



# DT500-A323

Dx500

LONG RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type       | Part no. |
|------------|----------|
| DT500-A323 | 1040470  |

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



## Detailed technical data

## Mechanics/electronics

|                                        |                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Supply voltage <math>V_s</math></b> | DC 10 V ... 30 V, reverse polarity protected<br>$U_V \geq$ DC 24 V for devices with heating |
| <b>Ripple</b>                          | 5 V <sub>pp</sub> <sup>1)</sup>                                                             |
| <b>Power consumption</b>               | Typ. 3 W                                                                                    |
| <b>Initialization time</b>             | 500 ms                                                                                      |
| <b>Connection type</b>                 | Male connector, M12, 8-pin                                                                  |
| <b>Weight</b>                          | 1,000 g                                                                                     |
| <b>Enclosure rating</b>                | IP65                                                                                        |
| <b>Protection class</b>                | II <sup>2)</sup>                                                                            |

<sup>1)</sup> May not fall short of or exceed  $V_s$  tolerances.

<sup>2)</sup> Reference voltage DC 32 V.

## Performance

|                                        |                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measuring range</b>                 | 0.2 m ... 7 m, 90 % remission <sup>1) 2)</sup><br>0.8 m ... 7 m, 6 % remission <sup>1) 2)</sup>                                                                |
| <b>Target</b>                          | Natural objects                                                                                                                                                |
| <b>Resolution</b>                      | $\leq 0.1$ mm                                                                                                                                                  |
| <b>Repeatability</b>                   | 1 mm <sup>3) 4)</sup>                                                                                                                                          |
| <b>Accuracy</b>                        | $\pm 3$ mm                                                                                                                                                     |
| <b>Response time</b>                   | 150 ms                                                                                                                                                         |
| <b>Output time</b>                     | 150 ms                                                                                                                                                         |
| <b>Light source</b>                    | Laser, red <sup>5)</sup>                                                                                                                                       |
| <b>Laser class</b>                     | 2, complies with 21 CFR 1040.10 and 1040.11 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014) |
| <b>Typ. light spot size (distance)</b> | 10 mm (at 7 m)<br>45 mm (at 30 m)                                                                                                                              |

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

<sup>2)</sup> Unique up to 7 m.

<sup>3)</sup> 6 % ... 90 % remission.

<sup>4)</sup> Statistical error 1  $\sigma$ .

<sup>5)</sup> Average service life of 50,000 h at  $T_A = +25$  °C.

|  |                  |
|--|------------------|
|  | 100 mm (at 70 m) |
|--|------------------|

- 1) In ambient light, max. 1 klx of constant light.  
 2) Unique up to 7 m.  
 3) 6 % ... 90 % remission.  
 4) Statistical error 1  $\sigma$ .  
 5) Average service life of 50,000 h at  $T_A = +25\text{ }^{\circ}\text{C}$ .

## Interfaces

|                        |         |
|------------------------|---------|
| <b>CAN</b>             | ✓       |
| Remark                 | Layer 2 |
| <b>Laser-off input</b> | > 12 V  |

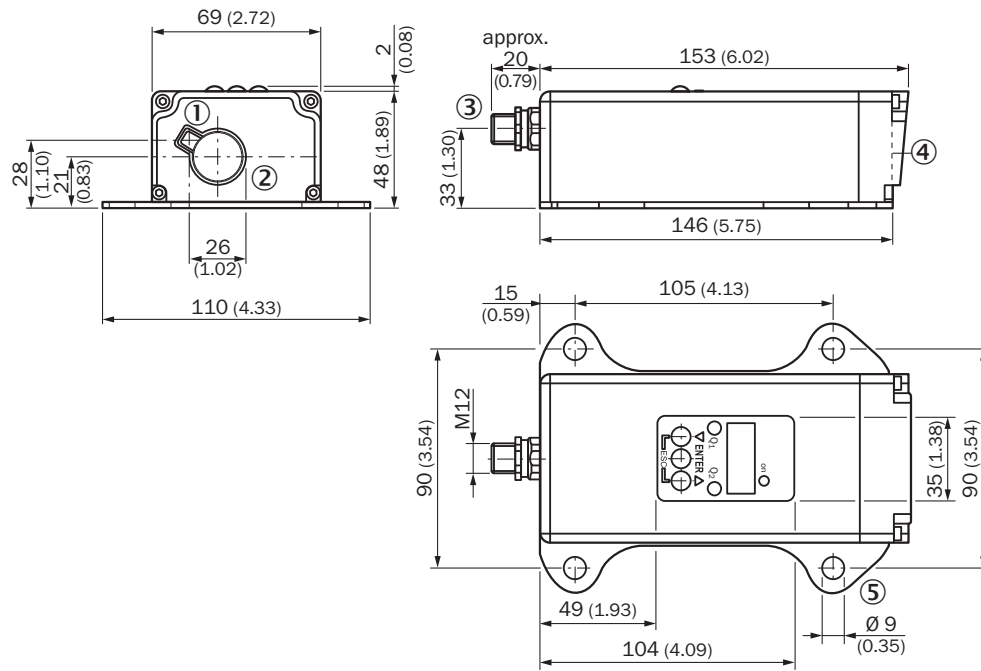
## Ambient data

|                                            |                                                                                     |
|--------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 61000-6-2, EN 55011<br>EN 60947-5-7: 2003-9                                      |
| <b>Ambient temperature operation</b>       | -10 °C ... +45 °C<br>-10 °C ... +75 °C, operation with cooling case                 |
| <b>Ambient storage temperature</b>         | -25 °C ... +75 °C                                                                   |
| <b>Temperature drift</b>                   | Typ. 0.05 mm/K                                                                      |
| <b>Typ. Ambient light immunity</b>         | ≤ 3,000 lx                                                                          |
| <b>Mechanical load</b>                     | Shock: (EN 600 68-2-27 / -2-29)<br>Sine: (EN 600 68-2-6)<br>Noise: (EN 600 68-2-64) |

## Classifications

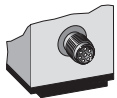
|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27270801 |
| <b>ECI@ss 5.1.4</b>   | 27270801 |
| <b>ECI@ss 6.0</b>     | 27270801 |
| <b>ECI@ss 6.2</b>     | 27270801 |
| <b>ECI@ss 7.0</b>     | 27270801 |
| <b>ECI@ss 8.0</b>     | 27270801 |
| <b>ECI@ss 8.1</b>     | 27270801 |
| <b>ECI@ss 9.0</b>     | 27270801 |
| <b>ETIM 5.0</b>       | EC001825 |
| <b>ETIM 6.0</b>       | EC001825 |
| <b>UNSPSC 16.0901</b> | 41111613 |

### Dimensional drawing (Dimensions in mm (inch))

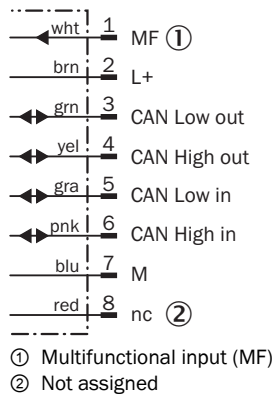


### Connection type

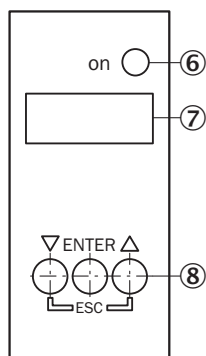
DT500-Axx3 CAN (Layer 2) Connector M12, 8-pin



### Connection diagram



## Adjustment possible



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

## Functional principle

Additional information

### Extern Teach ET via MF ①

| Teach-in  | MF active | Model                             |
|-----------|-----------|-----------------------------------|
| 0 mA      | 100 ms    | Current measurement value is used |
| 4 mA      | 200 ms    |                                   |
| 20 mA     | 300 ms    |                                   |
| Laser off | > 450 ms  |                                   |

① Multi functional input.

### Error performance or no object in measurement range

#### Measurement not possible

| Measurement value output display | Analog interface | CAN Bus | Serial interface |
|----------------------------------|------------------|---------|------------------|
| 0.000                            | 0/3.5 mA         | 00000   | 00000 CRLF       |

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

| Measurement value output display | Analog interface | CAN Bus | Serial interface |
|----------------------------------|------------------|---------|------------------|
| 99.99                            | 20.5 mA          | 99999   | 99999 CRLF       |

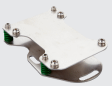
Function MF input

## Function MF input

|           |       |                      |
|-----------|-------|----------------------|
| Teach in  | 0 mA  | 60 ms < MF < 150 ms  |
| Teach in  | 4 mA  | 150 ms < MF < 250 ms |
| Teach in  | 20 mA | 250 ms < MF < 350 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. |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Terminal and alignment brackets                                                   |                                                                                                                                        |                    |          |
|  | Alignment unit for DS/DT500, stainless steel (1.4541), incl. mounting material, mounting hardware included                             | BEF-DSDT           | 2031377  |
| Plug connectors and cables                                                        |                                                                                                                                        |                    |          |
|  | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m  | YF2A15-020VB5XLEAX | 2096239  |
|                                                                                   | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m  | YF2A15-050VB5XLEAX | 2096240  |
|                                                                                   | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 10 m | YF2A15-100VB5XLEAX | 2096241  |

## Recommended services

Additional services → [www.sick.com/Dx500](http://www.sick.com/Dx500)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type                        | Part no. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------|
| Warranty extensions                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Identification solutions, Vision, Distance sensors, Detection and ranging solutions</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase), Long-term protection for calculable lump sum.</li> <li>• <b>Duration:</b> Five-year warranty from date of purchase.</li> </ul> | Five-year extended warranty | 1680671  |

## 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)