



Photoelectric sensors W100, Photoelectric proximity sensor, energetic

WT100-N1402



Model Name > WT100-N1402
Part No. > 6037850



Illustration may differ

At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Available as a background blanking sensor or as an energetic proximity sensor
- Light/dark switching and sensitivity adjustment via rotary switch possible (depending on type)
- Wide variety of accessories available (depending on type)

Your benefits

- Highly visible light spot allows for quick and easy alignment
- M3 threaded mounting holes provide easy installation

Product will be phased out and can be ordered until 31.12.2015.



Features

Sensor/detection principle:	Photoelectric proximity sensor, energetic
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 mm ... 1,000 mm ¹⁾
Sensing range:	0 mm ... 750 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Wave length:	645 nm
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-
Adjustment:	Potentiometer, 270 °
Light spot size (distance):	Ø 50 mm (750 mm)

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

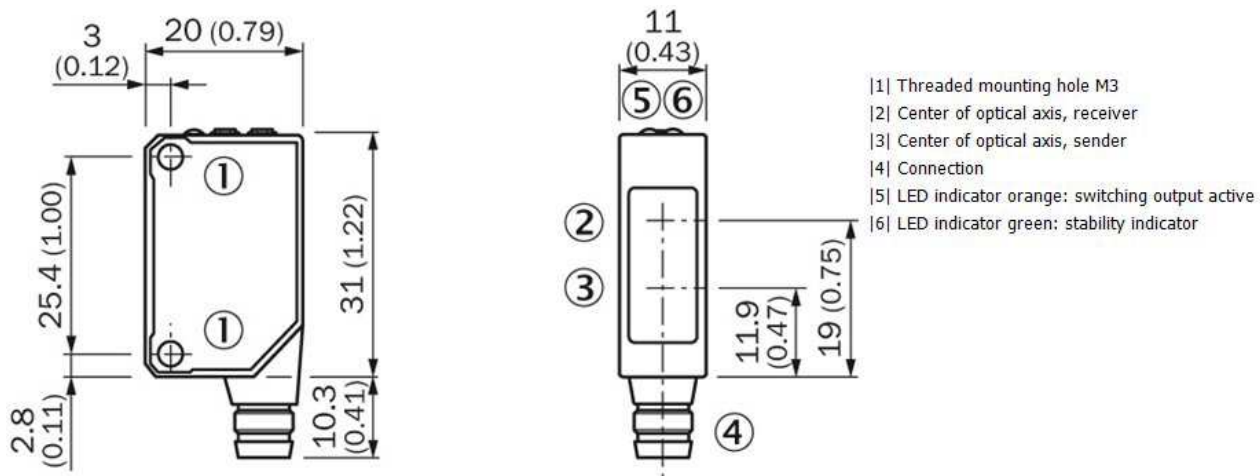
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
Output current I _{max} :	≤ 100 mA

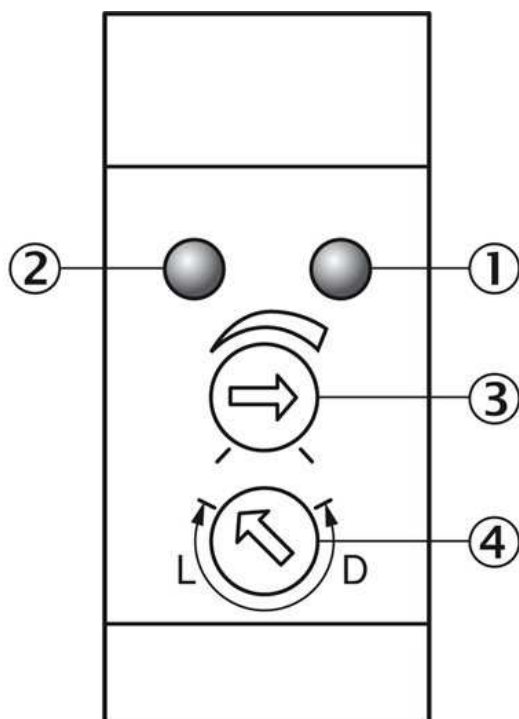
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Electrical connection:	Cable, 3-wire, 2 m ⁶⁾
Cable material:	PVC
Conductor cross-section:	0.18 mm ²
Circuit protection:::	A, B, D ⁷⁾ 8) 9)
Weight:	53 g
Polarisation filter:	-
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH2.E300503 & NRKH8.E300503
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Housing material:	ABS/PC/POM, Plastic

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⁾ 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⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

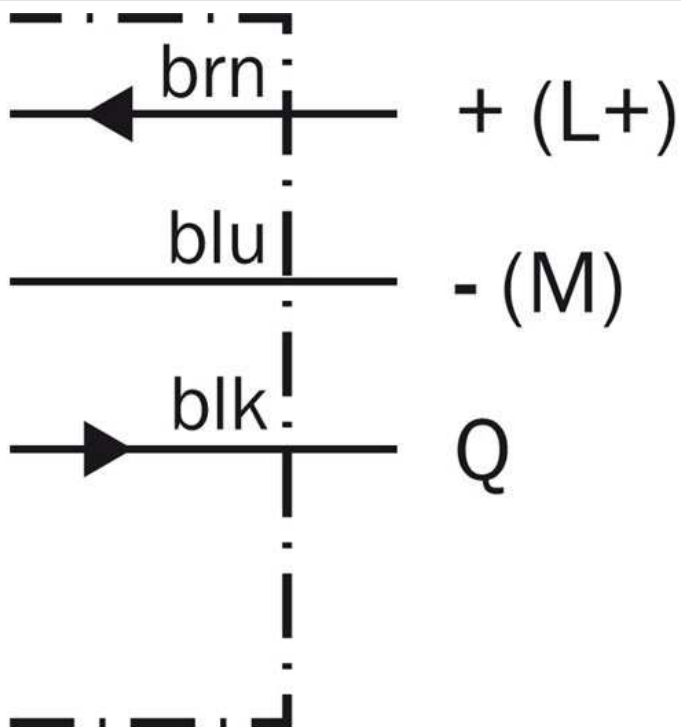


Adjustments possible

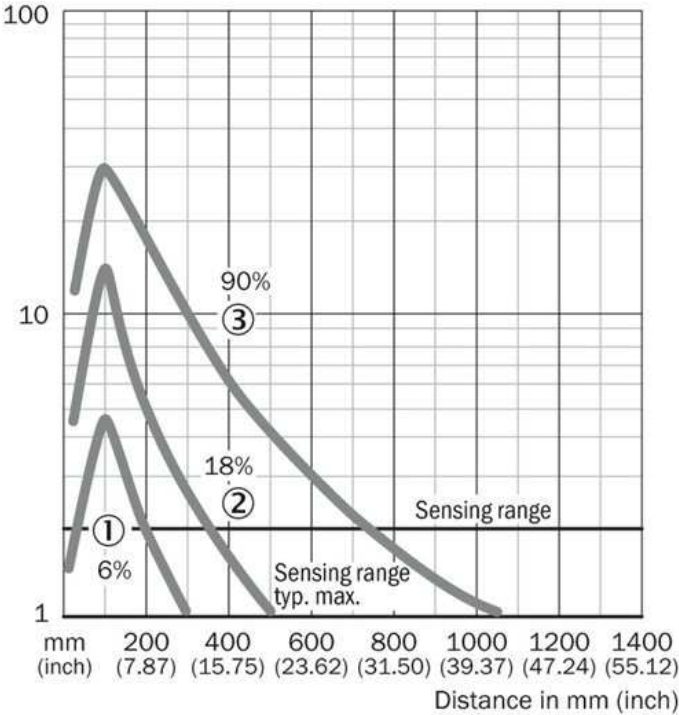


- |1| LED indicator orange: switching output active
- |2| LED indicator green: power on
- |3| Sensing range adjustment: potentiometer
- |4| Light/ dark rotary switch: L =
light switching, D = dark switching

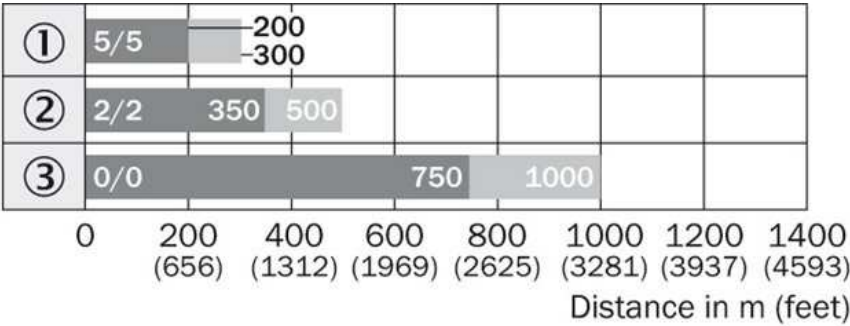
Connection diagram



Characteristic curve



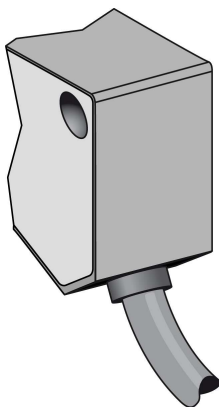
Sensing range diagram



■ Sensing range ■ Sensing range typ. max.

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

Connection type



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