

WS/WE12L-2P430A01

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS





Ordering information

Туре	Part no.
WS/WE12L-2P430A01	1018476

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

Illustration may differ



Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor	
Sensing range max.	0 m 80 m	
Emitted beam		
Light source	Laser 1)	
Type of light	Visible red light	
Light spot size (distance)	Ø 150 mm (60 m)	
Key laser figures		
Normative reference	EN 60825-1:2014, IEC 60825-1:2007	
Laser class	2 2)	
Key LED figures		
Wave length	650 nm	
Adjustment	None	
Special features	American version	
Special applications	Detecting small objects, Detection of objects moving at high speeds	
Part number of individual components	2021723 WS12L-2D430A01 2021726 WE12L-2P430	

 $^{^{1)}}$ Average service life: 50,000 h at $\rm T_U$ = +25 °C.

Safety-related parameters

MTTF _D	396 years
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 $^{^{2)}}$ Pulse length 4 $\mu s,\ max.\ pulse\ power < 5,0 mW.$

Electrical data

Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption, sender	\leq 45 mA $^{3)}$
Current consumption, receiver	\leq 15 mA $^{3)}$
Protection class	III
Digital output	
Туре	PNP
Signal voltage PNP HIGH/LOW	Uv - < 2.9 V, Uv V / 0 V <= 1.5 V
Signal voltage NPN HIGH/LOW	Uv - < 2.9 V, $Uv V / 0 V <= 1.5 V$
Output current I _{max.}	≤ 100 mA
Response time	≤ 200 µs ⁴⁾
Switching frequency	2,500 Hz ⁵⁾
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾

 $^{^{1)}}$ 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, 4-pin
Material	
Housing	Metal
Front screen	Plastic, PMMA
Weight	260 g

Ambient data

Enclosure rating	IP67 IP69K
Ambient operating temperature	-10 °C +50 °C
Ambient temperature, storage	-25 °C +75 °C

Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901

 $^{^{2)}\,\}text{May}$ not exceed or fall below U_{V} tolerances.

³⁾ Without load.

 $^{^{4)}}$ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

 $^{^{6)}}$ A = V_S connections reverse-polarity protected.

 $^{^{7)}}$ C = interference suppression.

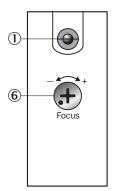
⁸⁾ D = outputs overcurrent and short-circuit protected.

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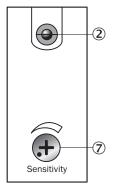
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Adjustments

WS/WE12L-2



- ① Status indicator (WS, top only)
- 6 Focal adjustment (WS)



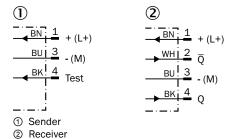
- ② LED signal strength indicator (WE)
- Sensitivity adjustment (WE)

Connection type



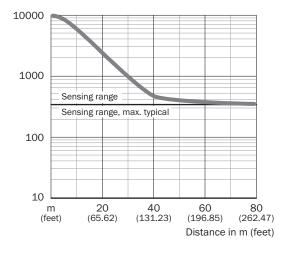
Connection diagram

Cd-077



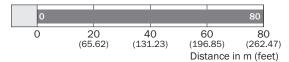
Characteristic curve

WS/WE12L-2, 80 m



Sensing range diagram

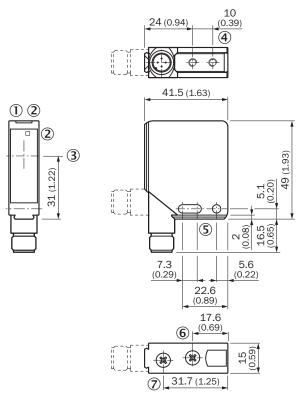
WS/WE12L-2, 80 m



Sensing range/sensing range typ. max.

Dimensional drawing (Dimensions in mm (inch))

WL12L-2, WS/WE12L-2



- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Center of optical axis
- ④ M4 threaded mounting hole 4 mm depth
- (5) Mounting hole, Ø 4.2 mm
- 6 Focal adjustment
- ⑦ Sensitivity control

Recommended accessories

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

	Brief description	Туре	Part no.	
Plug connect	Plug connectors and cables			
	 Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF2A14- 050VB3XLEAX	2096235	
	 Connection type head A: Male connector, M12, 4-pin, straight Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932	

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