



WL4S-3P1032HS02  
W4

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type            | part no. |
|-----------------|----------|
| WL4S-3P1032HS02 | 1089545  |

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

Detailed technical data

Features

|                                    |                            |                                                                     |
|------------------------------------|----------------------------|---------------------------------------------------------------------|
| <b>Functional principle</b>        |                            | Photoelectric retro-reflective sensor                               |
| <b>Functional principle detail</b> |                            | Without reflector minimum distance (autocollimation/coaxial optics) |
| <b>Sensing range max.</b>          |                            | 0 m ... 5 m <sup>1)</sup>                                           |
| <b>Sensing range</b>               |                            | 0 m ... 3 m <sup>1)</sup>                                           |
| <b>Polarisation filter</b>         |                            | Yes                                                                 |
| <b>Emitted beam</b>                |                            |                                                                     |
|                                    | Light source               | PinPoint LED <sup>2)</sup>                                          |
|                                    | Type of light              | Visible red light                                                   |
|                                    | Light spot size (distance) | Ø 45 mm (1.5 m)                                                     |
| <b>Key LED figures</b>             |                            |                                                                     |
|                                    | Wave length                | 650 nm                                                              |
| <b>Adjustment</b>                  |                            | Single teach-in button                                              |
| <b>Special features</b>            |                            | Connection cable 2 m                                                |
| <b>Special applications</b>        |                            | Hygienic and washdown zones                                         |
| <b>Housing design</b>              |                            | Hygiene                                                             |

<sup>1)</sup> Reflector PL80A.  
<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Electronics

|                                        |                                                       |
|----------------------------------------|-------------------------------------------------------|
| <b>Supply voltage <math>U_B</math></b> | 10 V DC ... 30 V DC <sup>1)</sup>                     |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub> <sup>2)</sup>                     |
| <b>Current consumption</b>             | 30 mA <sup>3)</sup>                                   |
| <b>Protection class</b>                | III                                                   |
| <b>Digital output</b>                  |                                                       |
| Type                                   | PNP                                                   |
| Switching mode                         | Light/dark switching                                  |
| Output current $I_{max}$               | ≤ 100 mA                                              |
| Response time                          | < 0.5 ms <sup>4)</sup>                                |
| Switching frequency                    | 1,000 Hz <sup>5)</sup>                                |
| <b>Circuit protection</b>              | A <sup>6)</sup><br>B <sup>7)</sup><br>C <sup>8)</sup> |
| <b>Special feature</b>                 | M12 adapter thread                                    |

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed  $U_V$  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> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

## Mechanics

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Housing</b>                | Rectangular                               |
| <b>Design detail</b>          | Slim                                      |
| <b>Dimensions (W x H x D)</b> | 15.25 mm x 63.2 mm x 22.15 mm             |
| <b>Connection</b>             | Cable, 4-wire, 5 m <sup>1)</sup>          |
| <b>Connection detail</b>      |                                           |
| Conductor size                | 0.14 mm <sup>2</sup>                      |
| Length of cable (L)           | 5 m <sup>1)</sup>                         |
| <b>Material</b>               |                                           |
| Housing                       | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen                  | Plastic, PMMA                             |
| Cable                         | Plastic, PVC                              |
| <b>Weight</b>                 | 125 g                                     |

<sup>1)</sup> Do not bend below 0 °C.

## Ambient data

|                         |                               |
|-------------------------|-------------------------------|
| <b>Enclosure rating</b> | IP66<br>IP67<br>IP68<br>IP69K |
|-------------------------|-------------------------------|

<sup>1)</sup> At  $UV \leq 24$  V and  $IA < 30$  mA.

|                                      |                                                      |
|--------------------------------------|------------------------------------------------------|
| <b>Ambient operating temperature</b> | -30 °C ... +70 °C <sup>1)</sup><br>-30 °C ... +60 °C |
| <b>Ambient temperature, storage</b>  | -30 °C ... +75 °C                                    |
| <b>UL File No.</b>                   | FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493     |

<sup>1)</sup> At UV ≤ 24 V and IA < 30 mA.

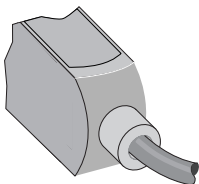
### Certificates

|                                                          |   |
|----------------------------------------------------------|---|
| <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>ECOLAB certificate</b>                                | ✓ |
| <b>Photobiological safety (DIN EN 62471) certificate</b> | ✓ |

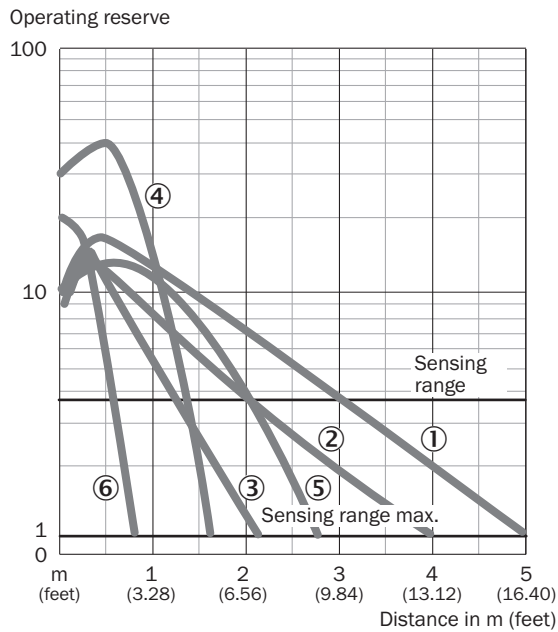
### Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270902 |
| <b>ECLASS 5.1.4</b>   | 27270902 |
| <b>ECLASS 6.0</b>     | 27270902 |
| <b>ECLASS 6.2</b>     | 27270902 |
| <b>ECLASS 7.0</b>     | 27270902 |
| <b>ECLASS 8.0</b>     | 27270902 |
| <b>ECLASS 8.1</b>     | 27270902 |
| <b>ECLASS 9.0</b>     | 27270902 |
| <b>ECLASS 10.0</b>    | 27270902 |
| <b>ECLASS 11.0</b>    | 27270902 |
| <b>ECLASS 12.0</b>    | 27270902 |
| <b>ETIM 5.0</b>       | EC002717 |
| <b>ETIM 6.0</b>       | EC002717 |
| <b>ETIM 7.0</b>       | EC002717 |
| <b>ETIM 8.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection type

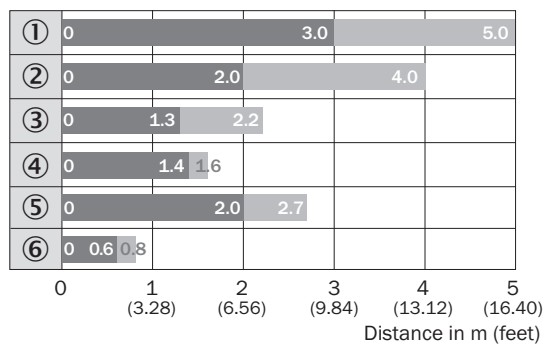


## Characteristic curve WL4S-3, WLG4S-3, 5 m



- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflector P250 CHEM
- ⑥ Reflective tape REF-IRF-56

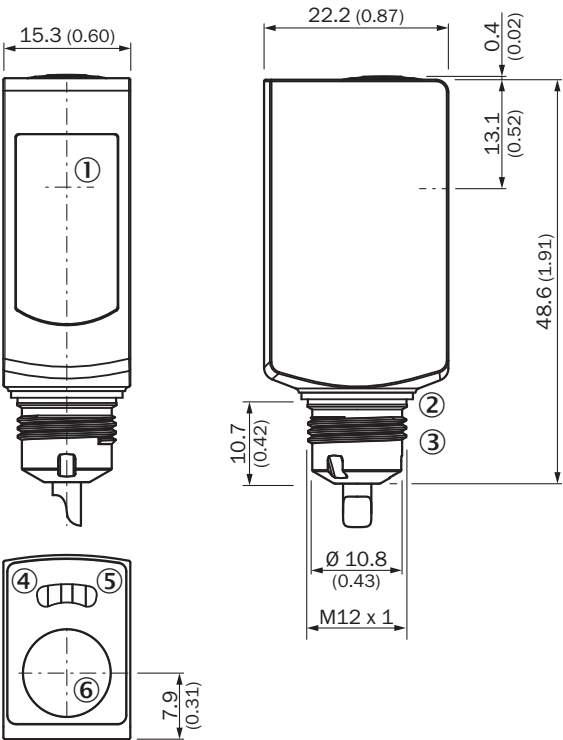
## Sensing range diagram WL4S-3, WLG4S-3, 5 m



- Sensing range
- Sensing range max.

- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
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- ⑥ Reflective tape REF-IRF-56

Dimensional drawing WL4S-3H, WLG4S-3H, with single teach-in button



Dimensions in mm (inch)

- ① Center of optical axis
- ② Sealing ring (tightening torque 6 Nm)
- ③ Connector M12
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Teach-in button

Recommended accessories

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                            | Type      | part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|
| reflectors and optics                                                               |                                                                                                                                                                                                                                                                                                              |           |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, PMMA front screens</li><li>• <b>Dimensions:</b> 25 mm</li><li>• <b>Ambient operating temperature:</b> -20 °C ... +60 °C</li></ul> | PLH25-M12 | 2063403  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                    | Type       | part no. |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                                      |            |          |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 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> 0.14 mm² ... 0.5 mm²</li> </ul> | STE-0804-G | 6037323  |
|  | <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)