



## Long range distance sensors DME4000, Profibus

DME4000-312



**Model Name** > [DME4000-312](#)  
**Part No.** > [1041950](#)

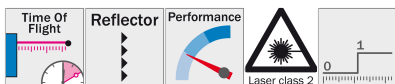


#### At a glance

- 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 ... 220 m, on Diamond Grade                         |
| Resolution:                                   | 0.05 mm ... 5 mm                                           |
| Repeatability <sup>1)</sup> ; <sup>2)</sup> : | 3 mm                                                       |
| Accuracy:                                     | ± 6 mm                                                     |
| Light source <sup>3)</sup> :                  | Laser, red                                                 |
| Laser protection class:                       | 2 (EN 60825-1/CDRH)                                        |
| Typ. light spot size (distance):              | 130 mm (at 70 m)<br>270 mm (at 150 m)<br>360 mm (at 220 m) |
| Output rate:                                  | 2 ms                                                       |
| Max. movement speed:                          | 10 m/s                                                     |

1) On Diamond Grade 2) Statistical error 1  $\sigma$ , 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: PROFIBUS  
 Output type <sup>1)</sup>: Push-pull: PNP/NPN (100 mA)  
 Multifunctional input <sup>2)</sup>, <sup>3)</sup>: 1 x MF

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

## Mechanics/electronics

Supply voltage  $V_S$ : DC 18 V ... 30 V, limit values  
 Ripple <sup>1)</sup>:  $< 5\text{ Vpp}$   
 Initialization time <sup>2)</sup>: 1.5 s  
 Indication: Display  
 Weight: Ca. 1,650 g  
 Output current  $I_A$  <sup>3)</sup>:  $\leq 100\text{ mA}$   
 Power consumption: At 24 V DC  $< 250\text{ mA}$   
 Connection type: Connector 2 x M12, 5-pin, B-coded, 1 x M16, 8-pin, B-coded

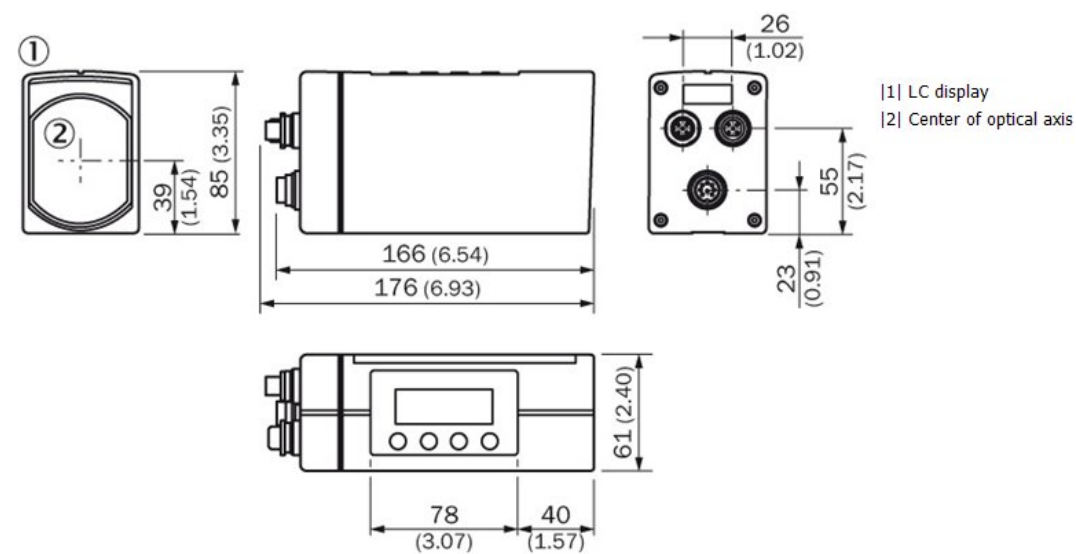
<sup>1)</sup> May not fall short of or exceed  $V_S$  tolerances <sup>2)</sup> After loss of reflector  $< 1\text{ s}$  at max. speed  $V_{\text{max}} < 1\text{ m/s}$  <sup>3)</sup> Short circuit/overload protected. Max. 100 nF/20 mH

## Ambient data

Enclosure rating: IP 65  
 Protection class <sup>1)</sup>: 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:  $-10 \dots 55^\circ\text{C}$   
 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

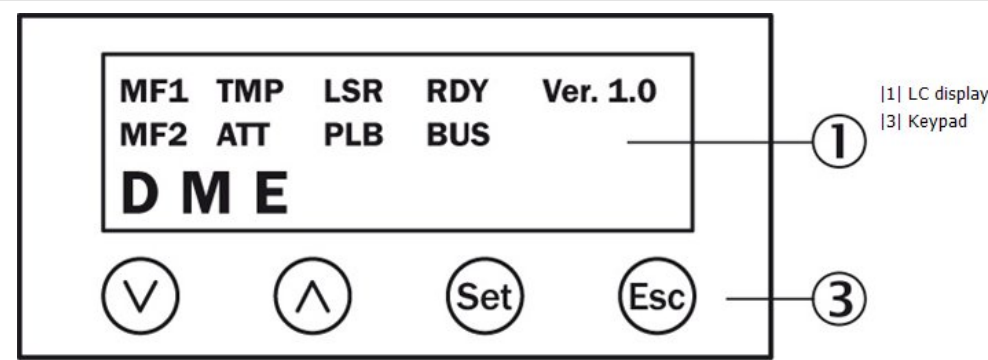
<sup>1)</sup> Reference voltage DC 32 V

Dimensional drawing

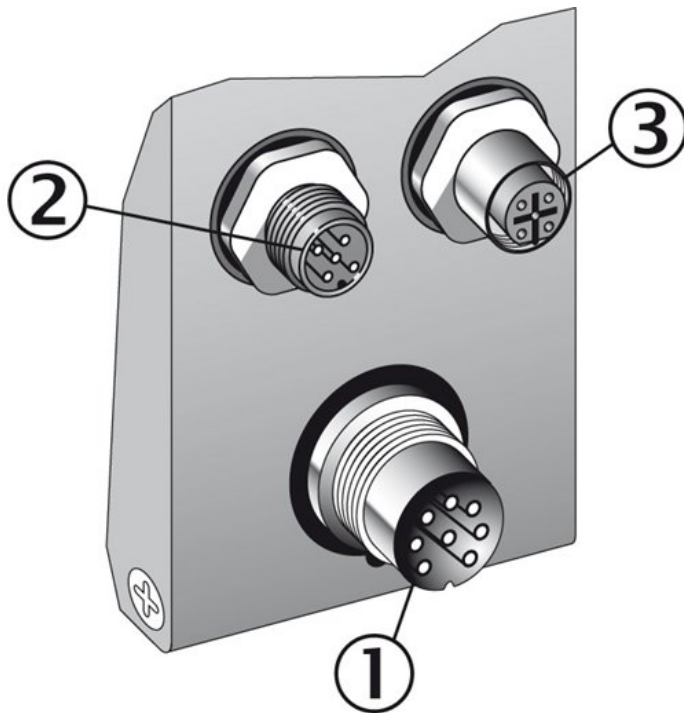


All dimensions in mm (inch)

Adjustments

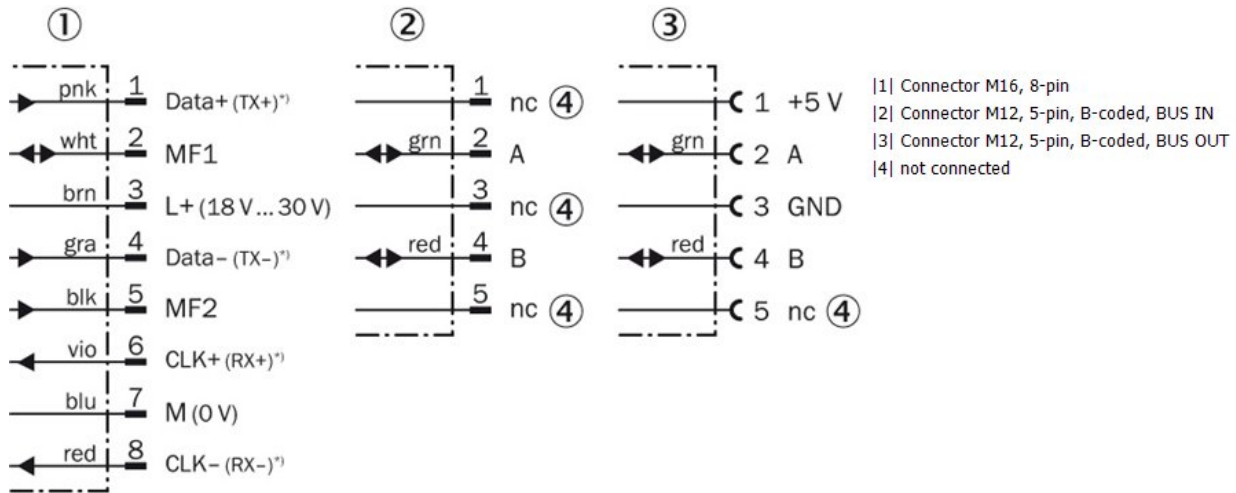


## Connection type



- |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



<sup>\*)</sup> Internal interface, for production use only.

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