



Photoelectric sensors W18-3, Through-beam photoelectric sensor

WS/WE18-3P410



Model Name > [WS/WE18-3P410](#)
Part No. > [1025927](#)



Illustration may differ

At a glance

- Sender LED with infrared light
- High operational reliability
- Immune to ambient light
- Test input for system diagnostics
- Rugged plastic housing

Your benefits

- Very high operating reserves for trouble-free operation, even at long distances
- Reliable operation due to integrated system diagnosis
- High availability in the field



Features

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	17.6 mm x 75.5 mm x 33.5 mm
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	0 m ... 20 m
Type of light:	Infrared light
Light source:	LED ¹⁾
Wave length:	880 nm
Angle of dispersion:	4.5 °
Adjustment:	Potentiometer, 1-turn
Light spot size (distance):	Ø 950 mm (15 m)
Continuous threshold adaption:	-

¹⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

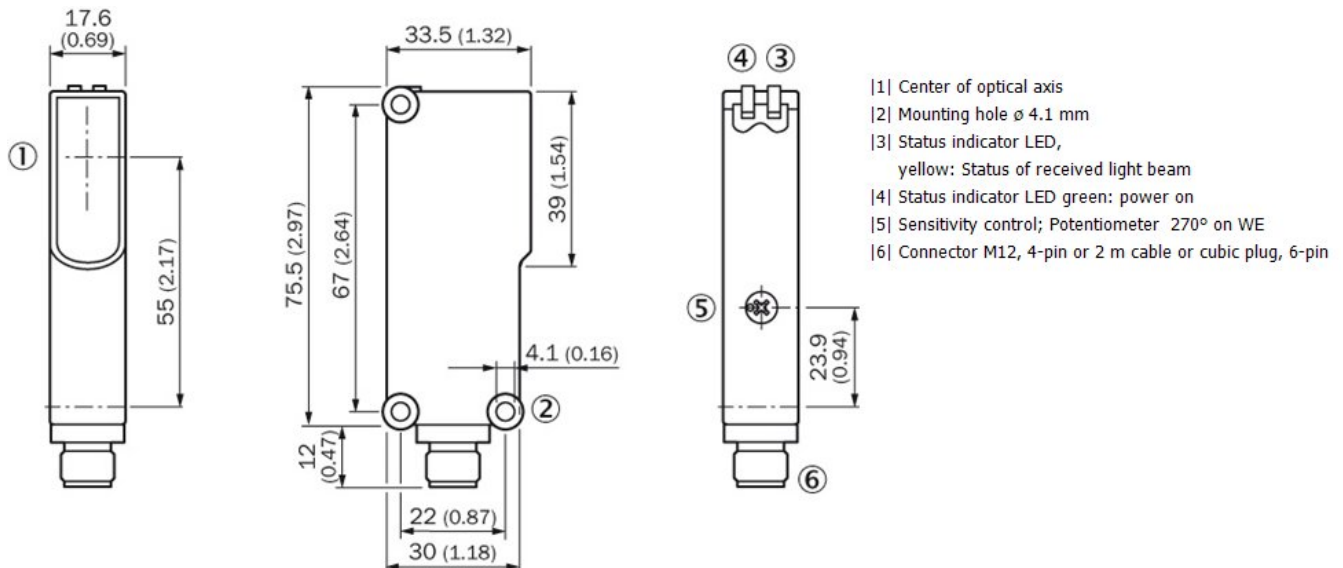
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption, sender:	< 45 mA ³⁾
Power consumption, receiver:	< 35 mA ⁴⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark-switching
Output current I _{max.} :	100 mA
Response time:	< 500 µs ⁵⁾

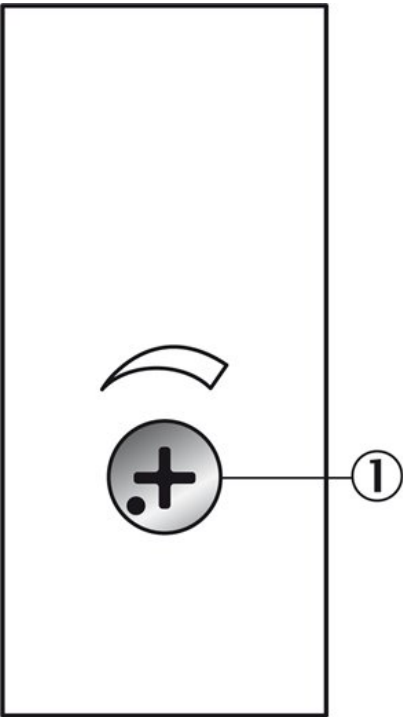
Switching frequency:	1,000 Hz ⁶⁾
Angle of reception:	6 °
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ⁷⁾ ⁸⁾ ⁹⁾
Weight:	40 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
Part number of individual components:	Receiver, WE18-3P410, 2031009, Sender, WS18-3D410, 2031008
UL File No.:	NRKH.E181493 & NRKH7.E181493

¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ^{3) 4)} Without load ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ $A = V_S$ connections reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing



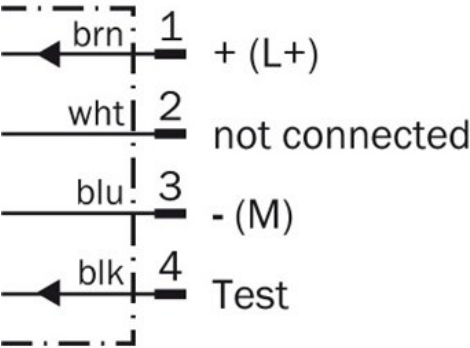
Adjustments possible



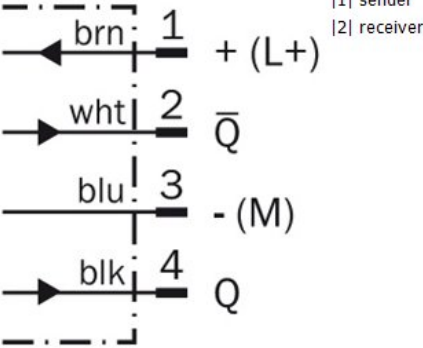
[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

①

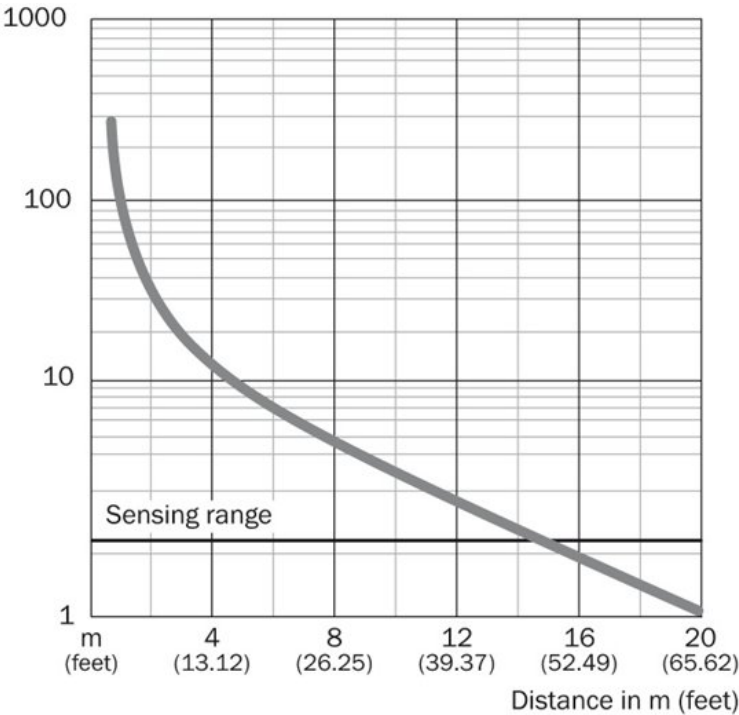


②

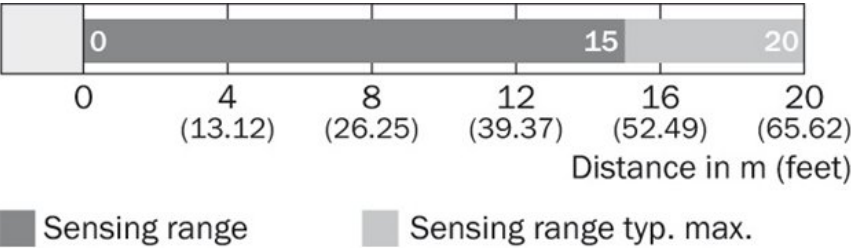


[1] sender
[2] receiver

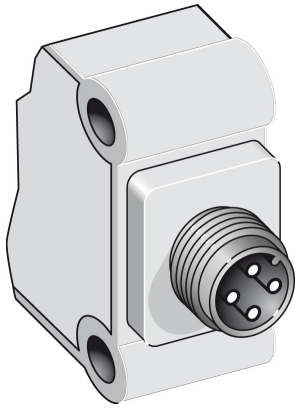
Characteristic curve



Sensing range diagram



Connection type



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