

Your benefits

- Less contamination due to high operating reserves, reducing downtime
- Simple and fast commissioning with the highly visible light spot of the BrightLight LED
- DC and AC/DC devices available in the same housing, allowing electrical flexibility
- Potentiometer adjustment for application-specific operation
- Light/dark switching provides application flexibility
- All necessary mounting and operating accessories are included in delivery, enabling quick and easy setup: since mounting bracket (stainless steel 1.4301) and reflector are included in delivery scope
- Polarizing filter ensures reliable detection, even with shiny targets



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	23.5 mm x 74.5 mm x 63 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 15 m ¹⁾
Sensing range:::	0.01 m ... 11 m, 0.01 m ... 13 m ^{2) 3)}
Type of light:	Visible red light
Light source:	LED ⁴⁾
Adjustment:	Potentiometer
Light spot size (distance):	Ø 260 mm (8 m)

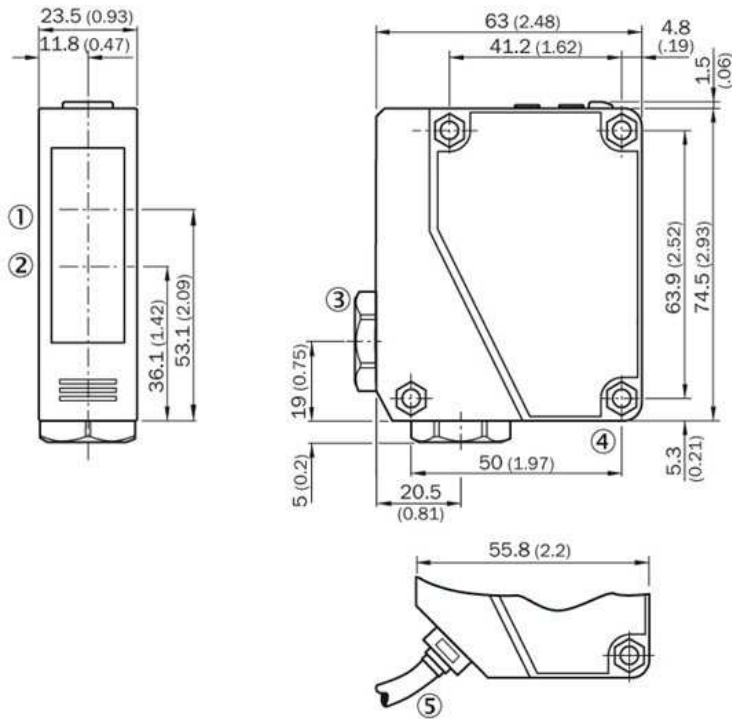
^{1) 2)} PL80A ³⁾ P250 ⁴⁾ Average service life: 100,000 h at T_U = +25 °C

Mechanics/electronics

Supply voltage::	24 V AC ... 240 V AC, 24 V DC ... 240 V DC ^{1) 2)}
Power consumption:	≤ 5 VA
Output type:	Relay, electrically isolated ³⁾
Output function:	Change-over contacts
Switching mode:	Light switching ⁴⁾
Switching current (switching voltage):	3 A (240 V AC), 3 A (30 V DC)
Response time:	≤ 15 ms
Switching frequency:	33 Hz ⁵⁾
Electrical connection:	Cable, 5-wire, 2 m ⁶⁾
Conductor cross-section:	0.76 mm ²
Circuit protection::	A, C ^{7) 8)}
Protection class:	II ⁹⁾
Overvoltage category:	3
Weight:	150 g
Polarisation filter:	✓
Interference emission:	EN 61000-6-3 (only -2Hxxxx) ¹⁰⁾
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Items supplied:	Mounting bracket BEF-W280, Reflector P250
Usage category:	AC-15, DC-13, According to EN 60947-1
EMC:	EN 60947-5-2 ¹¹⁾
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH2.E300503 & NRKH8.E300503
Housing material:	ABS, Plastic

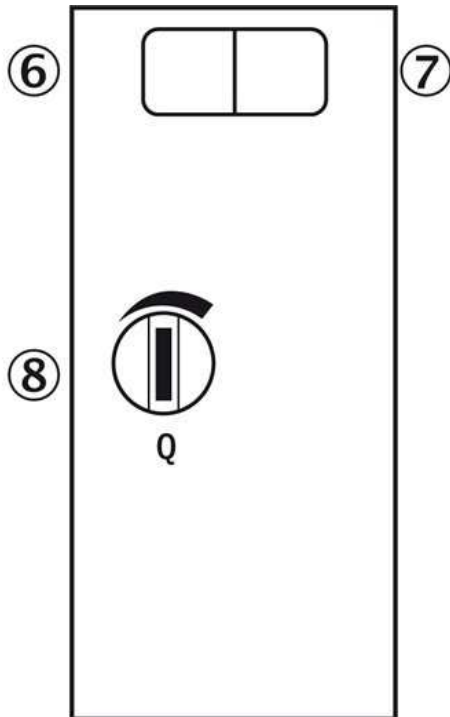
^{1) 2)} ±10 % ^{3) 4)} Provide suitable spark suppression for inductive or capacitive loads ⁵⁾ With light/dark ratio 1:1 ⁶⁾ Do not bend below 0 °C ⁷⁾ $A = V_S$ connections
reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ Rated voltage: 250 V AC/DC ¹⁰⁾ In the case of a DC supply (relating to EN 61000-6-3) the length of cable
between the supply source and the sensor must be < 30 m ¹¹⁾ The AC/DC devices meet the interference suppression requirements for industrial use (interference
suppression class A). When used in residential areas it can cause interference.

Dimensional drawing



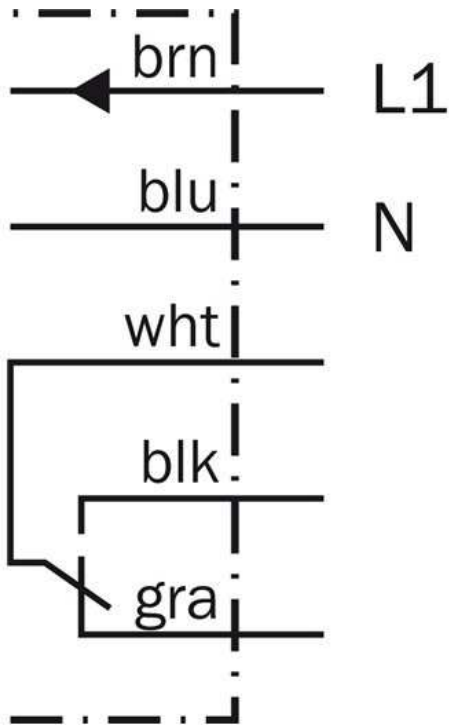
- |1| Center of optical axis, receiver
- |2| Center of optical axis, sender
- |3| Cable entry gland 3/8" for cable diameter 6 to 8 mm
- |4| Mounting hole, Ø 4.3 mm
- |5| Cable, 2 m, 5-wire, Ø 6.3 mm

Adjustments possible

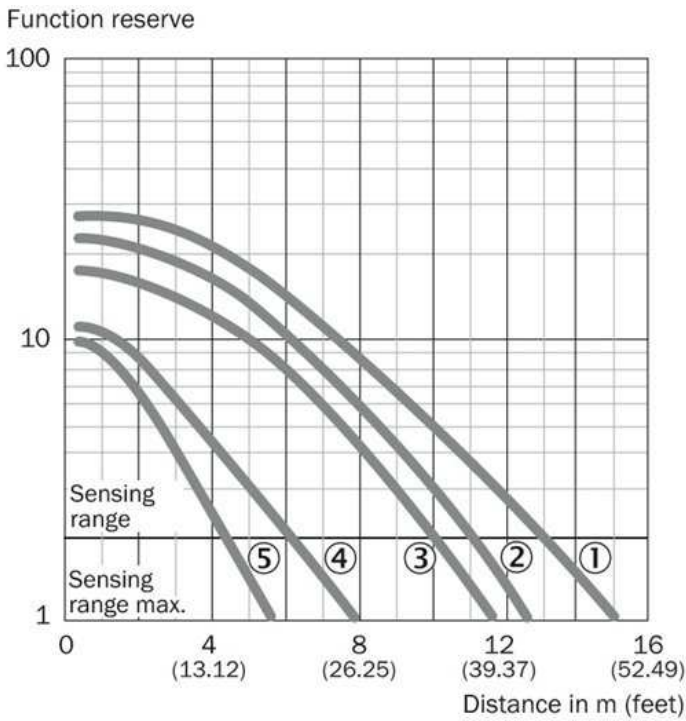


- |6| LED indicator green: Stability indicator
- |7| Status indicator LED, yellow: Status of received light beam
- |8| Sensitivity adjustment: poti

Connection diagram

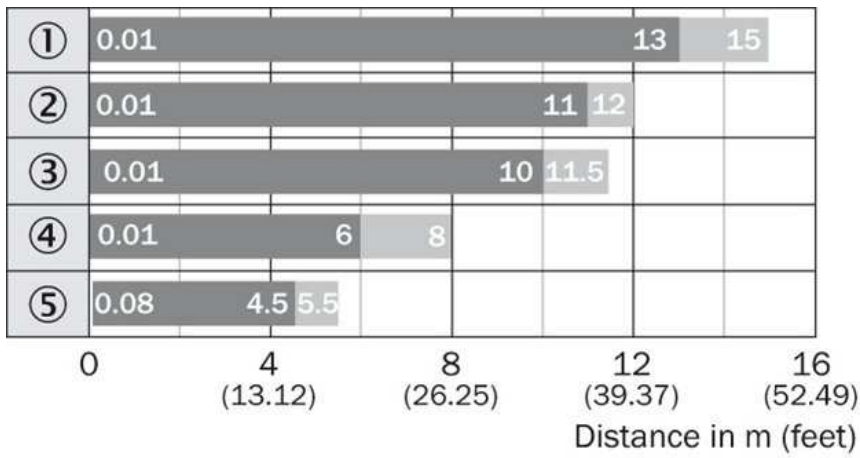


Characteristic curve



- [1] Reflector type PL80A, C110A
- [2] Reflector type P205
- [3] Reflector type PL50A, PL40A, PL30A, PL31A
- [4] Reflector type PL20A
- [5] Reflective tape Diamond Grade
(100 mm x 100 mm/3.94 inch x 3.94 inch)

Sensing range diagram



- |1| Reflector type PL80A, C110A
- |2| Reflector type P205
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- |4| Reflector type PL20A
- |5| Reflective tape Diamond Grade
(100 mm x 100 mm/3.94 inch x 3.94 inch)

■ Sensing range ■ Sensing range max.

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