



Photoelectric sensors W24-2, Through-beam photoelectric sensor

WS/WE24-2B230



Model Name > [WS/WE24-2B230](#)
Part No. > [1017861](#)



Illustration may differ

At a glance

- Long sensing range with high operating reserve
- Metal housing that has been IP 69k tested
- Switch selectable PNP or NPN output
- Switch selectable Light or Dark operating mode
- Variants with DC voltage and universal AC/DC voltage with UL approval
- Optional test input, adjustable ON and OFF time delays, alarm output and front screen heating
- M12 or terminal chamber connection: 90° rotatable

Your benefits

- Metal housing that has been IP 69K tested provides reliability and a long service life
- High operating reserve at a long sensing range reduces downtime
- Alarm output signals marginal operation to provide an early warning
- Test input provides diagnostic feedback for example misalignment
- Selectable output type, operating mode, and adjustable time delays makes integration easier and reduce the number of devices needed
- Ensuring reliable operation in environments with temperatures fluctuation due to standard or high-power front lens heating (prevention and reduction of condensation water on the front lens)
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility
- Red light provides easy alignment, which saves time



Features

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	27 mm x 87.5 mm x 65 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 60 m
Sensing range:	0 mm ... 50 mm
Type of light:	Visible red light
Light source:	LED ¹⁾
Sensitivity adjustment:	Sensitivity adjustment
Time type:	Switch on delay time delay off
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s
Angle of dispersion:	Ca. 1 °
Light spot size (distance):	Ø 700 mm (50 m)

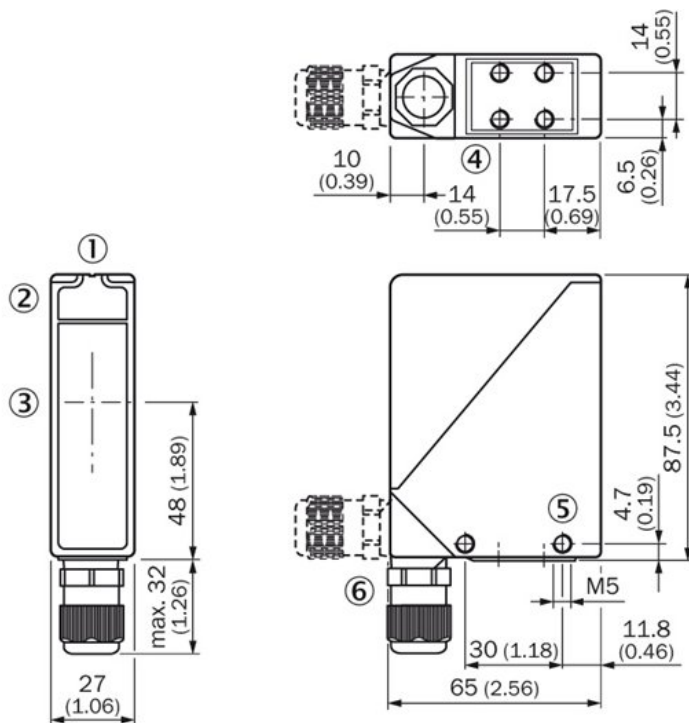
1) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption, sender:	50 mA ³⁾
Power consumption, receiver:	40 mA ⁴⁾
Output type:	NPN, PNP
Switching mode:	Light/dark-switching
Switching mode selector:	Selectable via light/dark selector, Selectable via NPN/PNP selector
Output current I _{max} :	100 mA
Response time:	≤ 500 μs ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Angle of reception:	Ca. 2.5 °
Connection type:	Terminal connection with M16 gland ⁷⁾
Circuit protection:::	A, C, D ^{8) 9) 10)}
Protection class:	II ¹¹⁾
Weight:	660 g
Front screen heating:	-
Special device:	-
Housing material:	Metal, Zinc diecast
Optics material:	PMMA
Enclosure rating:	IP 69K
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

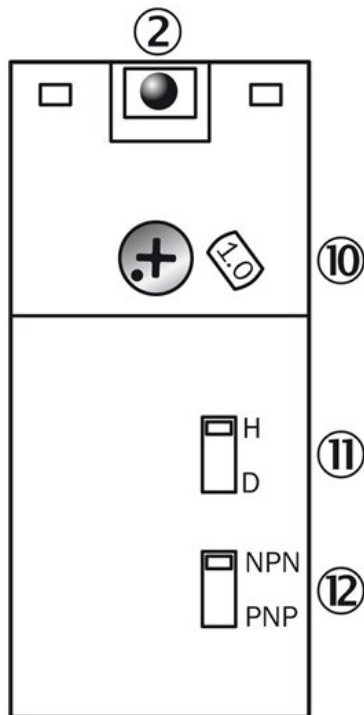
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ^{3) 4)} Without load ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ Connection rotatable by 90° ⁸⁾ $A = V_S$ connections reverse-polarity protected ⁹⁾ C = interference suppression ¹⁰⁾ D = outputs overcurrent and short-circuit protected ¹¹⁾ Reference voltage 50 V DC

Dimensional drawing



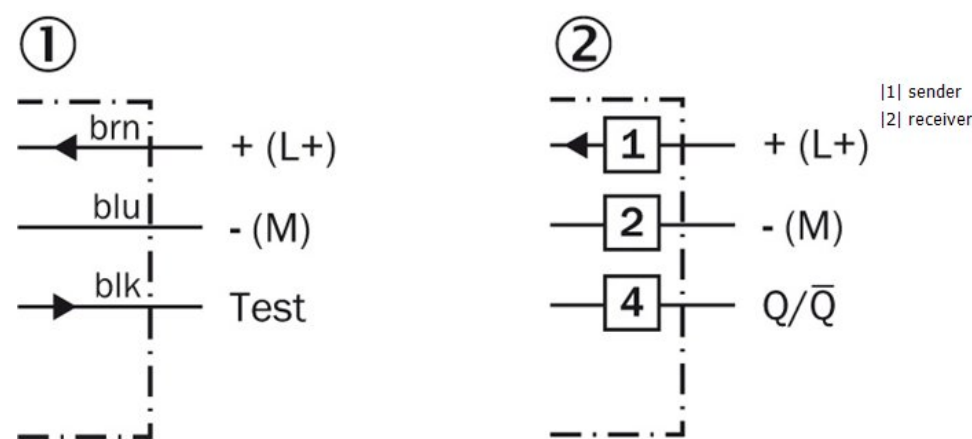
- |1| Alignment sight
- |2| LED signal strength indicator
- |3| Center of optical axis
- |4| M5 threaded mounting hole, 6 mm deep
- |5| M5 threaded mounting hole, through-hole
- |6| M16 screw fixing and plug rotatable by 90°

Adjustments possible

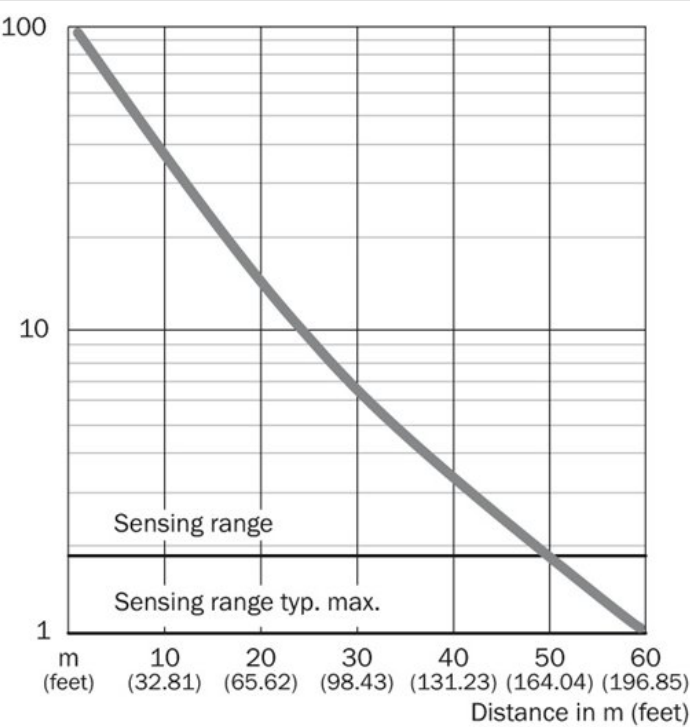


- |2| LED signal strength indicator
- |10| Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- |11| Light/dark selector
- |12| NPN/ PNP selector

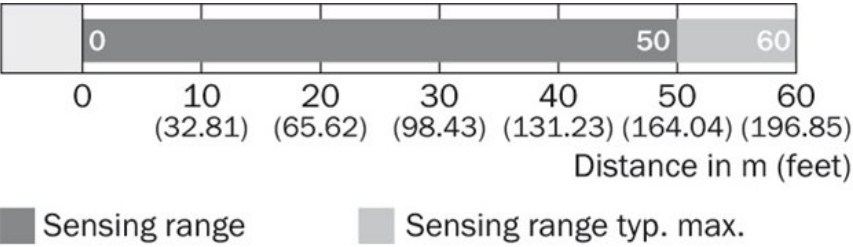
Connection diagram



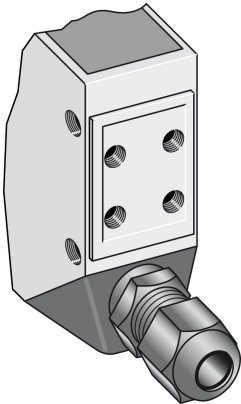
Characteristic curve



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