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DATA SHEET

DME5000-122

DME5000
Time-of-flight sensors

SICK Sensor Intelligence



TIME-OF-FLIGHT SENSORS

DME5000-122

ORDERING INFORMATION

Type	part no.
DME5000-122	1024084

Further device versions and accessories at www.sick.com/DME5000

DETAILED TECHNICAL DATA

FEATURES

Measuring range	0.15 m ... 70 m, on “diamond grade” reflective tape [1]
Target	Reflector
Resolution	50 m ... 5,000 µm
Repeatability	0.5 mm [1] [2]
Measurement accuracy	± 2 mm
Response time	6 ms
Output time	2 ms
Emitted beam	
Light source	Laser, red [3]
Type of light	Visible red light
Typ. light spot size (distance)	130 mm (at 70 m) 270 mm (at 150 m) 360 mm (at 220 m)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	2 [4]
Max. movement speed	10 m/s
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] On “diamond grade” reflective tape.

[2] Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min.

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

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

INTERFACES

PROFIBUS DP	✓
Digital output	
Number	2
Type	Push-pull: PNP/NPN
Maximum output current I_A	≤ 100 mA [1) 2)]
Multifunctional input (MF)	1 x MF [3) 4)]

[1)] Max. 100 nF/20 mH.

[2)] HIGH = > V_S - 3 V / LOW = < 2 V.

[3)] HIGH = > 12 V / LOW = < 3 V.

[4)] Not reverse-polarity protected.

ELECTRONICS

Supply voltage U_B	DC 18 V ... 30 V, limit values
Current consumption	At 24 V DC < 1,000 mA
Ripple	< 5 V_{pp} [1)]
Initialization time	1.5 s [2)]
Display	Display
Enclosure rating	IP65
Protection class	II [3)]
Connection type	Male connector, 2 x M12, 5-pin, B-coded, 1 x M16, 8-pin, B-coded

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

[2)] After loss of reflector < 1 s at max. speed V_{max} < 1 m/s.

[3)] Reference voltage DC 32 V.

MECHANICS

Dimensions (W x H x D)	61 mm x 101 mm x 176 mm
Housing material	Metal (zinc diecast)
Window material	Glass
Weight	Approx. 1,650 g

AMBIENT DATA

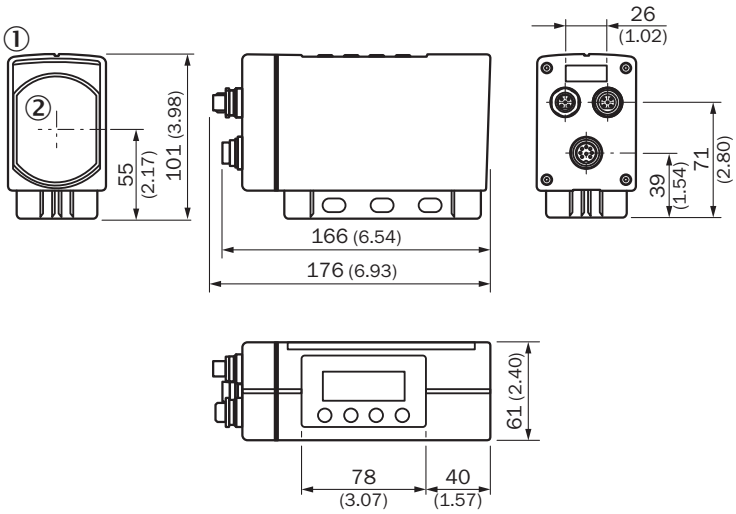
Ambient temperature, operation	–40 °C ... +55 °C, operation with heating –40 °C ... +75 °C, operation with cooling case
Ambient temperature, storage	–25 °C ... +75 °C
Effect of air pressure	0.3 ppm/hPa
Effect of air temperature	1 ppm/K
Temperature drift	Typ. 0.1 mm/K
Typ. Ambient light immunity	≤ 40,000 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 55011

CERTIFICATES

EU declaration of conformity	✓

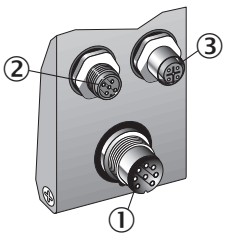
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

DIMENSIONAL DRAWING DME5000 PROFIBUS



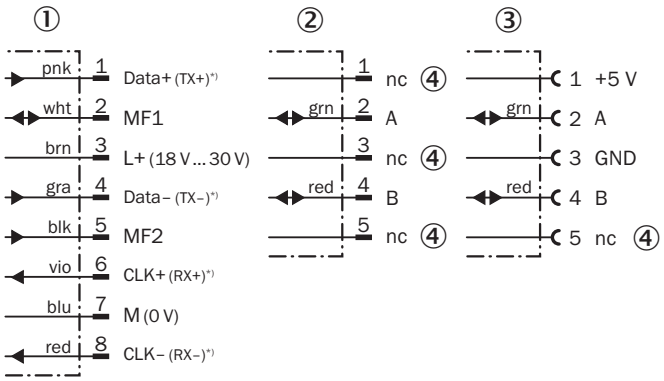
Dimensions in mm (inch)
① LC display
② Center of optical axis

CONNECTION TYPE DME4/5XXX PROFIBUS CONNECTOR 2 X M12, 5-PIN, B-CODED, BUS IN, BUS OUT, 1 X M16, 8-PIN



① Connector M16, 8-pin
② Connector M12, 5-pin, B-coded, BUS IN
③ Connector M12, 5-pin, B-coded, BUS OUT

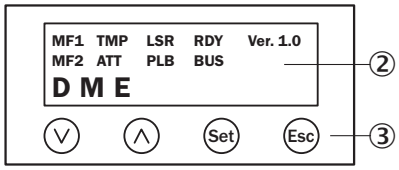
CONNECTION DIAGRAM



*) For connection of interface adapter.

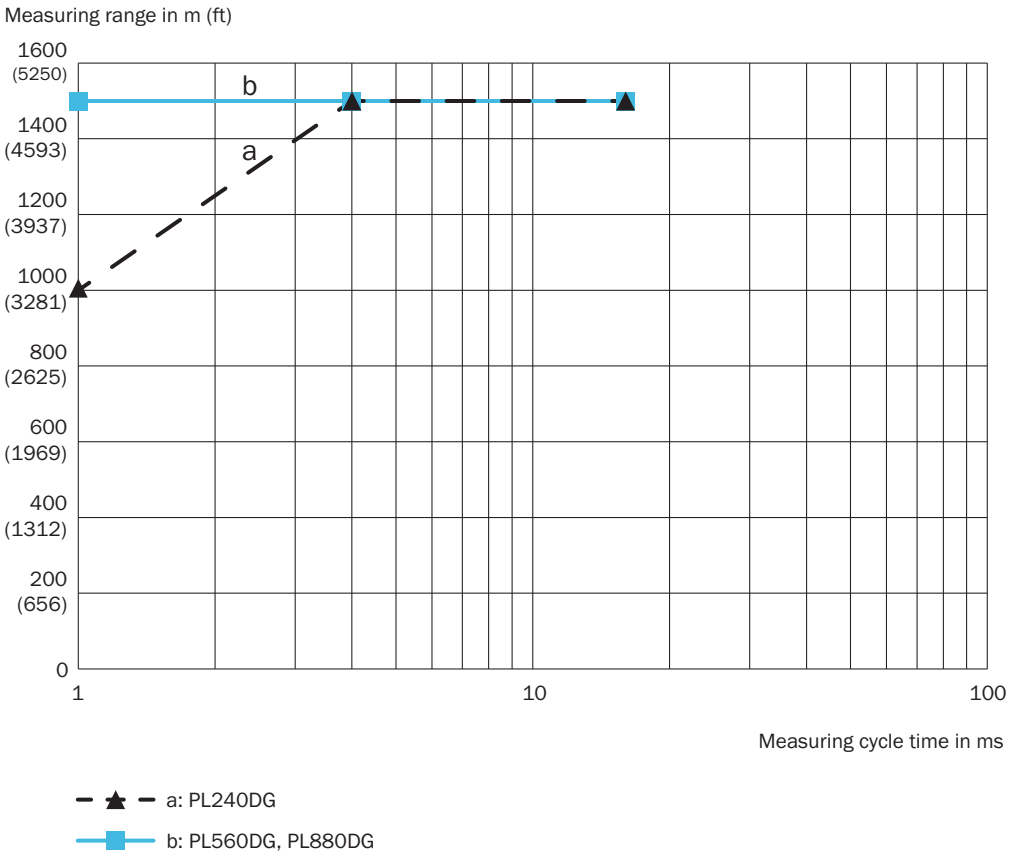
① Connector M16, 8-pin
② Connector M12, 5-pin, B-coded, BUS IN
③ Connector M12, 5-pin, B-coded, BUS OUT
④ Not assigned

ADJUSTMENT POSSIBLE



② LC display
③ Keypad

WORKING RANGE DIAGRAM DL1000 MEASURING RANGE BASED ON MEASUREMENT CYCLE TIME AND REFLECTOR TYPE



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/1024084

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SICK AT A GLANCE

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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

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