



Photoelectric sensors W190 Laser Standard, Photoelectric retro-reflective sensor, autocollimation

WL190L-N430



Model Name > [WL190L-N430](#)
Part No. > [6026556](#)



Illustration may differ

At a glance

- Laser LED, visible red light, class 2
- User-friendly sensor with simple alignment and adjustment
- Sensitivity setting via potentiometer
- Precise autocollimation optics
- Selectable output: light/dark switching

Your benefits

- Highly visible laser light spot provides simple alignment and adjustment
- Simple adjustment via potentiometer
- Flexible operation with two output functions in one device due to light/dark selector switch
- Reliable operation, even when reflector and sensor are mounted close to one another



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
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
Laser class:	2
Light spot diameter (distance):	Ø 45 mm (5 m)
Adjustment of operating distance:	Potentiometer, 1 revolution

¹⁾ P250F

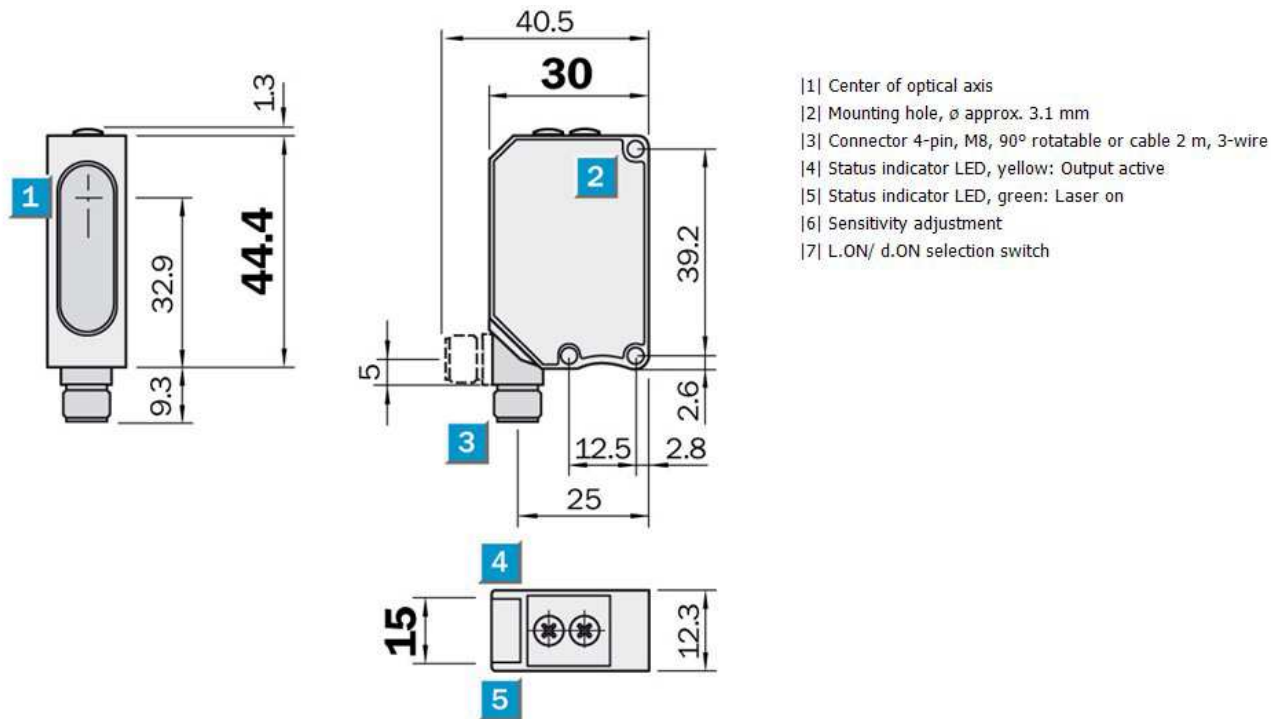
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾
Power consumption:	≤ 40 mA ³⁾
Output type:	NPN, Light/dark-switching, manually selectable
Output current I _{max} :	< 100 mA
Response time:	0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾

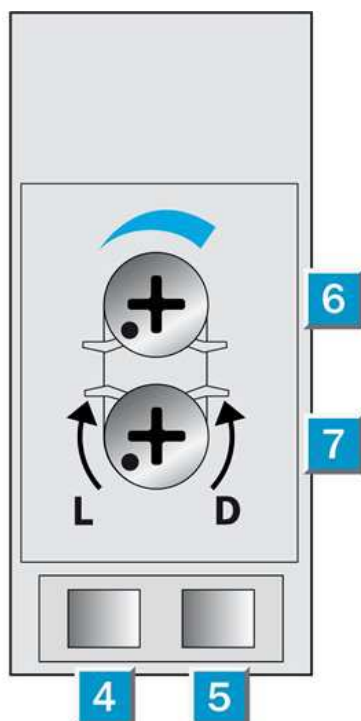
Electrical connection:	Connector M8, 4-pin
Circuit protection:	A, D ^{6) 7)}
Protection class:	III ⁸⁾
Weight:	120 g
Polarisation filter:	✓
Housing material:	ABS
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Reflector P250F
Ambient temperature operation:	-10 °C ... 40 °C
Ambient storage temperature:	-20 °C ... 60 °C

¹⁾ Limit values ²⁾ May not exceed or fall short of V_S 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

Dimensional drawing



Adjustments possible



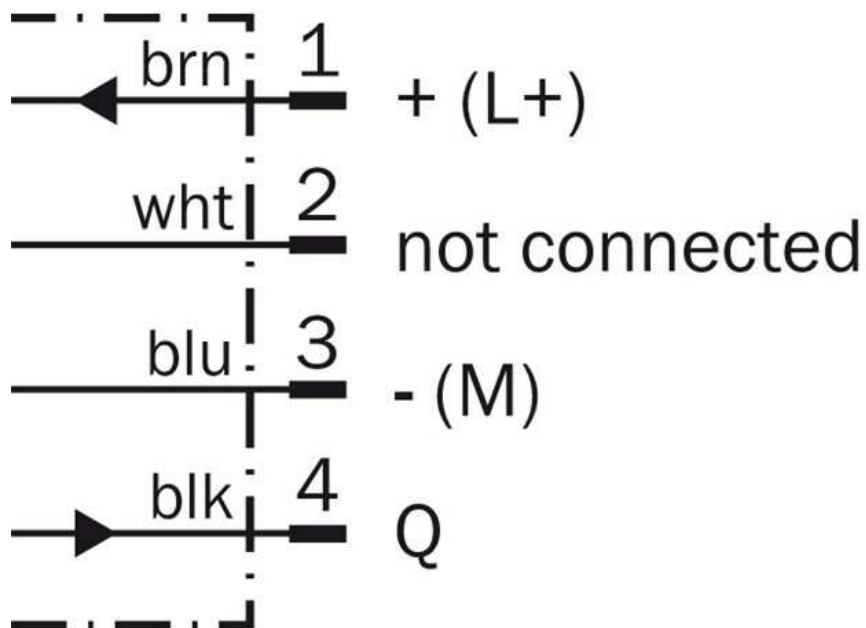
[4] Status indicator LED, yellow: Output active

[5] Status indicator LED, green: Laser on

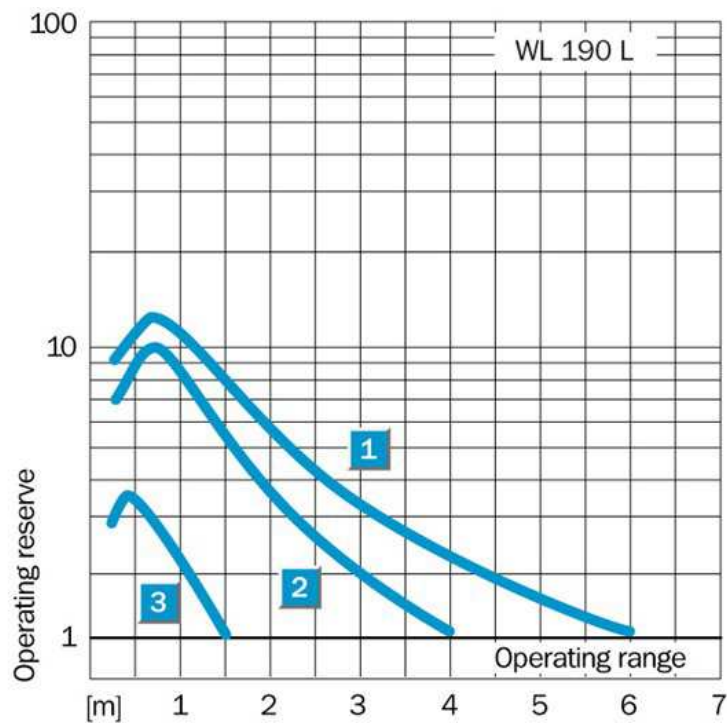
[6] Sensitivity control

[7] L.ON/ d.ON selection switch

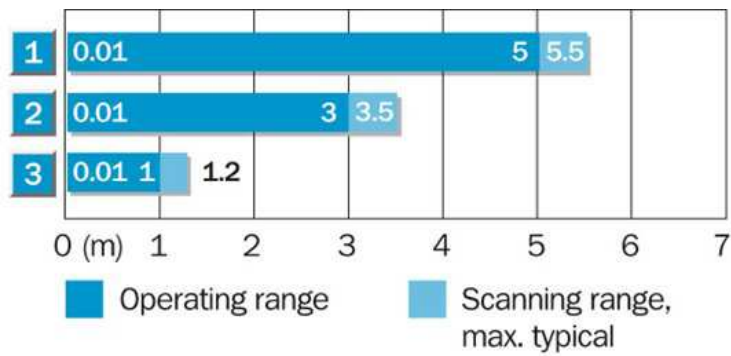
Connection diagram



Characteristic curve

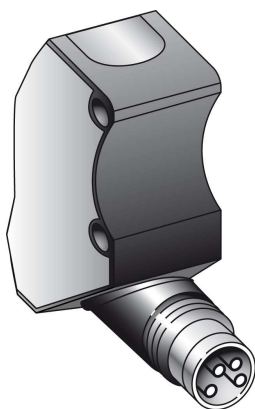


Sensing range diagram

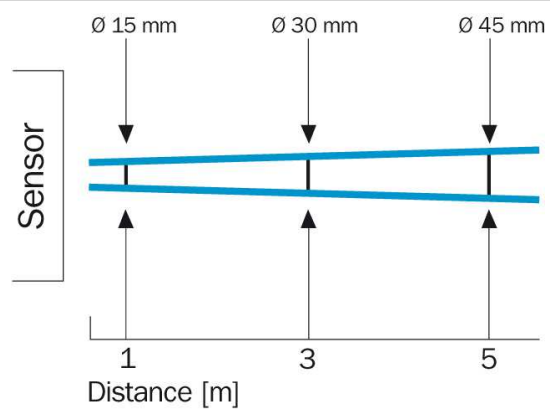


Reflector type		Operating range
1	P 250 F	0.01 ... 5 m
2	PL 20 F	0.01 ... 3 m
3	PL 10 F	0.01 ... 1 m

Connection type



Light spot size



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