



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

WTF4-3F2161S49



**Model Name** > [WTF4-3F2161S49](#)  
**Part No.** > [1042432](#)



*Illustration may differ*

**At a glance**

- Foreground suppression with a sensing range of 10 - 100 mm
- Reliable detection of jet-black and shiny objects
- 5-turn potentiometer for precise setting adjustment

**Your benefits**

- Economical and efficient machine integration since a separate reflector is not required though photoelectric retro-reflective sensor performance is retained - the sensor uses the machine background as a reflector
- Foreground suppression provides highly reliable recognition of almost all object types
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Foreground suppression
Dimensions (W x H x D):	16 mm x 39.5 mm x 12 mm
Housing design (light emission):	Rectangular
Sensing range max.:	10 mm ... 60 mm <sup>1)</sup>
Sensing range:	10 mm ... 60 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	650 nm
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 3.5 mm (40 mm)

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

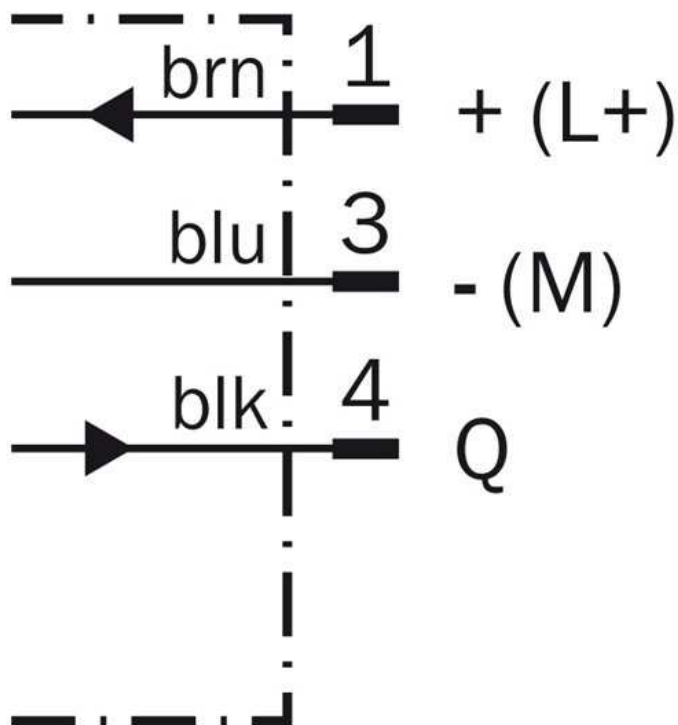
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple::	< 5 Vpp <sup>2) 3)</sup>
Power consumption:	≤ 20 mA <sup>4)</sup>
Output type:	PNP
Switching mode:	Light switching
Output current I <sub>max</sub> ::	≤ 100 mA
Response time:	< 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Connection type:	Connector M8, 3-pin

Circuit protection:::	A, C, D <sup>7) 8) 9)</sup>
Protection class:	III
Weight:	30 g
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Special feature:	Detection of transparent objects
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

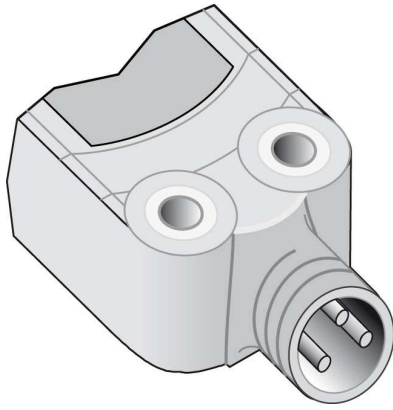
<sup>1)</sup> Limit values   <sup>2) 3)</sup> May not exceed or fall short of  $V_S$  tolerances   <sup>4)</sup> Without load   <sup>5)</sup> Signal transit time with resistive load   <sup>6)</sup> With light/dark ratio 1:1   <sup>7)</sup>  $A = V_S$   
 connections reverse-polarity protected   <sup>8)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

### Connection diagram



Connection type

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