



Photoelectric sensors
W190 Laser High Grade, Photoelectric proximity
sensor, Background suppression

WTB190TL-N460

im0019229

Photoelectric sensors

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Model Name > [WTB190TL-N460](#)
Part No. > [6026544](#)

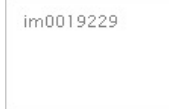


Illustration may differ

At a glance

- Laser LED, visible red light, class 2
- Sensing range adjustment via teach-in pushbutton
- Programmable background or foreground suppression
- Programmable output: light/dark switching
- Numerical display with menu navigation

Your benefits

- Quick and easy alignment due to red light laser, class 2
- Fast configuration via a display with menu navigation
- Easy-to-use setup options with a wide range of functions
- Quick and easy sensing range adjustment via a teach-in pushbutton



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 ... 270 mm ¹⁾
Type of light:	Visible red light
Light source:	Laser
Light spot (distance):	1.5 mm (200 mm)
Laser class:	2
Adjustment of operating distance:	Teach
Teach-in:	Single teach-in button, Menu-controlled
Time type:	Programmable Programmable: 0 ... 10 s
Delay time:	Nor: normal mode: Ond: On delay mode, reactivation delay: OFd: Off-delay mode, release delay: OnE: One Shot Mode, ONE SHOT:
Display:	Switching threshold, distance, mode

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

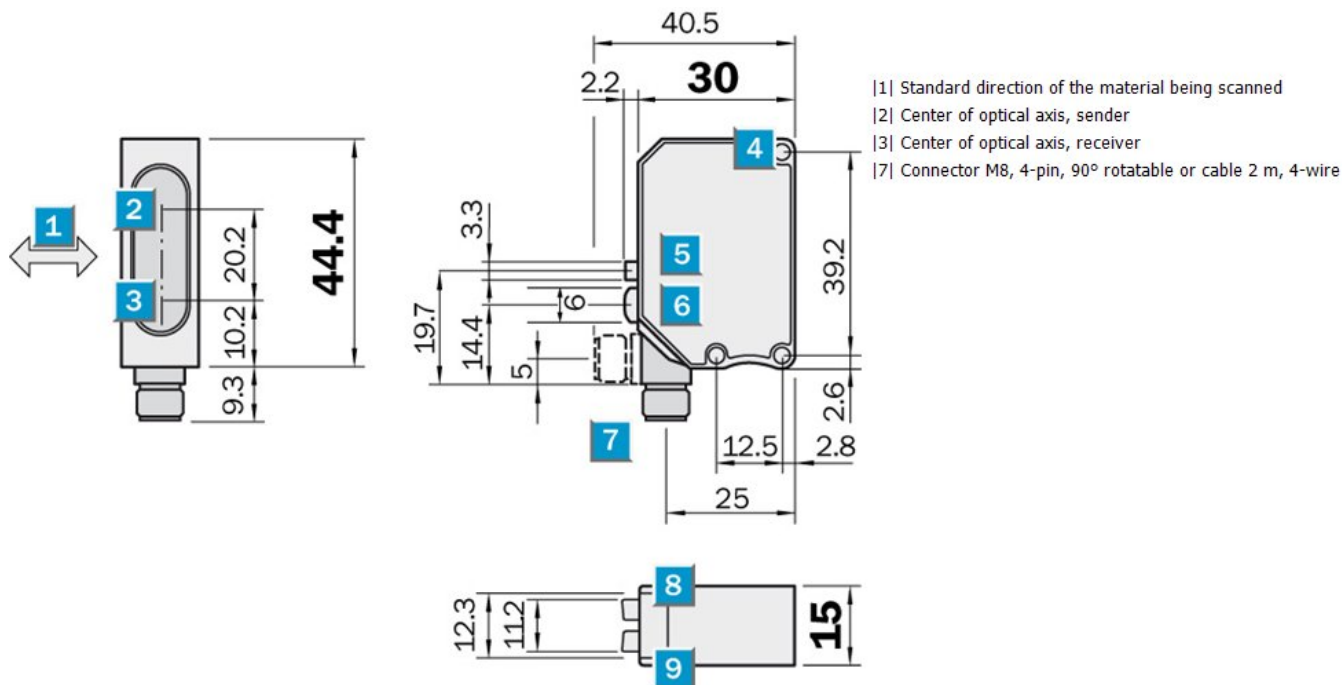
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾

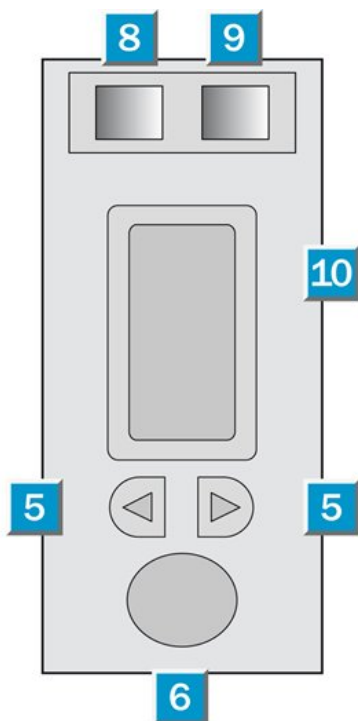
Power consumption:	$\leq 40 \text{ mA}$ ³⁾
Output type:	NPN, Light/dark-switching, programmable
Output current I _{max} :	$< 100 \text{ mA}$
Response time:	1.5 ms ⁴⁾
Switching frequency:	300 Hz ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:	A, D ^{6) 7)}
Protection class:	III ⁸⁾
Weight:	120 g
Housing material:	ABS
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	$-10 \text{ °C} \dots 40 \text{ °C}$
Ambient storage temperature:	$-20 \text{ °C} \dots 60 \text{ °C}$

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

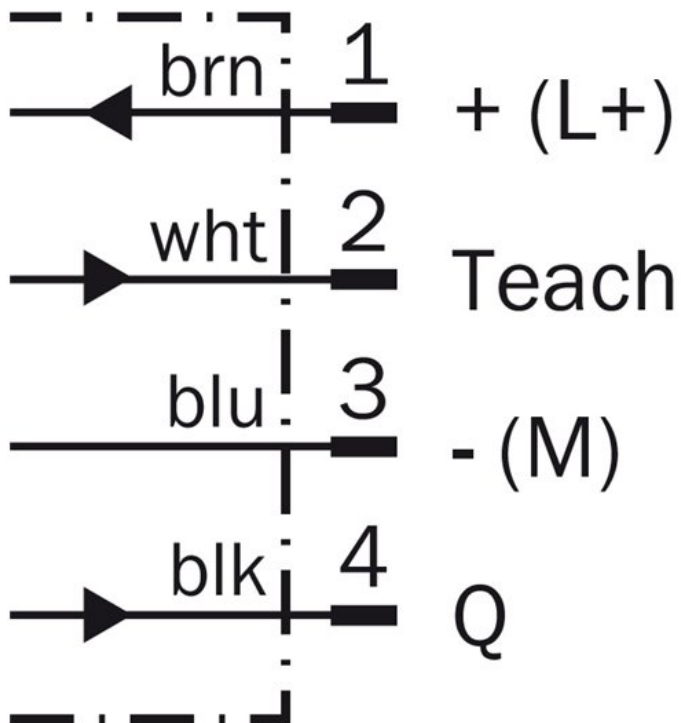


Adjustments possible

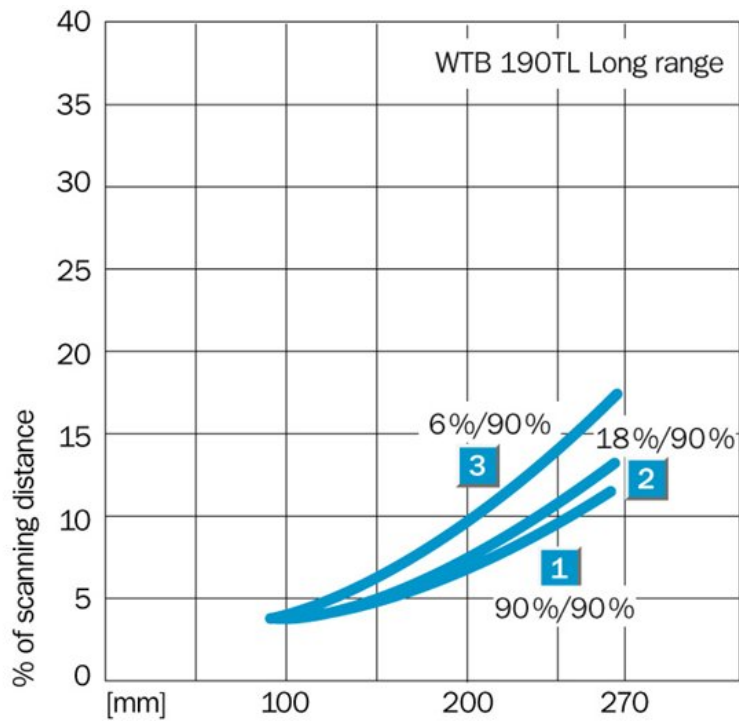


- |5| +/- button; select mode button
- |6| Teach-in button
- |8| Status indicator LED, green: Laser on
- |9| LED indicator yellow; lights
continuously: output aktivno light:
output inactiveblinks slowly: shot circuit detected
- |10| Numerical Display

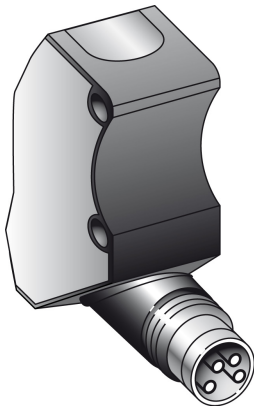
Connection diagram



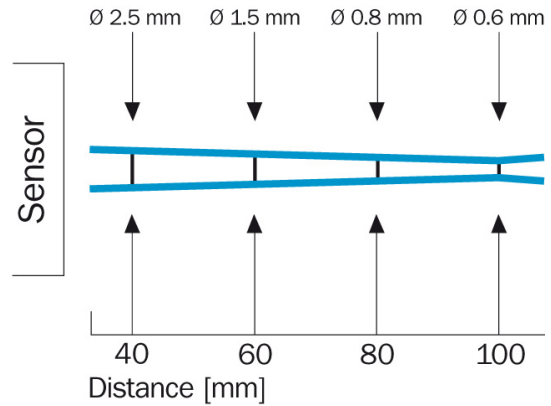
Characteristic curve



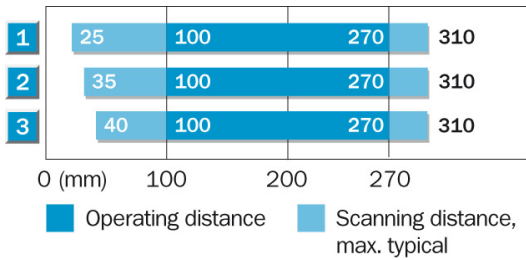
Connection type



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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