



Photoelectric sensors
W280-2, Photoelectric proximity sensor,
energetic

WTE280-2N1131



Model Name > [WTE280-2N1131](#)
Part No. > [6044727](#)



Illustration may differ

At a glance

- Highly visible red light spot thanks to the BrightLight LED
- Potentiometer for adjusting sensing range
- Light/dark switching (DC devices only)
- Rotatable connector, cable connection or terminal chamber
- Versions for 10 - 30 V DC or 24 - 240 V DC/AC voltage supply
- Stainless steel mounting bracket included in delivery

Your benefits

- Simple and fast commissioning with the highly visible light spot of the BrightLight LED
- Simple operation via potentiometer
- 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) is included in delivery scope
- DC devices and AC/DC devices available in the same housing, allowing electrical flexibility



Features

Sensor/detection principle:	Photoelectric proximity sensor, energetic
Dimensions (W x H x D):	23.5 mm x 74.5 mm x 63 mm
Housing design (light emission):	Rectangular
Sensing range max.:	10 mm ... 2,000 mm ¹⁾
Sensing range:	10 mm ... 1,500 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Adjustment:	Potentiometer
Light spot size (distance):	Ø 45 mm (1,500 mm)

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033) ²⁾ Average service life: 100,000 h at T_U = +25 °C

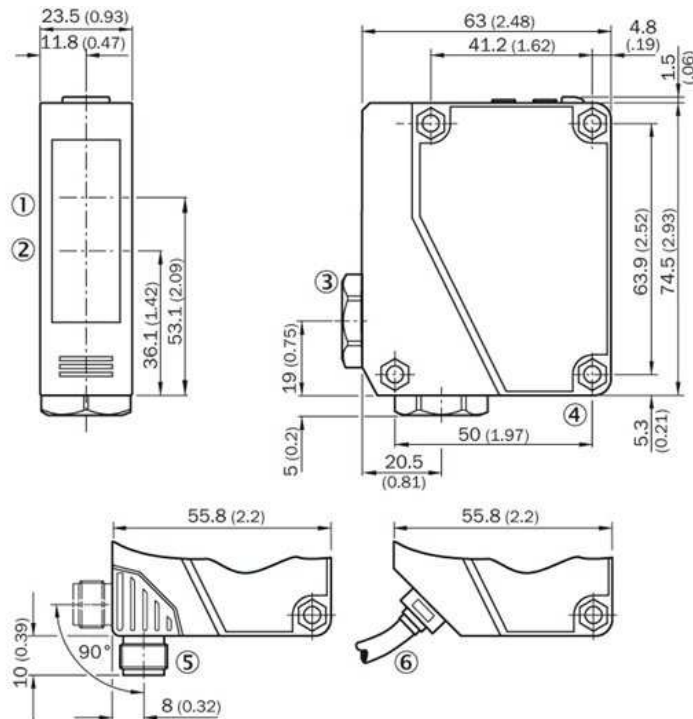
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 20 mA ³⁾
Output type:	NPN, open collector
Switching mode:	Light/dark switching

Switching mode selector:	Selectable via light/dark rotary switch
Output current I _{max} ·:	100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Electrical connection:	Cable, 3-wire, 2 m ⁶⁾
Conductor cross-section:	0.18 mm ²
Circuit protection:::	A, B, C, D ^{7) 8) 9) 10)}
Protection class:	III
Weight:	150 g
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Items supplied:	Mounting bracket BEF-W280
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

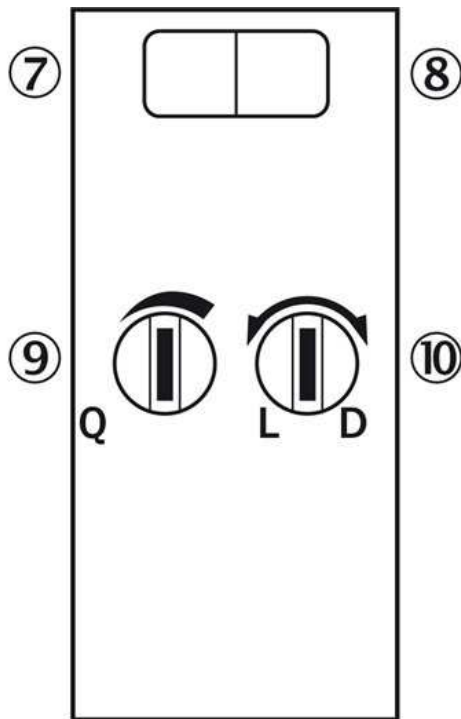
¹⁾ Limit values when operated in short-circuit protected network: max. 8 A ²⁾ May not exceed or fall below U_v tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ C = interference suppression ¹⁰⁾ D = outputs overcurrent and short-circuit protected 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



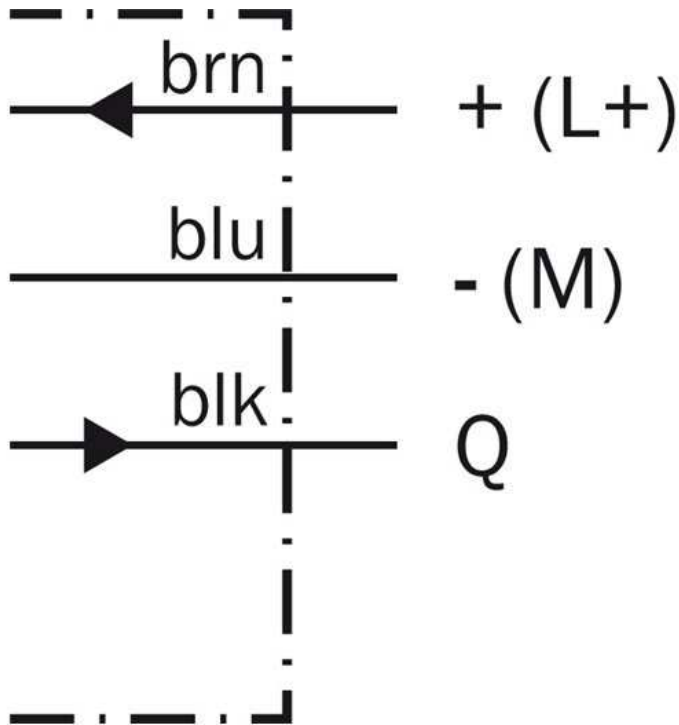
- [1] Center of optical axis, receiver
- [2] Center of optical axis, sender
- [3] Cable entry gland 3/8" for cable diameter 6 to 8 mm
- [4] Mounting hole, Ø 4.3 mm
- [5] Connector M12, 4-pin, 90° rotatable, can be locked with slider
- [6] Cable, 2 m, 3-wire, Ø 3,8 mm

Adjustments possible

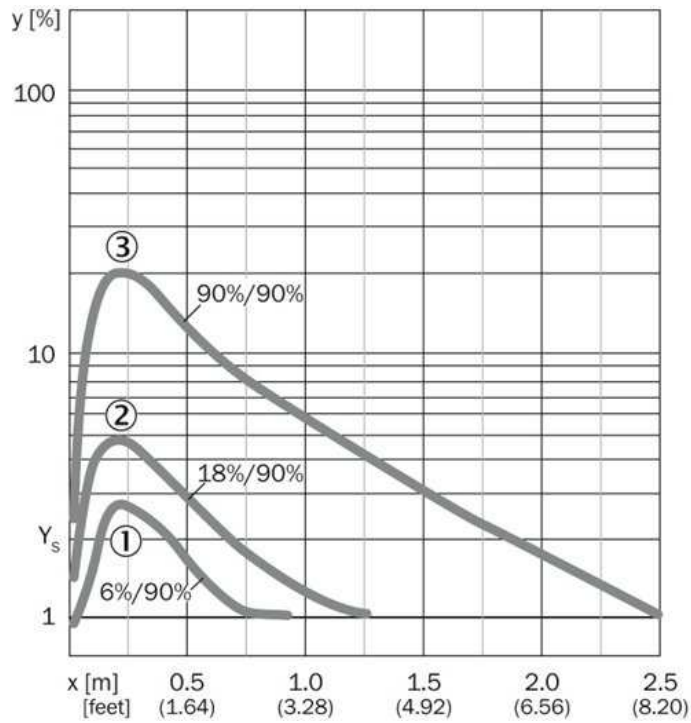


- |7| LED indicator green: Stability indicator
- |8| Status indicator LED,
yellow: Status of received light beam
- |9| Sensing range adjustment: potentiometer
- |10| Light/dark selector

Connection diagram

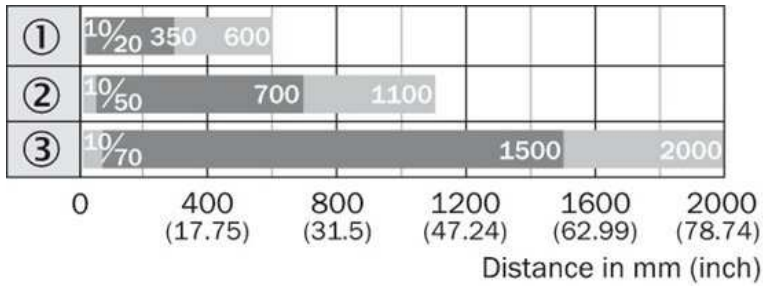


Characteristic curve



- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

Sensing range diagram



- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

Sensing range
 Sensing range max.

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