



WTV4-3P3141
W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WTV4-3P3141	1028112

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	4 mm ... 50 mm ¹⁾
Sensing range	15 mm ... 50 mm ¹⁾
Emitted beam	
Light source	PinPoint LED ²⁾
Type of light	Visible red light
Light spot size (distance)	Ø 10 mm (40 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Potentiometer, 5 turns
Special applications	Detecting uneven, shiny objects, Detecting objects wrapped in film

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Protection class	III

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Digital output	Type	PNP
	Switching mode	Light switching
	Output current I_{\max}	$\leq 100 \text{ mA}$
	Response time	$< 0.5 \text{ ms}^{4)}$
	Switching frequency	$1,000 \text{ Hz}^{5)}$
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾	
Special feature	V-optics	

¹⁾ Limit values.

²⁾ May not fall below or exceed U_T tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Mechanics

Housing	Rectangular	
Design detail	Flat	
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm	
Connection	Cable with connector M8, 3-pin ¹⁾	
Connection detail	Conductor size	0.14 mm^2
	Cable diameter	$\varnothing 3.4 \text{ mm}$
	Length of cable (L)	$100 \text{ mm}^{1)}$
Material	Housing	Plastic, ABS
	Front screen	Plastic, PMMA
	Cable	Plastic, PVC
Weight	30 g	

¹⁾ Do not bend below 0°C .

Ambient data

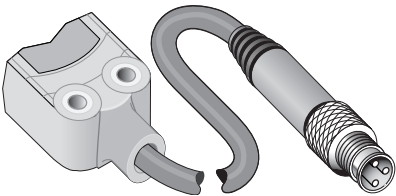
Enclosure rating	IP67 IP66
Ambient operating temperature	$-40^\circ \text{C} \dots +60^\circ \text{C}$
Ambient temperature, storage	$-40^\circ \text{C} \dots +75^\circ \text{C}$
UL File No.	NRKH.E181493 & NRKH7.E181493

Classifications

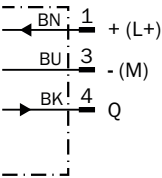
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904

ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

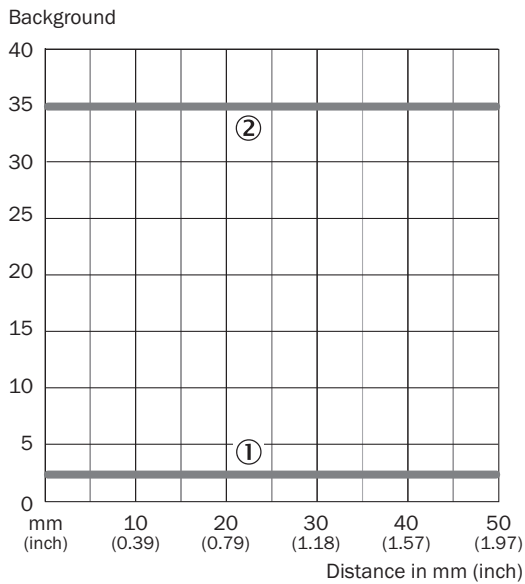
Connection type



Connection diagram Cd-045

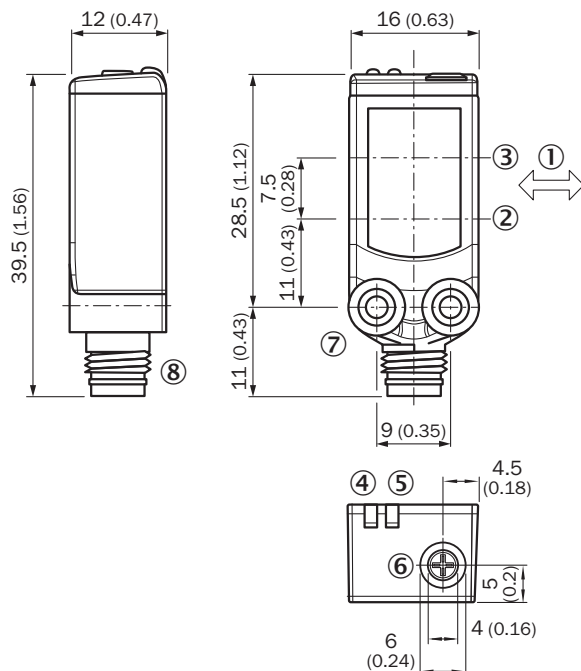


Characteristic curve WTV4-3, V-optics



- ① black/white shift 90% / 6%
- ② Distance to the background with transparent objects

Dimensional drawing WTx4-3, potentiometer



Dimensions in mm (inch)

- ① Standard direction of the material being detected
- ② Optical axis, sender
- ③ Optical axis, receiver
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Potentiometer
- ⑦ Threaded mounting hole M3

③ Connection

Recommended accessories

Other models and accessories → www.sick.com/W4

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Plate N08 for universal clamp bracket Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8 	BEF-KHS-N08	2051607
	<ul style="list-style-type: none"> Description: Mounting bracket for wall mounting Material: Stainless steel Details: Stainless steel 1.4571 Items supplied: Mounting hardware included Suitable for: W4S, W4F, W4S 	BEF-W4-A	2051628
	<ul style="list-style-type: none"> Description: Mounting bracket for floor mounting Material: Stainless steel Details: Stainless steel 1.4571 Items supplied: Mounting hardware included Suitable for: W4S, W4F, W4S 	BEF-W4-B	2051630
	<ul style="list-style-type: none"> Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Male connector, M8, 3-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-G	6037322
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U13-050VA1XLEAX	2095884
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-050UA1XLEAX	2094788

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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