



Long range distance sensors DME4000, DeviceNet

DME4000-224



Model Name > [DME4000-224](#)
Part No. > [1029805](#)

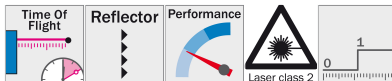


At a glance

- Multiple measurement and positioning options from 0.15 m to 220 m
- High-speed output rate
- Very high resolution, repeatability and accuracy
- Illuminated LC display with measured value output and setup diagnostic information
- Visible red light and bracket with springs for alignment
- Variety of interfaces: SSI, RS-422, PROFIBUS, HIPERFACE, CANopen, DeviceNet

Your benefits

- Fast measurement cycles offer optimized integration into control loops for increased productivity
- Red laser light as well as adjustable mounting brackets (optional accessory) enable fast and easy alignment, ensuring on-time and cost-effective installation
- Multi-point self checks provide maintenance and replacement warnings increasing overall machine availability
- A tough metal housing as well as heating and cooling accessories ensure reliability in rough ambient conditions
- User-friendly display with easy-to-use menu along with external PC/PLC programming offers fast and cost-efficient setup
- Multiple serial interfaces provide high-speed position output to the controller and high flexibility in application integration
- Integrated speed monitoring offers additional information for increased process reliability



Performance

Measuring range:	0.15 m ... 130 m, on Diamond Grade
Resolution:	0.05 mm ... 5 mm
Repeatability ^{1); 2)} :	2 mm
Accuracy:	± 5 mm
Light source ³⁾ :	Laser, red
Laser protection class:	2 (EN 60825-1/CDRH)
Typ. light spot size (distance):	130 mm (at 70 m) 270 mm (at 150 m) 360 mm (at 220 m)
Output rate:	2 ms
Max. movement speed:	10 m/s

1) On Diamond Grade 2) Statistical error 1 σ , environmental conditions constant, min. warm-up time 10 min 3) Average service life of 50,000 h at $T_A = +25^\circ\text{C}$

Interfaces

Data interface:	DeviceNet
Output type ¹⁾ :	Push-pull: PNP/NPN (100 mA)
Multifunctional input ²⁾ , ³⁾ :	1 x MF

1) HIGH = $> V_S - 3\text{ V}$ / LOW = $< 2\text{ V}$ 2) HIGH = $> 12\text{ V}$ / LOW = $< 3\text{ V}$ 3) Not reverse-polarity protected

Mechanics/electronics

Supply voltage V_S :	DC 18 V ... 30 V , limit values
Ripple ¹⁾ :	$< 5\text{ Vpp}$
Initialization time ²⁾ :	1.5 s
Indication:	Display
Weight:	Ca. 1,650 g
Output current I_A ³⁾ :	$\leq 100\text{ mA}$
Power consumption:	At 24 V DC $< 1,000\text{ mA}$
Connection type:	Connector 1 x M12, 4-pin, 1 x M16, 8-pin

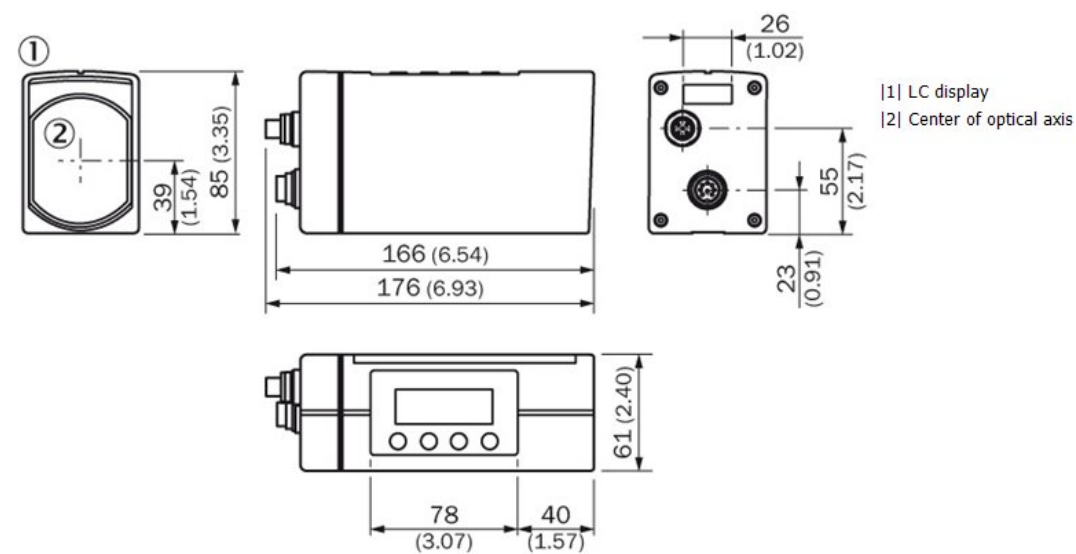
1) May not fall short of or exceed V_S tolerances 2) After loss of reflector $< 1\text{ s}$ at max. speed $V_{\text{max}} < 1\text{ m/s}$ 3) Short circuit/overload protected. Max. 100 nF/20 mH

Ambient data

Enclosure rating:	IP 65
Protection class ¹⁾ :	II
EMC:	EN 61000-6-2, EN 55011: Class B
Effect of air pressure:	0.3 ppm/hPa
Effect of air temperature:	1 ppm/K
Temperature drift:	Typ. 0.1 mm/K
Ambient temperature:	Operation with heating: $-40 \dots 55^\circ\text{C}$ Operation with cooling case: $-40 \dots 75^\circ\text{C}$ Storage: $-25 \dots 75^\circ\text{C}$
Mechanical load:	Noise: EN 600 68-2-64 Shock: EN 600 68-2-27/-2-29 Sine: EN 600 68-2-6

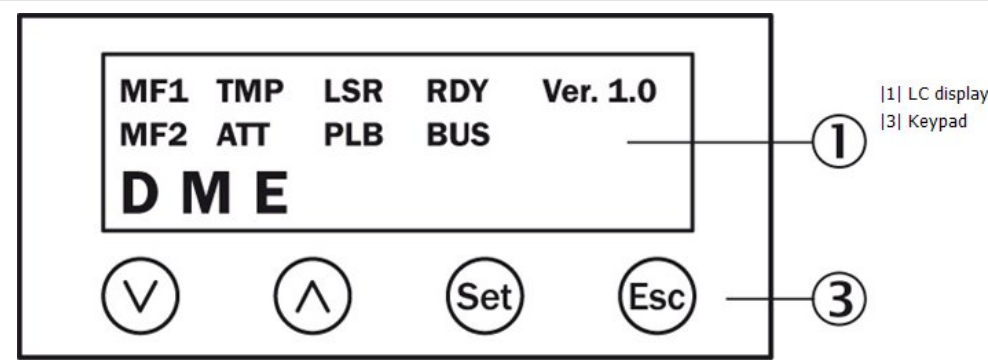
1) Reference voltage DC 32 V

Dimensional drawing

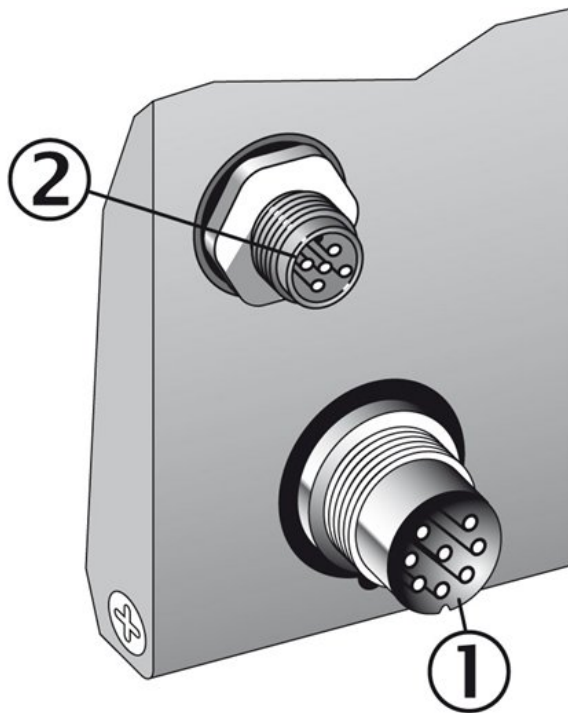


All dimensions in mm (inch)

Adjustments

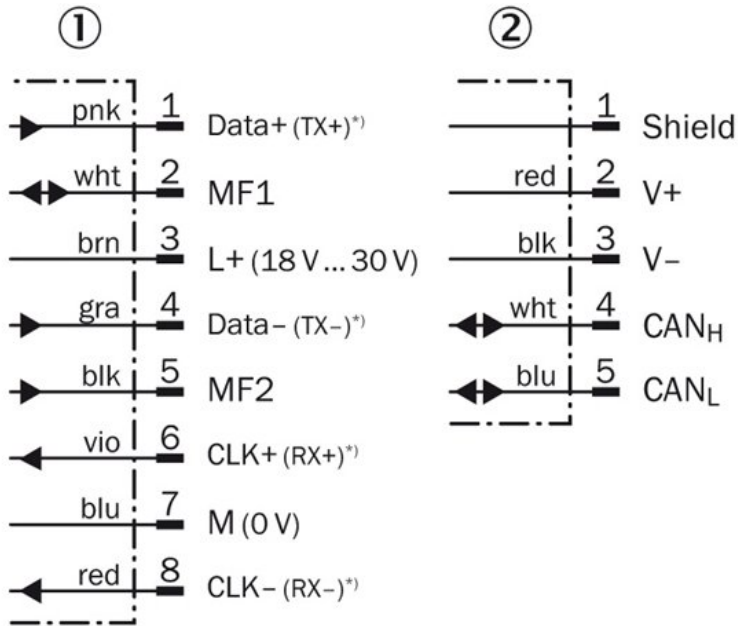


Connection type



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

Connection diagram



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

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

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