



Photoelectric sensors
W9 Laser, Photoelectric proximity sensor,
Background suppression

WT9L-P330



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Model Name > [WT9L-P330](#)
Part No. > [1023977](#)



Illustration may differ

At a glance

- Advanced laser technology with great performance
- Constant laser power and compliance with laser class 2
- High-precision adjustable background suppression
- UL, CE, CDRH approval

Your benefits

- High reliability with maximum eye protection due to laser control (laser class 2)
- Small laser light spot reliably detects the smallest objects
- Laser is approved for worldwide usage
- Designed for quick and easy installation with SICK accessories

The product has been discontinued. Please follow the "replacement product" link for information about alternative products.



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	12 mm x 40 mm x 22 mm
Housing design (light emission):	Rectangular
Sensing range max.:	30 mm ... 150 mm ¹⁾
Type of light:	Visible red light
Light source:	Laser ²⁾
Laser class:	2
Adjustment:	Potentiometer, 7-turn
Light spot size (distance):	Ø 0.5 mm (60 mm)

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

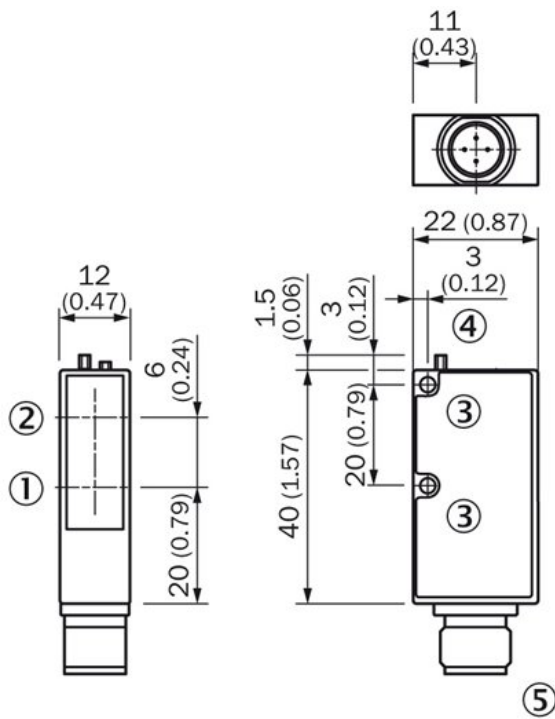
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp
Power consumption:	< 35 mA
Output type:	PNP
Output function:	Complementary

Switching mode:	Light/dark switching
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.0 V/0 V
Output current I _{max} :	< 100 mA
Response time:	< 0.6 ms ²⁾
Switching frequency:	± 1,000 Hz ³⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, C ⁴⁾ 5) 6)
Protection class:	III ⁷⁾
Weight:	20 g
Housing material:	ABS, Plastic
Enclosure rating:	IP 67
Ambient operating temperature:	-10 °C ... 50 °C
Ambient storage temperature:	-25 °C ... 70 °C

1) Limit values 2) Signal transit time with resistive load 3) 4) A = V_S connections reverse-polarity protected 5) B = inputs and output reverse-polarity protected 6) C = interference suppression 7) Reference voltage 50 V DC

Dimensional drawing



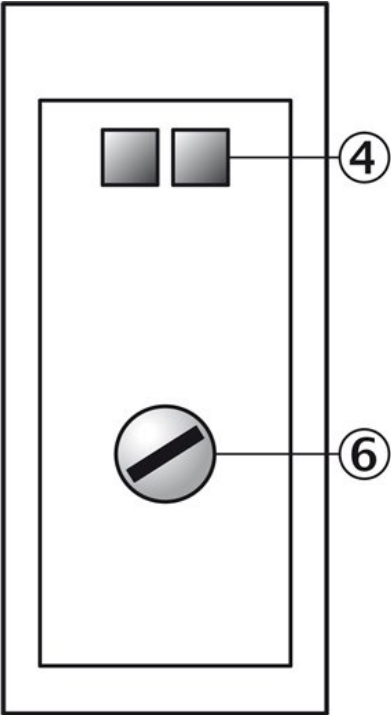
|1| Center of optical axis, sender

|2| Center of optical axis, receiver

|4| LED signal strength indicator

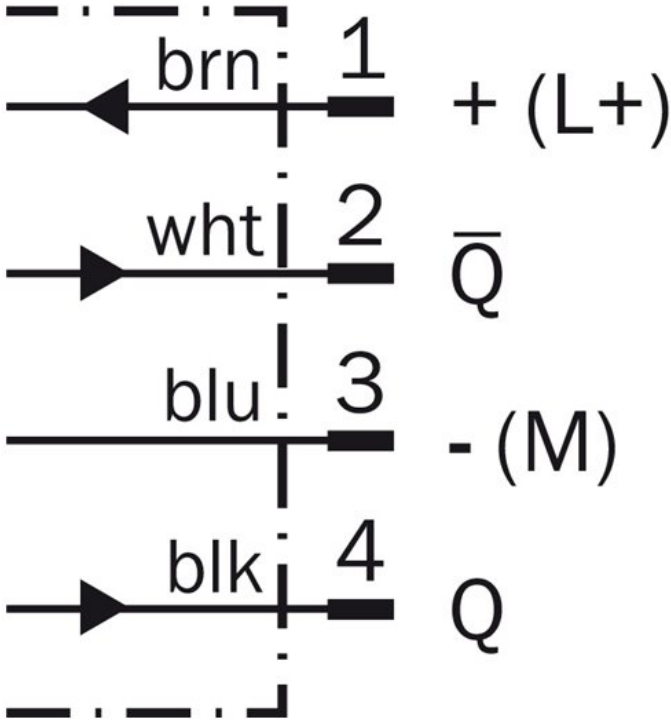
|5| Connector M12 or M8, 4-pin, 2 m connection cable or 120 mm cable with connector M12, 4-pin

Adjustments possible

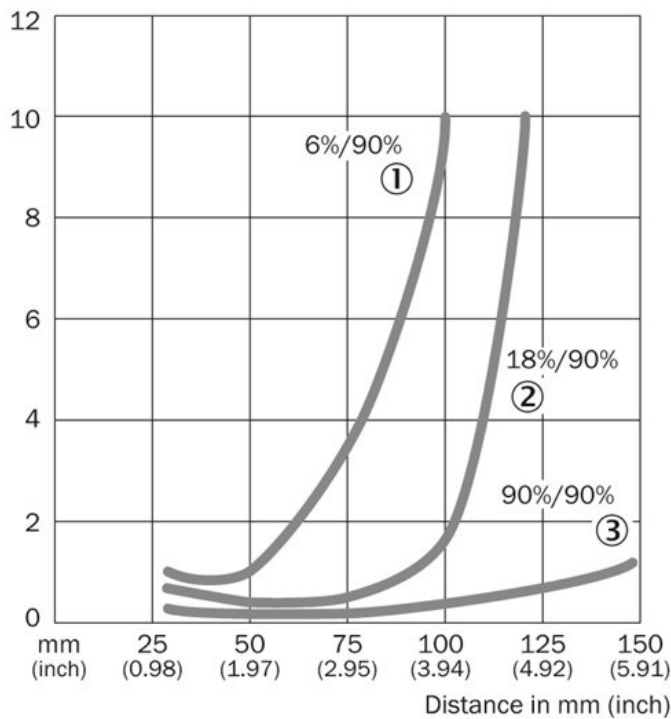


- |4| LED signal strength indicator
- |6| Sensing range adjustment

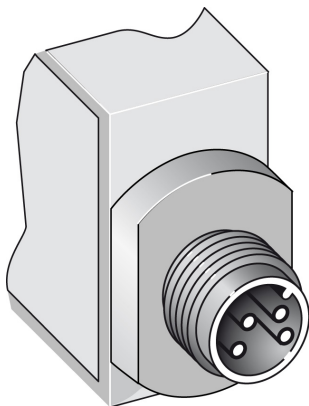
Connection diagram



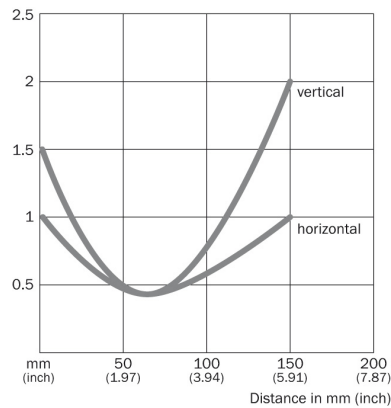
Characteristic curve



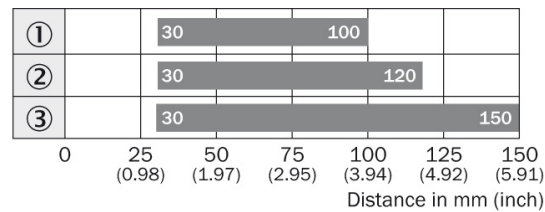
Connection type



Light spot size



Sensing range diagram



- Sensing range
- 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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