



DME4000-312

DME4000

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
DME4000-312	1041950

Other models and accessories → www.sick.com/DME4000



Detailed technical data

Features

Measuring range		0.15 m ... 220 m, on “diamond grade” reflective tape
Target		Reflector
Resolution		50 µm ... 5,000 µm
Repeatability		3 mm ^{1) 2)}
Measurement accuracy		± 6 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

PROFIBUS DP	✓
Digital output	
Number	2
Type	Push-pull: PNP/NPN
Maximum output current I_A	$\leq 100 \text{ mA}$ ^{1) 2)}
Multifunctional input (MF)	1 x MF ^{3) 4)}

¹⁾ Max. 100 nF/20 mH.

²⁾ HIGH = $> V_S - 3 \text{ V}$ / LOW = $< 2 \text{ V}$.

³⁾ HIGH = $> 12 \text{ V}$ / LOW = $< 3 \text{ V}$.

⁴⁾ Not reverse-polarity protected.

Electronics

Supply voltage U_B	DC 18 V ... 30 V, limit values
Current consumption	At 24 V DC $< 250 \text{ mA}$
Ripple	$< 5 \text{ V}_{pp}$ 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 $< 1 \text{ s}$ at max. speed $V_{\max} < 1 \text{ m/s}$.

³⁾ Reference voltage DC 32 V.

Mechanics

Dimensions (W x H x D)	61 mm x 85 mm x 166 mm
Housing material	Metal (zinc diecast)
Window material	Glass
Weight	Approx. 1,650 g

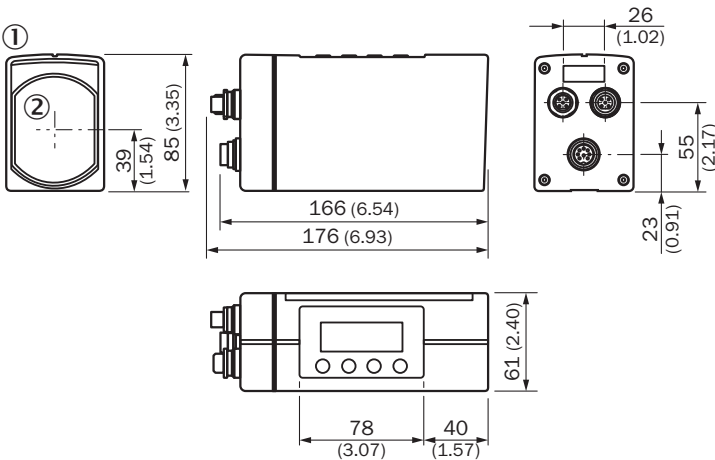
Ambient data

Ambient temperature, operation	-10 °C ... +55 °C -10 °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	$\leq 40,000 \text{ lx}$
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: Class B

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 DME4000 PROFIBUS

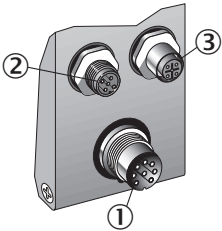


Dimensions in mm (inch)

① LC display

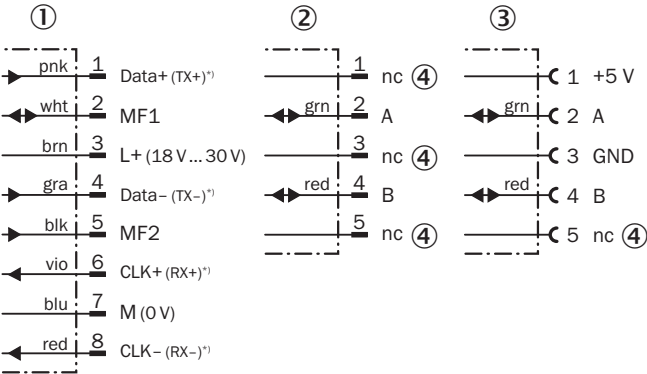
② Center of optical axis

Connection type DME4/5xxx PROFIBUS Connector 2 x M12, 5-pin, B-coded, BUS IN, BUS OUT, 1 x M16, 8-pin



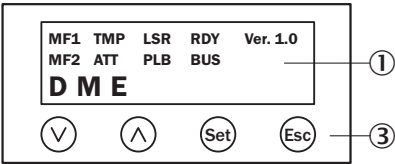
- ① Connector M16, 8-pin
- ② Connector M12, 5-pin, B-coded, BUS IN
- ③ Connector M12, 5-pin, B-coded, BUS OUT

Connection diagram



- ^{*)} Internal interface, for production use only.
- 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



- ① LC display
- ③ Keypad

Recommended accessories

Other models and accessories → www.sick.com/DME4000

	Brief description	Type	part no.
Mounting systems			
	• Description: Alignment unit • Material: Stainless steel • Details: Stainless steel	BEF-DME align- ment bracket	2040695
reflectors and optics			
	Strich		On request

	Brief description	Type	part no.
connectors and cables			
	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
	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
	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
	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, 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: 2 m, 8-wire, PUR, halogen-free Description: Shielded Connection systems: Flying leads	YF2A68-020XXXXLEAX	6032448
	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
	Strich		On request
	Strich		On request
	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

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.

For us, that is “Sensor Intelligence.”

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