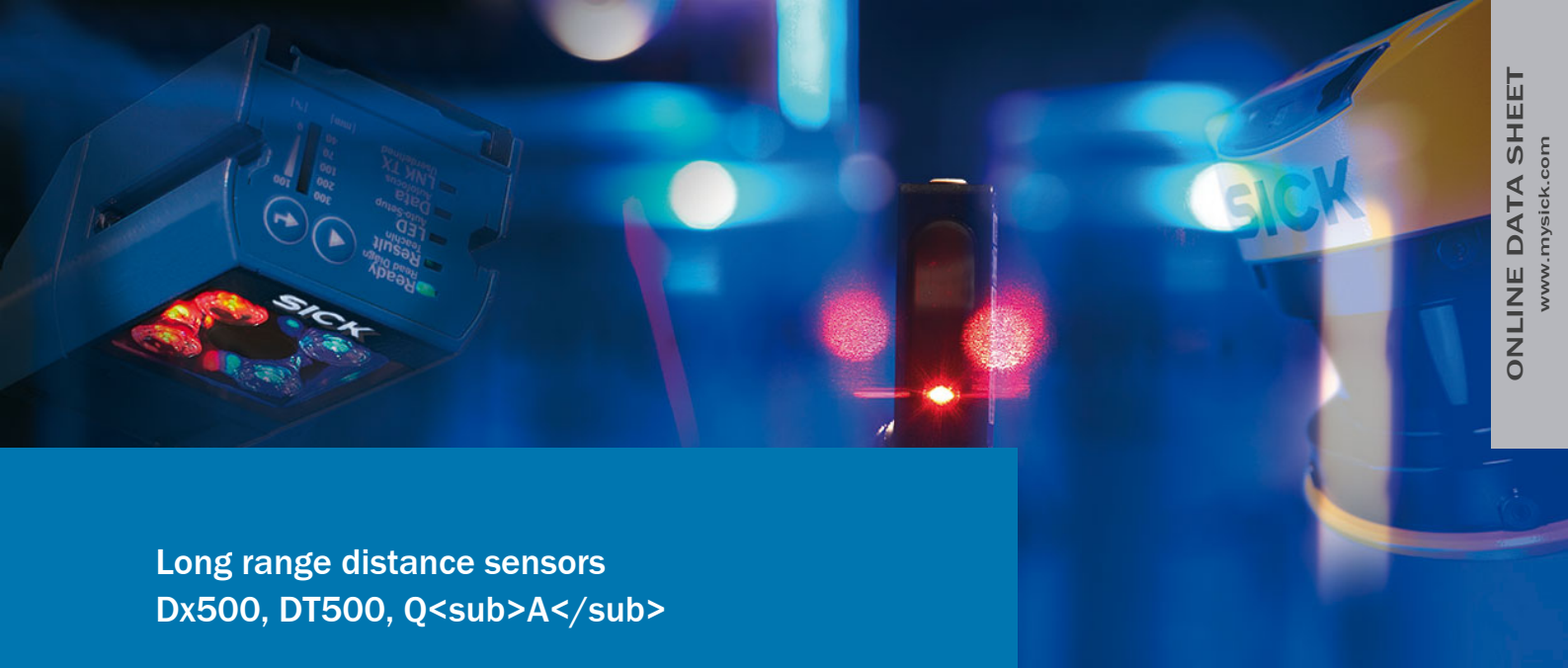




Long range distance sensors Dx500, DT500, Q_A

DT500-A311



Model Name > **DT500-A311**
Part No. > **1040475**

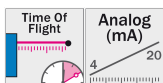


At a glance

- 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

Measuring range ¹⁾ :	0.2 m ... 7 m, 6 % ... 90 % remission
Resolution:	12 bit
Repeatability ^{2), 3)} :	1 mm
Accuracy ⁴⁾ :	± 3 mm
Light source ⁵⁾ :	Laser, red
Typ. light spot size (distance):	10 mm (at 7 m) 100 mm (at 70 m) 45 mm (at 30 m)
Output rate:	150 ms
Laser class:	2 (EN 60825/21 CFR 1.040)

¹⁾ Unique up to 7 m ^{2) 4)} 6 % ... 90 % remission ³⁾ Statistical error 1 σ ⁵⁾ Average service life of 50,000 h at T_A = +25 °C

Interfaces

Data interface:	Q _A
Analog output:	0 mA ... 20 mA/4 mA ... 20 mA (VS-2 V/0.0205 A) ¹⁾
Laser off input:	> 12 V
Multifunctional input (MF) ²⁾ :	> 12 V

¹⁾ Max. load = $U_V - 2 \text{ V} / 0.0205 \text{ A}$ ²⁾ Refer to function MF input

Mechanics/electronics

Supply voltage Vs:	DC 10 V ... 30 V, reverse polarity protected, $U_s \geq \text{DC } 24 \text{ V}$ for devices with heating
Ripple ¹⁾ :	5 Vpp
Initialization time:	500 ms
Weight:	1,000 g
Power consumption:	Typ. 3 W
Connection type:	Connector M12, 5-pin

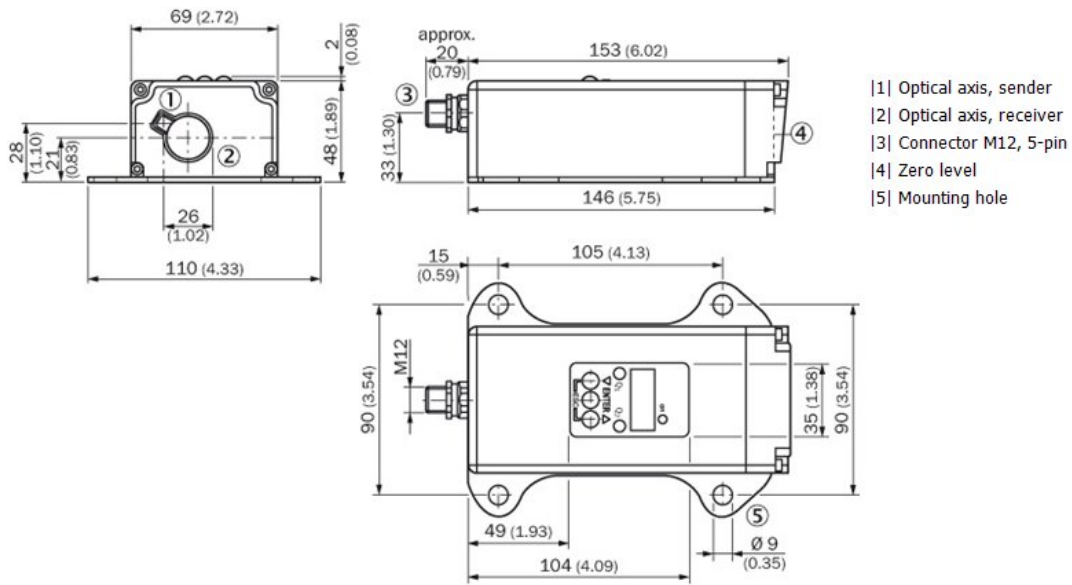
¹⁾ May not fall short of or exceed V_s tolerances

Ambient data

Enclosure rating:	IP 65
Protection class ¹⁾ :	II
Temperature drift:	Typ. 0.05 mm/K
Ambient temperature:	Operation: -10 ... 50 °C Operation with cooling case: -10 ... 75 °C Storage: -25 ... 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

¹⁾ Reference voltage DC 32 V

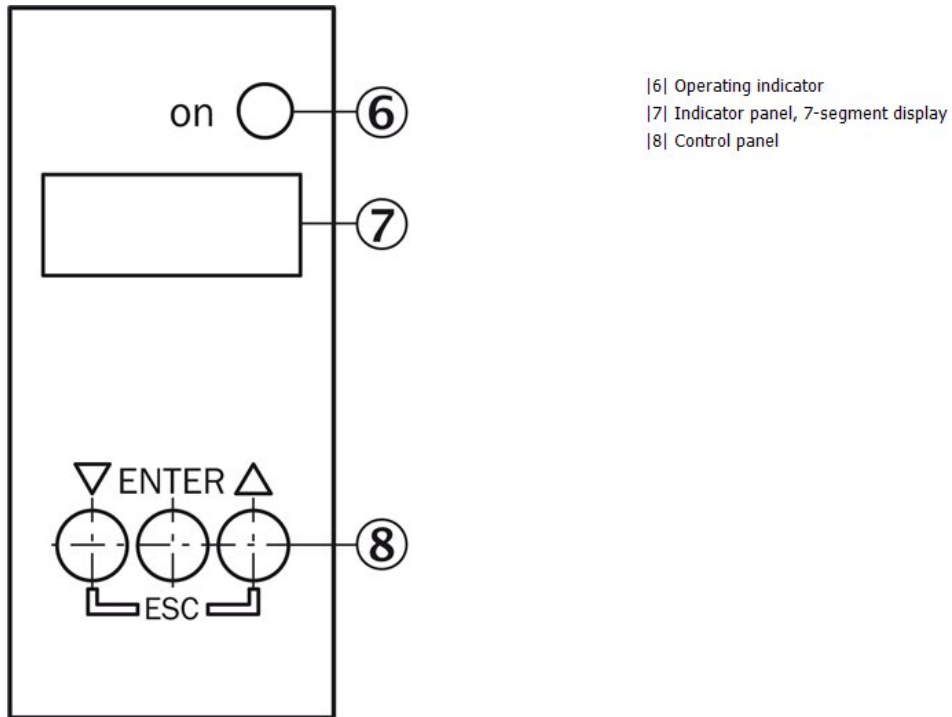
Dimensional drawing



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

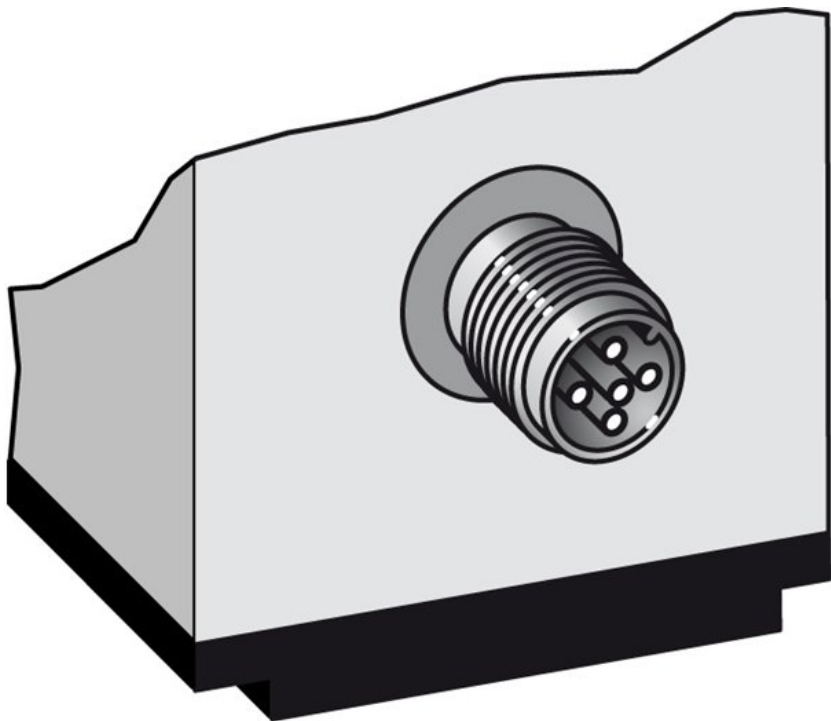
All dimensions in mm (inch)

Adjustment possible

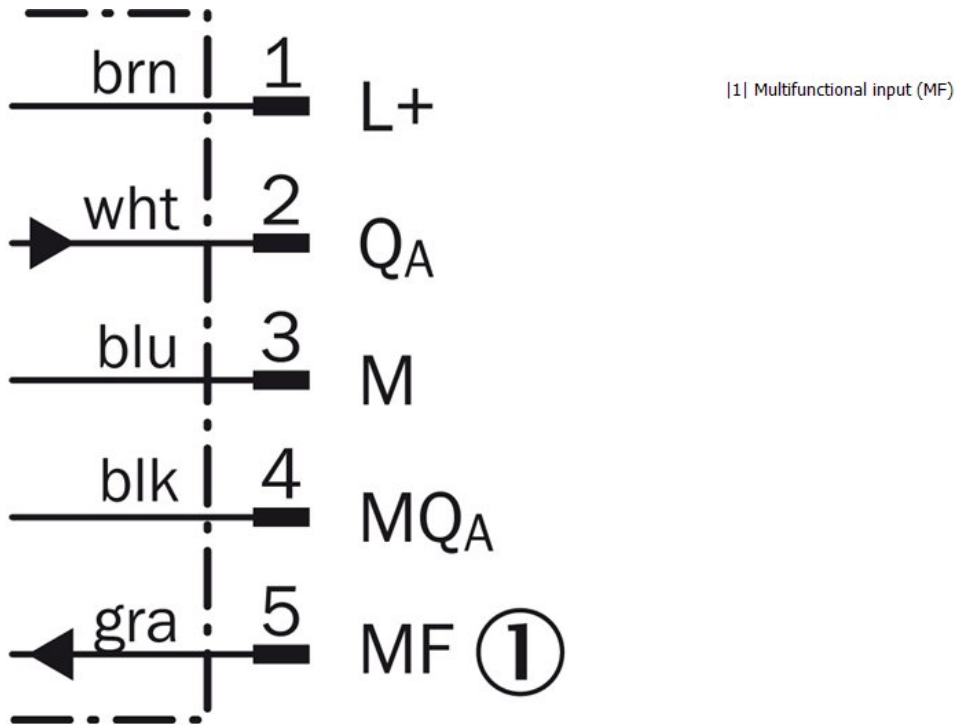


- |6| Operating indicator
- |7| Indicator panel, 7-segment display
- |8| Control panel

Connection type



Connection diagram



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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