SICK.COM



DATA SHEET

DT500-A111

Dx500
Time-of-flight sensors

SICK Sensor Intelligence



TIME-OF-FLIGHT SENSORS

DT500-A111

ORDERING INFORMATION

Type	part no.
DT500-A111	1026515

Further device versions and accessories at www.sick.com/Dx500

DETAILED TECHNICAL DATA

FEATURES

Measuring range	0.2 m ... 30 m, 90% remission factor [1] [2] 0.8 m ... 15 m, 6% remission factor [1] [2]
Target	Natural objects
Resolution	12 bit
Repeatability	1 mm [3] [4]
Measurement accuracy	± 3 mm
Response time	250 ms
Output time	250 ms
Emitted beam	
Light source	Laser, red [5]
Type of light	Visible red light
Typ. light spot size (distance)	10 mm (at 7 m) 45 mm (at 30 m) 100 mm (at 70 m)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	2 [6]
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] In ambient light, max. 1 klx of constant light.

[2] Unique up to 150 m.

[3] 6% ... 90% remission factor.

[4] Statistical error 1 σ.

[5] Average service life of 50,000 h at T_A = +25 °C.

[6] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

INTERFACES

Analog output	
Number	1
Type	Current output
Current	0 mA ... 20 mA [1]
Multifunctional input (MF)	PNP [2] [3]
Laser-off input	> 12 V

[1] Can be configured to the device: 0 mA ... 20 mA / 4 mA ... 20 mA (max. load resistance = U_V -2 V / 0.0205 A).

[2] Refer to function MF input.

[3] HIGH = UV - (< 2 V) / LOW = < 2 V; active HIGH.

ELECTRONICS

Supply voltage U_B	DC 10 V ... 30 V, reverse polarity protected U_V ≥ DC 24 V for devices with heating
Power consumption	Typ. 3 W
Ripple	5 V_{pp} [1]
Initialization time	500 ms
Enclosure rating	IP65
Protection class	II [2]
Connection type	Male connector, M12, 5-pin

[1] May not fall short of or exceed V_S tolerances.

[2] Reference voltage DC 32 V.

MECHANICS

Dimensions (W x H x D)	69 mm x 50 mm x 153 mm
Housing material	Metal (Aluminum die cast)
Window material	Glass
Weight	1,000 g

AMBIENT DATA

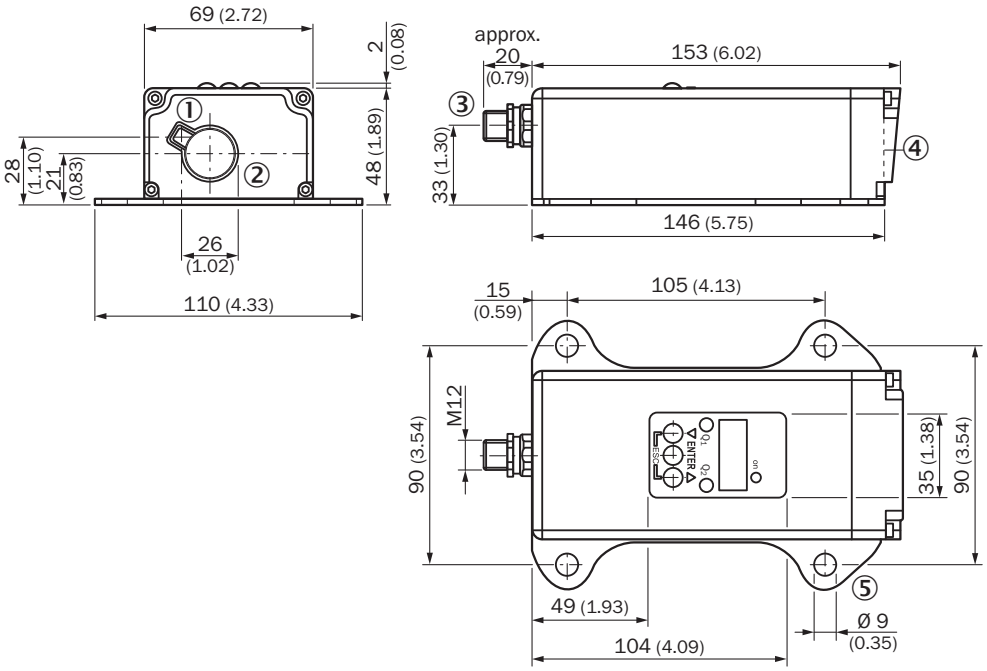
Ambient temperature, operation	–10 °C ... +45 °C –10 °C ... +75 °C, operation with cooling case
Ambient temperature, storage	–25 °C ... +75 °C
Temperature drift	Typ. 0.05 mm/K
Typ. Ambient light immunity	≤ 3,000 lx
Mechanical load	Shock: (EN 600 68-2-27 / –2-29) Sine: (EN 600 68-2-6) Noise: (EN 600 68-2-64)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

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓

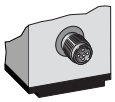
China RoHS	✓

DIMENSIONAL DRAWING

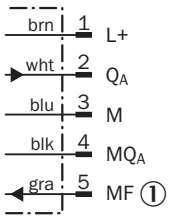


Dimensions in mm (inch)
① Optical axis, sender
② Optical axis, receiver
③ Plug, M12, 5-pin
④ Zero level
⑤ fixing hole

CONNECTION TYPE PLUG, M12, 5-PIN

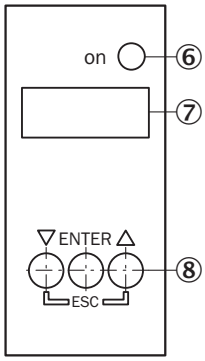


CONNECTION DIAGRAM



① Multifunctional input (MF)

ADJUSTMENT POSSIBLE



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

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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1026515

SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK

Sensor Intelligence