



# VT12T-2N112

V12

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Ordering information

| Type        | part no. |
|-------------|----------|
| VT12T-2N112 | 6026209  |

Other models and accessories → [www.sick.com/V12](http://www.sick.com/V12)

Illustration may differ



Detailed technical data

Features

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

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

<sup>2)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

<sup>3)</sup> Manual, via teach-in button.

<sup>4)</sup> Electronically via control input C (0 V).

## Mechanics/electronics

|                                            |                                                                           |
|--------------------------------------------|---------------------------------------------------------------------------|
| <b>Supply voltage <math>U_B</math></b>     | 10 V DC ... 30 V DC <sup>1)</sup>                                         |
| <b>Ripple</b>                              | $\pm 10\%$ <sup>2)</sup>                                                  |
| <b>Current consumption</b>                 | 20 mA <sup>3)</sup>                                                       |
| <b>Switching output</b>                    | NPN                                                                       |
| <b>Switching mode</b>                      | Light/dark switching                                                      |
| <b>Switching mode selector</b>             | Selectable via control input C                                            |
| <b>Output current <math>I_{max}</math></b> | $\leq 100$ mA <sup>3)</sup>                                               |
| <b>Response time</b>                       | $\leq 1.25$ ms <sup>4)</sup>                                              |
| <b>Switching frequency</b>                 | 400 Hz <sup>5)</sup>                                                      |
| <b>Connection type</b>                     | Cable, 4-wire, 2 m <sup>6)</sup>                                          |
| <b>Cable material</b>                      | Plastic, PVC                                                              |
| <b>Conductor cross section</b>             | 0.14 mm <sup>2</sup>                                                      |
| <b>Cable diameter</b>                      | Ø 3.75 mm                                                                 |
| <b>Circuit protection</b>                  | A <sup>7)</sup><br>B <sup>8)</sup><br>C <sup>9)</sup><br>D <sup>10)</sup> |
| <b>Protection class</b>                    | III                                                                       |
| <b>Weight</b>                              | 54 g                                                                      |
| <b>Housing material</b>                    | Metal, Nickel-plated brass/PA                                             |
| <b>Optics material</b>                     | Plastic, PMMA                                                             |
| <b>Enclosure rating</b>                    | IP67                                                                      |
| <b>Ambient operating temperature</b>       | -25 °C ... +70 °C                                                         |
| <b>Ambient temperature, storage</b>        | -25 °C ... +70 °C                                                         |
| <b>UL File No.</b>                         | E175606                                                                   |

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed  $U_y$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

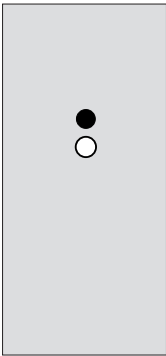
## Certificates

|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>cRUus certificate</b>                  | ✓ |

Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270903 |
| <b>ECLASS 5.1.4</b>   | 27270903 |
| <b>ECLASS 6.0</b>     | 27270903 |
| <b>ECLASS 6.2</b>     | 27270903 |
| <b>ECLASS 7.0</b>     | 27270903 |
| <b>ECLASS 8.0</b>     | 27270903 |
| <b>ECLASS 8.1</b>     | 27270903 |
| <b>ECLASS 9.0</b>     | 27270903 |
| <b>ECLASS 10.0</b>    | 27270904 |
| <b>ECLASS 11.0</b>    | 27270904 |
| <b>ECLASS 12.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC001821 |
| <b>ETIM 6.0</b>       | EC001821 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

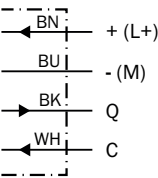
Adjustments



Connection type

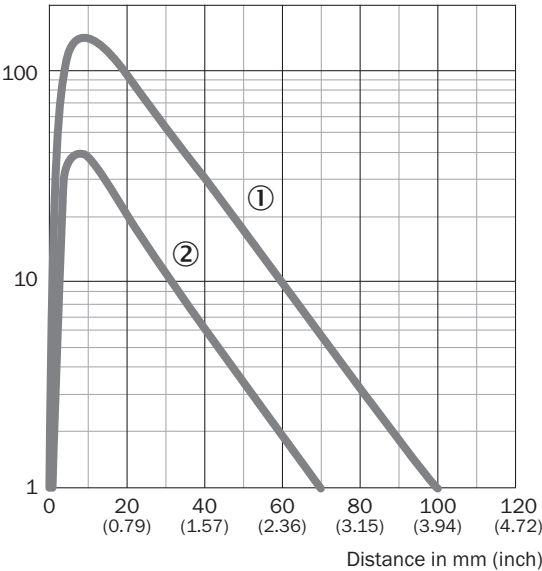


Connection diagram Cd-100



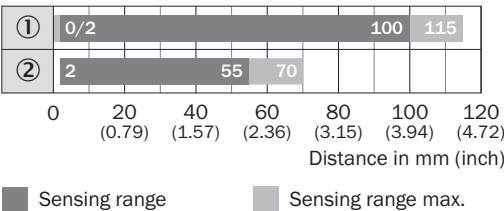
Characteristic curve

Operating reserve



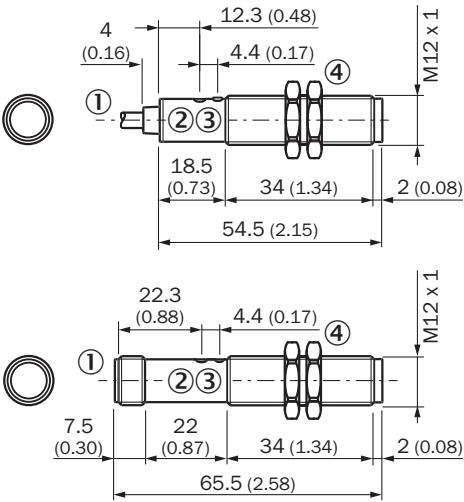
- ① Sensing range on white, 90% remission factor  
② Sensing range on gray, 18% remission factor

Sensing range diagram



- ① Sensing range on white, 90% remission factor  
② 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](http://www.sick.com/V12)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                      | Type       | part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                        |            |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket for M12 sensors</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Items supplied:</b> Without mounting hardware</li></ul>                                        | BEF-WN-M12 | 5308447  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                        |            |          |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li><li>• <b>Description:</b> Unshielded</li><li>• <b>Connection systems:</b> Screw-type terminals</li><li>• <b>Permitted cross-section:</b> ≤ 0.75 mm²</li></ul> | 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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)