



Long range distance sensors DME4000, PROFIBUS DP

DME4000-212



Model Name > [DME4000-212](#)
Part No. > [1029791](#)

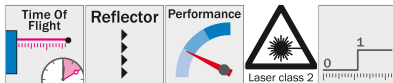


At a glance

- 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

| | |
|-----------------------------------|--|
| Measurement range: | 0.15 m ... 130 m, on reflective tape "Diamond Grade" |
| Resolution: | 0.05 mm ... 5 mm |
| Repeatability ^{1); 2)} : | 2 mm |
| Accuracy: | ± 5 mm |
| Light source ³⁾ : | Laser, red |
| 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 |
| Laser class: | 2 (EN 60825-1/CDRH) |

1) On reflective tape "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 °C

Interfaces

Data interface: PROFIBUS DP
Output type¹⁾: Push-pull: PNP/NPN (100 mA)
Multifunctional input (MF)^{2), 3)}: 1 x MF

1) HIGH = > V_S - 3 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
Ripple¹⁾: < 5 Vpp
Initialization time²⁾: 1.5 s
Indication: Display
Weight: Ca. 1,650 g
Output current I_A³⁾: ≤ 100 mA
Power consumption: At 24 V DC < 250 mA
Connection type: Male connector, 2 x M12, 5-pin, B-coded, 1 x M16, 8-pin, B-coded

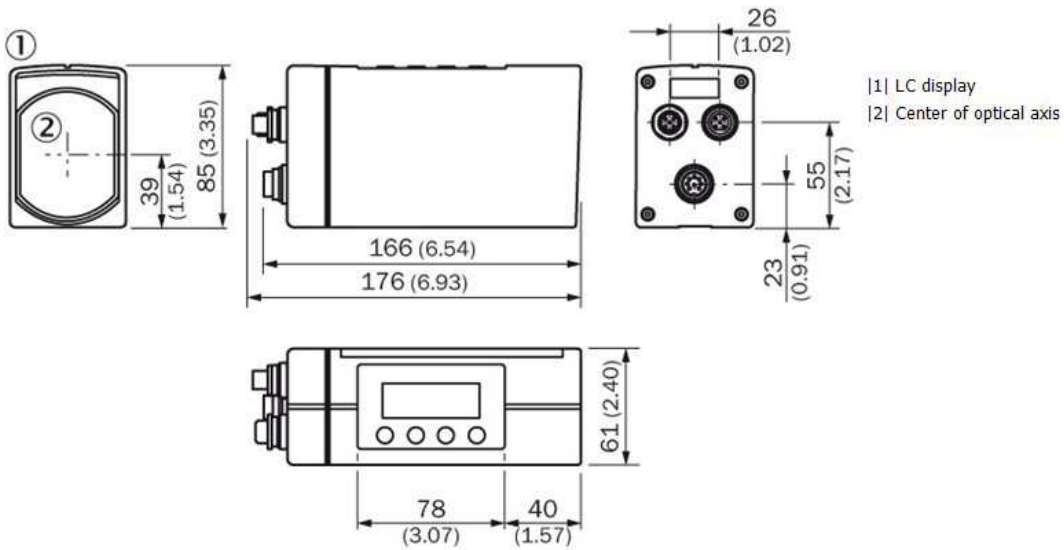
1) May not fall short of or exceed V_S tolerances 2) After loss of reflector < 1 s at max. speed V_{max} < 1 m/s 3) Short circuit/overload protected. Max. 100 nF/20 mH

Ambient data

Enclosure rating: IP 65
Protection class¹⁾: II
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
Electromagnetic compatibility (EMC): EN 61000-6-2, EN 55011: Class B

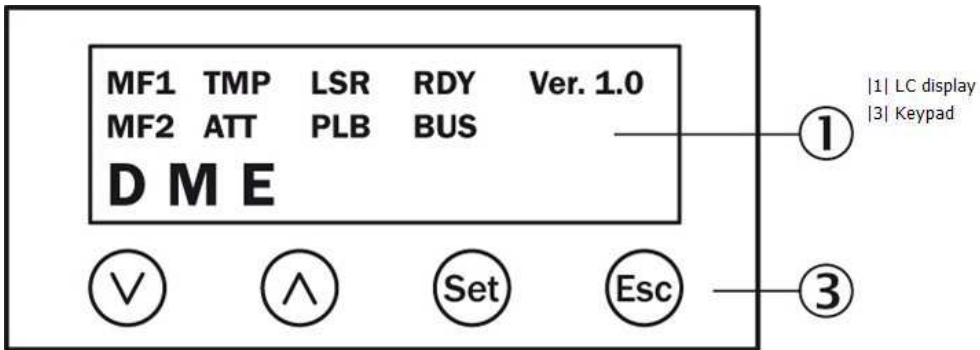
1) Reference voltage DC 32 V

Dimensional drawing

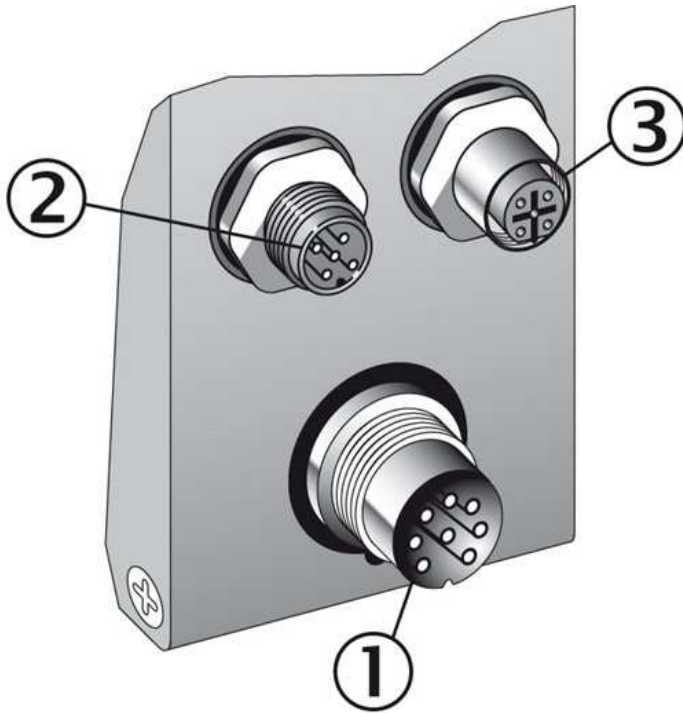


All dimensions in mm (inch)

Adjustments

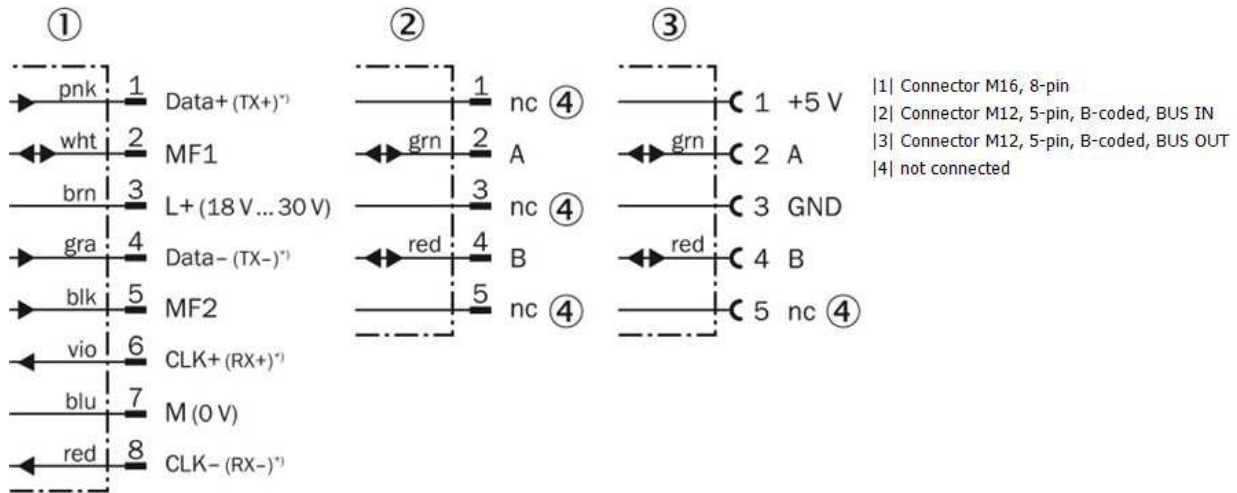


Connection type



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

Connection diagram



[†] Internal interface, for production use only.

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