



# GSE2FS-N0162S01

G2

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type            | part no. |
|-----------------|----------|
| GSE2FS-N0162S01 | 1100225  |

**Included in delivery:** BEF-G2F-SIDE-SPACER-M2 (1)

Other models and accessories → [www.sick.com/G2](http://www.sick.com/G2)

## Detailed technical data

### Features

|                                        |                                   |
|----------------------------------------|-----------------------------------|
| <b>Functional principle</b>            | Through-beam photoelectric sensor |
| <b>Dimensions (W x H x D)</b>          | 4.5 mm x 21 mm x 11 mm            |
| <b>Housing design (light emission)</b> | Rectangular                       |
| <b>Minimum detectable object (MDO)</b> | 1.8 mm                            |
| <b>Sensing range max.</b>              | 0 mm ... 1,300 mm                 |
| <b>Sensing range</b>                   | 0 mm ... 1,000 mm                 |
| <b>Type of light</b>                   | Visible red light                 |
| <b>Light source</b>                    | PinPoint LED <sup>1)</sup>        |
| <b>Light spot size (distance)</b>      | Ø 100 mm (1,000 mm)               |
| <b>Wave length</b>                     | 660 nm                            |
| <b>Adjustment</b>                      | None                              |

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

|                                     |                     |
|-------------------------------------|---------------------|
| <b>Supply voltage U<sub>B</sub></b> | 10 V DC ... 30 V DC |
|-------------------------------------|---------------------|

<sup>1)</sup> May not fall below or exceed U<sub>y</sub> tolerances.

<sup>2)</sup> Without load.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

|                                                   |                                                       |
|---------------------------------------------------|-------------------------------------------------------|
| <b>Ripple</b>                                     | < 5 V <sub>pp</sub> <sup>1)</sup>                     |
| <b>Current consumption</b>                        | 20 mA <sup>2)</sup>                                   |
| <b>Switching output</b>                           | NPN                                                   |
| <b>Switching mode</b>                             | Light switching                                       |
| <b>Output current I<sub>max</sub></b>             | ≤ 50 mA                                               |
| <b>Response time</b>                              | < 0.625 ms <sup>3)</sup>                              |
| <b>Switching frequency</b>                        | 800 Hz <sup>4)</sup>                                  |
| <b>Connection type</b>                            | Cable, 3-wire, 500 mm <sup>5)</sup>                   |
| <b>Cable material</b>                             | Plastic, PVC                                          |
| <b>Cable diameter</b>                             | Ø 2.3 mm                                              |
| <b>Circuit protection</b>                         | A <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |
| <b>Weight</b>                                     | 13 g                                                  |
| <b>Housing material</b>                           | Plastic, VISTAL®                                      |
| <b>Optics material</b>                            | Plastic, MABS                                         |
| <b>Enclosure rating</b>                           | IP67                                                  |
| <b>Items supplied</b>                             | 2 x BEF-G2F-SIDE-SPACER-M2 (2107264)                  |
| <b>Ambient operating temperature</b>              | -20 °C ... +50 °C                                     |
| <b>Ambient temperature, storage</b>               | -40 °C ... +70 °C                                     |
| <b>UL File No.</b>                                | NRKH.E348498 & NRKH7.E348498                          |
| <b>Repeatability (T<sub>a</sub> not constant)</b> | 0.1 mm                                                |

<sup>1)</sup> May not fall below or exceed U<sub>y</sub> tolerances.

<sup>2)</sup> Without load.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Certificates

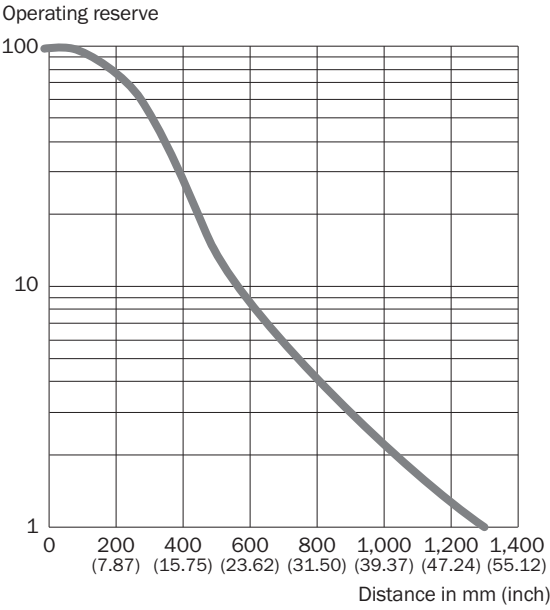
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
|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

## Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270901 |
| <b>ECLASS 5.1.4</b> | 27270901 |
| <b>ECLASS 6.0</b>   | 27270901 |
| <b>ECLASS 6.2</b>   | 27270901 |

|                |          |
|----------------|----------|
| ECLASS 7.0     | 27270901 |
| ECLASS 8.0     | 27270901 |
| ECLASS 8.1     | 27270901 |
| ECLASS 9.0     | 27270901 |
| ECLASS 10.0    | 27270901 |
| ECLASS 11.0    | 27270901 |
| ECLASS 12.0    | 27270901 |
| ETIM 5.0       | EC002716 |
| ETIM 6.0       | EC002716 |
| ETIM 7.0       | EC002716 |
| ETIM 8.0       | EC002716 |
| UNSPSC 16.0901 | 39121528 |

Characteristic curve



Diameter in mm (inch)

Ø 10 (0.39)      Ø 100 (3.94)      Ø 150 (5.91)

Sensor

0      100 (3.94)      1,000 (39.37)      1,500 (59.06)

Distance in mm (inch)

Technical drawing of a mechanical part, likely a connector or plug, shown from two perspectives: a front view (left) and a side view (right).

**Front View Dimensions:**

- Total height: 21 (0.83)
- Top flange width: 11 (0.43)
- Top flange thickness: 2.2 (0.09)
- Distance from top flange to center of hole: 4 (0.16)
- Hole diameter: Ø 2.3 (0.09)
- Bottom flange thickness: 2.2 (0.09)
- Distance from bottom flange to center of hole: 1 (0.04)
- Total distance between hole centers: 11 (0.43)

**Side View Dimensions:**

- Total width: 4.5 (0.18)
- Feature labeled ① points to the top internal slot.
- Feature labeled ② points to the central pin or contact point.

① optical axis, receiver  
② optical axis, sender

## Recommended accessories

Other models and accessories → [www.sick.com/G2](http://www.sick.com/G2)

|                                                                                   | Brief description                                                                                                                                                                                                                                                                            | Type                   | part no. |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|
| Mounting systems                                                                  |                                                                                                                                                                                                                                                                                              |                        |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting plate for direct mounting, from the rear, on wall or machine, not adjustable. 10 Piece ,Black ,Plastic, VISTAL®. Suitable for GSE2FS only</li> <li><b>Packing unit:</b> 10 pieces</li> </ul>                             | BEF-G2F-SIDE-SPACER-M2 | 2107264  |
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                              |                        |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-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> 0.14 mm² ... 0.5 mm²</li> </ul> | STE-0803-G             | 6037322  |

## 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)