



# DT500-A111

Dx500

LONG RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
DT500-A111	1026515

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



### Detailed technical data

#### Performance

<b>Measuring range</b>	0.2 m ... 30 m, 90 % remission <sup>1) 2)</sup> 0.8 m ... 15 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>	250 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 150 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 $U_S \geq \text{DC } 24 \text{ V}$ 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

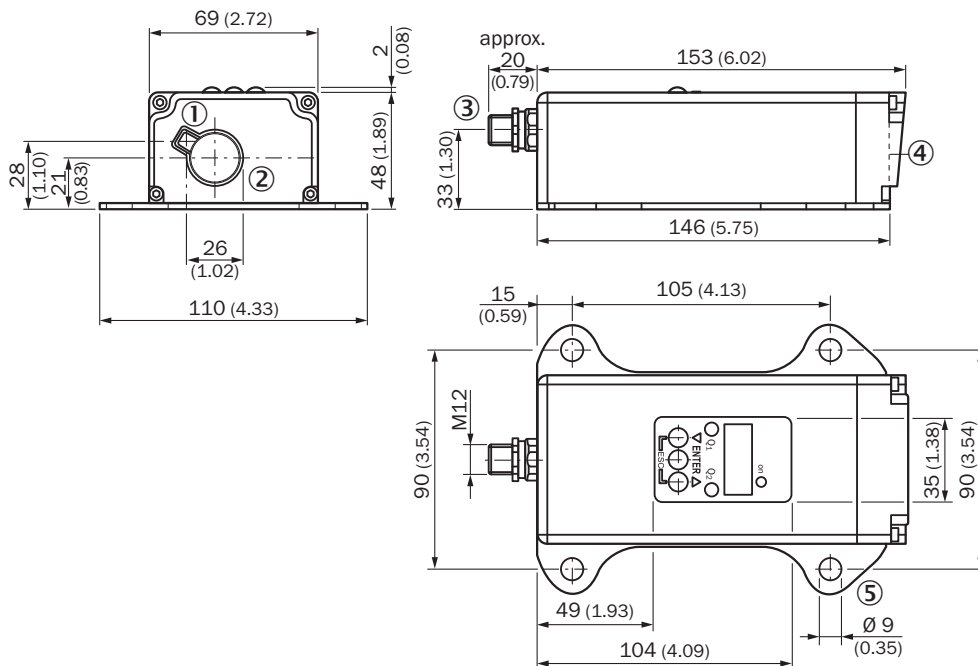
<sup>1)</sup> May not fall short of or exceed V<sub>S</sub> tolerances.

### 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.

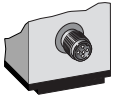
### Dimensional drawing (dimensions in mm (inch))



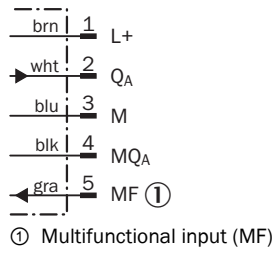
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Connector M12, 5-pin
- ④ Zero level
- ⑤ Mounting hole

## Connection type

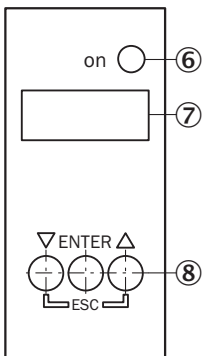
Connector M12, 5-pin



## Connection diagram



## Adjustment possible



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

## Functional principle

### 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

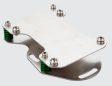

Measurement value output display	Analog interface	CAN Bus	Serial interface
99.99	20.5 mA	99999	99999 CRLF


## Function MF input

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.de/Dx500](http://www.sick.de/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
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: PVC, unshielded, 10 m	DOL-1205-G10M	6010544

	Brief description	Type	Part no.
	Head A: female connector, M12, 8-pin, straight Head B: Cable Cable: PUR, halogen-free, shielded, 2 m	DOL-1208-G02MAH1	6032448
	Head A: female connector, M12, 8-pin, straight Head B: Cable Cable: PUR, halogen-free, shielded, 5 m	DOL-1208-G05MAH1	6032449
	Head A: female connector, M12, 8-pin, straight Head B: Cable Cable: PUR, halogen-free, shielded, 10 m	DOL-1208-G10MAH1	6032450

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