



**Photoelectric sensors**  
**Background suppression, Photoelectric proximity**  
**sensor, Product group W140-2**

WTB140-N420

**Model Name** > [WTB140-N420](#)  
**Part No.** > [6012631](#)



- With background suppression (BGS), consequently reliable detection of dark objects in front of a light background
- Scanning distance adjustable via potentiometer
- Red light as alignment aid
- Optionally with time release delay tOFF = 0 ... 100 ms



#### Product features

Sensing range min ... max::	15 mm ... 500 mm, 2 mm ... 500 mm
Light source::	LED
Type of light:	Red light
Light spot diameter:	Approx. 15 mm at 200 mm distance
Laser:	Red light
Sensing range max.:	15 mm ... 500 mm, 2 mm ... 500 mm
Adjustment::	potentiometer, 5-turn
Wave length:	680 nm

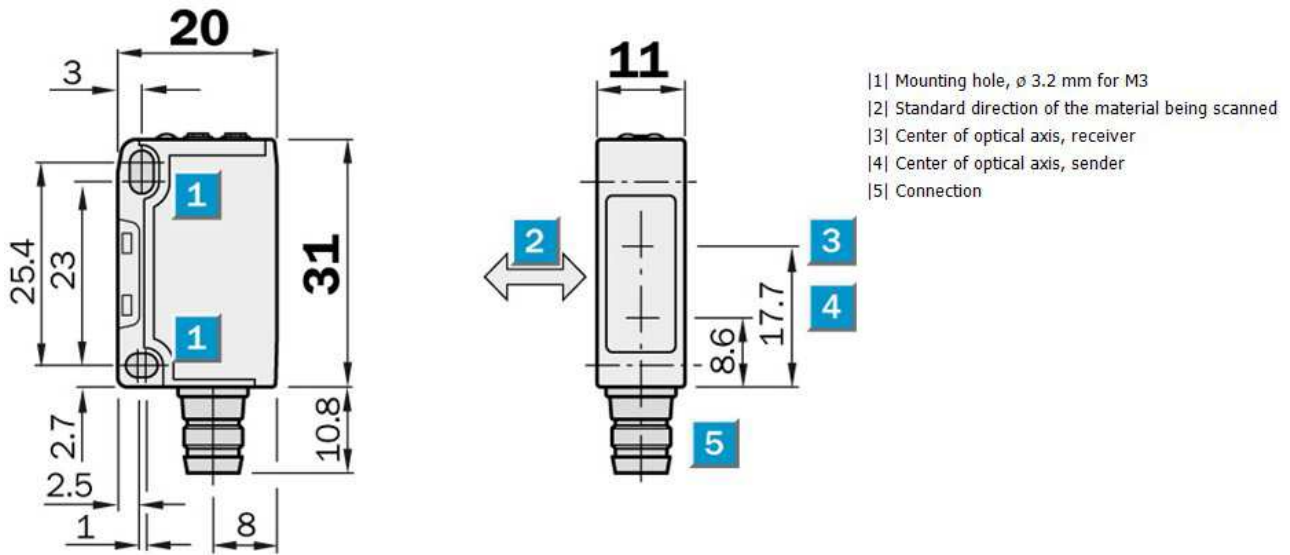
#### Technical data

Design::	Rectangular
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Supply voltage min ... max.:	DC 10 ... 30 V <sup>1)</sup>
Ripple:	± 10 %
Power consumption:	≤ 30 mA
Output type:	NPN: open collector: Q
Switching mode:	Light-/dark-switching via L/D control cable
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 V$
Output current max.:	100 mA
Response time::	≤ 0.5 ms
Switching frequency:	1,000 Hz
Connection type:	Connector, M8, 4-pin
Circuit protection:	$V_S$ connections reverse-polarity protected/In-/outputs short-circuit protected/Interference suppression/Outputs overcurrent and short-circuit protected
Enclosure rating::	IP 67
Ambient operation temperature, min ... max.:	-25 °C ... +55 °C
Ambient storage temperature, min ... max.:	-40 °C ... +70 °C
Weight:	Ca. 9 g

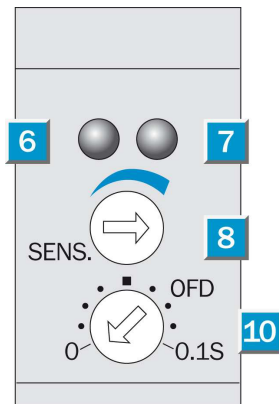
Housing material:	PBT
Angle of dispersion:	ca. 4.3 °
Series:	W140-2
Optics material:	PC
Time delay:	selectable: 0 ... 100 ms
Time type:	t OFF (off delay)

1) Limit values, reverse-polarity protected operation in short-circuit protected network max. 8 A

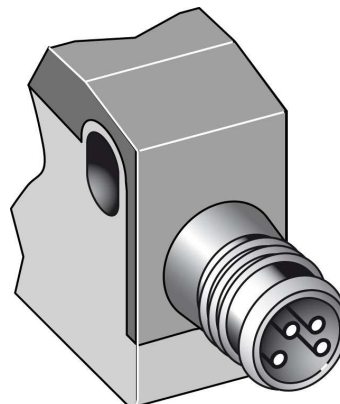
### Dimensional drawing



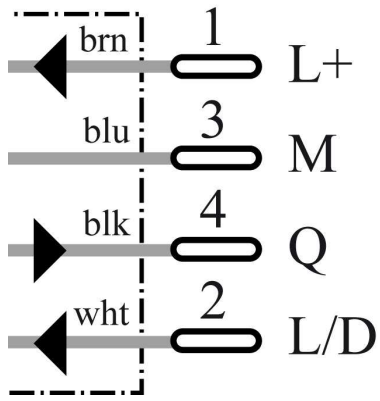
### Adjustment possible



### Connection type



### Connection diagram



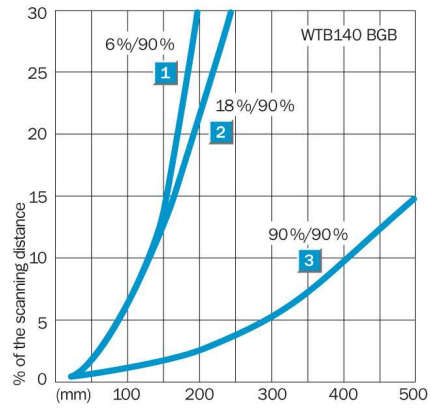
### Sensing range diagram



■ Operating range

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

### Scanning distance displacement



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