



Photoelectric sensors  
W8 Laser, Photoelectric proximity sensor,  
Background suppression

WTB8L-P1131



## Photoelectric sensors W8 Laser, Photoelectric proximity sensor, Background suppression

**Model Name** > [WTB8L-P1131](#)  
**Part No.** > [6033217](#)



*Illustration may differ*

### At a glance

- Laser class 1
- Background suppression
- Standard miniature housing with M3 threaded mounting holes
- Switching frequency up to 2 kHz
- Light/dark switching via rotary switch
- Mounting bracket BEF-W100-A is included with delivery

### Your benefits

- Highly flexible design and operational capabilities due to precise background suppression
- Reliable detection of small objects, regardless of color or surface qualities
- Rapid switching frequency reliably detects objects travelling at high speeds which allows to optimize the production processes
- Highly visible laser light spot simplifies alignment
- All necessary accessories are included with delivery, reducing installation and procurement costs



### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 11 mm x 31 mm x 20 mm                                  |
| Housing design (light emission): | Rectangular, Slim                                      |
| Sensing range max.:              | 30 mm ... 300 mm <sup>1)</sup>                         |
| Sensing range:                   | 40 mm ... 300 mm                                       |
| Type of light:                   | Visible red light                                      |
| Light source:                    | Laser <sup>2)</sup>                                    |
| Laser class:                     | I                                                      |
| Wave length:                     | 650 nm                                                 |
| Alarm output:                    | -                                                      |
| Focus adjustable:                | -                                                      |
| Adjustment:                      | Potentiometer, 4-turn                                  |
| Light spot size (distance):      | Ø 1.5 mm (300 mm)                                      |

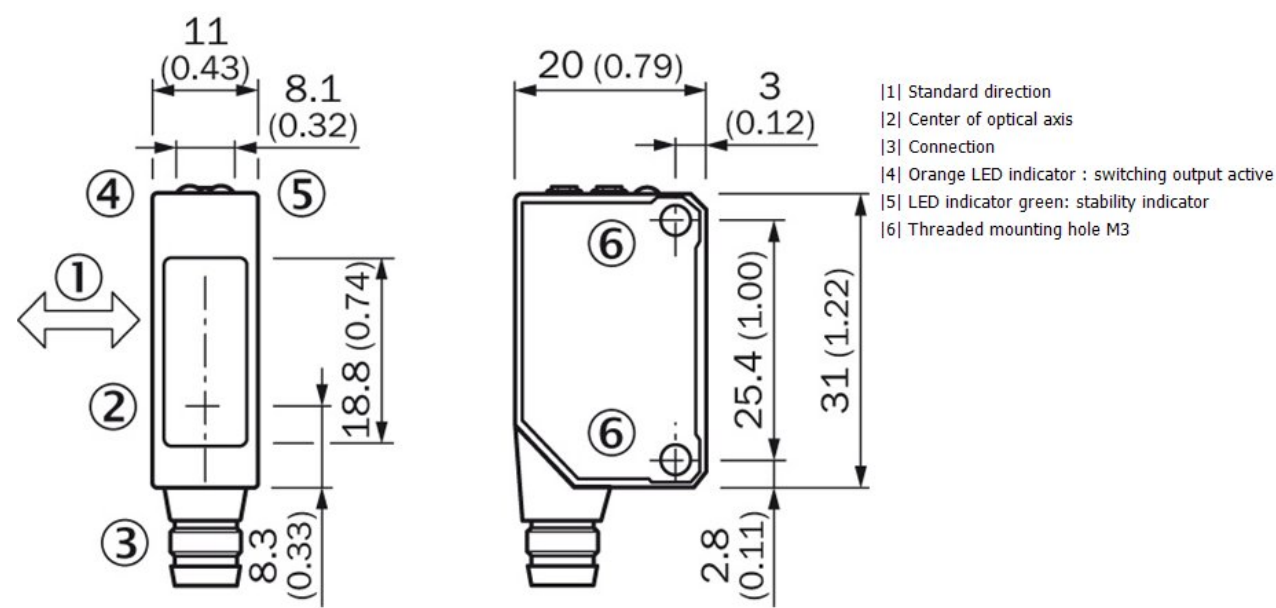
<sup>1)</sup> PL80A <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

## Mechanics/electronics

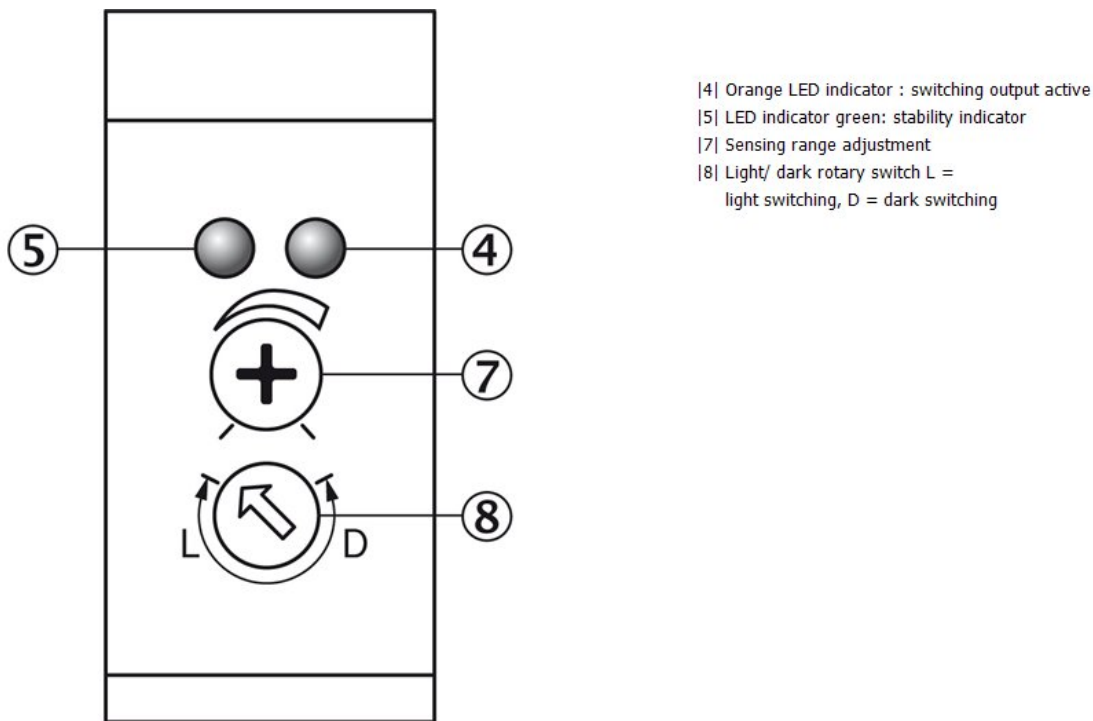
|                                   |                                                                |
|-----------------------------------|----------------------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                              |
| Ripple:                           | $\pm 10\%$ <sup>2)</sup>                                       |
| Power consumption:                | $\leq 30\text{ mA}$ <sup>3)</sup>                              |
| Output type:                      | PNP                                                            |
| Switching mode:                   | Light/dark-switching                                           |
| Output characteristic:            | Open collector                                                 |
| Switching mode selector:          | Manually selectable                                            |
| Signal voltage PNP HIGH/LOW:      | Approx. $V_S - 1.8\text{ V} / 0\text{ V}$                      |
| Output current $I_{\text{max}}$ : | 100                                                            |
| Response time:                    | $\leq 0.25\text{ ms}$ <sup>4)</sup>                            |
| Switching frequency:              | 2,000 <sup>5)</sup>                                            |
| Connection type:                  | Cable, 4-wire, 2 m <sup>6)</sup>                               |
| Cable material:                   | PVC                                                            |
| Circuit protection:::             | A, B, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup>              |
| Weight:                           | 50 g                                                           |
| Polarisation filter:              | -                                                              |
| Front screen heating:             | -                                                              |
| AS-Interface-Chip:                | -                                                              |
| Housing material:                 | ABS, Plastic                                                   |
| Optics material:                  | PMMA                                                           |
| Enclosure rating:                 | IP 67                                                          |
| Items supplied:                   | Stainless steel mounting bracket (1.4301/304) BEF-W100-A       |
| Ambient operating temperature:    | $-10\text{ }^{\circ}\text{C} \dots 50\text{ }^{\circ}\text{C}$ |
| Ambient storage temperature:      | $-40\text{ }^{\circ}\text{C} \dots 70\text{ }^{\circ}\text{C}$ |
| UL File No.:                      | CDRH-conform                                                   |

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  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> Do not bend below  $0\text{ }^{\circ}\text{C}$  <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected

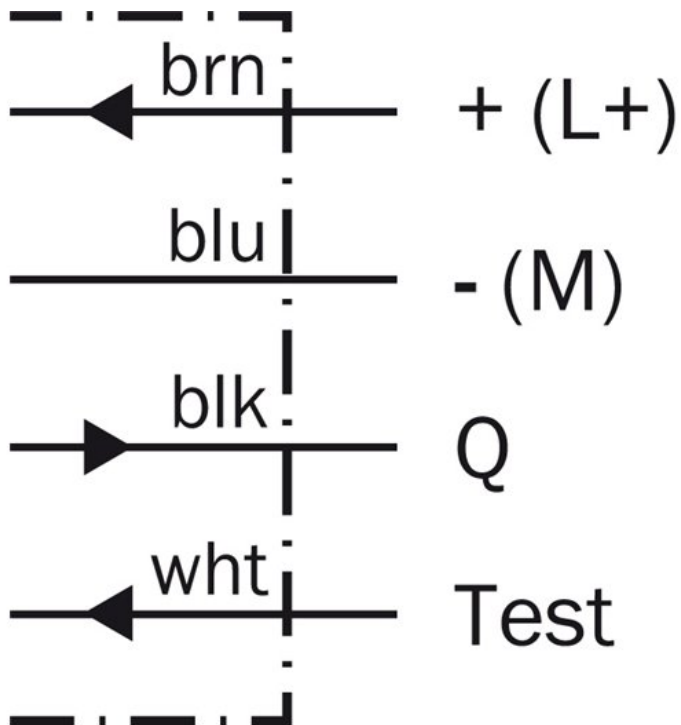
Dimensional drawing



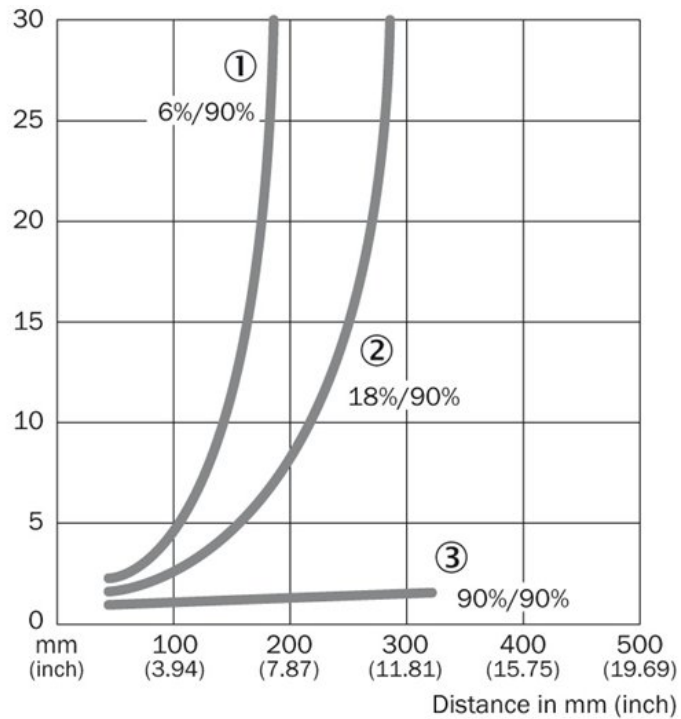
Adjustments possible



## Connection diagram

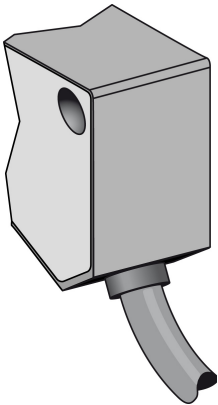


## Characteristic curve

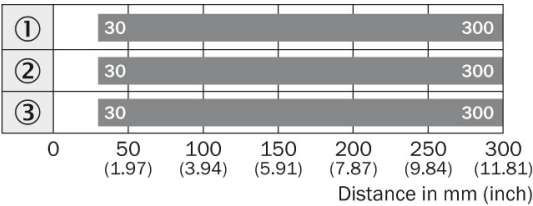


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



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)