



# DS500-N611

Dx500

**LONG RANGE DISTANCE SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

| Type       | Part no. |
|------------|----------|
| DS500-N611 | 1040484  |

Other models and accessories → [www.sick.com/Dx500](http://www.sick.com/Dx500)



### Detailed technical data

#### Performance

|  |   |
|--|---|
| <b>Measuring range</b>                 | 0.2 m ... 70 m, 90 % remission <sup>1) 2)</sup><br>0.2 m ... 30 m, 6 % remission <sup>1) 2)</sup> |
| <b>Resolution</b>                      | ≤ 1 mm  |
| <b>Accuracy</b>                        | ± 3 mm  |
| <b>Response time</b>                   | 150 ms ... 6,000 ms   |
| <b>Light source</b>                    | Laser, red <sup>3)</sup>  |
| <b>Laser class</b>                     | 2 (EN 60825/21 CFR 1.040)   |
| <b>Typ. light spot size (distance)</b> | 10 mm (at 7 m)<br>45 mm (at 30 m)<br>100 mm (at 70 m)   |

<sup>1)</sup> In ambient light, max. 1 klx of constant light.

<sup>2)</sup> Unique up to 150 m.

<sup>3)</sup> Average service life of 50,000 h at T<sub>A</sub> = +25 °C.

#### Interfaces

|                                   |                              |
|-----------------------------------|------------------------------|
| <b>Switching output</b>           | NPN (< 100 mA) <sup>1)</sup> |
| <b>Multifunctional input (MF)</b> | < 2 V <sup>2) 3)</sup>       |
| <b>Hysteresis</b>                 | ± 6 %                        |

<sup>1)</sup> PNP: HIGH = V<sub>S</sub> - (< 2.5 V) / LOW = < 2.5 V; NPN: HIGH = < 2.5 V / LOW = V<sub>S</sub>.

<sup>2)</sup> Refer to function MF input.

<sup>3)</sup> NPN < 2 V.

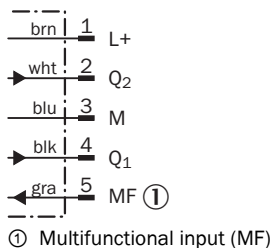
#### Mechanics/electronics

|                                     |   |
|-------------------------------------|---|
| <b>Supply voltage V<sub>S</sub></b> | DC 10 V ... 30 V, reverse polarity protected<br>U <sub>V</sub> ≥ DC 24 V for devices with heating |
| <b>Ripple</b>                       | 5 V <sub>pp</sub> <sup>1)</sup>   |
| <b>Power consumption</b>            | Typ. 22 W   |
| <b>Initialization time</b>          | 500 ms  |
| <b>Connection type</b>              | Male connector, M12, 5-pin  |
| <b>Weight</b>                       | 1,000 g   |

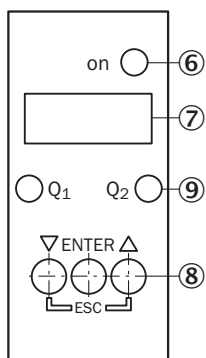
<sup>1)</sup> May not fall short of or exceed V<sub>S</sub> tolerances.



### Connection diagram



### Adjustment possible



- ⑥ Operating indicator
- ⑦ Indicator panel, 7-segment display
- ⑧ Control panel
- ⑨ Switching output display

### Functional principle

Additional information

#### Extern Teach ET via MF ①

| Teach-in       | MF active | Model  |
|----------------|-----------|--|
| Q <sub>1</sub> | 100 ms    | Current measurement value is used as switching threshold |
| $\bar{Q}_1$    | 200 ms    |  |
| Q <sub>2</sub> | 300 ms    |  |
| $\bar{Q}_2$    | 400 ms    |  |
| Laser off      | > 450 ms  |  |

① Multi functional input.

#### Error performance or no object in measurement range

##### Measurement not possible

| Measurement value output display | Switching outputs                               |
|----------------------------------|---|
| 0.000                            | Switching stage $\hat{=}$ measurement value 0 m |

##### No object in measurement range or laser off

| Measurement value output display | Switching outputs                                   |
|----------------------------------|---|
| 99.99                            | Switching stage $\hat{=}$ measurement value 99.99 m |

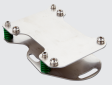

Function MF input

## Function MF input

|           |             |                      |
|-----------|-------------|----------------------|
| Teach in  | $Q_1$       | 60 ms < MF < 150 ms  |
| Teach in  | $\bar{Q}_1$ | 150 ms < MF < 250 ms |
| Teach in  | $Q_2$       | 250 ms < MF < 350 ms |
| Teach in  | $\bar{Q}_2$ | 350 ms < MF < 450 ms |
| Laser off | -           | 450 ms < MF < ∞      |

## Recommended accessories

Other models and accessories → [www.sick.com/Dx500](http://www.sick.com/Dx500)

|  | Brief description  | Type          | Part no. |
|--|--|---------------|----------|
| <b>Terminal and alignment brackets</b>   |  |               |          |
|   | Alignment unit for DS/DT500, stainless steel (1.4541), incl. mounting material, mounting hardware included | BEF-DSDT      | 2031377  |
| <b>Plug connectors and cables</b>  |  |               |          |
|  | Head A: female connector, M12, 5-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 2 m             | DOL-1205-G02M | 6008899  |
|  | Head A: female connector, M12, 5-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 5 m             | DOL-1205-G05M | 6009868  |
|  | Head A: female connector, M12, 5-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 10 m            | DOL-1205-G10M | 6010544  |

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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)