

WT12L-2B530

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

SICKSensor Intelligence.



Ordering information

Туре	Part no.
WT12L-2B530	1018250

Included in delivery: BEF-KH-W12 (2)

Other models and accessories → www.sick.com/W12-2_Laser

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	30 mm 200 mm ¹⁾
Emitted beam	
Light source	Laser ²⁾
Type of light	Visible red light
Light spot size (distance)	Ø 0.1 mm (45 mm)
Key laser figures	
Normative reference	EN 60825-1:2014, IEC 60825-1:2007
Laser class	2 ³⁾
Key LED figures	
Wave length	650 nm
Adjustment	Potentiometer
Special applications	Detecting small objects, Detection of objects moving at high speeds
Items supplied	2 x clamps BEF-KH-W12, incl. screws

 $^{^{1)}}$ Object with 18% remission (based on standard white, DIN 5033).

Safety-related parameters

MTTF _D	292 years
DC _{avg}	0 %

²⁾ Average service life: 50,000 h at T_U = +25 °C.

 $^{^{3)}}$ Pulse length 4 μ s, max. pulse power < 5,0 mW.

Electrical data

Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	55 mA ³⁾
Protection class	III
Digital output	
Туре	PNPNPN ^{4) 5)}
Switching mode	Light switching, Dark switching ^{4) 5)}
Switching mode selector	Selectable via L/D control cable
Signal voltage PNP HIGH/LOW	Uv - < 2 V, Uv / 0 V, <= 1.5 V
Signal voltage NPN HIGH/LOW	Uv - < 2 V, $Uv / 0 V$, $<= 1.5 V$
Output current I _{max.}	≤ 100 mA
Response time	≤ 200 μs ⁶⁾
Switching frequency	$2,500~{\rm Hz}^{7)}$
Circuit protection	A ⁸⁾ C ⁹⁾ D ¹⁰⁾

 $^{^{1)}}$ Limit values when operated in short-circuit protected network: max. 8 A.

Mechanical data

Housing	Rectangular
Dimensions (W x H x D)	15 mm x 49 mm x 41.5 mm
Connection	Male connector M12, 5-pin
Material	
Housing	Metal
Front screen	Plastic, PMMA
Weight	130 g

Ambient data

Enclosure rating	IP67 IP69K
Ambient operating temperature	-10 °C +50 °C
Ambient temperature, storage	-25 °C +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Classifications

ECLASS 5.0	27270904
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 $^{^{2)}}$ May not exceed or fall below U_{ν} tolerances.

³⁾ Without load.

⁴⁾ 0 V or not connected, light switching.

⁵⁾ Uv, dark switching.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

 $^{^{8)}}$ A = V_S connections reverse-polarity protected.

 $^{^{9)}}$ C = interference suppression.

 $^{^{10)}}$ D = outputs overcurrent and short-circuit protected.

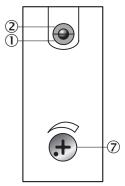
WT12L-2B530 | W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments

WT12L-2



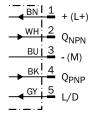
- ① Operating indicator, green
- ② LED reception indicator, yellow
- Adjustment of sensing range

Connection type



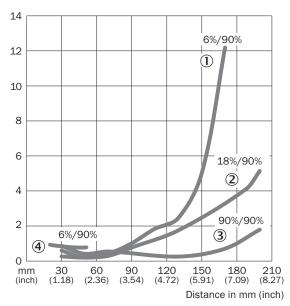
Connection diagram

Cd-145



Characteristic curve

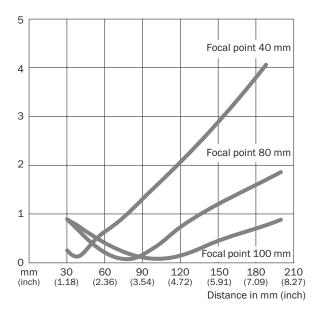
WT12L-2



- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- 3 Sensing range on white, 90% remission factor
- 4 Sensing range on black, 6 % remission, fix

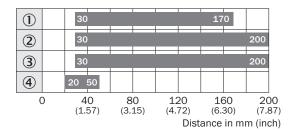
Light spot size

WT12L-2



Sensing range diagram

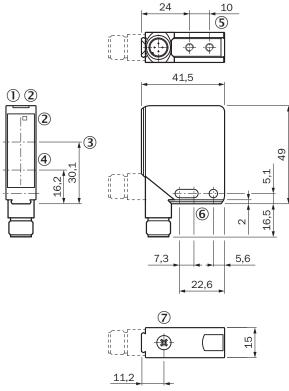
WT12L-2



- Sensing range
- ① Sensing range on black, 6% remission factor
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Dimensional drawing (Dimensions in mm (inch))

WT12L-2



- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Optical axis, receiver
- 4 Optical axis, sender
- ⑤ M4 threaded mounting hole 4 mm depth
- 6 Mounting hole, Ø 4.2 mm
- Adjustment of sensing range

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