



Long range distance sensors DME5000, PROFIBUS DP

DME5000-112



Model Name > [DME5000-112](#)
Part No. > [1023668](#)

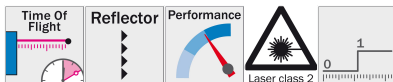


At a glance

- Measurement range from 0.15 m to 300 m
- Very fast measurement cycles
- Highest accuracy, repeatability and system availability
- Illuminated LC display with diagnostic information
- Visible red light and bracket with springs for alignment
- Variety of interfaces: SSI, RS-422, PROFIBUS, HIPERFACE, DeviceNet

Your benefits

- Fastest measurement rate offers 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
- Highest degree of accuracy and repeatability ensures high machine availability



Performance

Measurement range ¹⁾ :	0.15 m ... 70 m, on reflective tape "Diamond Grade"
Resolution:	0.05 mm ... 5 mm
Repeatability ²⁾ , ³⁾ :	0.5 mm
Accuracy:	± 2 mm
Light source ⁴⁾ :	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) 2) On reflective tape "Diamond Grade" 3) Statistical error 1σ , environmental conditions constant, min. warm-up time 10 min 4) Average service life of 50,000 h at $T_A = +25^\circ\text{C}$

Interfaces

Data interface: PROFIBUS DP
Output type ¹⁾: Push-pull: PNP/NPN (100 mA)
Multifunctional input (MF) 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⁾: $\leq 100\text{ mA}$
Current consumption: At 24 V DC $< 250\text{ mA}$
Connection type: Male connector, 2 x M12, 5-pin, B-coded, 1 x M16, 8-pin, B-coded

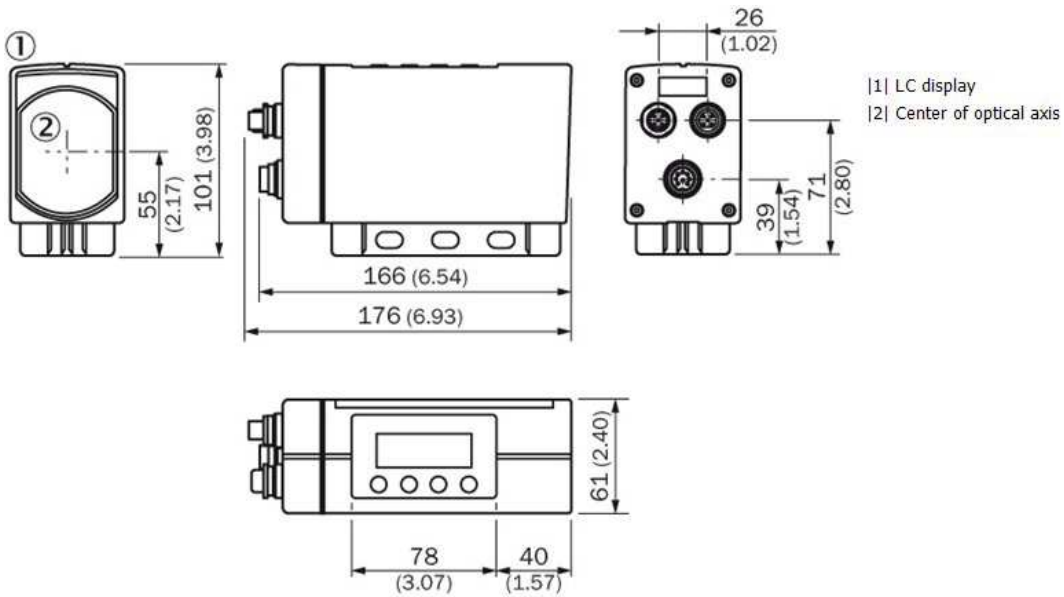
¹⁾ May not fall short of or exceed V_S tolerances ²⁾ After loss of reflector $< 1\text{ s}$ at max. speed $V_{\text{max}} < 1\text{ m/s}$ ³⁾ Short circuit/overload protected. Max. 100 nF/20 mH

Ambient data

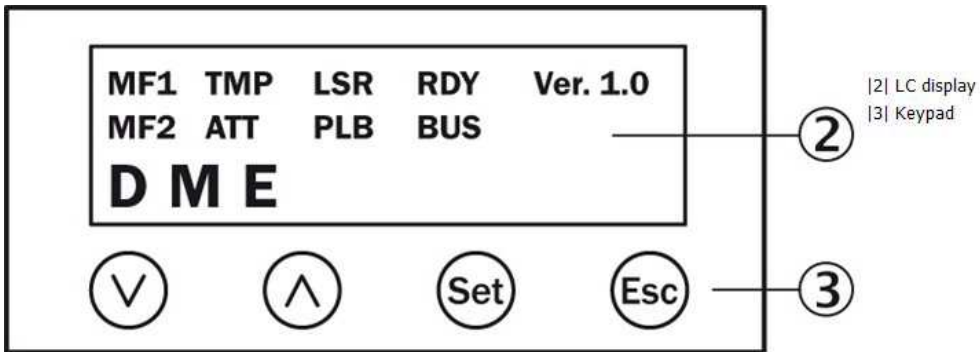
Enclosure rating: IP 65
Protection class ¹⁾: II
Effect of air pressure: 0.3 ppm/hPa
Effect of air temperature: 1 ppm/K
Temperature drift: Typ. 0.1 mm/K
Ambient temperature: Operation: $-10 \dots 55^\circ\text{C}$
Operation with cooling case: $-10 \dots 75^\circ\text{C}$
Storage: $-25 \dots 75^\circ\text{C}$
Mechanical load: Noise: EN 600 68-2-64
Shock: EN 600 68-2-27 / -2-29
Sine: EN 600 68-2-6
Electromagnetic compatibility (EMC): EN 61000-6-2, EN 55011

¹⁾ Reference voltage DC 32 V

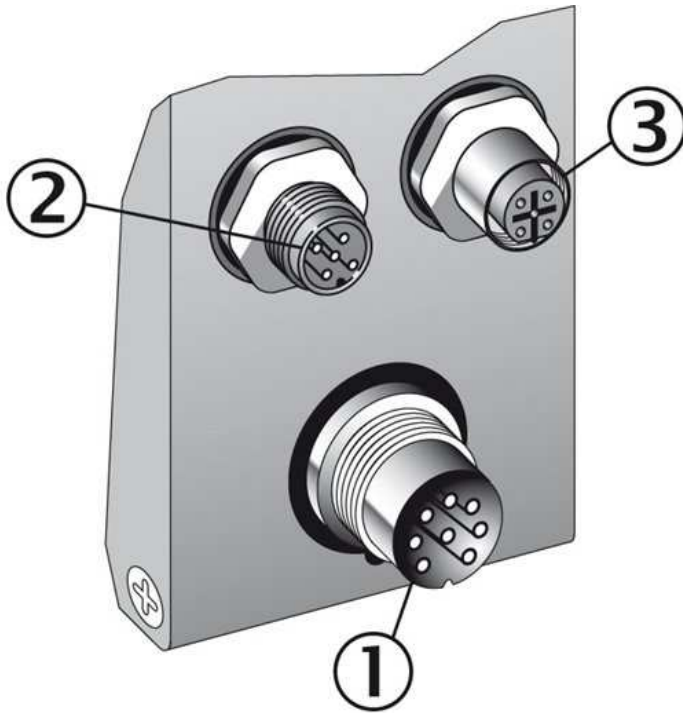
Dimensional drawing



Adjustments

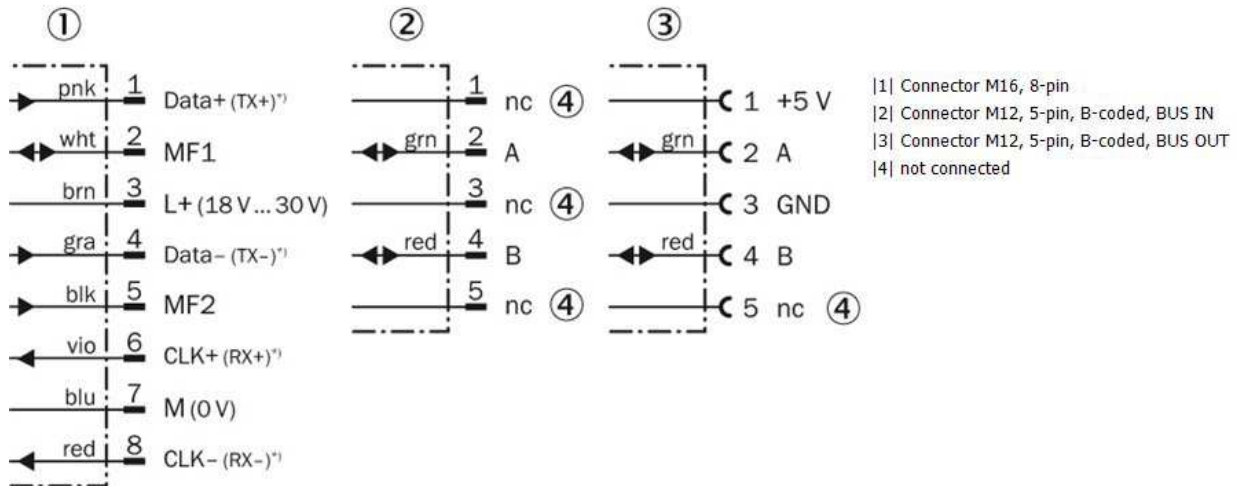


Connection type



- |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



* For connection of interface adapter.

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