



Photoelectric sensors
W4-3, Photoelectric proximity sensor,
Background suppression

WTV4-3N3041S67



Model Name > [WTV4-3N3041S67](#)
Part No. > [1054939](#)



Illustration may differ

At a glance

- Sensing range from 4 - 50 mm
- Reliable detection of planar, highly transparent and shiny objects at distances of 20 to 25 mm
- 5-turn potentiometer for precise adjustment
- Large, consistent light spot
- Rugged plastic housing with M3 threaded metal inserts
- IR versions available for detection of jet-black objects with a remission < 1%
- Versions available with linear light spot

Your benefits

- Low-cost machine design since shiny and transparent objects are directly detected, making a separate reflector or through-beam system unnecessary
- Less mounting and setup time since no alignment is required
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- Reliable object detection due to best-in-class background suppression and high immunity to ambient light



Features

| | |
|----------------------------------|--|
| Sensor/detection principle: | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D): | 16 mm x 39.5 mm x 12 mm |
| Housing design (light emission): | Rectangular |
| Sensing range: | 4 mm ... 25 mm ¹⁾ |
| Type of light: | Visible red light |
| Light source: | PinPoint LED ²⁾ |
| Wave length: | 650 nm |
| Light spot size (distance): | Ø 10 mm (40 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

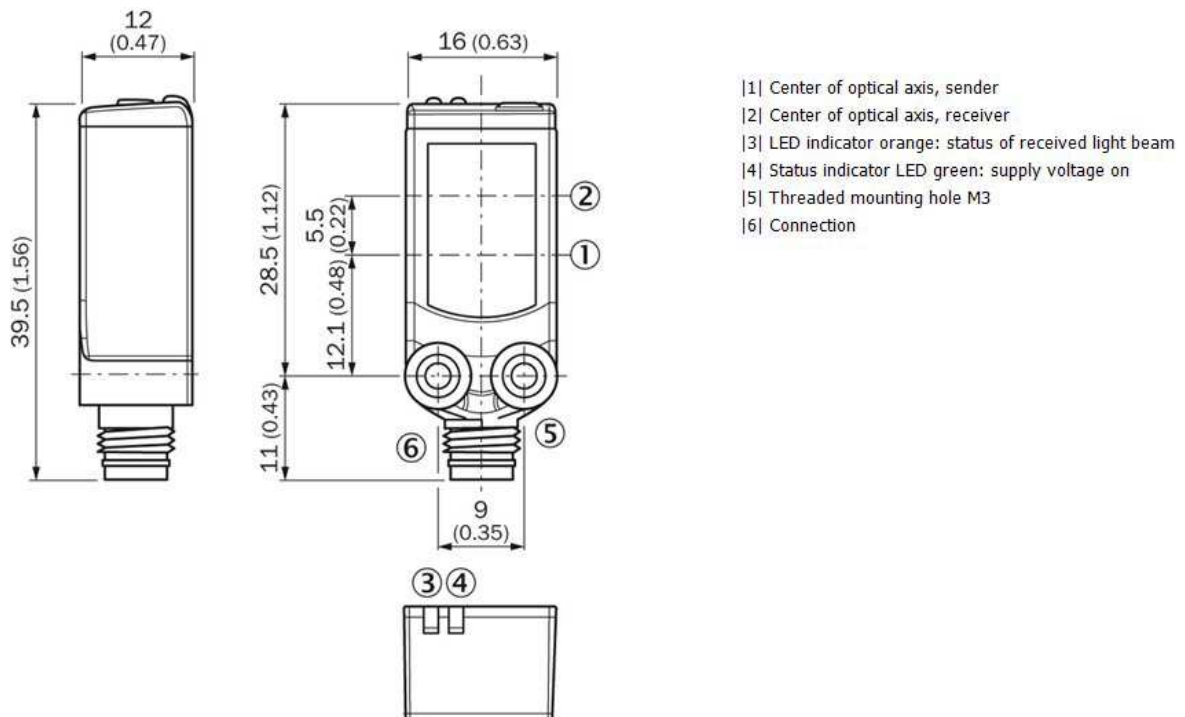
Mechanics/electronics

| | |
|------------------------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Ripple:: | < 5 Vpp ^{2) 3)} |
| Power consumption: | ≤ 20 mA ⁴⁾ |
| Output type: | NPN |
| Switching mode: | Light switching |
| Output current I _{max} :: | ≤ 100 mA |

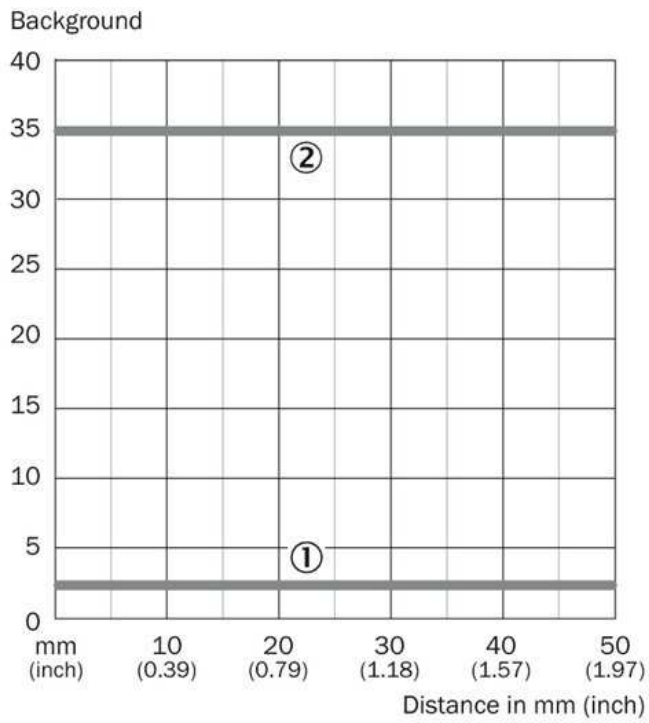
| | |
|--------------------------------|------------------------------|
| Response time: | < 0.5 ms ⁵⁾ |
| Switching frequency: | 1,000 Hz ⁶⁾ |
| Connection type: | Molex, 195 mm ⁷⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.14 mm ² |
| Cable diameter: | Ø 3.4 mm |
| Circuit protection::: | A, C, D ^{8) 9) 10)} |
| Protection class: | III |
| Weight: | 30 g |
| Special device: | - |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 IP 66 |
| Special feature: | V-optics |
| Ambient operating temperature: | -40 °C ... +60 °C |
| Ambient storage temperature: | -40 °C ... +75 °C |
| UL File No.: | NRKH.E181493 & NRKH7.E181493 |
| Housing material: | ABS, Plastic |

1) Limit values 2) 3) May not exceed or fall short of V_S tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) A = V_S connections reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

Dimensional drawing



Characteristic curve



|1| Black-white shift 90% / 6%

|2| Distance to the background with transparent objects

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