



Photoelectric sensors
W9 Laser, Photoelectric proximity sensor,
Background suppression

WT9L-N430



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Model Name > [WT9L-N430](#)
Part No. > [1023990](#)



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

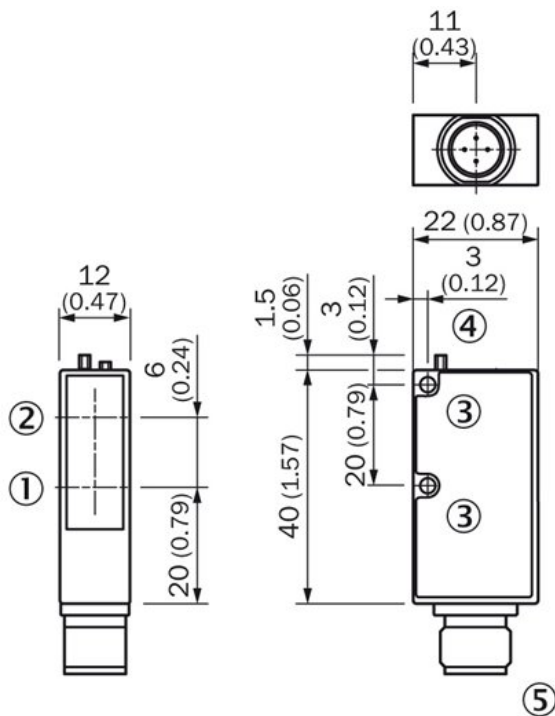
Mechanics/electronics

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

Switching mode:	Light/dark switching
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 2.0 \text{ V}$
Output current I_{max} :	$< 100 \text{ mA}$
Response time:	$< 0.6 \text{ ms}$ ²⁾
Switching frequency:	$\pm 1,000 \text{ Hz}$ ³⁾
Connection type:	Connector M12, 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:	$-10 \text{ }^{\circ}\text{C} \dots 50 \text{ }^{\circ}\text{C}$
Ambient storage temperature:	$-25 \text{ }^{\circ}\text{C} \dots 70 \text{ }^{\circ}\text{C}$

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



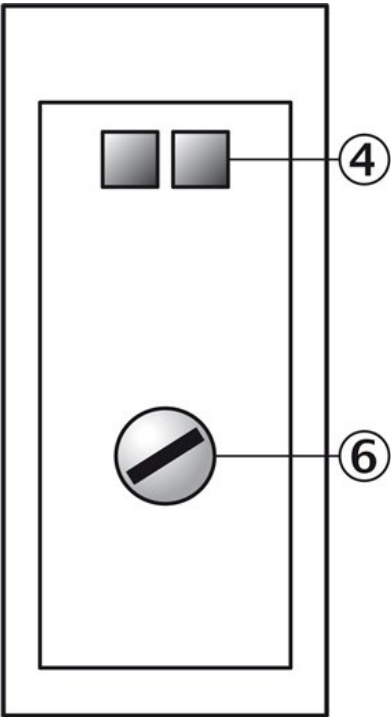
|1| Center of optical axis, sender

|2| Center of optical axis, receiver

|4| LED signal strength indicator

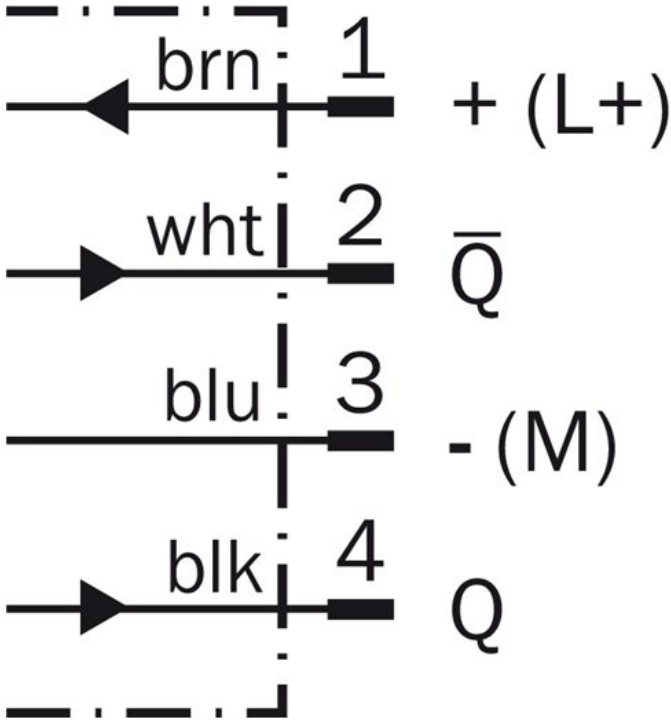
|5| Connector M12 or M8, 4-pin, 2 m connection cable or 120 mm cable with connector M12, 4-pin

Adjustments possible

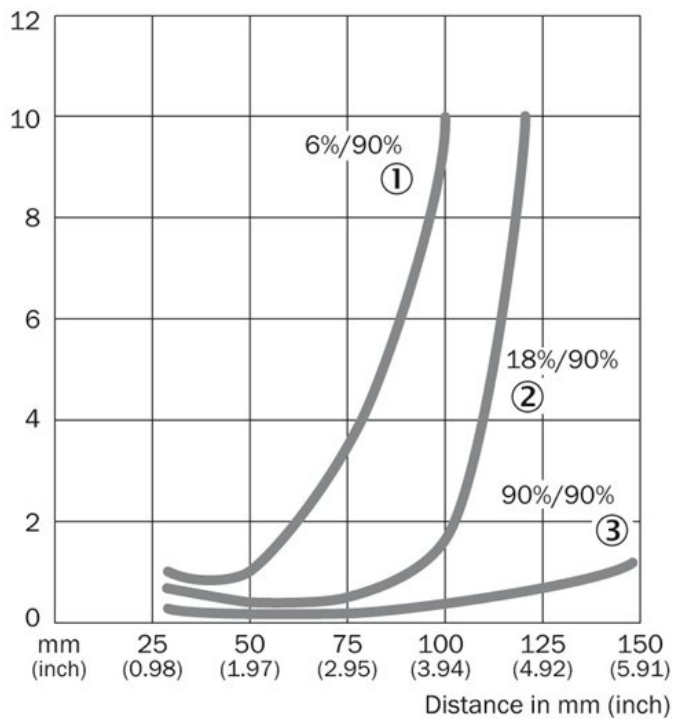


- |4| LED signal strength indicator
- |6| Sensing range adjustment

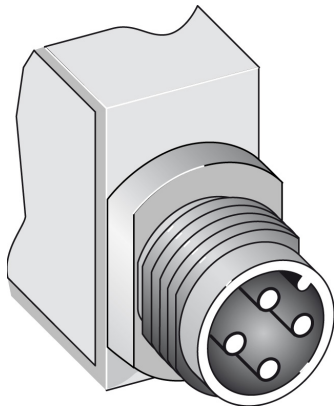
Connection diagram



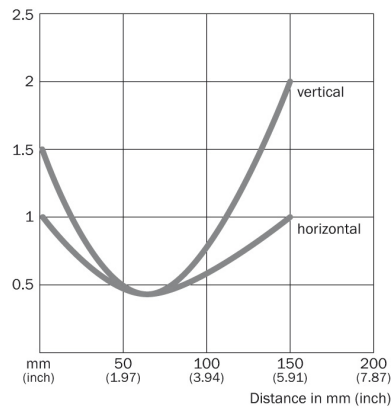
Characteristic curve



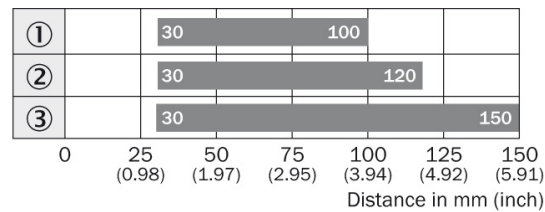
Connection type



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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