



Photoelectric sensors
W2 Slim, Photoelectric proximity sensor,
Background suppression

WT2S-P431



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Model Name > WT2S-P431
Part No. > 1023632



Illustration may differ

At a glance

- Very small, focused laser-like light spot with diameter < Ø 1.5 mm
- 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



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	7.6 mm x 25.1 mm x 12.5 mm
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	1 mm ... 30 mm ¹⁾
Sensing range:	1 mm ... 30 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	660 nm
Focus adjustable:	-
Focus:	15 mm
Light spot size (distance):	Ø 1.5 mm (15 mm)

^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life 75,000 h at T_A = +25 °C

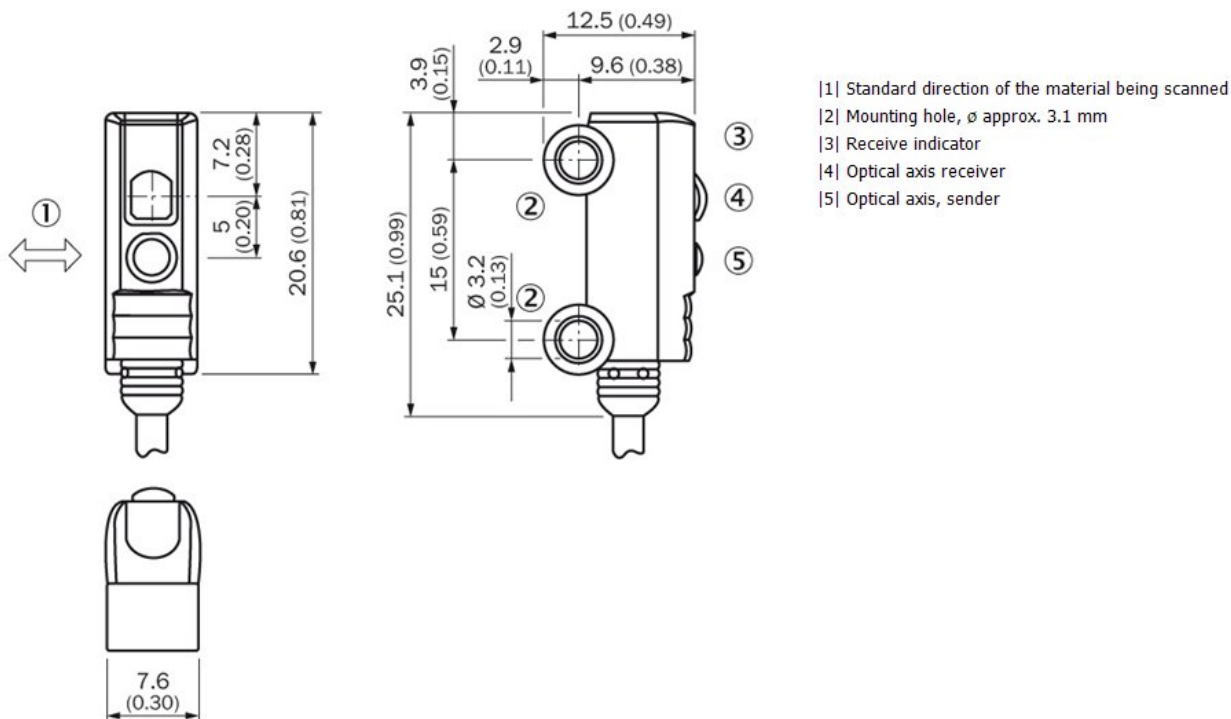
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 V _{pp} ²⁾
Output type:	PNP
Switching mode:	Light switching
Output current I _{max} ..:	≤ 50 mA
Response time:	< 0.6 ms ³⁾

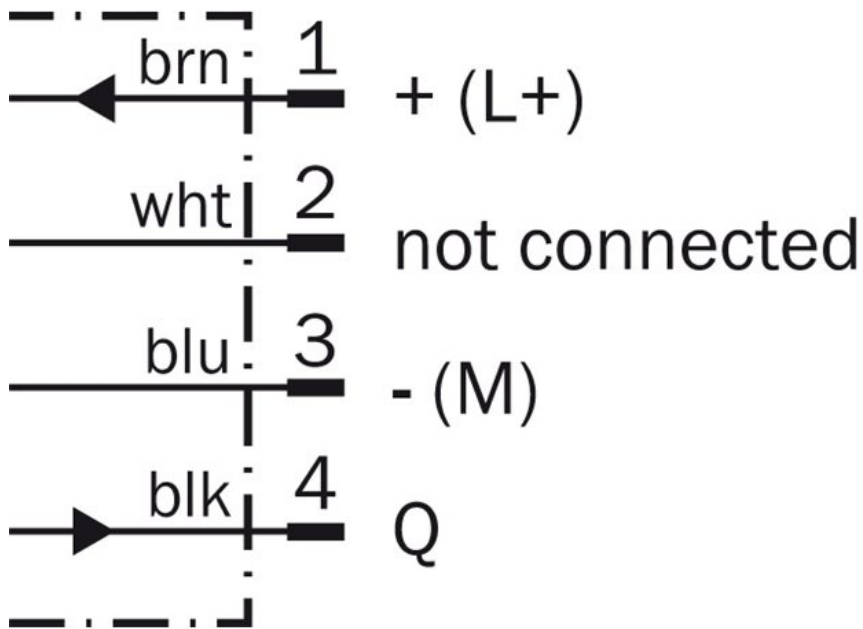
Switching frequency:	800 Hz ⁴⁾
Connection type:	Cable with connector M8, 4-pin, 200 mm ⁵⁾
Cable material:	PVC
Cable diameter:	Ø 2.4 mm
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	20 g
Polarisation filter:	-
Reverse polarity protection:	✓
Short-circuit protection:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67 IP 69K
Ambient operating temperature:	-20 °C ... 50 °C
Ambient storage temperature:	-40 °C ... 75 °C

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
⁷⁾ connections reverse-polarity protected ⁸⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected

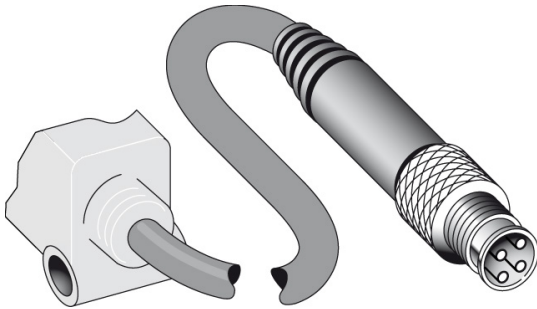
Dimensional drawing



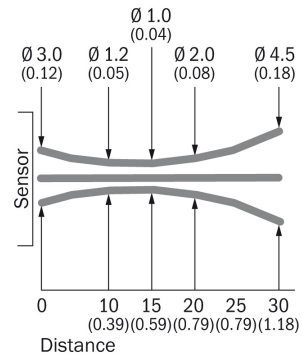
Connection diagram



Connection type

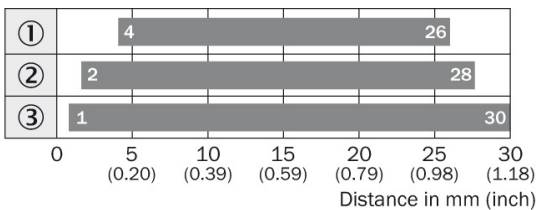


Light spot size



All dimensions in mm (inch)

Sensing range diagram



■ Sensing range

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

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