



DATA SHEET

WL190L-P430

W190 Laser Standard
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL190L-P430

ORDERING INFORMATION

Type	part no.
WL190L-P430	6026558

Further device versions and accessories at 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⁾

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_g connections reverse-polarity protected.

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

⁸⁾ Reference voltage: 50 V DC.

Current consumption	40 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Output current I _{max}	≤ 100 mA
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

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

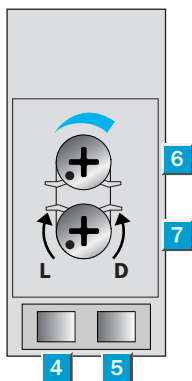
⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_g connections reverse-polarity protected.

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

⁸⁾ Reference voltage: 50 V DC.

ADJUSTMENTS



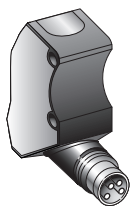
④ Status indicator LED, yellow: Output active

⑤ Status indicator LED, green: Laser on

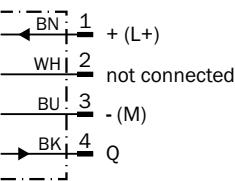
⑥ sensitivity control

⑦ selector switch light/dark switching

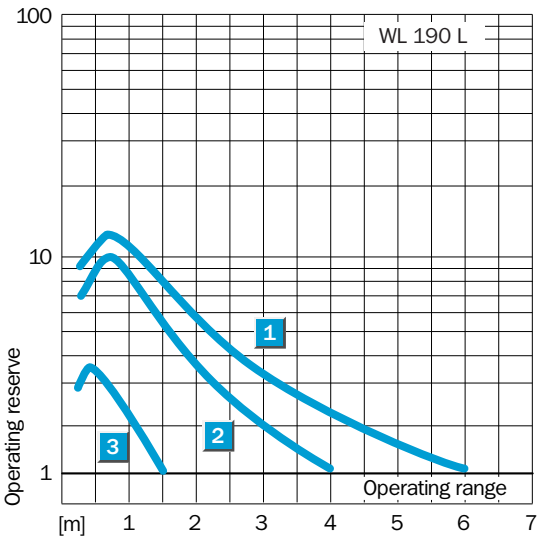
CONNECTION TYPE



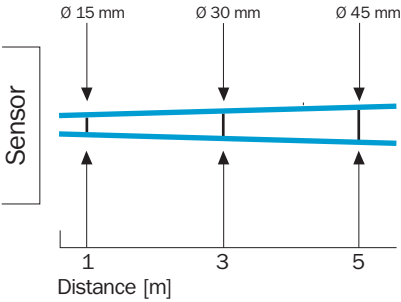
CONNECTION DIAGRAM CD-066



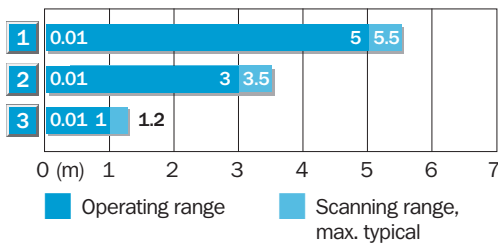
CHARACTERISTIC CURVE



LIGHT SPOT SIZE

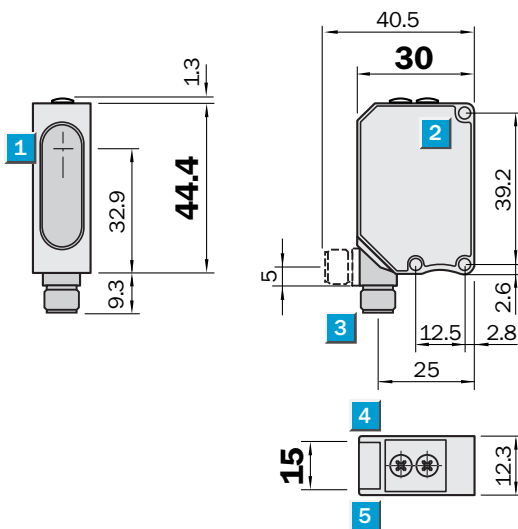


SENSING RANGE DIAGRAM



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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6026558



SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK
Sensor Intelligence