



Photoelectric sensors
W45, Photoelectric proximity sensor, Background
suppression

WT45-N250



Model Name > WT45-N250
Part No. > 1009116



Illustration may differ

At a glance

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

Your benefits

- Very large sensing distance
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation for reliable operation in outdoor applications.
- 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: | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D): | 60 mm x 105 mm x 105 mm |
| Housing design (light emission): | Rectangular |
| Sensing range max.: | 200 mm ... 2,000 mm ¹⁾ |
| Sensing range: | 200 mm ... 2,000 mm |
| Type of light: | Infrared light |
| Light source: | LED ²⁾ |
| Time type: | Off delay, ON and OFF delay, On delay |
| Delay time: | 0.015 ... 0.3 s, Adjustable via time delay selector switch: 0.5 ... 12 s |
| Adjustment: | Potentiometer |
| Light spot size (distance): | Ø 35 mm (2,000 mm) |

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

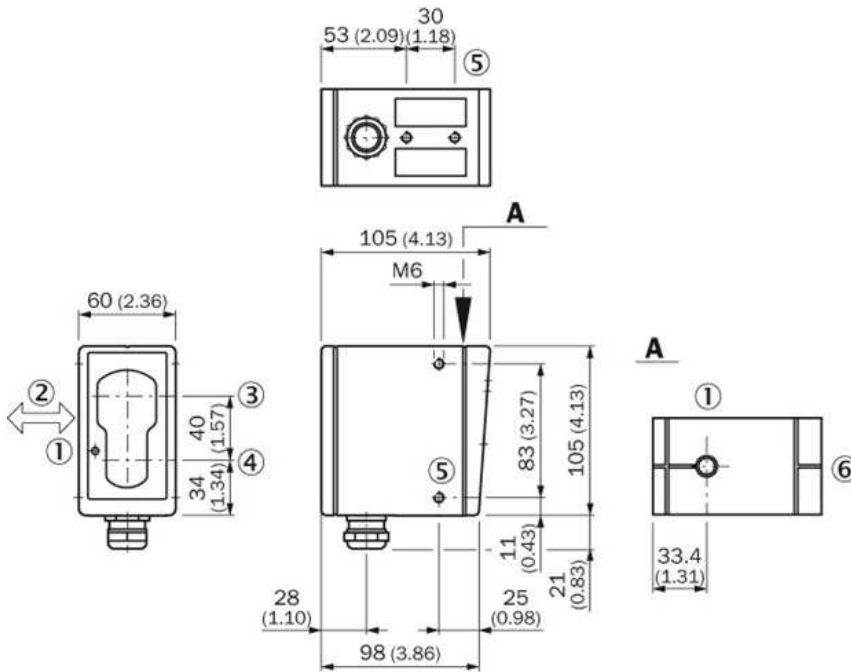
Mechanics/electronics

| | |
|----------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 60 V DC ¹⁾ |
| Ripple: | ≤ 5 Vpp ²⁾ |
| Current consumption: | ≤ 250 mA ³⁾ |
| Output type: | NPN |

| | |
|-----------------------------------|--|
| Output function: | Complementary |
| Switching mode: | Light/dark switching |
| Output current I _{max} : | 200 mA |
| Response time: | ≤ 6 ms ⁴⁾ |
| Switching frequency: | 50 Hz ⁵⁾ |
| Connection type: | Terminal connection with PG13,5, 6-pin |
| Circuit protection::: | A, C, D ^{6) 7) 8)} |
| Protection class: | I ⁹⁾ |
| Weight: | 800 g |
| Front screen heating: | ✓ |
| Housing material: | Metal |
| Enclosure rating: | IP 67 |
| Test input sender off: | TE to VS |
| Ambient operating temperature: | -25 °C ... 55 °C ¹⁰⁾ |
| Ambient storage temperature: | -40 °C ... 70 °C |
| UL File No.: | NRKH.E181493 & NRKH7.E181493 |

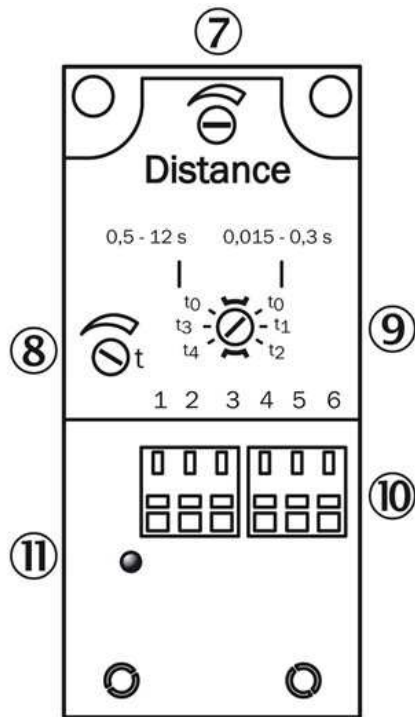
1) Limit values 2) May not exceed or fall short of V_S tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V_S¹⁰⁾
connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected 9) Reference voltage 50 V DC 10) Up to
140 °C with cooling plates (see accessories)

Dimensional drawing



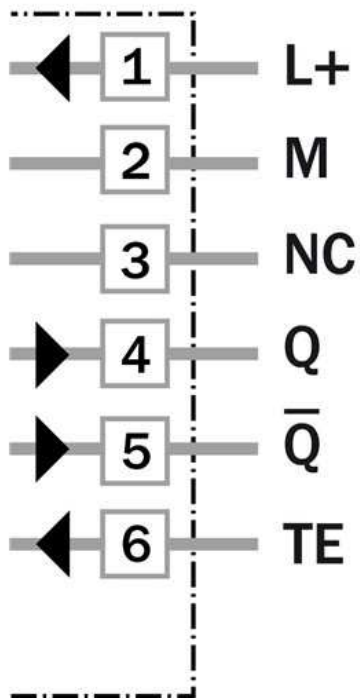
- [1] LED signal strength indicator
- [2] Standard direction of the material being scanned
- [3] Center of optical axis, receiver
- [4] Centre of transmitter's optical axis
- [5] M6 threaded mounting hole, 8 mm deep
- [6] Alignment sight

Adjustments possible

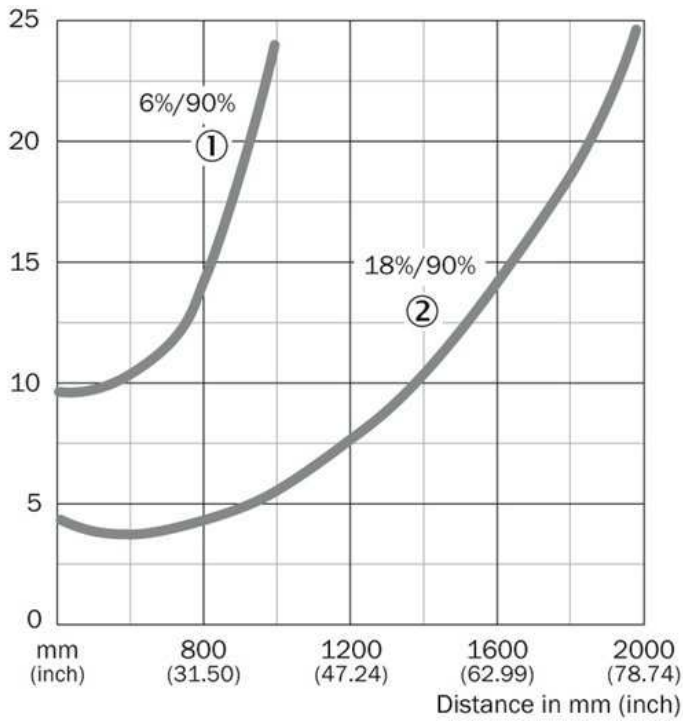


- |7| Sensing range adjustment
- |8| Time control
- |9| time delay selector switch
- |10| terminal strip
- |11| Status indicator

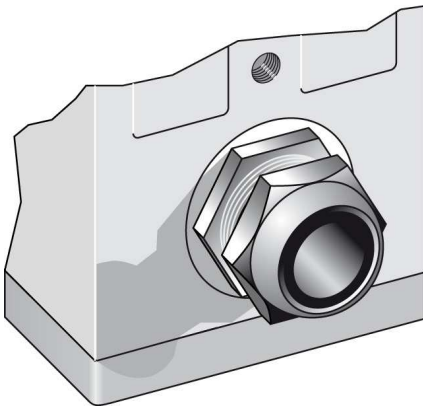
Connection diagram



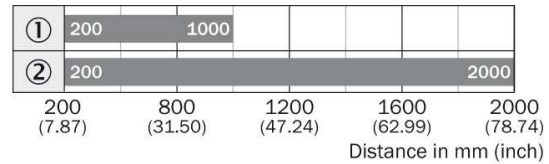
Characteristic curve



Connection type



Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission

Australia

Phone +61 3 9457 0600
1800 33 48 02 – 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 marketing@sick.com.br

Canada

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

Česká 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 info@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 +972-4-6881000
E-Mail info@sick-sensors.com

Italia

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

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

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

Nederland

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

Norge

Phone +47 67 81 50 00
E-Mail sick@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 sales.gsg@sick.com

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 88 65 878
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