



Photoelectric sensors  
W280-2, Photoelectric proximity sensor,  
energetic

WTE280-2N2431



**Model Name** > [WTE280-2N2431](#)  
**Part No.** > [6044729](#)



*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 <sup>1)</sup>
Sensing range:	10 mm ... 1,500 mm
Type of light:	Visible red light
Light source:	LED <sup>2)</sup>
Adjustment:	Potentiometer
Light spot size (distance):	Ø 45 mm (1,500 mm)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C

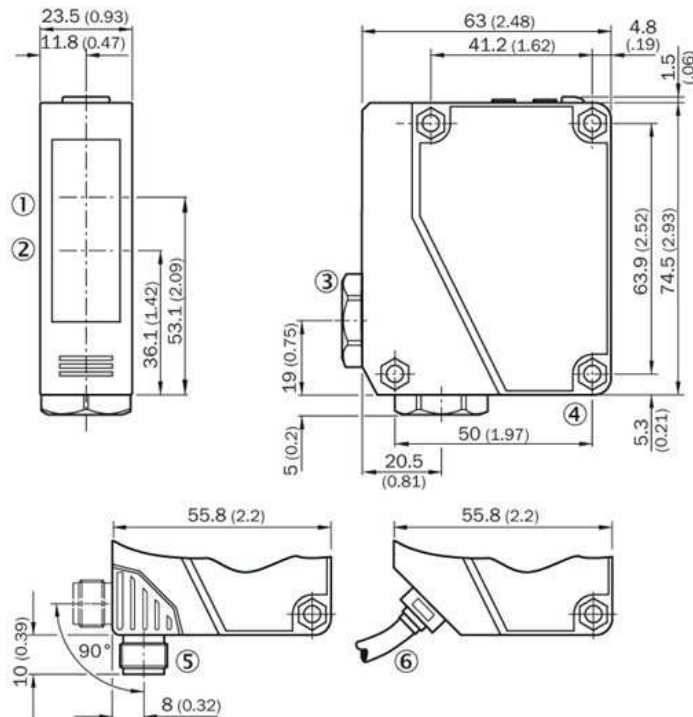
**Mechanics/electronics**

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

Switching mode selector:	Selectable via light/dark rotary switch
Output current I <sub>max</sub> ..:	100 mA
Response time:	≤ 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Electrical connection:	Connector M12, 4-pin
Circuit protection:::	A, B, C, D <sup>6) 7) 8) 9)</sup>
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 <sup>10)</sup>
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

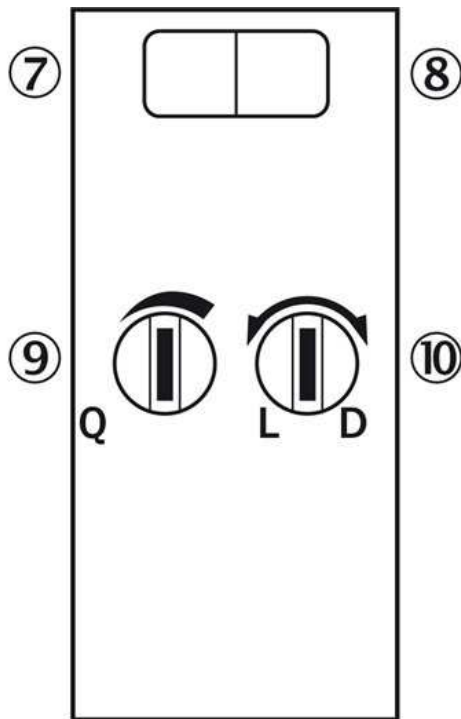
1) Limit values when operated in short-circuit protected network: max. 8 A <sup>2)</sup> May not exceed or fall below U<sub>V</sub> tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A = V<sub>S</sub> connections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



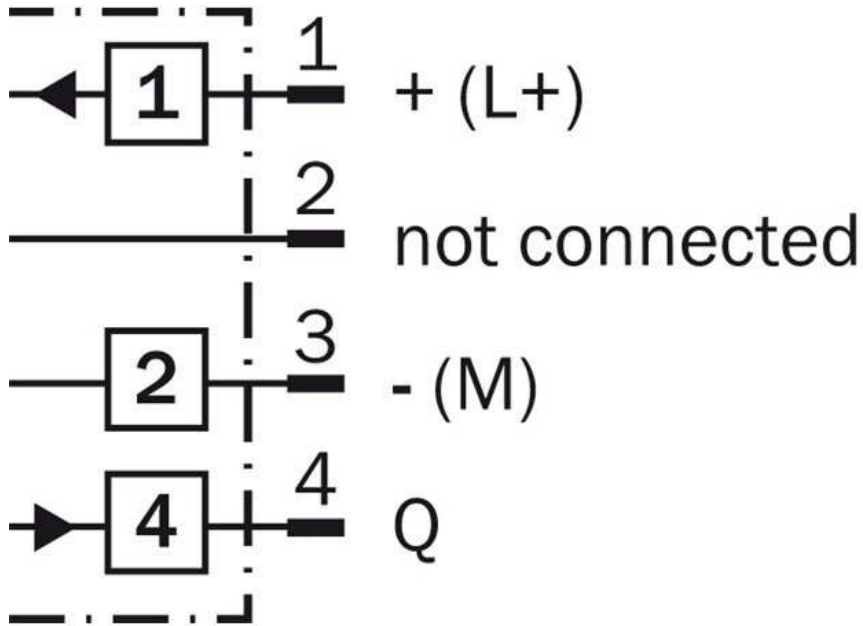
- |1| Center of optical axis, receiver
- |2| Center of optical axis, sender
- |3| Cable entry gland 3/8" for cable diameter 6 to 8 mm
- |4| Mounting hole, Ø 4.3 mm
- |5| Connector M12, 4-pin, 90°  
rotatable, can be locked with slider
- |6| Cable, 2 m, 3-wire, Ø 3,8 mm

## Adjustments possible

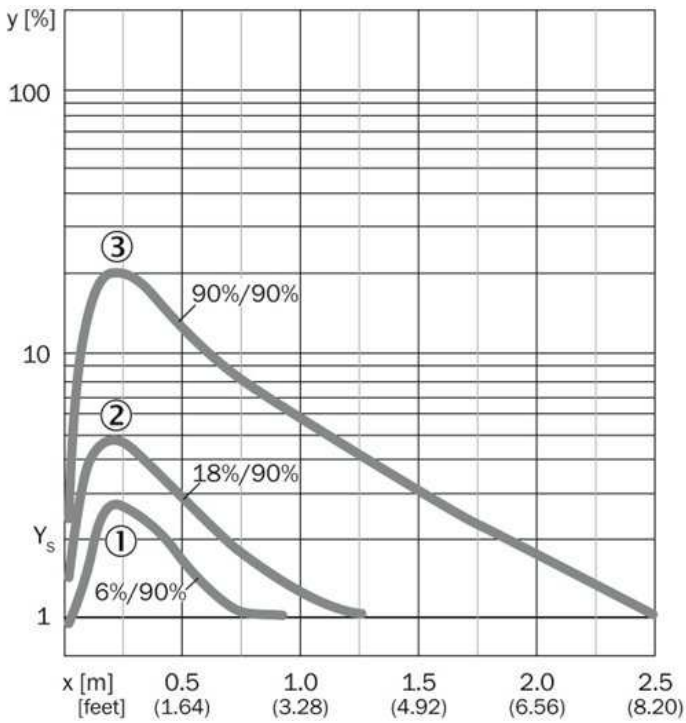


- |7| LED indicator green: Stability indicator
- |8| Status indicator LED,  
yellow: Status of received light beam
- |9| Sensing range adjustment: potentiometer
- |10| Light/dark selector

## Connection diagram

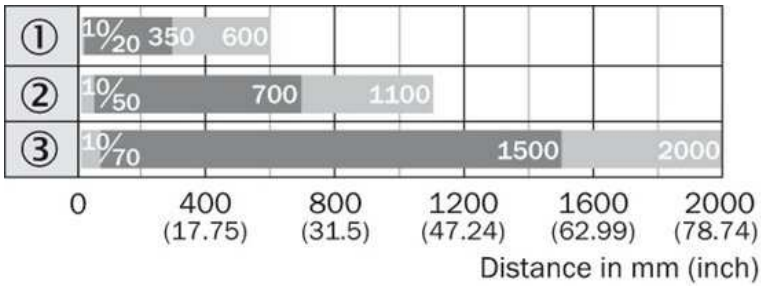


### Characteristic curve



- |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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