



Photoelectric sensors
W150, Photoelectric proximity sensor,
Background suppression

WT150-N165



Model Name > [WT150-N165](#)
Part No. > [6011046](#)



Illustration may differ

At a glance

- Background suppression variant with up to 100 mm sensing distance
- Energetic proximity sensor with 250 mm sensing distance
- Sensing distance adjustment via potentiometer
- Light/dark switching selectable via control wire

Your benefits

- Reliable detection of objects regardless of color or surface qualities
- Precise setting of background suppression via potentiometer
- Reliable detection of fast-moving objects
- Brackets included with delivery, ensuring quick and easy installation



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	10 mm x 28 mm x 18 mm
Housing design (light emission):	Rectangular
Sensing range max.:	2 mm ... 100 mm ¹⁾
Type of light:	Visible red light
Light source:	LED ²⁾
Sensitivity adjustment:	Potentiometer, 5-turn
Angle of dispersion:	Ca. 5 °

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

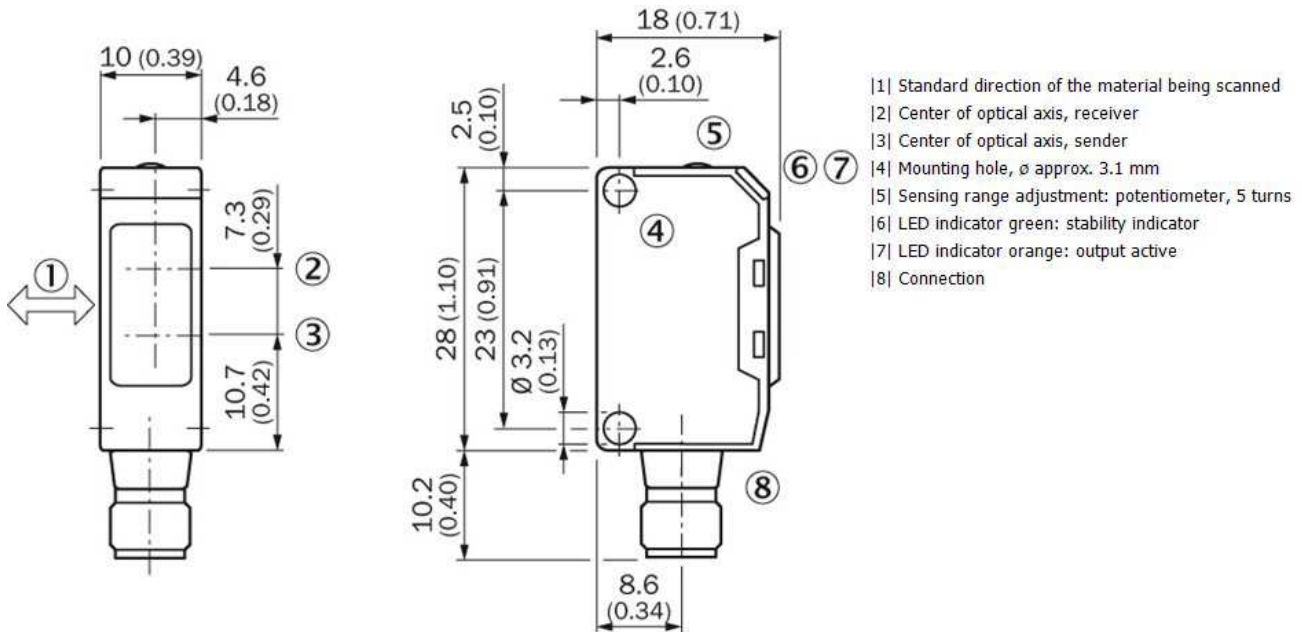
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾
Power consumption:	20 ³⁾
Output type:	NPN, Light/dark-switching, control cable, open collector
Output current I _{max.} :	≤ 100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Electrical connection:	Cable, 4-wire, 5 m ⁶⁾
Cable material:	PVC
Conductor cross-section:	0.18 mm ²
Circuit protection:::	A, B, C, D ⁷⁾ ⁸⁾ ⁹⁾ ¹⁰⁾
Protection class:	II

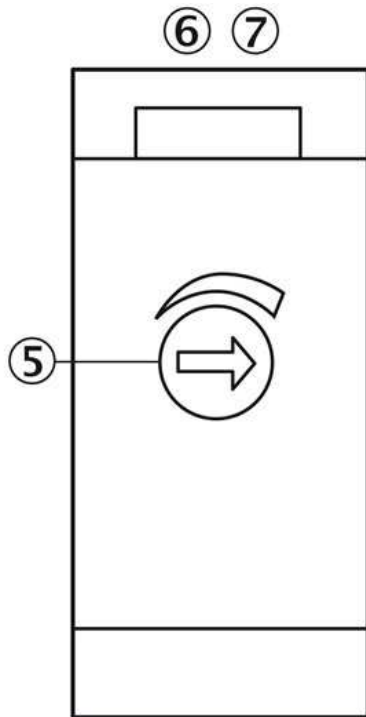
Weight: 44 g
 Housing material: ABS
 Optics material: PC
 Enclosure rating: IP 67
 Items supplied: BEF-W150-A mounting bracket
 Ambient temperature operation: -25 °C ... 55 °C
 Ambient storage temperature: -40 °C ... 75 °C
 UL File-No.: UL No. NRNT2.E128350 & cUL No. NRNT8.E128350

1) Limit values 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) Do not bend below 0 °C 7) A = V_S connections reverse-polarity protected 8) B = inputs and output reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

Dimensional drawing

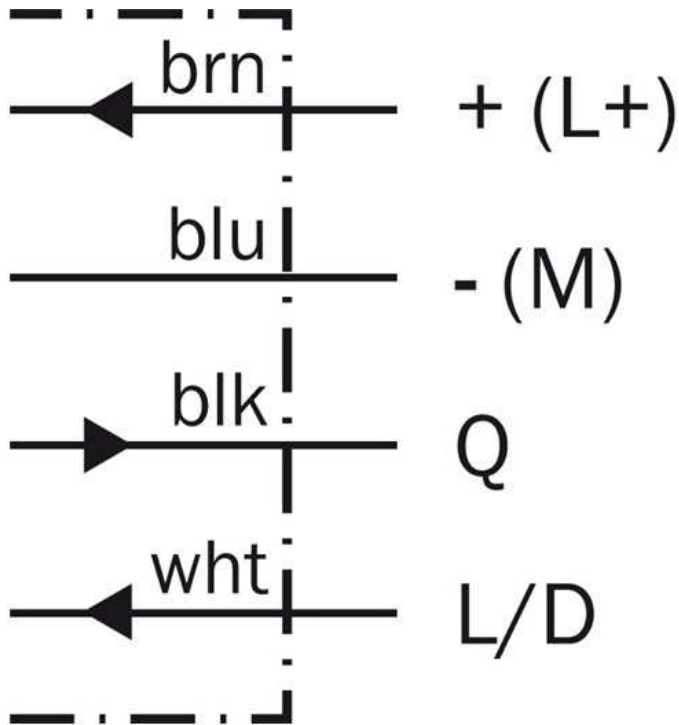


Adjustments possible

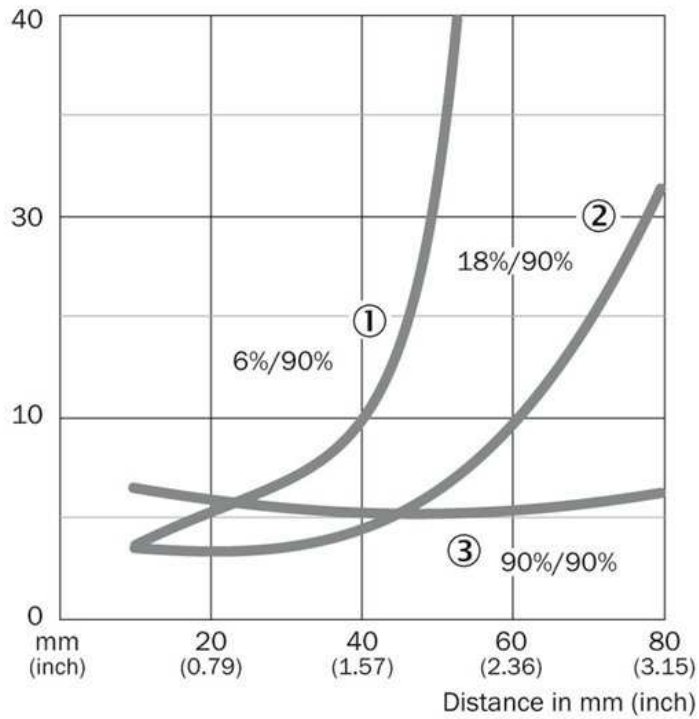


- |5| Sensing range adjustment: potentiometer, 5 turns
- |6| LED indicator green: stability indicator
- |7| LED indicator orange: output active

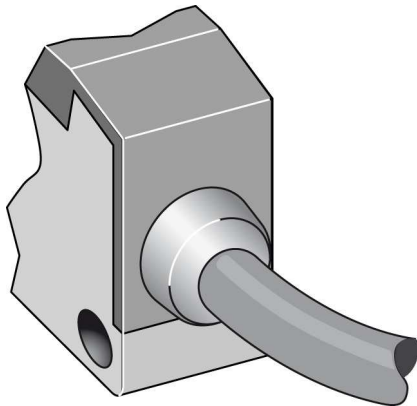
Connection diagram



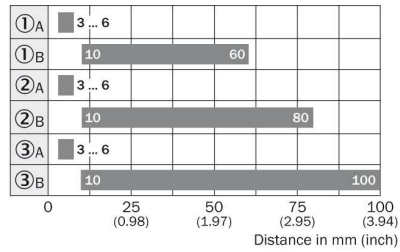
Characteristic curve



Connection type



Sensing range diagram



■ Sensing range

- ① Sensing range on black ¹²⁾/white background
- ② Sensing range on grey ¹²⁾/white background
- ③ Sensing range on white ¹²⁾/white background
- A Sensing range control set to MIN
- B Sensing range control set to MAX

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