



Photoelectric sensors
W100 Laser, Photoelectric proximity sensor,
energetic

WT100L-E2141



Model Name > [WT100L-E2141](#)
Part No. > [6030706](#)



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)
Sensitivity adjustment:	Potentiometer, 270°
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

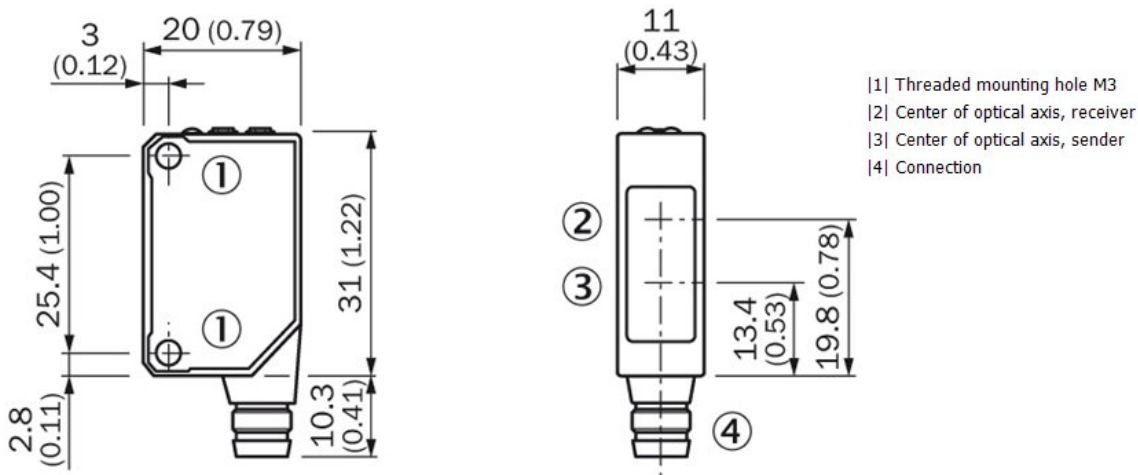
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
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

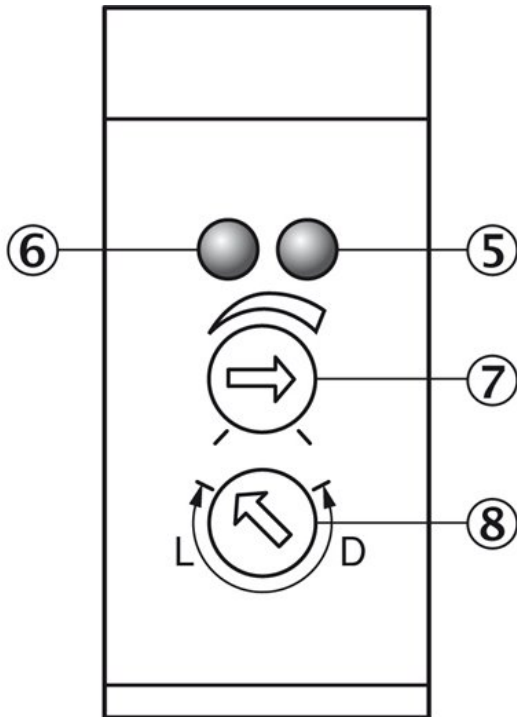
Response time:	< 0.25 ms ⁴⁾
Switching frequency:	2,000 ⁵⁾
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, B, D ⁶⁾ 7) 8)
Weight:	10 g
Polarisation filter:	-
Housing material:	ABS/PC/POM
Optics material:	PMMA
Enclosure rating:	IP 65
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient operating temperature:	-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

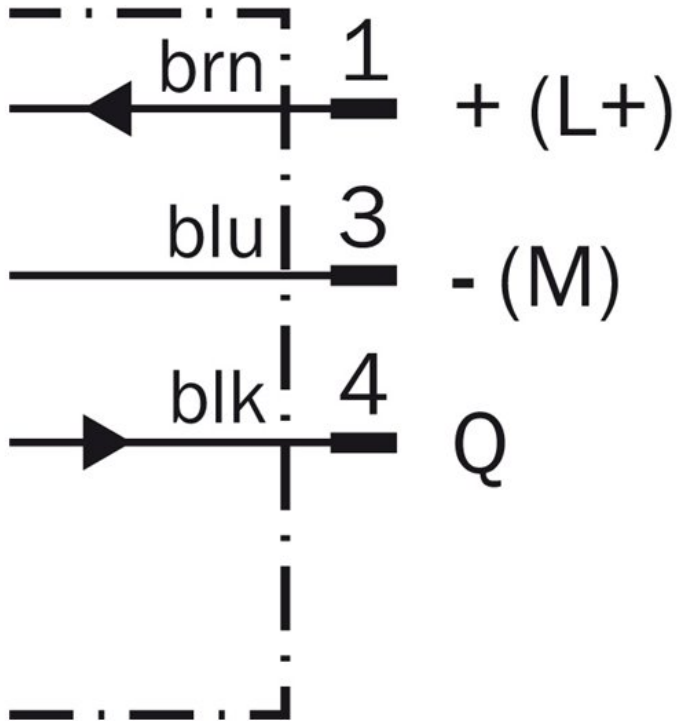


Adjustments possible

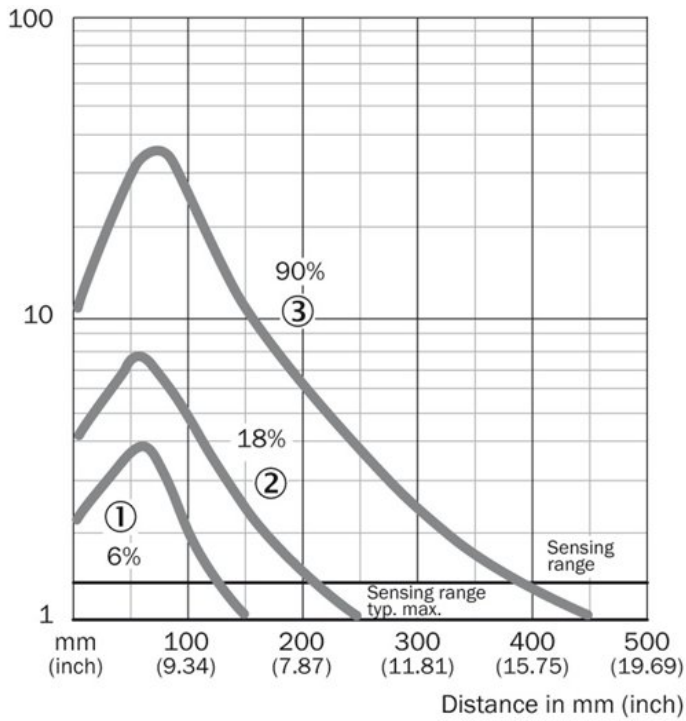


- |5| Orange LED indicator : switching output active
- |6| LED signal strength indicator green:power on
- |7| Sensing range adjustment: potentiometer, 5 turns
- |8| Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

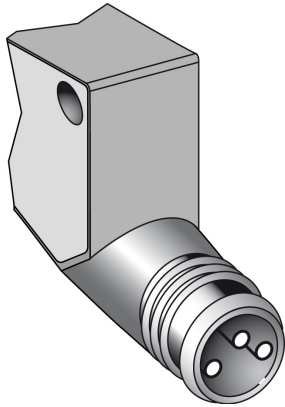


Characteristic curve

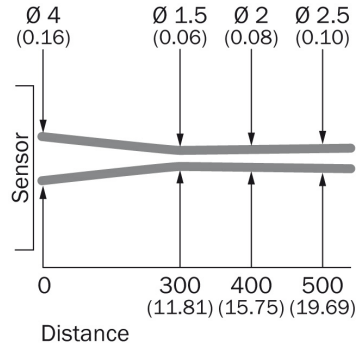


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type

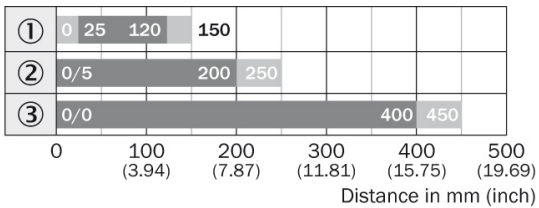


Light spot size



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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