

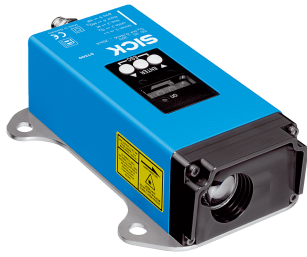


# DT500-A311

Dx500

**LONG RANGE DISTANCE SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
DT500-A311	1040475

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



### Detailed technical data

#### Performance

<b>Measuring range</b>	0.2 m ... 7 m, 90 % remission <sup>1) 2)</sup> 0.8 m ... 7 m, 6 % remission <sup>1) 2)</sup>
<b>Resolution</b>	12 bit
<b>Repeatability</b>	1 mm <sup>3) 4)</sup>
<b>Accuracy</b>	± 3 mm <sup>3)</sup>
<b>Output time</b>	150 ms
<b>Light source</b>	Laser, red <sup>5)</sup>
<b>Laser class</b>	2 (EN 60825/21 CFR 1.040)
<b>Typ. light spot size (distance)</b>	10 mm (at 7 m) 45 mm (at 30 m) 100 mm (at 70 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  $T_A = +25 \text{ }^\circ\text{C}$ .

#### Interfaces

<b>Analog output</b>	0 mA ... 20 mA / 4 mA ... 20 mA ( $V_S - 2 \text{ V} / 0.0205 \text{ A}$ ) <sup>1)</sup>
<b>Multifunctional input (MF)</b>	> 12 V <sup>2)</sup>
<b>Laser-off input</b>	> 12 V
<b>Data interface</b>	Q <sub>A</sub>

<sup>1)</sup> Max. load =  $U_V - 2 \text{ V} / 0.0205 \text{ A}$ .

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

#### Mechanics/electronics

<b>Supply voltage <math>V_S</math></b>	DC 10 V ... 30 V, reverse polarity protected $U_V \geq \text{DC } 24 \text{ V}$ for devices with heating
<b>Ripple</b>	5 V <sub>pp</sub> <sup>1)</sup>
<b>Power consumption</b>	Typ. 3 W

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

<b>Initialization time</b>	500 ms
<b>Connection type</b>	Male connector, M12, 5-pin
<b>Weight</b>	1,000 g

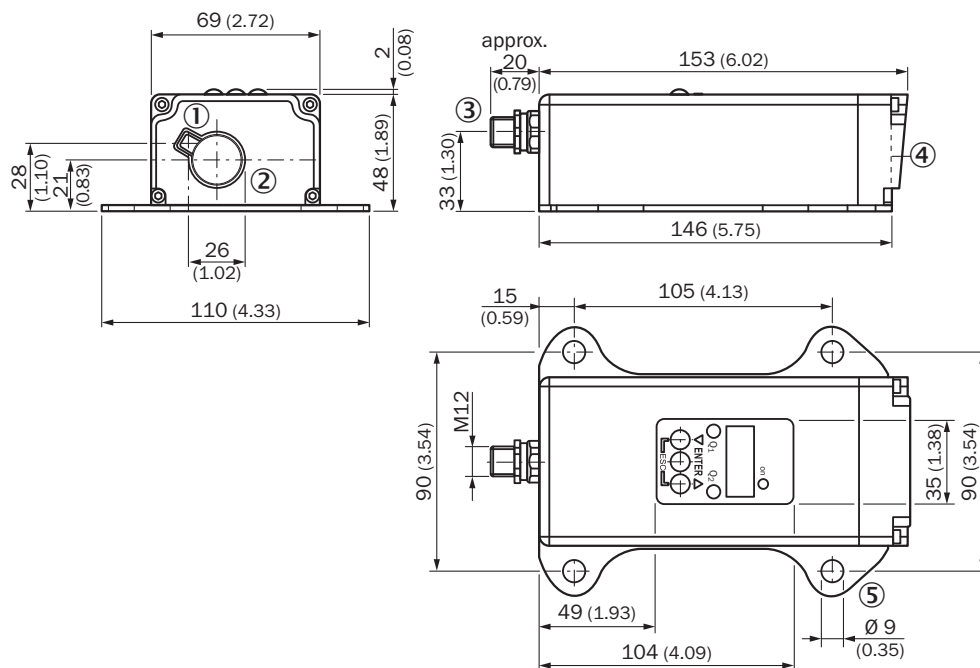
<sup>1)</sup> May not fall short of or exceed  $V_S$  tolerances.

### Ambient data

<b>Enclosure rating</b>	IP 65
<b>Protection class</b>	II <sup>1)</sup>
<b>Electromagnetic compatibility (EMC)</b>	EN 61000-6-2, EN 55011 EN 60947-5-7: 2003-9
<b>Ambient temperature</b>	Operation: -10 °C ... +45 °C Operation with cooling case: -10 °C ... +75 °C Storage: -25 °C ... +75 °C
<b>Temperature drift</b>	Typ. 0.05 mm/K
<b>Mechanical load</b>	Shock: EN 600 68-2-27 / -2-29 Sine: EN 600 68-2-6 Noise: EN 600 68-2-64

<sup>1)</sup> Reference voltage DC 32 V.

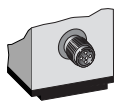
### Dimensional drawing (Dimensions in mm (inch))



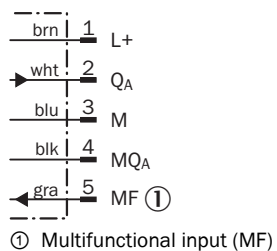
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Male connector M12, 5-pin
- ④ Zero level
- ⑤ Fixing hole

## Connection type

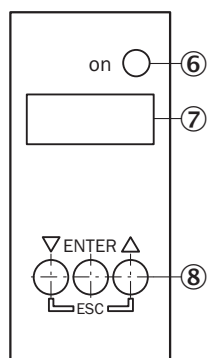
Male connector M12, 5-pin



## 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

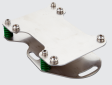

Function MF input

## 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.
<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 Head B: cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-1205-G05M	6009868

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## LONG RANGE DISTANCE SENSORS

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 10 m	DOL-1205-G10M	6010544

## 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.”

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