



Photoelectric sensors
W100 Laser, Photoelectric proximity sensor,
energetic

WT100L-E2241



Model Name > [WT100L-E2241](#)
Part No. > [6030707](#)



Illustration may differ

At a glance

- Standard miniature housing with M3 threaded mounting holes
- Laser emitter LED, class 1
- Energetic proximity sensor
- Switching frequency of 2000 Hz
- Light/dark switching via rotary switch

Your benefits

- Laser light spot combined with 2 kHz switching frequency ensures reliable detection of small objects, even at fast detection speeds
- Less contamination due to high optical operating reserve
- M3 threaded mounting holes provide easy installation
- Highly visible laser light simplifies installation



Features

| | |
|----------------------------------|---|
| Sensor/detection principle: | Photoelectric proximity sensor, energetic |
| Dimensions (W x H x D): | 11 mm x 31 mm x 20 mm |
| Housing design (light emission): | Rectangular, Slim |
| Sensing range max.: | 0 mm ... 450 mm ¹⁾ |
| Sensing range: | 0 mm ... 400 mm |
| Type of light: | Visible red light |
| Light source: | Laser ²⁾ |
| Laser class: | 1 |
| Wave length: | 650 nm |
| Light spot diameter (distance): | Ø 2 mm (400 mm) |
| Focus adjustable: | - |

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life 50,000 h at T_A = +25 °C

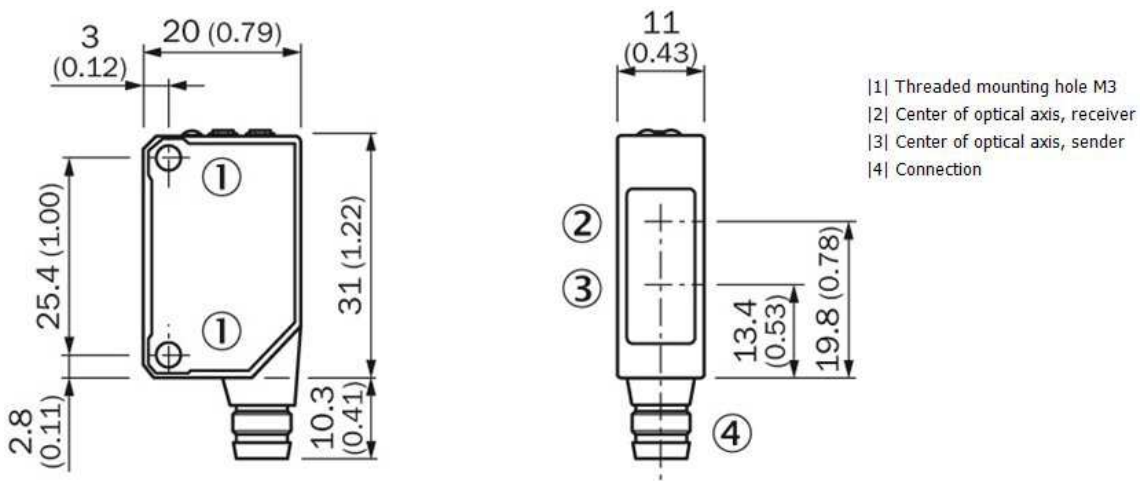
Mechanics/electronics

| | |
|------------------------------------|--|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Residual ripple: | ± 10 % ²⁾ |
| Power consumption: | ≤ 30 mA ³⁾ |
| Output type: | NPN, Light/dark-switching, manually selectable, open collector |
| Signal voltage NPN HIGH/LOW: | Approx. VS / < 1.8 V |
| Output current I _{max.} : | 100 |
| Response time: | < 0.25 ms ⁴⁾ |

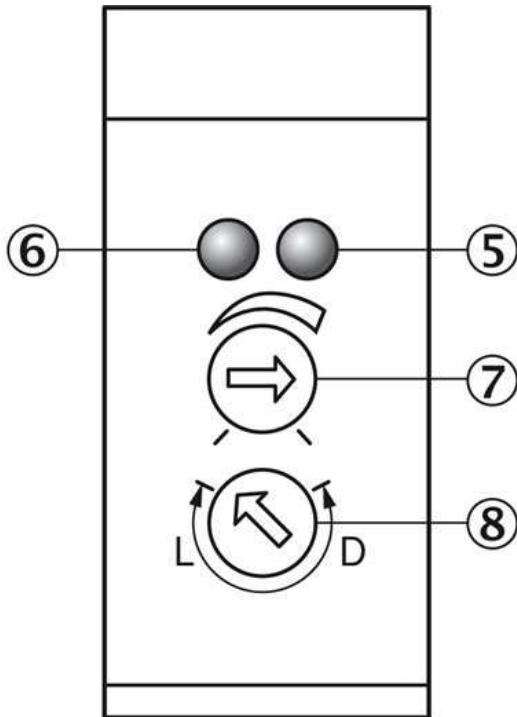
| | |
|--------------------------------|--|
| Switching frequency: | 2,000 ⁵⁾ |
| Electrical connection: | Connector M8, 4-pin |
| Circuit protection::: | A, B, D ^{6) 7) 8)} |
| Weight: | 10 g |
| Housing material: | ABS/PC |
| Optics material: | PMMA |
| Enclosure rating: | IP 65 |
| Items supplied: | Stainless steel mounting bracket (1.4301/304) BEF-W100-A |
| Ambient temperature operation: | -10 °C ... 50 °C |
| Ambient storage temperature: | -40 °C ... 70 °C |
| UL File-No.: | CDRH-conform |

1) Limit values, operation in short-circuit protected network max. 8 A 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) B = inputs and output reverse-polarity protected 8) D = outputs overcurrent and short-circuit protected

Dimensional drawing

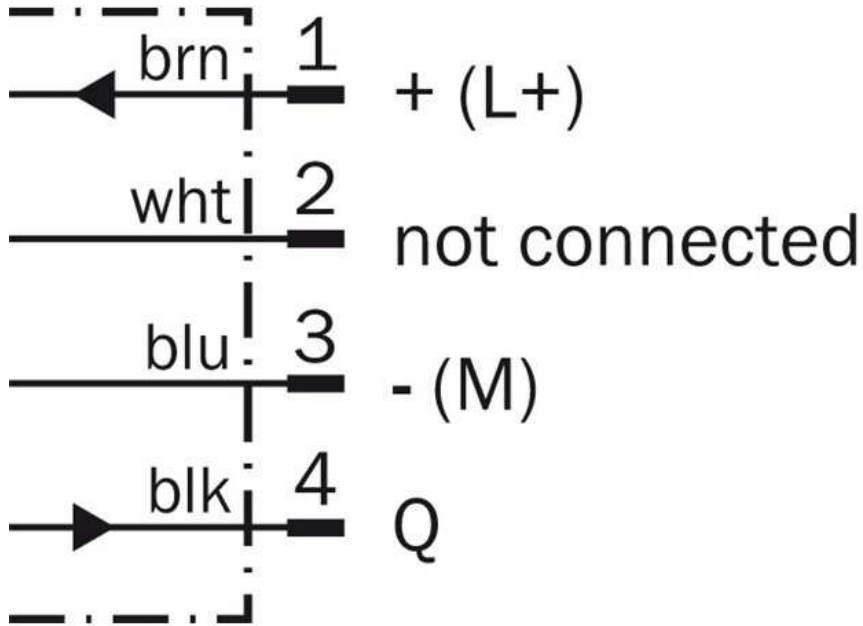


Adjustments possible

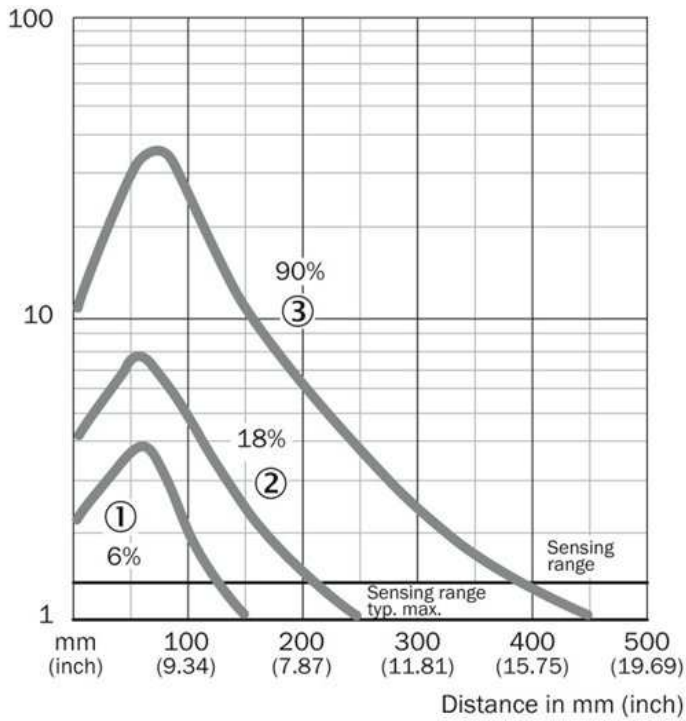


- |5| Orange LED indicator : switching output active
- |6| LED signal strength indicator green:power on
- |7| Sensing range adjustment: potentiometer, 5 turns
- |8| Light/ dark rotary switch L = light switching, D = dark switching

Connection diagram

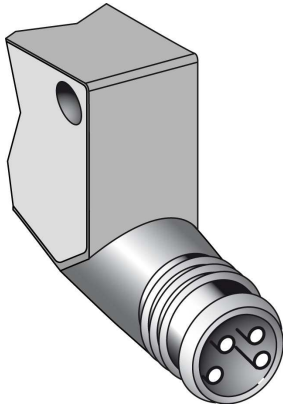


Characteristic curve

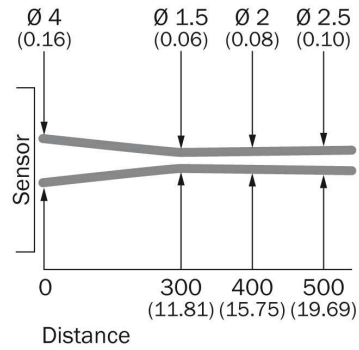


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type

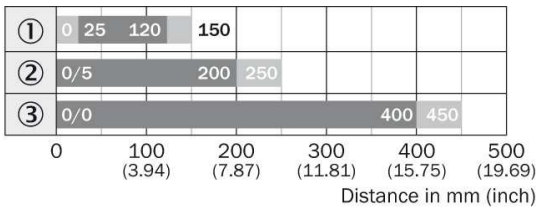


Light spot size



All dimensions in mm (inch)

Sensing range diagram



■ Sensing range ■ Sensing range typ. max.

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

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