Detailed technical data

Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor/ detection principle</td>
<td>Through-beam photoelectric sensor</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>12 mm x 31.5 mm x 21 mm</td>
</tr>
<tr>
<td>Housing design (light emission)</td>
<td>Rectangular</td>
</tr>
<tr>
<td>Sensing range max.</td>
<td>0 m ... 15 m</td>
</tr>
<tr>
<td>Sensing range</td>
<td>0 m ... 10 m</td>
</tr>
<tr>
<td>Type of light</td>
<td>Visible red light</td>
</tr>
<tr>
<td>Light source</td>
<td>PinPoint LED 1)</td>
</tr>
<tr>
<td>Light spot size (distance)</td>
<td>Ø 375 mm (12 m)</td>
</tr>
<tr>
<td>Wave length</td>
<td>650 nm</td>
</tr>
<tr>
<td>Adjustment</td>
<td>None</td>
</tr>
</tbody>
</table>

1) Average service life: 100,000 h at $T_U = +25 \, ^\circ C$.

Mechanics/electronics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>10 V DC ... 30 V DC 1)</td>
</tr>
<tr>
<td>Ripple</td>
<td>± 10 % 2)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>30 mA 3)</td>
</tr>
<tr>
<td>Switching output</td>
<td>PNP</td>
</tr>
</tbody>
</table>

1) Limit values when operated in short-circuit protected network: max. 8 A.
2) May not exceed or fall below $U_v$ tolerances.
3) Without load.
4) At $U_v > 24$ V, $I_A$ max. = 50 mA.
5) Signal transit time with resistive load.
7) $A = V_S$ connections reverse-polarity protected.
8) $B$ = inputs and output reverse-polarity protected.
9) $D$ = outputs overcurrent and short-circuit protected.
10) Temperature stability following adjustment +/-10 °C.
<table>
<thead>
<tr>
<th><strong>Switching mode</strong></th>
<th>Light/dark switching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Switching mode selector</strong></td>
<td>Selectable via light/dark selector</td>
</tr>
<tr>
<td><strong>Signal voltage PNP HIGH/LOW</strong></td>
<td>$V_S \leq 3, \text{V}$ / approx. $0, \text{V}$</td>
</tr>
<tr>
<td><strong>Output current $I_{\text{max.}}$</strong></td>
<td>$\leq 100, \text{mA}$ 4)</td>
</tr>
<tr>
<td><strong>Response time</strong></td>
<td>$&lt; 500, \mu\text{s}$ 5)</td>
</tr>
<tr>
<td><strong>Switching frequency</strong></td>
<td>$1,000, \text{Hz}$ 6)</td>
</tr>
<tr>
<td><strong>Connection type</strong></td>
<td>Male connector M8, 4-pin</td>
</tr>
<tr>
<td><strong>Circuit protection</strong></td>
<td>A 7), B 8), D 9)</td>
</tr>
<tr>
<td><strong>Protection class</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>40 g</td>
</tr>
<tr>
<td><strong>Housing material</strong></td>
<td>Plastic, ABS/PC</td>
</tr>
<tr>
<td><strong>Optics material</strong></td>
<td>Plastic, PMMA</td>
</tr>
<tr>
<td><strong>Enclosure rating</strong></td>
<td>IP67</td>
</tr>
<tr>
<td><strong>Ambient operating temperature</strong></td>
<td>$-25, \circ\text{C} \ldots +55, \circ\text{C}$ 10)</td>
</tr>
<tr>
<td><strong>Ambient storage temperature</strong></td>
<td>$-40, \circ\text{C} \ldots +70, \circ\text{C}$</td>
</tr>
<tr>
<td><strong>UL File No.</strong></td>
<td>NRKH.E348498 &amp; NRKH7.E348498</td>
</tr>
<tr>
<td><strong>Part number of individual components</strong></td>
<td>2058059 GSE6-D4311 2058077 GE6-P4111</td>
</tr>
</tbody>
</table>

1) Limit values when operated in short-circuit protected network: max. 8 A.
2) May not exceed or fall below $U_v$ tolerances.
3) Without load.
4) At $U_v > 24\, \text{V}$, $I_A \text{max.} = 50\, \text{mA}$.
5) Signal transit time with resistive load.
7) $A = V_S$ connections reverse-polarity protected.
8) $B = \text{inputs and output reverse-polarity protected}$.
9) $D = \text{outputs overcurrent and short-circuit protected}$.
10) Temperature stability following adjustment $\pm 10\, \circ\text{C}$.

**Safety-related parameters**

<table>
<thead>
<tr>
<th><strong>MTTF&lt;sub&gt;D&lt;/sub&gt;</strong></th>
<th>1,009 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DC&lt;sub&gt;avg&lt;/sub&gt;</strong></td>
<td>0%</td>
</tr>
</tbody>
</table>

**Classifications**

<table>
<thead>
<tr>
<th><strong>ECI@ss 5.0</strong></th>
<th>27270901</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECI@ss 5.1.4</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 6.0</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 6.2</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 7.0</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 8.0</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 8.1</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ECI@ss 9.0</strong></td>
<td>27270901</td>
</tr>
<tr>
<td><strong>ETIM 5.0</strong></td>
<td>EC002716</td>
</tr>
<tr>
<td><strong>ETIM 6.0</strong></td>
<td>EC002716</td>
</tr>
</tbody>
</table>
Connection diagram

Connection diagram

1. **Sender**
2. **Receiver**

Characteristic curve

Function reserve

Operating range

Distance [m]

Sensor

- Ø 7.5 mm
- Ø 130 mm
- Ø 310 mm
- Ø 480 mm

Light spot size
Sensing range diagram

<table>
<thead>
<tr>
<th>Sensing range</th>
<th>Sensing range max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0(m) 4.0 8.0 12.0 16.0</td>
<td></td>
</tr>
</tbody>
</table>

Adjustments possible
No adjustment possibility

LED indicator green: Supply voltage active
LED indicator yellow: Status of received light beam

Dimensional drawing (Dimensions in mm (inch))

| ① | Optical axis, receiver |
| ② | Optical axis, sender |
| ③ | Mounting holes M3 |
| ④ | LED indicator green: Supply voltage active |
| ⑤ | LED indicator yellow: Status of received light beam |
| ⑥ | Light/ dark rotary switch: L = light switching, D = dark switching |

Recommended accessories
Other models and accessories → www.sick.com/G6

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal bar clamp systems</td>
<td>BEF-KHS-IG6</td>
<td>2075080</td>
</tr>
<tr>
<td>Clamp bar to fix G6 and W16 sensors on rods of 10 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar mounting and clamp function, mounting bracket, mounting hardware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brief description</td>
<td>Type</td>
<td>Part no.</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Device protection (mechanical)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless steel 1.4301 (SVS 304), 3 mm thick protective sleeve for G6, stainless steel 1.4301, mounting hardware included</td>
<td>BEF-SG-G6-01</td>
<td>2069044</td>
</tr>
<tr>
<td><strong>Mounting brackets and plates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless steel (1.4301)</td>
<td>BEF-WN-G6</td>
<td>2062909</td>
</tr>
<tr>
<td><strong>Plug connectors and cables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m</td>
<td>YF8U14-020VA3XLEAX</td>
<td>2095888</td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m</td>
<td>YF8U14-050VA3XLEAX</td>
<td>2095889</td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m</td>
<td>YG8U14-020VA3XLEAX</td>
<td>2095962</td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m</td>
<td>YG8U14-050VA3XLEAX</td>
<td>2095963</td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded</td>
<td>DOS-0804-G</td>
<td>6009974</td>
</tr>
<tr>
<td>Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded</td>
<td>DOS-0804-W</td>
<td>6009975</td>
</tr>
<tr>
<td>Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded</td>
<td>STE-0804-G</td>
<td>6037323</td>
</tr>
<tr>
<td><strong>Masks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slit mask, vertical slots, slot width: 1.0 mm, 2 pieces, black, Aluminum, Slit mask (2 pieces)</td>
<td>BEF-SLIT MASK-G6</td>
<td>2075254</td>
</tr>
</tbody>
</table>
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.

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