



Long range distance sensors DME4000, DeviceNet

DME4000-114



Model Name > **DME4000-114**
Part No. > **1029800**



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 ... 50 m, on Diamond Grade
Resolution:	0.05 mm ... 5 mm
Repeatability ¹⁾ ; ²⁾ :	1 mm
Accuracy:	± 3 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 V ²⁾ HIGH = > 12 V / LOW = < 3 V ³⁾ Not reverse-polarity protected

Mechanics/electronics

Supply voltage V_S : DC 18 V ... 30 V , limit values
Ripple ¹⁾: < 5 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 < 250 mA
Connection type: Connector 1 x M12, 4-pin, 1 x M16, 8-pin

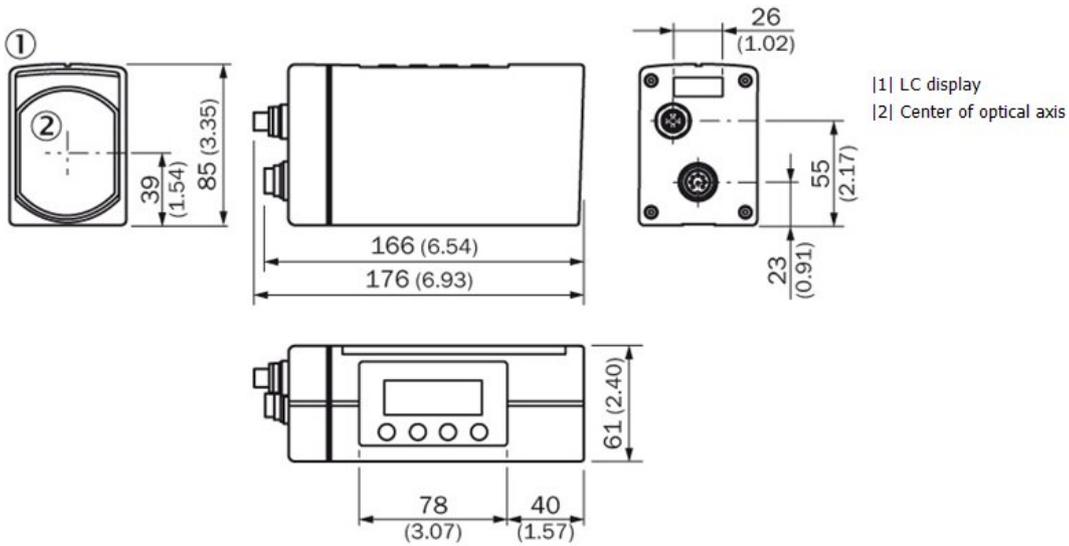
¹⁾ May not fall short of or exceed V_S tolerances ²⁾ After loss of reflector < 1 s at max. speed $V_{\text{max}} < 1\text{ m/s}$ ³⁾ Short circuit/overload protected. Max. 100 nF/20 mH

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: -10 ... 55 °C
Operation with cooling case: -10 ... 75 °C
Storage: -25 ... 75 °C
Mechanical load: Noise: EN 600 68-2-64
Shock: EN 600 68-2-27/-2-29
Sine: EN 600 68-2-6

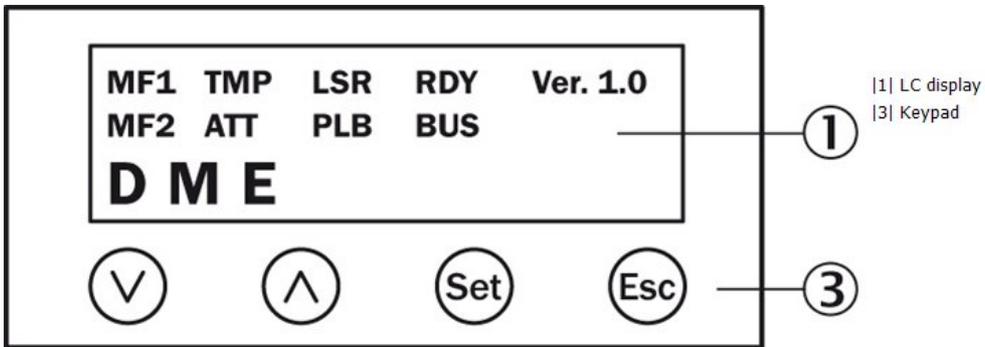
¹⁾ Reference voltage DC 32 V

Dimensional drawing

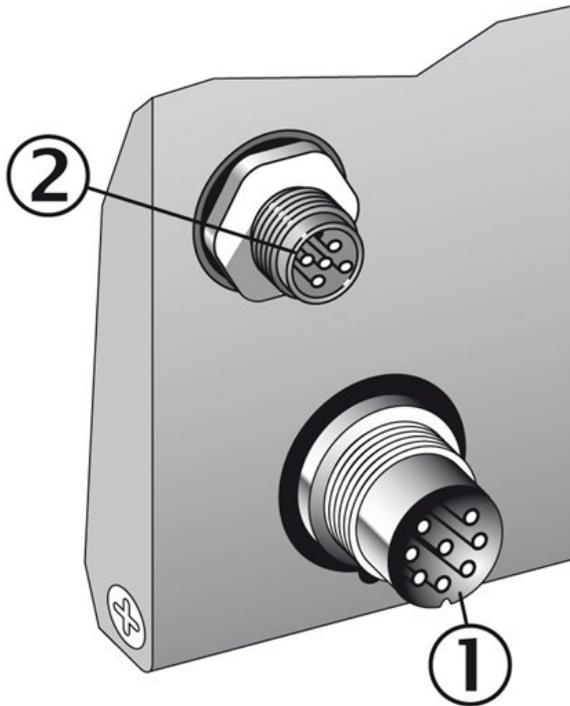


All dimensions in mm (inch)

Adjustments

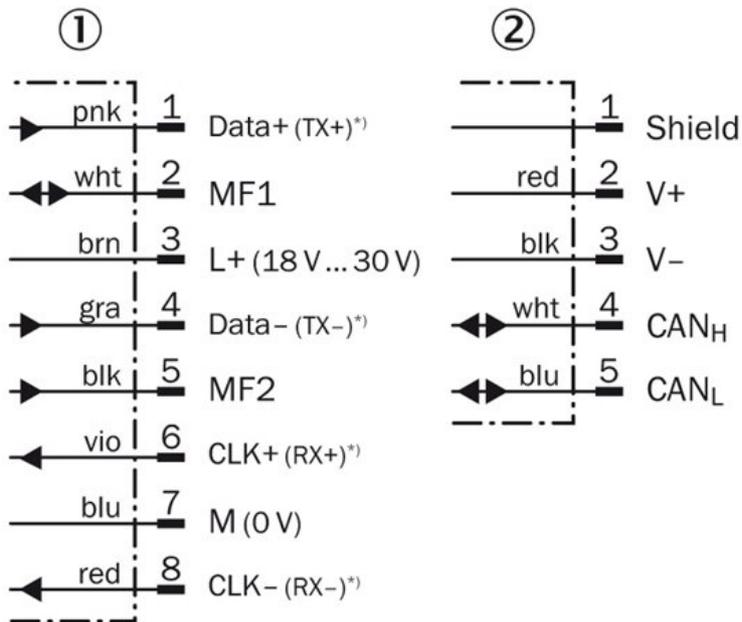


Connection type



- [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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