



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

WL190L-P430



**Model Name** > [WL190L-P430](#)  
**Part No.** > [6026558](#)



*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 <sup>1)</sup>
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

<sup>1)</sup> P250F

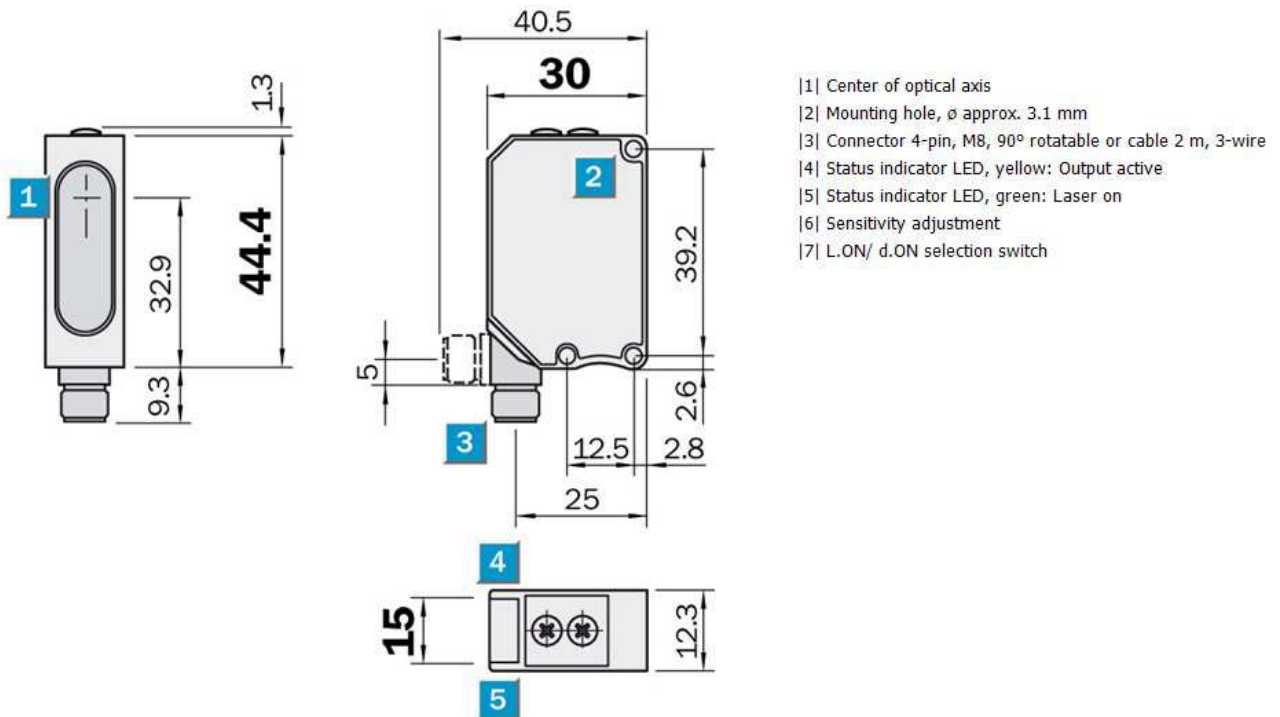
**Mechanics/electronics**

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

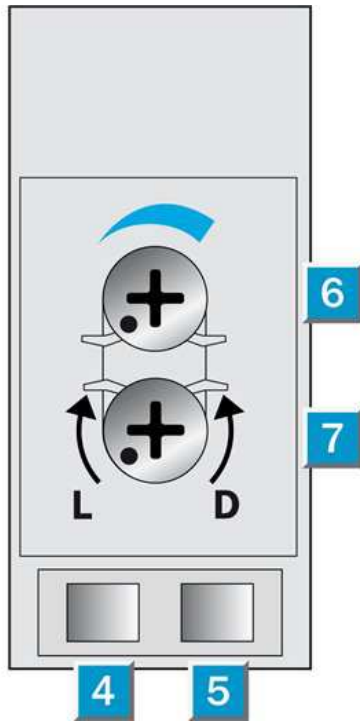
Electrical connection:	Connector M8, 4-pin
Circuit protection:	A, D <sup>6) 7)</sup>
Protection class:	III <sup>8)</sup>
Weight:	120 g
Polarisation filter:	✓
Housing material:	ABS
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Reflector P250F
Ambient temperature operation:	-10 °C ... 40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

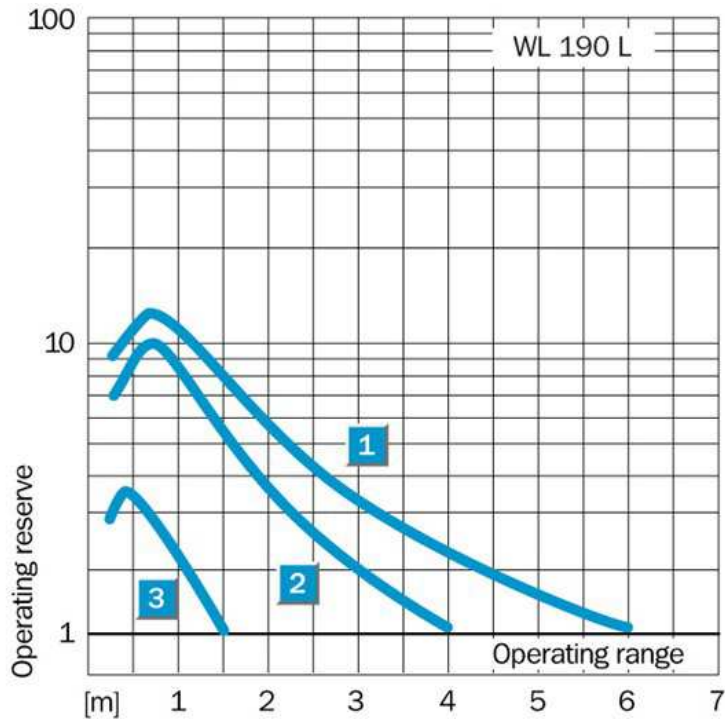


- |4| Status indicator LED, yellow: Output active
- |5| Status indicator LED, green: Laser on
- |6| Sensitivity control
- |7| L.ON/ d.ON selection switch

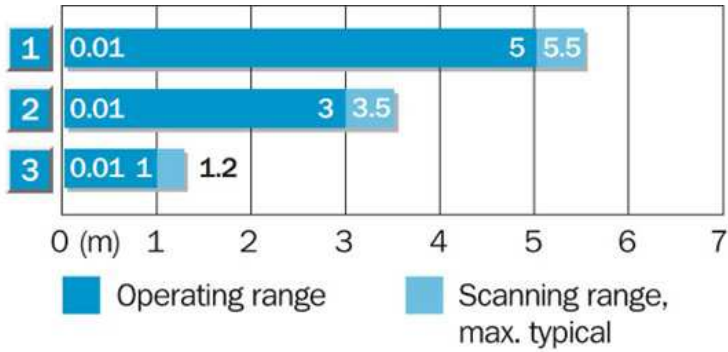
## Connection diagram



**Characteristic curve**

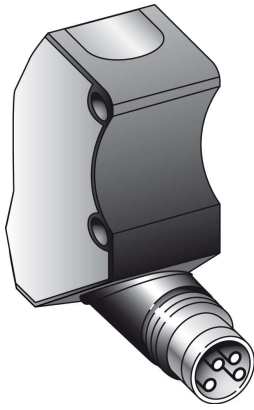


**Sensing range diagram**

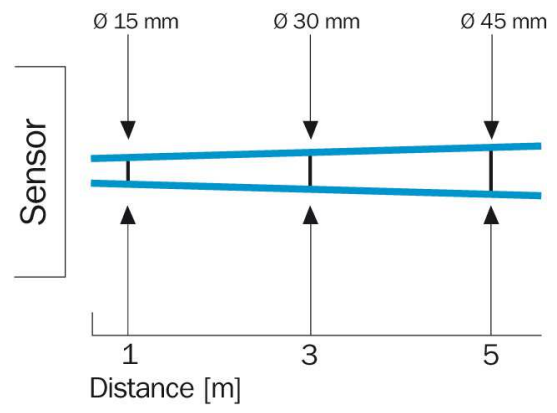


Reflector type	Operating range
1 P 250 F	0.01 ... 5 m
2 PL 20 F	0.01 ... 3 m
3 PL 10 F	0.01 ... 1 m

## Connection type



## Light spot size



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