Data sheet

DME5000-224

DME5000

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
DME5000-224	1025837

Other models and accessories ➜ www.sick.com/DME5000

Detailed technical data

Features

Measuring range	0.15 m ... 150 m, on “diamond grade” reflective tape [1]
Target	Reflector
Resolution	50 µm ... 5,000 µm
Repeatability	1 mm [1] [2]
Measurement accuracy	± 3 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
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.

Interfaces

DeviceNet™	✓
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

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

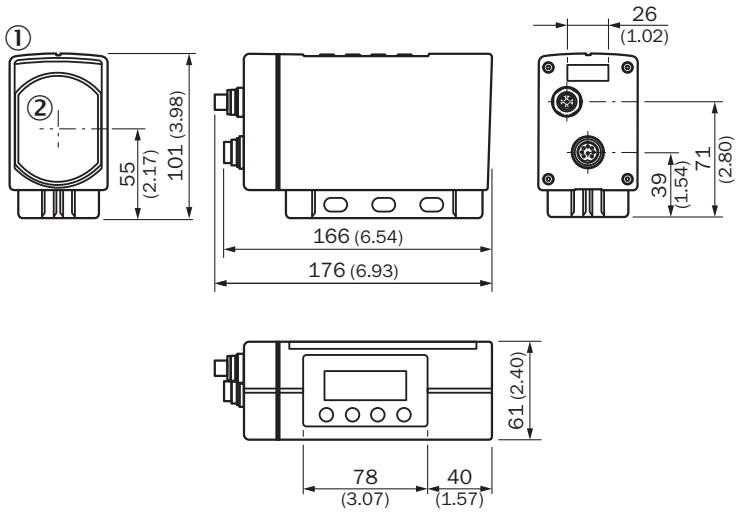
Ambient data

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

Classifications

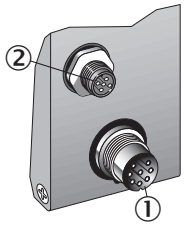
ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing DME5000-xx4 DeviceNet



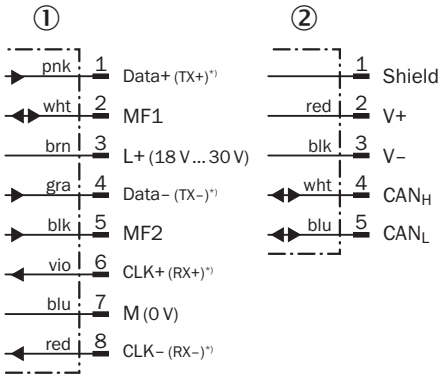
Dimensions in mm (inch)
① LC display
② Center of optical axis

Connection type DME4/5xxx-xx4 DeviceNet Connector 1 x M12, 5-pin, A-coded 1 x M16, 8-pin



① Connector M16, 8-pin
② Connector M12, 5-pin, A-coded

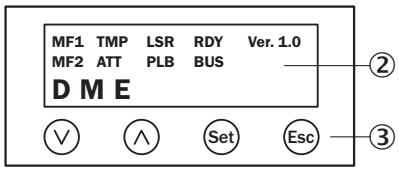
Connection diagram DME5000-xx4 DeviceNet



*) For connection of interface adapter.

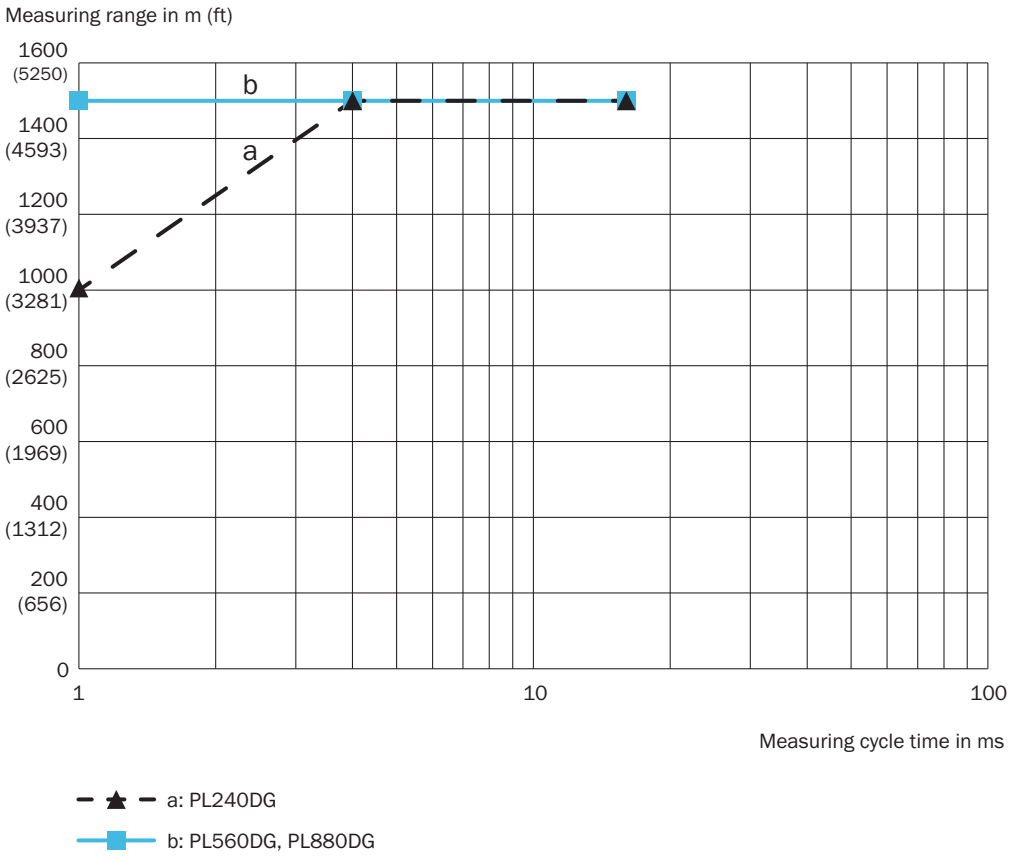
① Connector M16, 8-pin
② Connector M12, 5-pin, A-coded

Adjustment possible



② LC display
③ Keypad

Working range diagram DL1000 measuring range based on measurement cycle time and reflector type



Recommended accessories

Other models and accessories ➜ www.sick.com/DME5000

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Alignment unit for DME5000, stainless steel (1.4541), incl. mounting material, additional base plate mounting kit required • **Items supplied:** Mounting hardware included	BEF-AH-DME	2027721
reflectors and optics			
	Strich		On request

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 5-pin, A-coded • **Connection type head B:** Flying leads • **Signal type:** Power, CAN • **Cable:** 5 m, 5-wire • **Description:** Power, unshielded, CAN	DOL-1205-G05M_Can	6021166
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Fieldbus, CANopen, DeviceNet™ • **Cable:** 10 m, 5-wire, PUR, halogen-free • **Description:** Fieldbus, shielded, CANopen, DeviceNet™ • **Connection systems:** Flying leads • **Note:** Shielded on pin 1	YF2A14-100C1BXLEAX	6021175
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Shielded • **Connection systems:** Flying leads	YF2A68-020XXXXLEAX	6032448
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Shielded	YF2A68-050XXXXLEAX	6032449
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 10 m, 8-wire, PUR, halogen-free • **Description:** Shielded	YF2A68-100XXXXLEAX	6032450
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 10 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G10MQ	6026008
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 5 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G05MQ	6026006
	Strich		On request
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 15 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G15MQ	6032637
	Strich		On request
	• **Connection type head A:** Male connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 10 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Note:** Wire shield Al-Pt film, overall shield C-screen tin-plated • **Application:** Zones with oils and lubricants, Drag chain operation	STL-1205-G10MQ	6026007
	Strich		On request
	Strich		On request
	Strich		On request
	Strich		On request
	Strich		On request

SICK AT A GLANCE

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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