

VT12T-2N112 V12

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
VT12T-2N112	6026209

Other models and accessories → www.sick.com/V12

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	12 mm x 12 mm x 54.5 mm
Housing design (light emission)	Cylindrical
Housing length	54.5 mm
Thread diameter (housing)	Round connector M12 x 1
Sensing range max.	0 mm 115 mm ¹⁾
Sensing range	2 mm 100 mm
Focus	Approx. 11.4°
Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 20 mm (100 mm)
Angle of dispersion	Approx. 11.4°
Wave length	880 nm
Adjustment	Single teach-in button, Selectable via control input C (Sensing range, Sensing range) 3) 4)

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

 $^{^{2)}}$ Average service life: 100,000 h at T_{U} = +25 $^{\circ}\text{C}.$

³⁾ Manual, via teach-in button.

 $^{^{4)}}$ Electronically via control input C (0 V).

Mechanics/electronics

Supply voltage U _B 10 V DC 30 V D		
Current consumption 20 mA 3) Switching output NPN Switching mode Light/dark switching Switching mode selector Selectable via control input C Output current I _{max} . \$ 100 mA 3) Response time \$ 1.25 ms 4) Switching frequency 400 Hz 5) Connection type Cable, 4-wire, 2 m 6) Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A 7) B 8) C 9) O 100 100 Protection class III Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Supply voltage U _B	10 V DC 30 V DC ¹⁾
Switching output NPN Switching mode Light/dark switching Switching mode selector Selectable via control input C Output current I _{max.} \$ 500 mA 3 1 Response time \$ 1.25 ms 4 1 Switching frequency 400 Hz 5 1 Connection type Cable, 4-wire, 2 m 6 1 Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A 7 1 8 8 1 8 2 6 9 10 10 10 10 10 10 10 10 10 10 10 10 10	Ripple	± 10 % ²⁾
Switching mode Light/dark switching Switching mode selector Selectable via control input C Output current I _{max} . ≤ 1.00 mA ³) Response time ≤ 1.25 ms ⁴) Switching frequency 400 Hz ⁵) Connection type Cable, 4-wire, 2 m ⁶) Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A ³) B ®) 6) C °) D ¹0) Protection class III Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 ° C +70 ° C Ambient temperature, storage -25 ° C +70 ° C	Current consumption	20 mA ³⁾
Switching mode selector Selectable via control input C Output current I _{max} . ≤ 100 mA ³) Response time ≤ 1.25 ms ⁴) Switching frequency 400 Hz ⁵) Connection type Cable, 4-wire, 2 m ⁶) Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A ³) B 8) C ° °) D ¹0) B 8) C ° °) D ¹0) Protection class III Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Switching output	NPN
Output current I _{max} . ≤ 100 mA ³) Response time ≤ 1.25 ms ⁴) Switching frequency 400 Hz ⁵) Connection type Cable, 4-wire, 2 m ⁶) Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A ³) B ®) C °) C °) D ¹¹0) Protection class III Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Switching mode	Light/dark switching
Response time ≤ 1.25 ms ⁴⁾ Switching frequency 400 Hz ⁵⁾ Connection type Cable, 4-wire, 2 m ⁶⁾ Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A ⁷⁾	Switching mode selector	Selectable via control input C
Switching frequency Connection type Cable, 4-wire, 2 m 6) Cable material Plastic, PVC Conductor cross section Cable diameter Circuit protection A 7 1 B 8) C 9 1 D 10) Protection class III Weight Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating Ambient operating temperature A00 Hz 5) Cable, 4-wire, 2 m 6) Plastic, PMC Cable Cabl	Output current I _{max} .	\leq 100 mA $^{3)}$
Connection type Cable material Plastic, PVC Conductor cross section 0.14 mm² Cable diameter Circuit protection Protection Protection class III Weight Housing material Optics material Plastic, PMMA Enclosure rating Ambient operating temperature Ambient temperature, storage Cable, 4-wire, 2 m 6) Plastic, PVC 0.14 mm² Andrea 8.3.75 mm A ⁷ B 8) C 9) C 9) D 100 Protection class III Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating Ambient temperature -25 °C +70 °C -25 °C +70 °C	Response time	≤ 1.25 ms ⁴⁾
Cable material Conductor cross section Cable diameter Circuit protection A ⁷ B ⁸ C ⁹ D ¹⁰ Protection class III Weight Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMC Ambient operating temperature Ambient temperature, storage Plastic, PMC Plastic, PMC C9 D ¹⁰ D ¹⁰ Ambient temperature, storage Plastic, PMC Pocc C9 D ¹⁰ D ¹⁰ B ⁸ B ⁸ C9 C9 D ¹⁰ D ¹⁰ B ⁸ B ⁸ C9 C9 D ¹⁰ D ¹⁰ B ⁸ B ⁸ C9 C9 D ¹⁰ D ¹⁰ B ⁸ B ⁸ C9 C9 D ¹⁰ D ¹⁰ D ¹⁰ C9 C9 D ¹⁰ D	Switching frequency	400 Hz ⁵⁾
Conductor cross section 0.14 mm² Cable diameter Ø 3.75 mm Circuit protection A 7)	Connection type	Cable, 4-wire, 2 m ⁶⁾
Cable diameter Circuit protection A 7 B 8 C c 9 C 9 D 10) Protection class III Weight Housing material Optics material Determine prature Ambient operating temperature -25 °C +70 °C Ambient temperature, storage Ø 3.75 mm M 7 B 8 8 C 9 P P P P P P P P P P P P P P P P P P	Cable material	Plastic, PVC
Circuit protection A 7) B 8) C 9) D 10) Protection class III Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage A 7) B 8) B 8) C 9) D 10) Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA IP67 Ambient operating temperature -25 °C +70 °C -25 °C +70 °C	Conductor cross section	0.14 mm ²
B 8 8 C 9 D 10) Protection class III Weight Housing material Optics material Plastic, PMMA Enclosure rating Ambient operature -25 °C +70 °C -25 °C +70 °C	Cable diameter	Ø 3.75 mm
Weight 54 g Housing material Metal, Nickel-plated brass/PA Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Circuit protection	B ⁸⁾ C ⁹⁾
Housing material Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Protection class	III
Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Weight	54 g
Enclosure rating IP67 Ambient operating temperature -25 °C +70 °C Ambient temperature, storage -25 °C +70 °C	Housing material	Metal, Nickel-plated brass/PA
Ambient operating temperature -25 °C +70 °C -25 °C +70 °C	Optics material	Plastic, PMMA
Ambient temperature, storage -25 °C +70 °C	Enclosure rating	IP67
. , ,	Ambient operating temperature	-25 °C +70 °C
UL File No. E175606	Ambient temperature, storage	-25 °C +70 °C
	UL File No.	E175606

¹⁾ Limit values.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓

 $^{^{2)}}$ 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⁾ Do not bend below 0 °C.

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

 $^{^{8)}}$ B = inputs and output reverse-polarity protected.

⁹⁾ C = interference suppression.

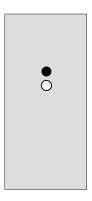
¹⁰⁾ D = outputs overcurrent and short-circuit protected.

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Classifications

ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments



Connection type

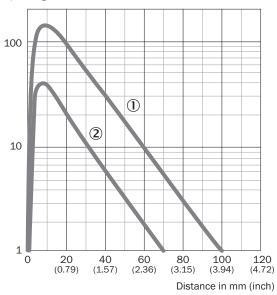


Connection diagram Cd-100



Characteristic curve

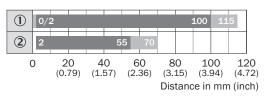
Operating reserve



① Sensing range on white, 90% remission factor

2 Sensing range on gray, 18% remission factor

Sensing range diagram



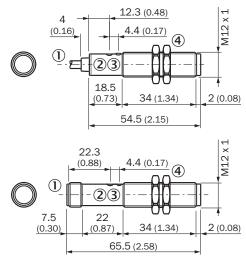
Sensing range

Sensing range max.

① Sensing range on white, 90% remission factor

 $\ensuremath{\text{@}}$ Sensing range on gray, 18% remission factor

Dimensional drawing



Dimensions in mm (inch)

- ① Cable or connector M12, 4-pin
- ② Sensitivity setting: single teach-in button
- 3 Yellow LED indicator:
- ③ lights continuously:
- 3 reception signal > reserve factor 2
- ③ blinks: Reception signal < reserve factor 2 but > switching threshold 1
- 4 Fastening nuts (2x); width across 17, metal

Recommended accessories

Other models and accessories → www.sick.com/V12

	Brief description	Туре	part no.	
Mounting systems				
40	Description: Mounting bracket for M12 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware	BEF-WN-M12	5308447	
connectors and cables				
	 Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932	

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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