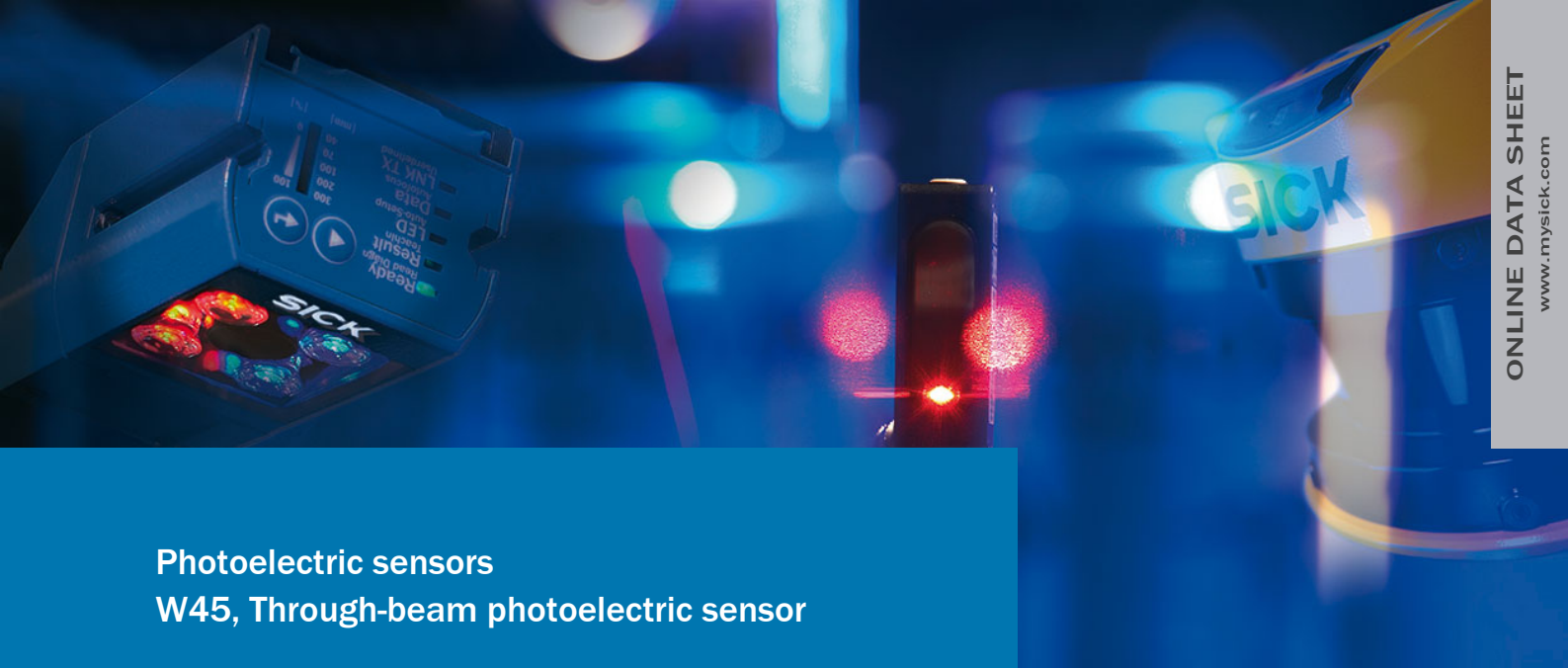




## Photoelectric sensors W45, Through-beam photoelectric sensor

WS/WE45-R250



**Model Name** > [WS/WE45-R250](#)  
**Part No.** > [1010994](#)



*Illustration may differ*

#### At a glance

- Long sensing range
- Rugged metal housing
- Optional: Powerful front lens heating
- Optional test input, time delays and alarm output
- Variants for 10 - 60 V DC or 24 - 240 V DC / 24 - 240 V AC voltage supply

#### Your benefits

- Very long sensing range with a high operating reserve at 100 m provides reliable continuous operation
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation and frost for reliable operation in outdoor applications
- Scope alignment aid ensures easier alignment to long sensing ranges
- Multiple functions for simpler integration of individual systems
- Variants DC voltage and universal AC/DC voltage provides installation flexibility due to same housing



#### Features

|                                  |                                                         |
|----------------------------------|---------------------------------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor                       |
| Dimensions (W x H x D):          | 60 mm x 105 mm x 105 mm                                 |
| Housing design (light emission): | Rectangular                                             |
| Sensing range max.:              | 0 m ... 350 m                                           |
| Sensing range:                   | 0 m ... 300 m                                           |
| Type of light:                   | Infrared light                                          |
| Light source:                    | LED <sup>1)</sup>                                       |
| Time type:                       | Time delay off, ON and OFF delay, Switch on delay       |
| Delay time:                      | Adjustable via time delay selector switch: 0.5 ... 12 s |
| Angle of dispersion:             | Ca. 0.9 °                                               |
| Adjustment:                      | Potentiometer                                           |
| Light spot size (distance):      | Ø 4.5 m (300 m)                                         |

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

#### Mechanics/electronics

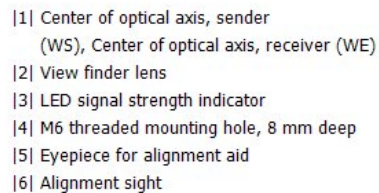
|                            |                                          |
|----------------------------|------------------------------------------|
| Supply voltage:            | 24 V AC/DC ... 240 V AC/DC <sup>1)</sup> |
| Power consumption, sender: | ≤ 6 VA                                   |

|                                        |                                                                 |
|----------------------------------------|-----------------------------------------------------------------|
| Power consumption, receiver:           | ≤ 6 VA                                                          |
| Output type:                           | Relay <sup>2)</sup>                                             |
| Output function:                       | Change-over contacts                                            |
| Switching mode:                        | Light/dark-switching <sup>3)</sup>                              |
| Output characteristic:                 | Electrically isolated                                           |
| Switching mode selector:               | Light-/dark-switching selectable via time delay selector switch |
| Switching current (switching voltage): | 4 A (24 V DC), 4 A (240 V AC)                                   |
| Response time:                         | ≤ 10 ms                                                         |
| Switching frequency:                   | 10 Hz <sup>4)</sup>                                             |
| Connection type:                       | Terminal connection with PG13,5, 6-pin                          |
| Circuit protection::                   | A, C <sup>5) 6)</sup>                                           |
| Protection class:                      | I                                                               |
| Weight:                                | 1,600 g                                                         |
| Front screen heating:                  | ✓                                                               |
| Special device:                        | -                                                               |
| Housing material:                      | Metal                                                           |
| Enclosure rating:                      | IP 67                                                           |
| Special features:                      | Dark-switching (pre-setting), Pulsating                         |
| Usage category:                        | AC-15, DC-13, According to EN 60947-1                           |
| Ambient operating temperature:         | -25 °C ... 55 °C <sup>7)</sup>                                  |
| Ambient storage temperature:           | -40 °C ... 70 °C                                                |
| UL File No.:                           | NRKH.E181493 & NRKH7.E181493                                    |

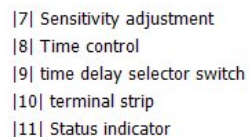
1) +10 %, -25% <sup>2) 3)</sup> Provide suitable spark suppression for inductive or capacitive loads <sup>4)</sup> With light/dark ratio 1:1 <sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>6)</sup>

C = interference suppression <sup>7)</sup> Up to 140 °C with cooling plates (see accessories)

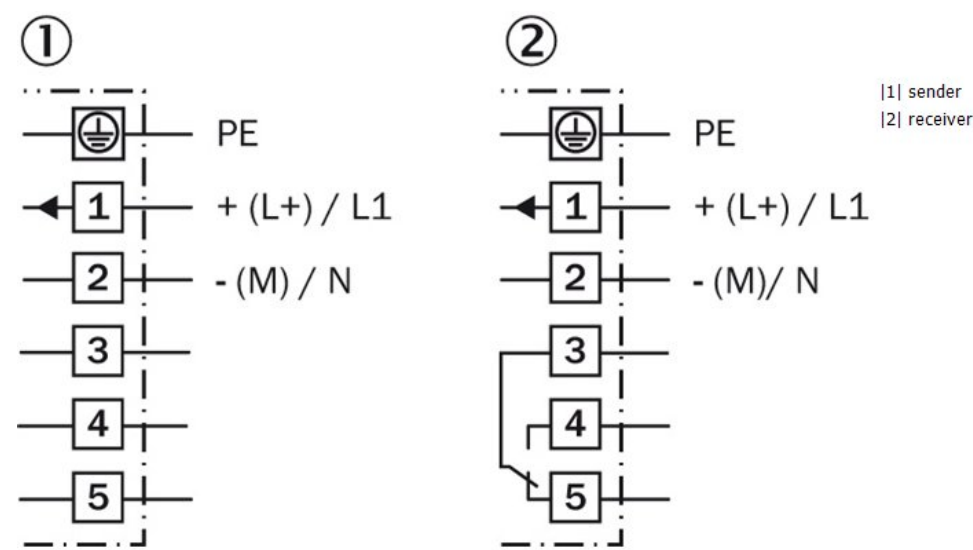
### Adjustments possible



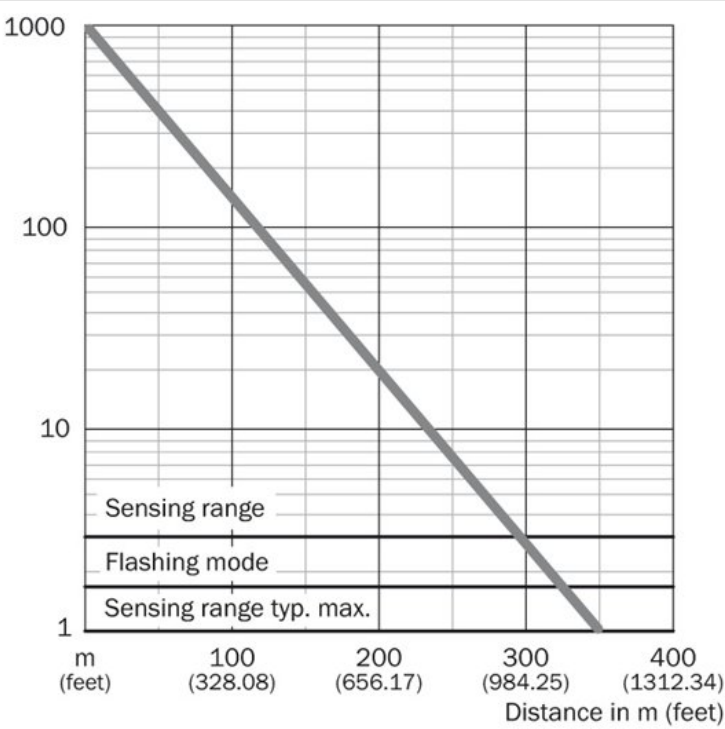
### Adjustments possible



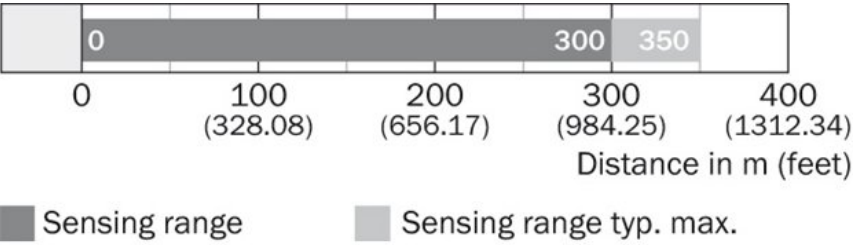
Connection diagram



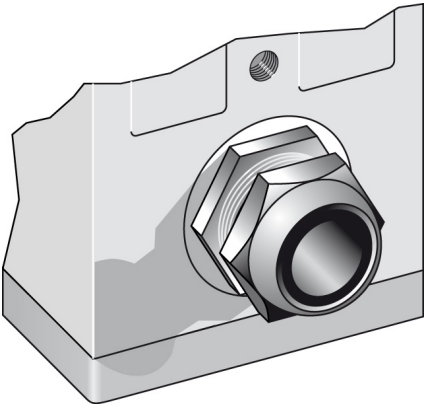
Characteristic curve



**Sensing range diagram**



**Connection type**



**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)