



Photoelectric sensors
W9-3, Photoelectric proximity sensor,
Background suppression

WTB9-3P2400S03



Type > [WTB9-3P2400S03](#)
Part No. > [1054717](#)



Illustration may differ

At a glance

- High-performance proximity sensing in ultra-rugged VISTAL™ housing
- PinPoint LED for highly visible and precise light spot
- Two emitter LEDs for best-in-class background suppression
- Variable mounting with M3 or M4 hole pattern
- Wide range of connection options

Your benefits

- Rugged VISTAL™ housing provides reliable installation and operation
- Reliable object detection in all situations using best-in-class technology
- Quick and easy alignment with reliable object detection due to the highly visible PinPoint light spot
- M3 slotted hole mounting for multiple mounting possibilities
- One housing with a wide range of options makes machine integration easy
- Variety of accessories for quick and easy mounting



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	12.2 mm x 52.2 mm x 23.6 mm
Housing design (light emission):	Rectangular
Mounting hole:	M3
Sensing range max.:	≤ 98 mm
Sensing range:	≤ 98 mm ¹⁾
Type of light:	Visible red light
Light source:	PinPoint LED ²⁾
Light spot size (distance):	Ø 4.5 mm (75 mm)

¹⁾ Object with 6 % reflectance (referred to standard white, DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

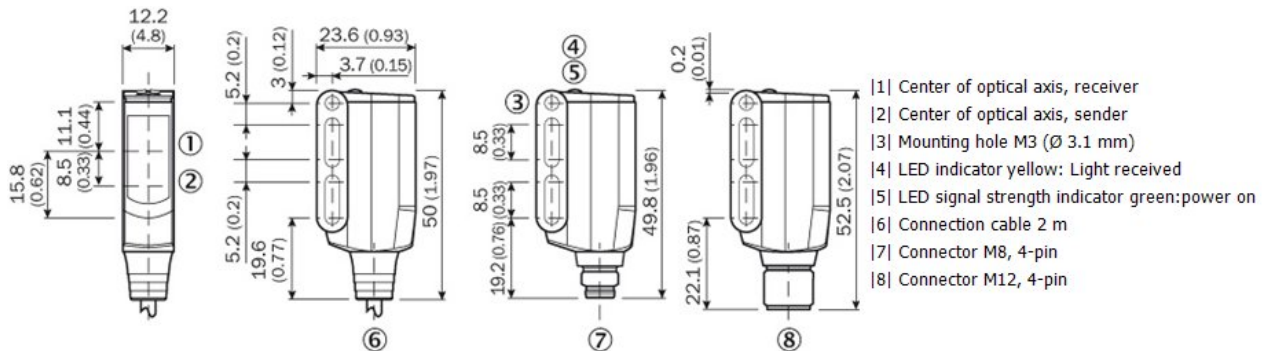
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP ⁴⁾
Output function:	Complementary
Switching mode:	Light/dark switching ⁵⁾
Output current I _{max} ..:	≤ 100 mA ⁶⁾

Response time: < 0.333 ms⁷⁾
 Switching frequency: 1,500 Hz⁸⁾
 Connection type: M12, 4-pin male connector
 Circuit protection:: A, B, C⁹⁾ 10) 11)
 Protection class: III
 Weight: 13 g
 Polarisation filter: -
 Optics material: PMMA
 Enclosure rating: IP 66
 IP 67
 IP 69K
 Ambient operating temperature: -40 °C ... +60 °C
 Ambient storage temperature: -40 °C ... +75 °C
 UL File No.: NRKH.E181493
 Housing material: Plastic, VISTAL

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) 5)} Q = light-switching ⁶⁾ As of
 Tu 50 °C, a max. load current $I_{max.} = 50$ mA is permitted ⁷⁾ Signal transit time with resistive load ⁸⁾ With light/dark ratio 1:1 ⁹⁾ A = V_S connections reverse-polarity
 protected ¹⁰⁾ B = inputs and output reverse-polarity protected ¹¹⁾ C = interference suppression

Dimensional drawing

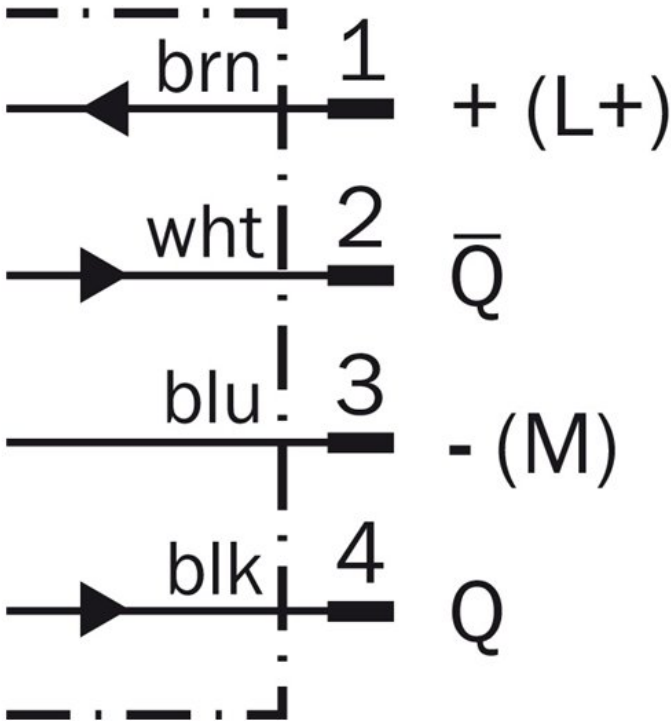


Adjustments possible

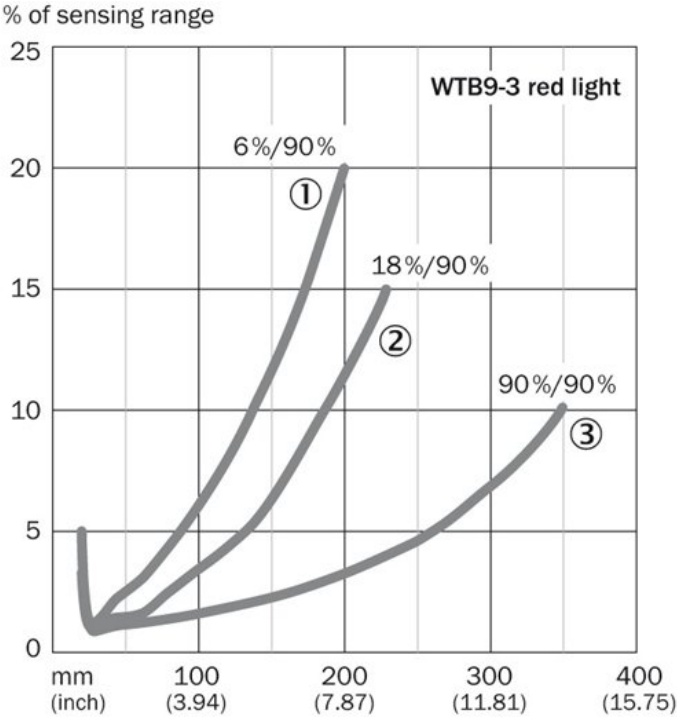


- |3| LED indicator yellow: Light received
- |4| LED signal strength indicator green:power on

Connection diagram

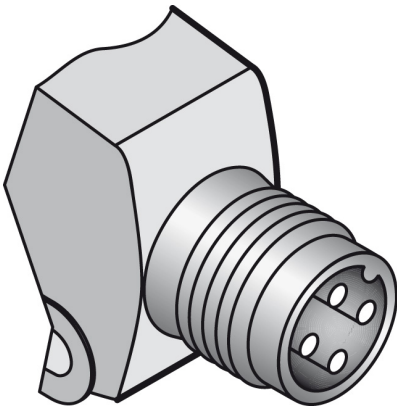


Characteristic curve

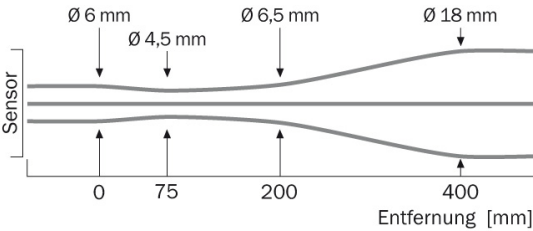


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

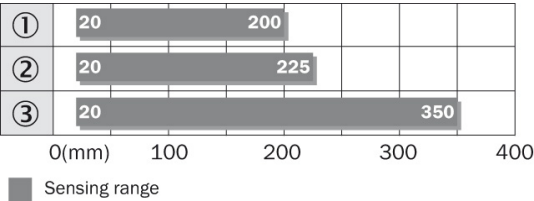
Connection type



Light spot size



Sensing range diagram



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