



Photoelectric sensors
W190 Laser High Grade Glass, Photoelectric
retro-reflective sensor, autocollimation

WLG190T-P420



Model Name > [WLG190T-P420](#)
Part No. > [6022830](#)



Illustration may differ

At a glance

- Configurable laser photoelectric sensor with display
- Continuous threshold adaption enables detection of transparent objects
- Precise autocollimation optics
- Programmable output: light/dark switching and switching delay

Your benefits

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



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 |
| Light spot (distance): | 15 mm (1 m) |
| 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: | Sender power, reflectivity, switching threshold, distance, mode |

¹⁾ P250F

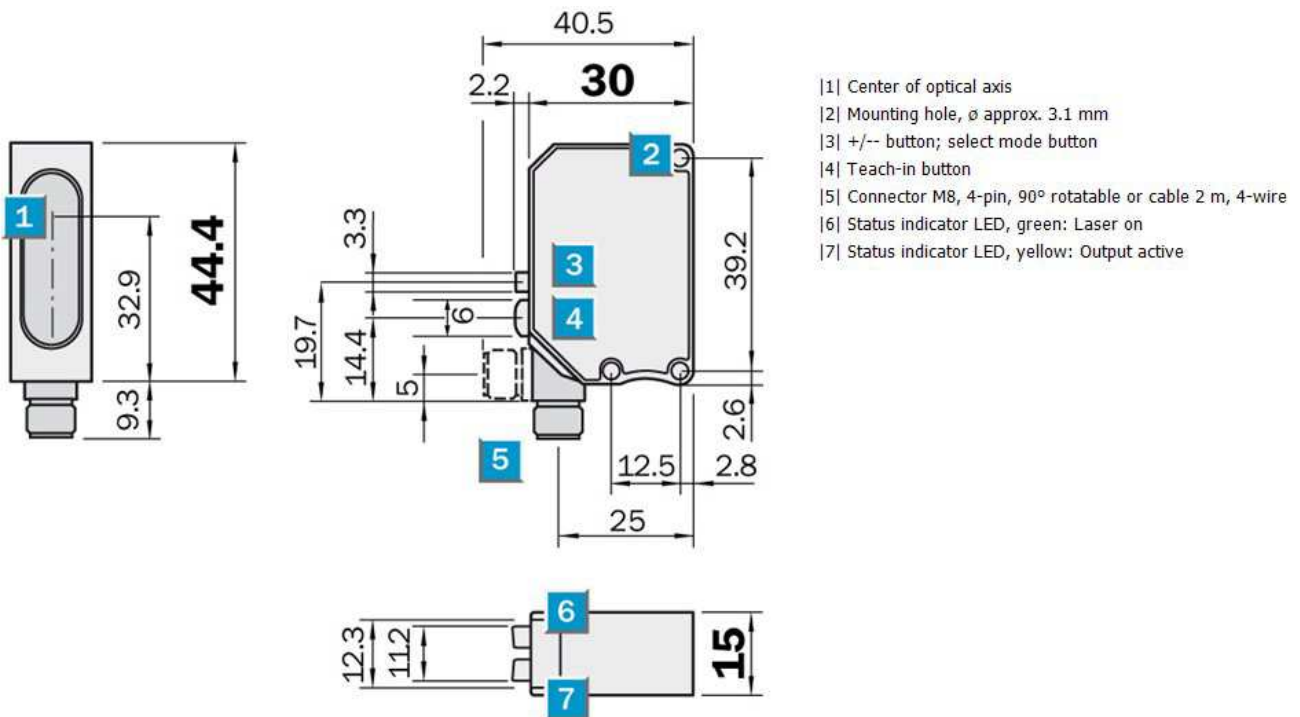
Mechanics/electronics

| | |
|--------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Residual ripple: | ± 10 % ²⁾ |
| Power consumption: | ≤ 40 mA ³⁾ |

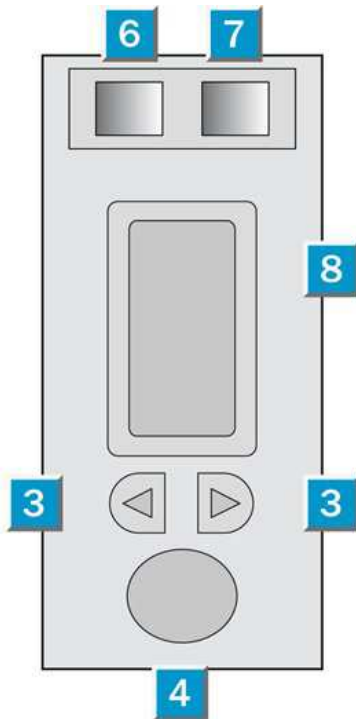
| | |
|------------------------------------|---|
| Output type: | PNP, Light/dark-switching, programmable |
| Output current I _{max} :: | < 100 mA |
| Response time:: | 0.7 ms 2 ms ^{4) 5)} 5 ms |
| Switching frequency:: | 700 Hz 200 Hz ^{6) 7)} 100 Hz |
| Electrical connection: | Connector M8, 4-pin |
| Circuit protection:: | A, D ^{8) 9)} |
| Protection class: | III ¹⁰⁾ |
| Weight: | 120 g |
| Polarisation filter: | ✓ |
| Housing material: | ABS |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 |
| Items supplied: | Reflector P250F |
| Special feature: | For transparent objects |
| 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) 7) Programmable 6) With light/dark ratio
 1:1 ⁸⁾ A = V_S connections reverse-polarity protected ⁹⁾ D = outputs overcurrent and short-circuit protected ¹⁰⁾ Reference voltage 50 V DC

Dimensional drawing



Adjustments possible

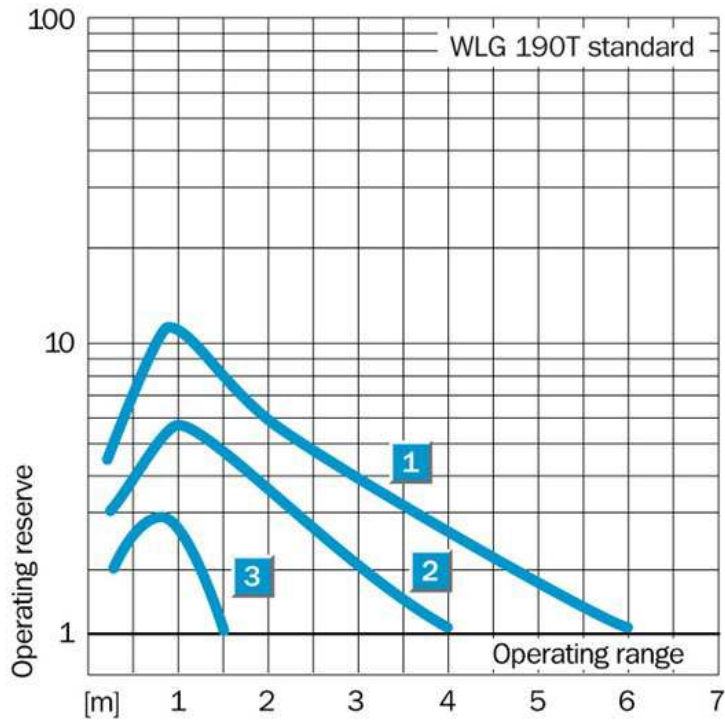


- |3| +/- button; select mode button
- |4| Teach-in button
- |6| Status indicator LED, green: Laser on
- |7| Status indicator LED, yellow: Output active
- |8| Numerical Display

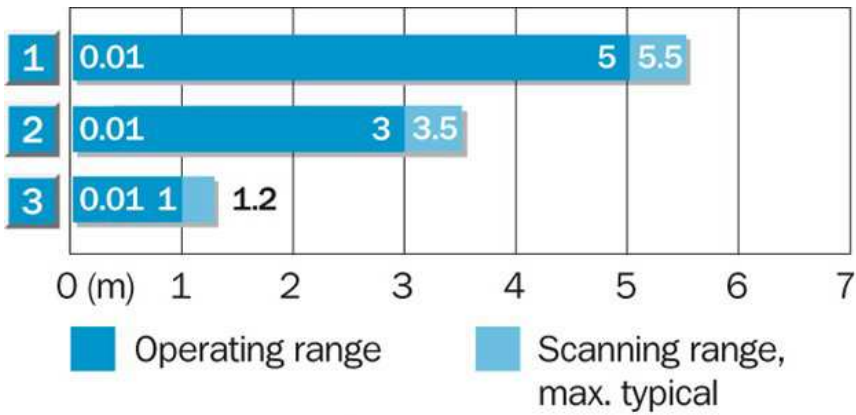
Connection diagram



Characteristic curve

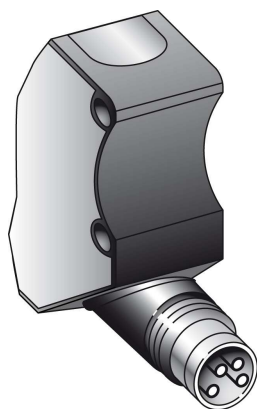


Sensing range diagram

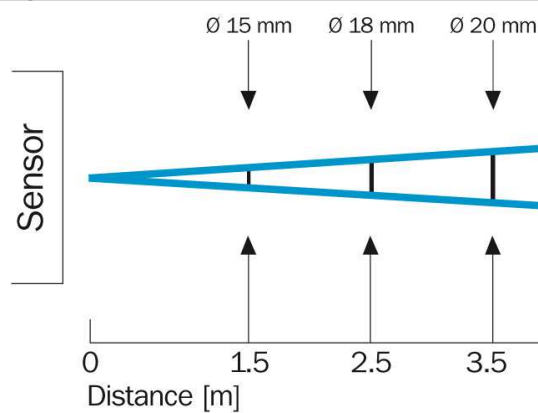


| Reflector type | Operating range |
|----------------|-----------------|
| 1 P 250 F | 0.01 ... 5 m |
| 2 PL 20 F | 0.01 ... 3 m |
| 3 PL 10 F | 0.01 ... 1 m |

Connection type



Light spot size



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