



# WTB12-3N1011S42

W12

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
WTB12-3N1011S42	1044101

Other models and accessories → [www.sick.com/W12](http://www.sick.com/W12)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor	
<b>Functional principle detail</b>	Background suppression	
<b>Sensing range max.</b>	20 mm ... 150 mm <sup>1)</sup>	
<b>Sensing range</b>	20 mm ... 150 mm <sup>2)</sup>	
<b>Emitted beam</b>	Light source	LED <sup>3)</sup>
	Type of light	Infrared light
	Light spot size (distance)	200 mm
<b>Key LED figures</b>	Wave length	850 nm
	<b>Adjustment</b>	None
<b>Special features</b>	Sensing range pre-set: 150 mm	

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

<sup>2)</sup> Preset sensing range.

<sup>3)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

## Electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	55 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	NPN
Switching mode	Light switching
Signal voltage NPN HIGH/LOW	Approx. $V_S / < 2.5$ V
Output current $I_{max}$	≤ 100 mA
Response time	≤ 330 μs <sup>4)</sup>
Switching frequency	1,500 Hz <sup>5)</sup>
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed  $U_Y$  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 =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Mechanics

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	15.6 mm x 48.5 mm x 42 mm
<b>Connection</b>	Cable with AMP connector, 320 mm <sup>1)</sup>
<b>Connection detail</b>	
Conductor size	0.85 mm <sup>2</sup>
Length of cable (L)	320 mm <sup>1)</sup>
<b>Material</b>	
Housing	Metal
Front screen	Plastic, PMMA
Cable	Plastic, PVC
<b>Weight</b>	200 g

<sup>1)</sup> Do not bend below 0 °C.

## Ambient data

<b>Enclosure rating</b>	IP66 IP67 IP69K
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

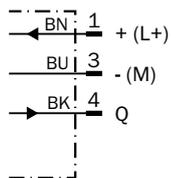
Classifications

<b>ECLASS 5.0</b>	27270904
<b>ECLASS 5.1.4</b>	27270904
<b>ECLASS 6.0</b>	27270904
<b>ECLASS 6.2</b>	27270904
<b>ECLASS 7.0</b>	27270904
<b>ECLASS 8.0</b>	27270904
<b>ECLASS 8.1</b>	27270904
<b>ECLASS 9.0</b>	27270904
<b>ECLASS 10.0</b>	27270904
<b>ECLASS 11.0</b>	27270904
<b>ECLASS 12.0</b>	27270903
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>ECOLAB certificate</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (DIN EN 62471) certificate</b>	✓

Connection diagram Cd-045



Recommended accessories

Other models and accessories → [www.sick.com/W12](http://www.sick.com/W12)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket, large</li><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Suitable for:</b> W11-2, W12-3, W16</li></ul>	BEF-WG-W12	2013942

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)