



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

WTV4-3N1321S49



**Model Name** > [WTV4-3N1321S49](#)  
**Part No.** > [1043721](#)



*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 max.:	2 mm ... 50 mm <sup>1)</sup>
Sensing range:	5 mm ... 50 mm <sup>2)</sup>
Type of light:	Infrared light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	880 nm
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 7 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

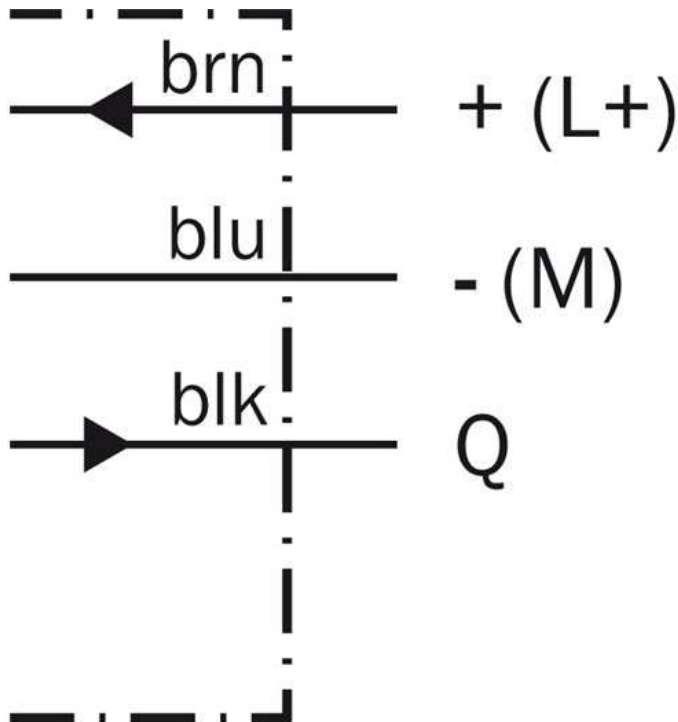
**Mechanics/electronics**

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:	NPN

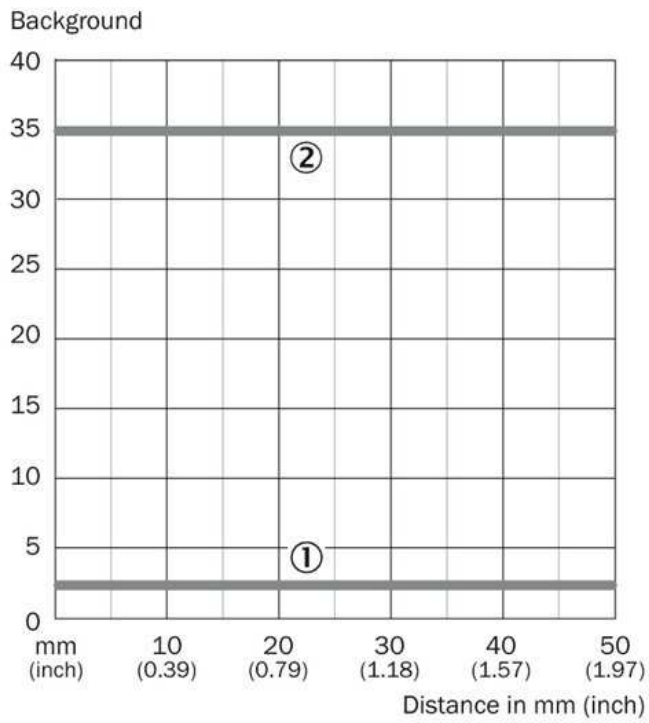
Switching mode:	Light switching
Output current I <sub>max</sub> ..:	≤ 100 mA
Response time:	< 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>7)</sup>
Cable material:	PVC
Conductor cross-section:	0.14 mm <sup>2</sup>
Cable diameter:	Ø 3.4 mm
Circuit protection:::	A, C, D <sup>8) 9) 10)</sup>
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<sub>S</sub> 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<sub>S</sub> connections reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

### Connection diagram



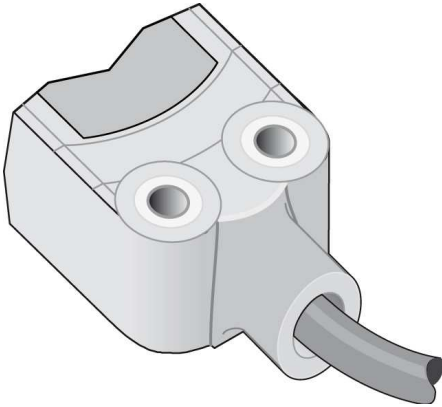
## Characteristic curve



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

|2| Distance to the background with transparent objects

## Connection type



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