



Photoelectric sensors
W190 Laser Standard, Photoelectric proximity
sensor, Background suppression

WTB190L-P460



Model Name > [WTB190L-P460](#)
Part No. > [6026554](#)



Illustration may differ

At a glance

- Laser LED, visible red light, class 2
- User-friendly sensor with simple alignment and adjustment
- Precise background suppression
- Setting via potentiometer
- Selectable output: light/dark switching

Your benefits

- Highly visible laser light 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 object detection due to precise background suppression



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	15 mm x 44.4 mm x 30 mm
Housing design (light emission):	Rectangular
Sensing range max.:	100 mm ... 300 mm ¹⁾
Type of light:	Visible red light
Light source:	Laser
Laser class:	2
Light spot diameter (distance):	Ø 2.5 mm (200 mm)

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033)

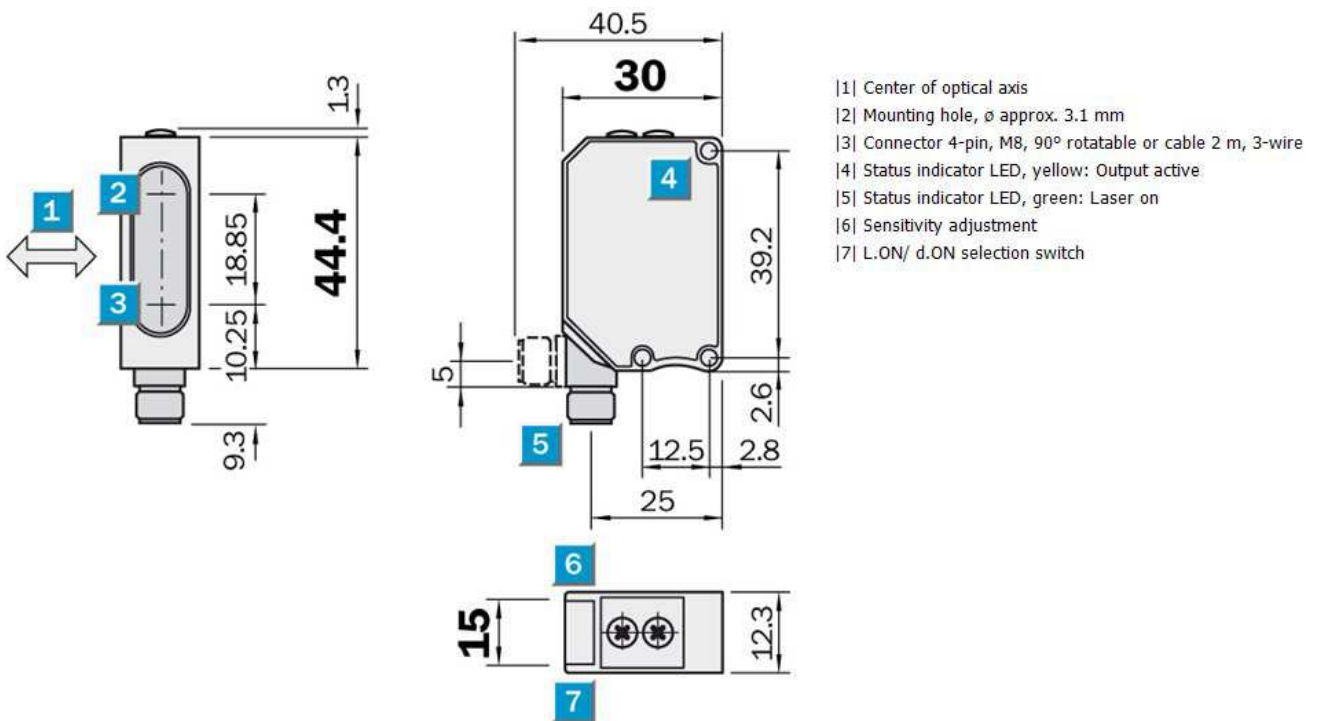
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾
Power consumption:	≤ 40 mA ³⁾
Output type:	PNP, Light/dark-switching, manually selectable
Output current I _{max} ·:	< 100 mA
Response time:	0.7 ms ⁴⁾
Switching frequency:	700 Hz ⁵⁾
Electrical connection:	Connector M8, 4-pin
Circuit protection::	A, D ^{6) 7)}

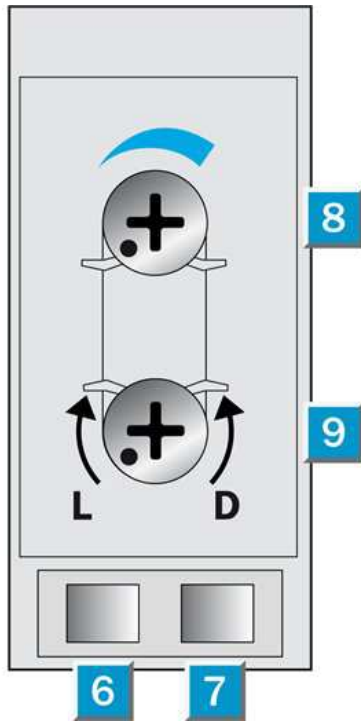
Protection class: III ⁸⁾
 Weight: 120 g
 Housing material: ABS
 Optics material: PMMA
 Enclosure rating: IP 67
 Ambient temperature operation: -10 °C ... 40 °C
 Ambient storage temperature: -20 °C ... 60 °C

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

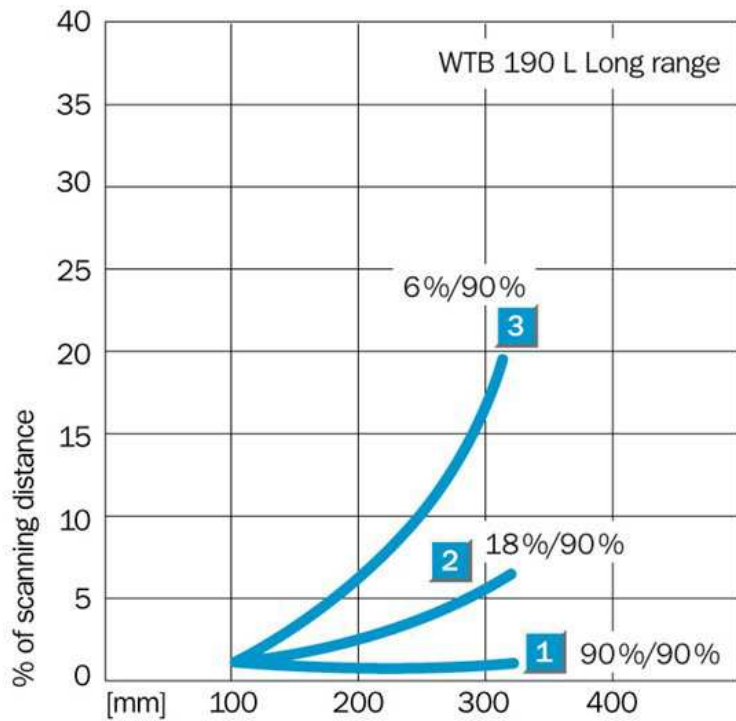


- |6| Status indicator LED, yellow: Output active
- |7| Status indicator LED, green: Laser on
- |8| Sensing range adjustment
- |9| L.ON/ d.ON selection switch

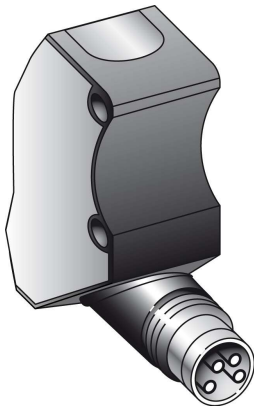
Connection diagram



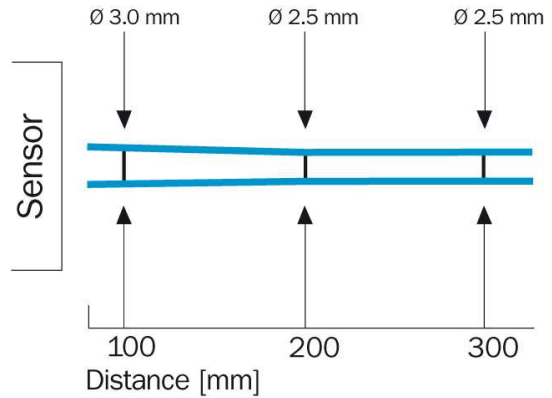
Characteristic curve



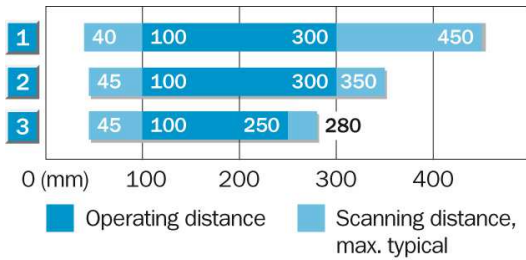
Connection type



Light spot size



Sensing range diagram



- 1 Scanning range on white, 90 % remission
- 2 Scanning range on grey, 18 % remission
- 3 Scanning range on black, 6 % remission

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