



WL190L-N430

W190 Laser Standard

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WL190L-N430	6026556

Included in delivery: P250F (1)

Other models and accessories → www.sick.com/W190_Laser_Standard

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	15 mm x 44.4 mm x 30 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.01 m ... 5.5 m ¹⁾
Type of light	Visible red light
Light source	Laser
Light spot size (distance)	Ø 45 mm (5 m)
Laser class	2
Adjustment	Potentiometer, 1 turn Potentiometer, 1 rotation

¹⁾ Reflector P250F.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Current consumption	40 mA ³⁾
Switching output	NPN
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Output current I_{max}	≤ 100 mA

¹⁾ Limit values.

²⁾ May not fall below or exceed 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⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

Response time	0.5 ms ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁶⁾ D ⁷⁾
Protection class	III ⁸⁾
Weight	120 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Tightening torque, max.	0.5 Nm
Enclosure rating	IP67
Items supplied	Reflector P250F
Ambient operating temperature	-10 °C ... +40 °C
Ambient temperature, storage	-20 °C ... +60 °C

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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.

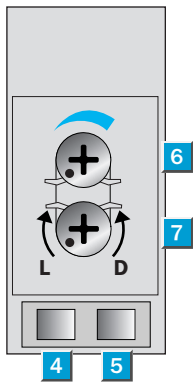
⁷⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

Classifications

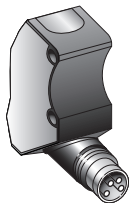
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments

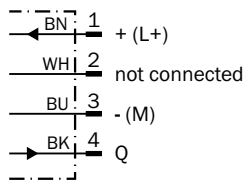


- ④ Status indicator LED, yellow: Output active
- ⑤ Status indicator LED, green: Laser on
- ⑥ sensitivity control
- ⑦ selector switch light/dark switching

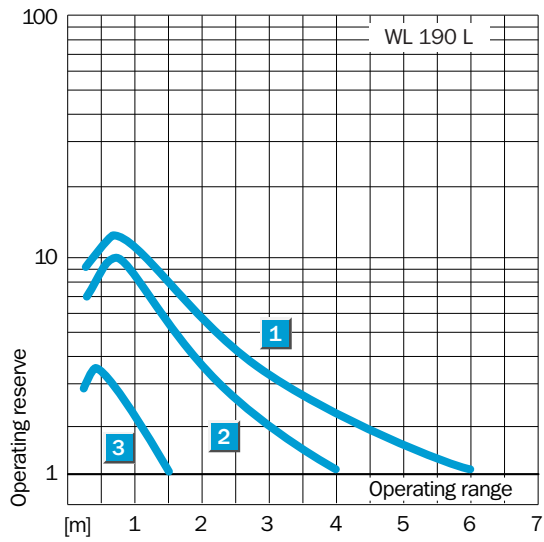
Connection type



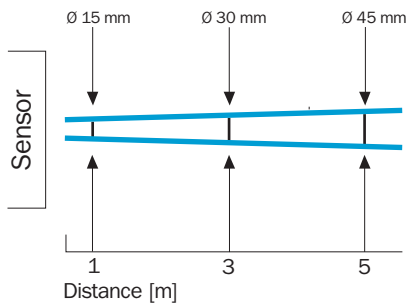
Connection diagram Cd-066



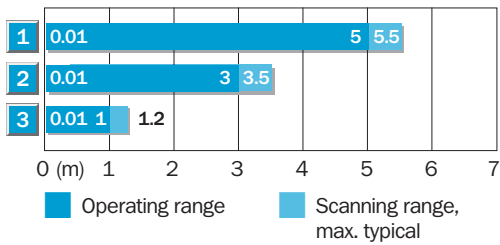
Characteristic curve



Light spot size

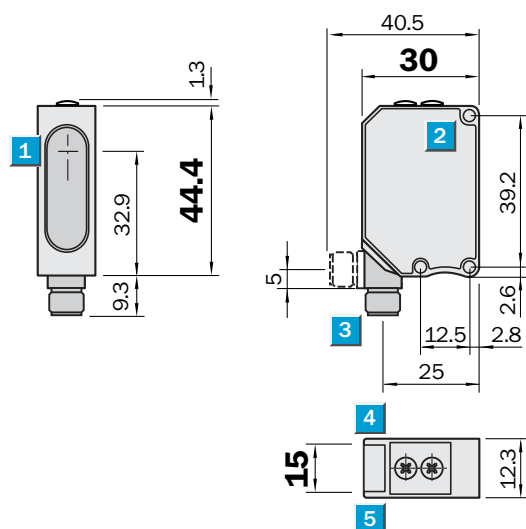


Sensing range diagram



Reflector type	Operating range
1 P 250 F	0.01 ... 5 m
2 PL 20 F	0.01 ... 3 m
3 PL 10 F	0.01 ... 1 m

Dimensional drawing











Dimensions in mm (inch)

- ① Center of optical axis
- ② Mounting hole, \varnothing approx. 3.1 mm
- ③ Connector 4-pin, M8, 90° rotatable or cable 2 m, 3-wire
- ④ Status indicator LED, yellow: Output active
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Recommended accessories

Other models and accessories → www.sick.com/W190_Laser_Standard

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included 	BEF-W190	5311362
	<ul style="list-style-type: none"> Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574
	<ul style="list-style-type: none"> Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C ... +65 °C 	P250	5304812
	<ul style="list-style-type: none"> Description: Fine triple reflector, screw connection, suitable for laser sensors Dimensions: 52 mm 62 mm Ambient operating temperature: -30 °C ... +65 °C 	P250F	5308843
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U14-050UA3XLEAX	2094792
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 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, Uncontaminated zones 	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none"> Connection type head A: Male connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0804-G	6037323

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