Product data sheet

WS/WE12L-2N430

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WS/WE12L-2N430	1018255

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

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

Detailed technical data

Features

Sensor/ detection principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	15 mm x 49 mm x 41.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 80 m
Type of light	Visible red light
Light source	Laser [1]
Light spot size (distance)	Ø 150 mm (60 m)
Wave length	650 nm
Laser class	2 (EN 60825-1:2014, IEC 60825-1:2007) [2]
Adjustment	None
Special applications	Detecting small objects, Detection of objects moving at high speeds

[1] Average service life: 50,000 h at T_U = +25 °C.

[2] Pulse length 4 µs, max. pulse power < 5,0 mW.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 5 V_{pp} [2]
Power consumption, sender	≤ 45 mA [3]

[1] Limit values when operated in short-circuit protected network: max. 8 A.

[2] 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.

Power consumption, receiver	≤ 15 mA [3]
Switching output	NPN
Switching mode selector	Selectable via L/D control cable
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]
Connection type	Male connector M12, 4-pin
Circuit protection	A [6] C [7] D [8]
Protection class	III
Weight	260 g
Housing material	Metal
Optics material	Plastic, PMMA
Enclosure rating	IP67 IP69K
Items supplied	2 x clamps BEF-KH-W12, incl. screws
Ambient operating temperature	–10 °C ... +50 °C
Ambient storage temperature	–25 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	2021722 WS12L-2D430 2021725 WE12L-2N430

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] 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.

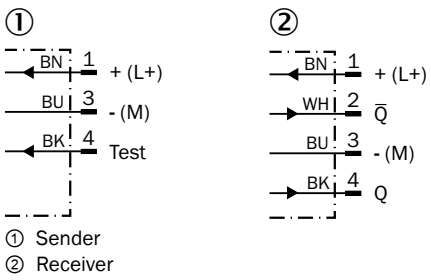
Classifications

ECl@ss 5.0	27270901
ECl@ss 5.1.4	27270901
ECl@ss 6.0	27270901
ECl@ss 6.2	27270901
ECl@ss 7.0	27270901
ECl@ss 8.0	27270901
ECl@ss 8.1	27270901
ECl@ss 9.0	27270901
ECl@ss 10.0	27270901
ECl@ss 11.0	27270901
ETIM 5.0	EC002716

ETIM 6.0	EC002716
ETIM 7.0	EC002716
UNSPSC 16.0901	39121528

Connection diagram

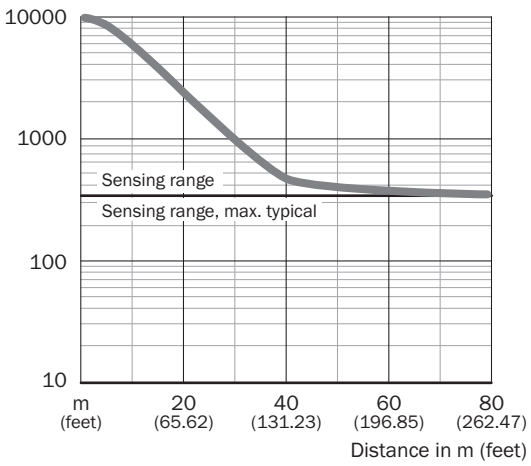
Cd-077



① Sender
② Receiver

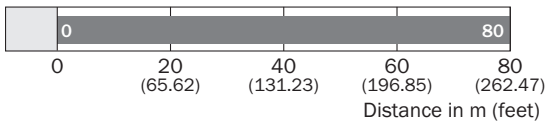
Characteristic curve

WS/WE12L-2, 80 m



Sensing range diagram

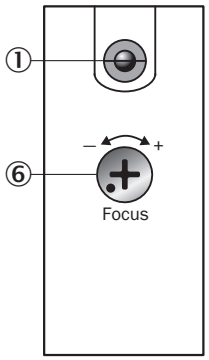
WS/WE12L-2, 80 m



Sensing range/sensing range typ. max.

Adjustments possible

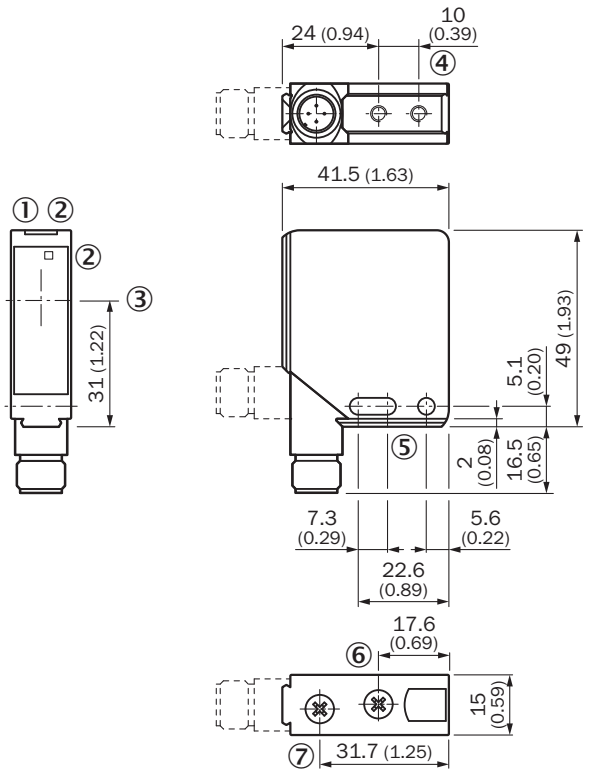
WS/WE12L-2



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

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 deep
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	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com