



Long range distance sensors  
Dx500, DT500

DT500-A223



**Model Name** > [DT500-A223](#)  
**Part No.** > [1040469](#)



**At a glance**

- Measurement range 0.2 m ... 70 m
- One analog output, RS-422 or CAN
- Highest measurement resolution, repeatability and accuracy without a reflector
- Simple adjustment using red laser light
- Metal housing with integrated heating option for cold store applications
- Weather protection housing optional
- Alignment bracket optional

**Your benefits**

- High-precision measurement reliably indicates product position for exact machine control, reducing scrap and increasing throughput
- Red laser light as well as adjustable mounting brackets (optional accessory) enable fast and easy alignment, ensuring on-time and cost-effective installation
- A tough metal housing with internal heating ensures reliability in rough ambient conditions, such as cold store warehouses
- User-friendly display with easy-to-use menu along with external PC/PLC programming offers fast and cost-efficient setup
- Serial interfaces or an analog output offer flexible integration into application
- Wide measurement range of 0.2 m to 70 m enables automated measurement on natural targets where reflectors can't be used



**Performance**

Measurement range:	0.2 m ... 18 m, 6 % remission 0.2 m ... 30 m, 90 % remission
Resolution:	≤ 0.1 mm
Repeatability <sup>1) 2)</sup> :	1 mm
Accuracy <sup>3)</sup> :	± 3 mm
Light source <sup>4)</sup> :	Laser, red
Typ. light spot size (distance):	10 mm (at 7 m) 100 mm (at 70 m) 45 mm (at 30 m)
Output rate:	250 ms
Laser class:	2 (EN 60825/21 CFR 1.040)

<sup>1) 3)</sup> 6 % ... 90 % remission    <sup>2)</sup> Statistical error 1  $\sigma$     <sup>4)</sup> Average service life of 50,000 h at T<sub>A</sub> = +25 °C

## Interfaces

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Data interface:	CAN (Layer 2)
Resolution CAN:	0.1 mm
CAN address:	11 bit, setup via display
Laser off input:	> 12 V

## Mechanics/electronics

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Supply voltage $V_s$ :	DC 10 V ... 30 V, reverse polarity protected, $U_s \geq$ DC 24 V for devices with heating
Ripple <sup>1)</sup> :	5 Vpp
Initialization time:	500 ms
Weight:	1,000 g
Power consumption:	Typ. 22 W
Connection type:	Male connector, M12, 8-pin

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

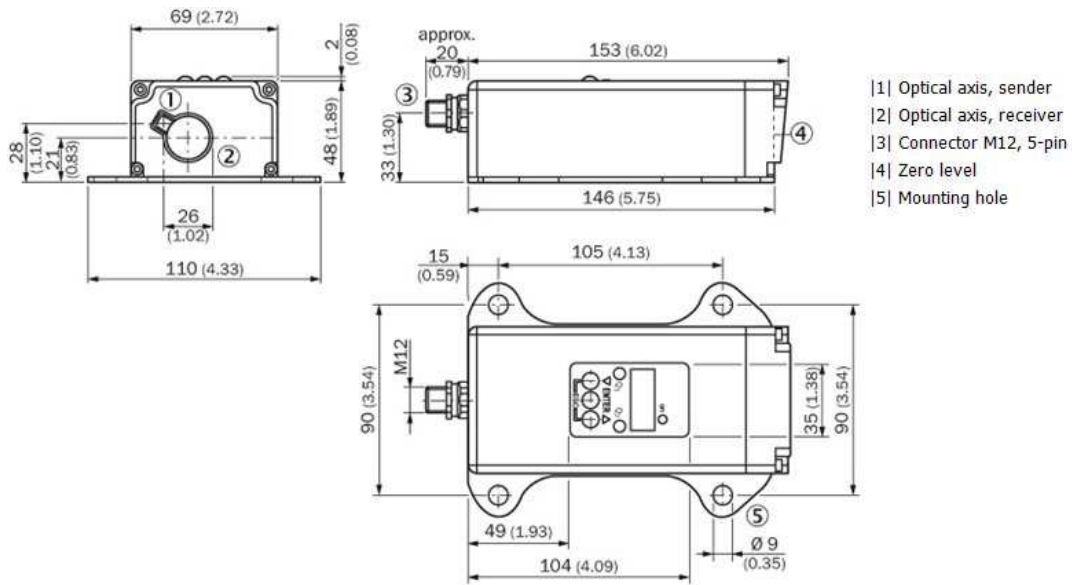
## Ambient data

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Enclosure rating:	IP 65
Protection class <sup>1)</sup> :	II
Temperature drift:	Typ. 0.05 mm/K
Ambient temperature:	Storage: -25 ... +75 °C Operation with heating: -40 ... +50 °C Operation with cooling case: -40 ... +75 °C
Mechanical load:	Noise: EN 600 68-2-64 Shock: EN 600 68-2-27/-2-29 Sine: EN 600 68-2-6
Electromagnetic compatibility (EMC):	EN 61000-6-2, EN 55011/EN 60947-5-7: 2003-9

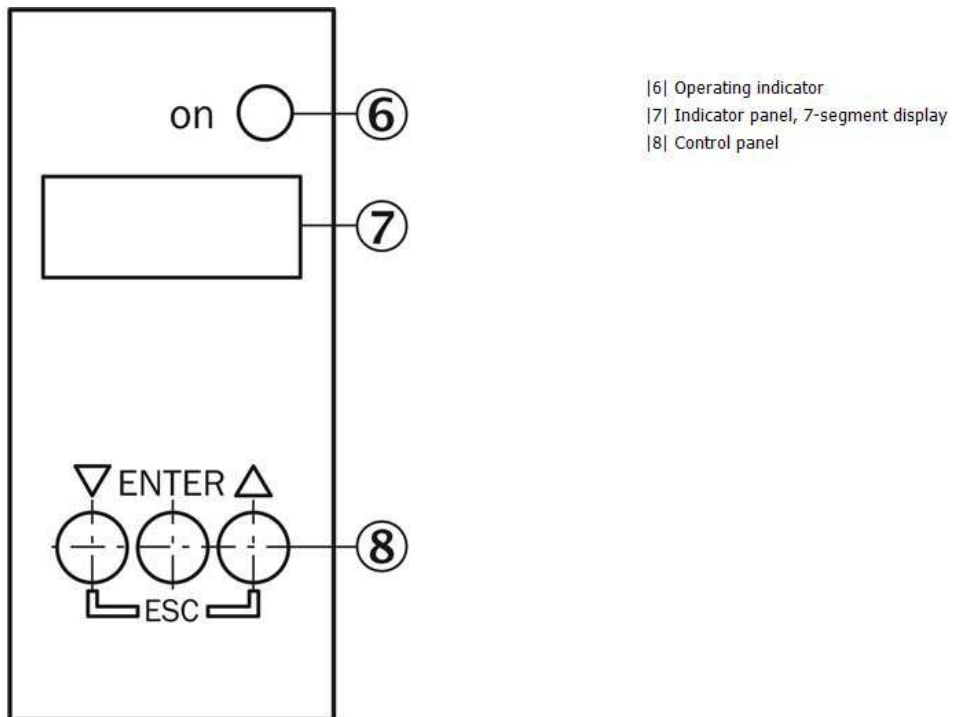
<sup>1)</sup> Reference voltage DC 32 V

## Dimensional drawing



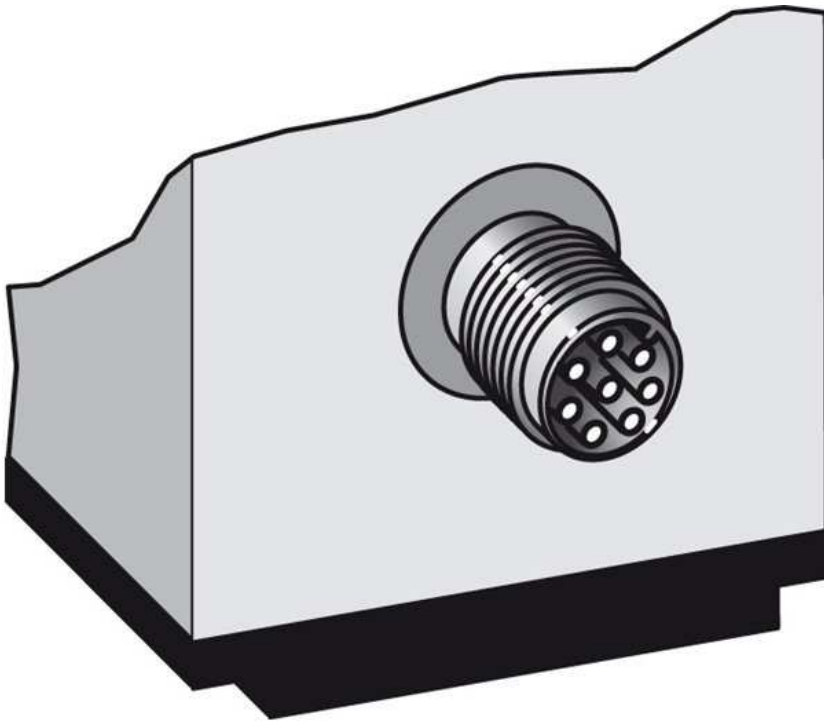
- |1| Optical axis, sender
- |2| Optical axis, receiver
- |3| Connector M12, 5-pin
- |4| Zero level
- |5| Mounting hole

## Adjustment possible

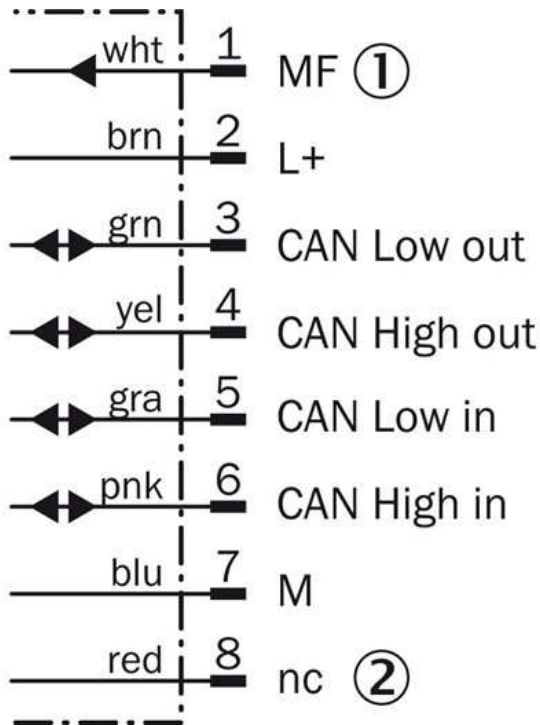


- |6| Operating indicator
- |7| Indicator panel, 7-segment display
- |8| Control panel

Connection type



Connection diagram



[1] Multifunctional input (MF)  
 [2] not connected

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 < ∞

## 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

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