



Photoelectric sensors  
W2 Slim, Photoelectric proximity sensor,  
Background suppression

WT2S-F231



**Model Name** > WT2S-F231  
**Part No.** > 1041690



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



**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 <sup>1)</sup>
Sensing range:	1 mm ... 30 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	660 nm
Focus adjustable:	-
Focus:	15 mm
Light spot size (distance):	$\varnothing 1.5 \text{ mm}$ (15 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  $T_A = +25 \text{ }^\circ\text{C}$

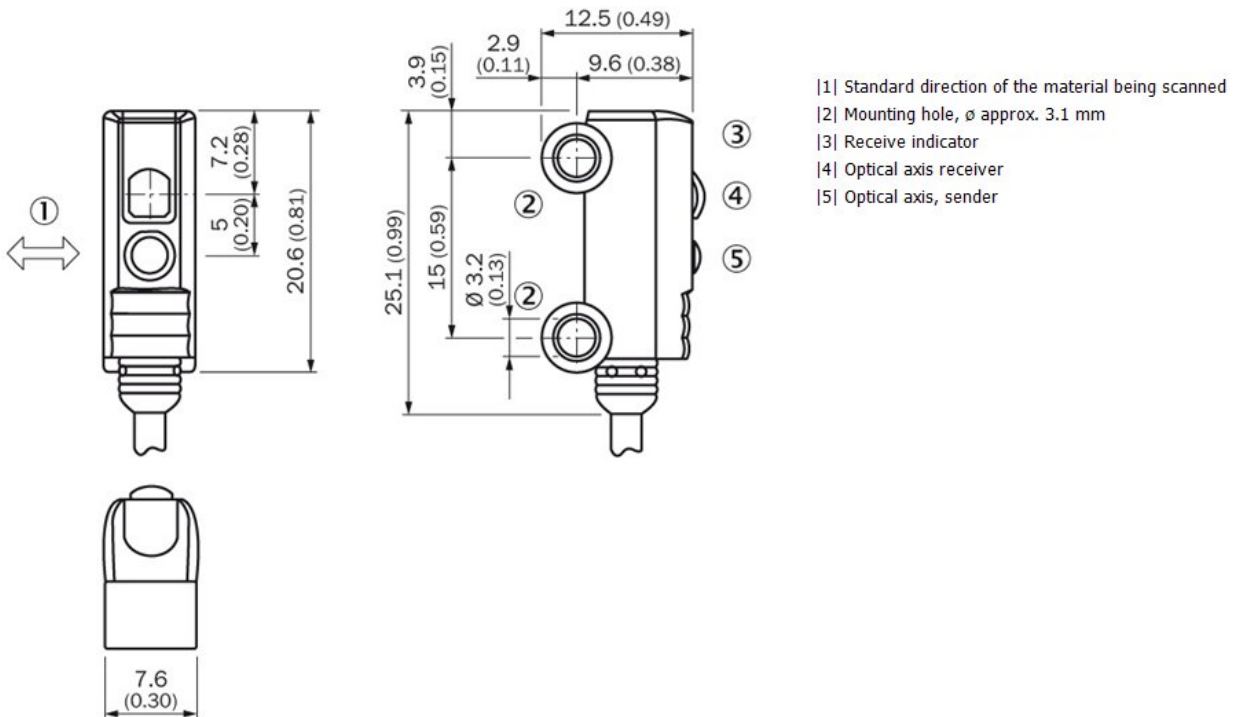
**Mechanics/electronics**

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

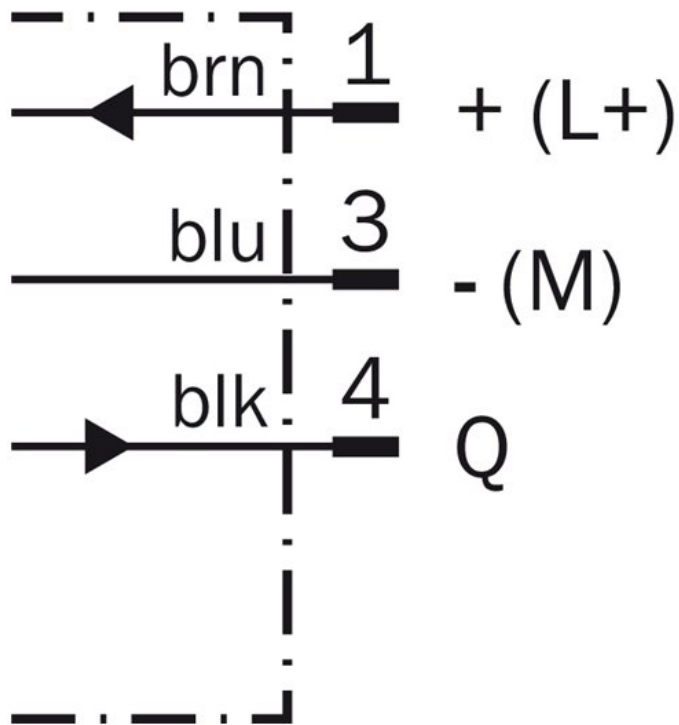
Switching frequency:	800 Hz <sup>4)</sup>
Connection type:	Cable with connector M8, 3-pin, 200 mm <sup>5)</sup>
Cable material:	PVC
Cable diameter:	Ø 2.4 mm
Circuit protection:::	A, C, D <sup>6)</sup> <sup>7)</sup> <sup>8)</sup>
Weight:	20 g
Polarisation filter:	-
Reverse polarity protection:	✓
Short-circuit 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

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

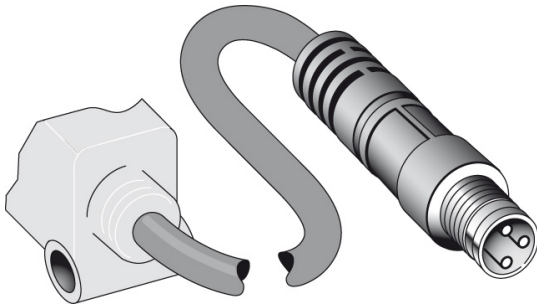
## Dimensional drawing



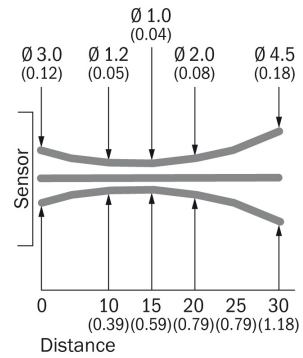
## Connection diagram



## Connection type

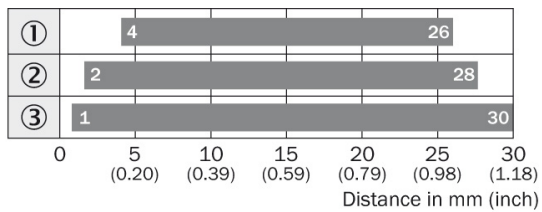


## Light spot size



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

**Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)