



Photoelectric sensors  
W2 Slim, Photoelectric proximity sensor,  
energetic

WT2S-N161



**Model Name** > [WT2S-N161](#)  
**Part No.** > [1022665](#)



*Illustration may differ*

**At a glance**

- Very small, focused laser-like light spot with diameter <math>< \varnothing 1.5 \text{ mm}</math>
- Two background suppression variants with a fixed sensing range of 15 mm and 30 mm
- Energetic proximity sensor with a fixed sensing range of 55 mm
- Fast response time of 0.6 ms

**Your benefits**

- Precise recognition of all objects regardless of color or composition
- Laser-like light spot enables precise detection with a high level of accuracy
- V-optics reliably detects transparent and glossy objects
- Highly immunity to reflective and critical backgrounds, enabling use in the most restricted machine environments

**Note: This product will be discontinued and replaced by a successor - orders will be accepted until January 31st 2015**



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, energetic
Dimensions (W x H x D):	7.6 mm x 25.1 mm x 12.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	1 mm ... 55 mm <sup>1)</sup>
Sensing range:	1 mm ... 55 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	660 nm
Focus adjustable:	-
Light spot size (distance):	$\varnothing 3.5 \text{ mm}$ (50 mm)

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>3)</sup> Average service life 75,000 h at  $T_A = +25 \text{ }^\circ\text{C}$

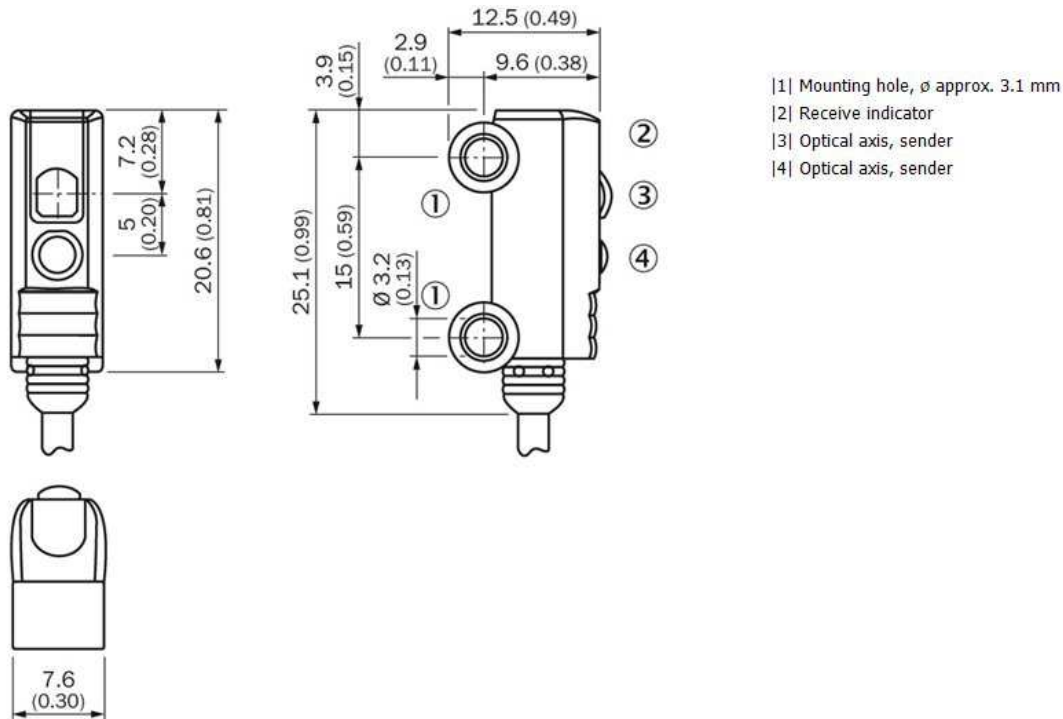
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	$\leq 5 \text{ Vpp}$ <sup>2)</sup>
Output type:	NPN
Switching mode:	Light switching
Output current I <sub>max.</sub> :	$\leq 50 \text{ mA}$
Response time:	$< 0.6 \text{ ms}$ <sup>3)</sup>

Switching frequency:	800 Hz <sup>4)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>5)</sup>
Cable material:	PVC
Cable diameter:	Ø 2.4 mm
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Weight:	18 g
Polarisation filter:	-
Special device:	-
Reverse polarity protection:	✓
Short-circuit protection:	✓
Optics material:	PMMA
Enclosure rating:	IP 67 IP 69K
Ambient operating temperature:	-20 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
Housing material:	ABS, Plastic

1) Limit values 2) May not exceed or fall short of  $V_S$  tolerances 3) Signal transit time with resistive load 4) With light/dark ratio 1:1 5) Do not bend below 0 °C 6) A = V connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

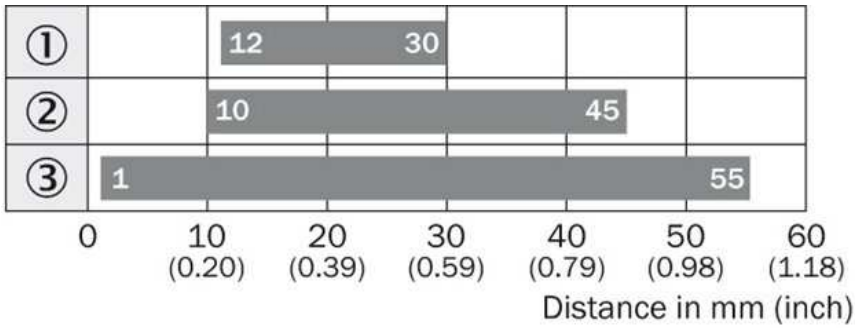
## Dimensional drawing



Connection diagram



Sensing range diagram

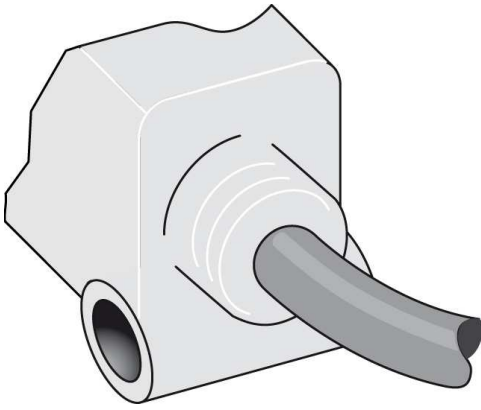


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

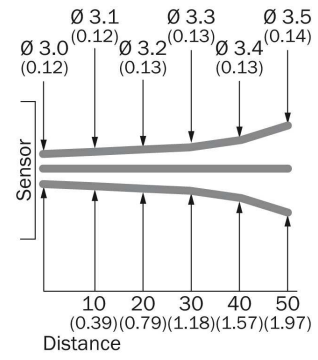
■ Sensing range

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

## Connection type



## Light spot size



All dimensions in mm (inch)

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