



Long range distance sensors DME4000, HIPERFACE

DME4000-317



Model Name > [DME4000-317](#)
Part No. > [1041955](#)

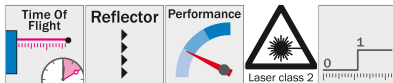


At a glance

- 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 ... 220 m, on reflective tape "Diamond Grade" |
| Resolution ¹⁾ : | 0.25 mm ... 4 mm |
| Repeatability ²⁾ , ³⁾ : | 3 mm |
| Accuracy: | ± 6 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) For HIPERFACE data interface 1/32 mm ... 1/2 mm, for sin/cos 0.25 mm ... 4 mm 2) On reflective tape "Diamond Grade" 3) Statistical error 1 σ , 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: | HIPERFACE |
| 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⁾ : | 0.9 s |
| Indication: | Display |
| Weight: | Ca. 1,650 g |
| Output current I_A ³⁾ : | $\leq 100\text{ mA}$ |
| Power consumption: | At 24 V DC $< 250\text{ mA}$ |
| Connection type: | Male connector, 1 x M12, 4-pin, 1 x M12, 8-pin |

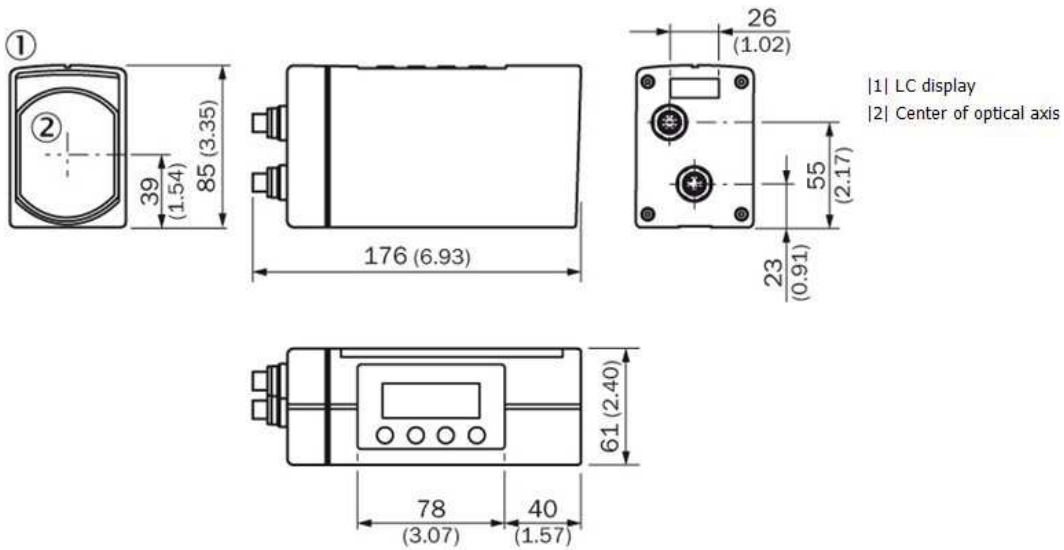
1) May not fall short of or exceed V_S tolerances 2) For HIPERFACE, after loss of reflector $< 1\text{ s}$ at max. speed $V_{\text{max}} < 1\text{ m/s}$ 3) Short circuit/overload protected. Max. 100 nF / 20 mH

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: Class B |

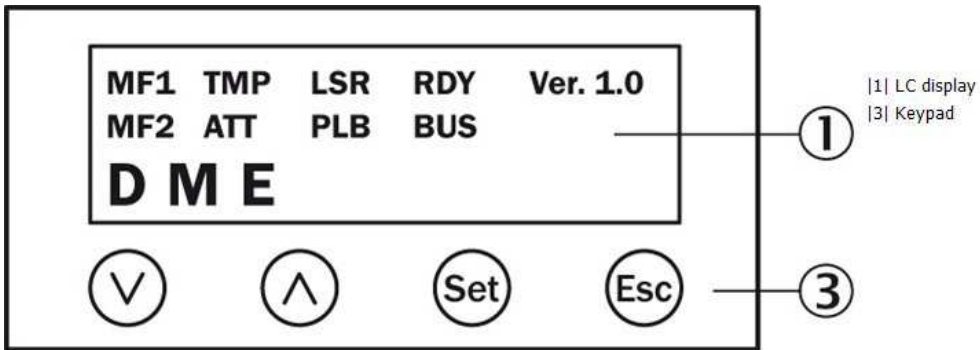
1) Reference voltage DC 32 V

Dimensional drawing

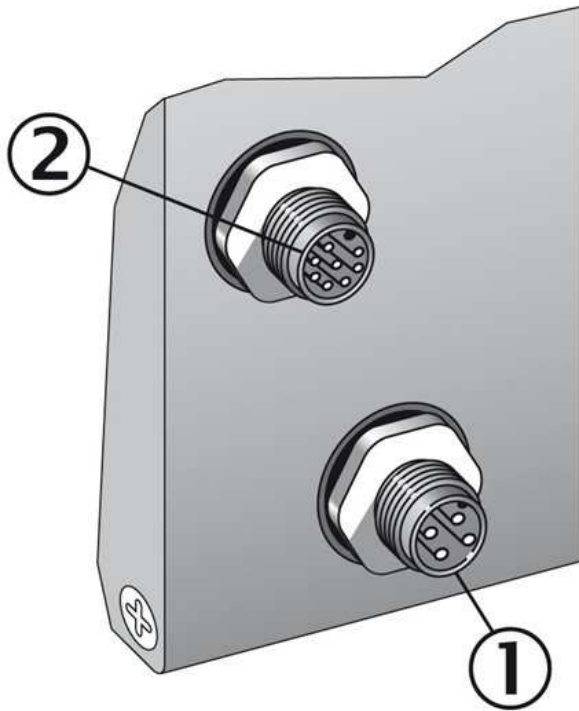


All dimensions in mm (inch)

Adjustments

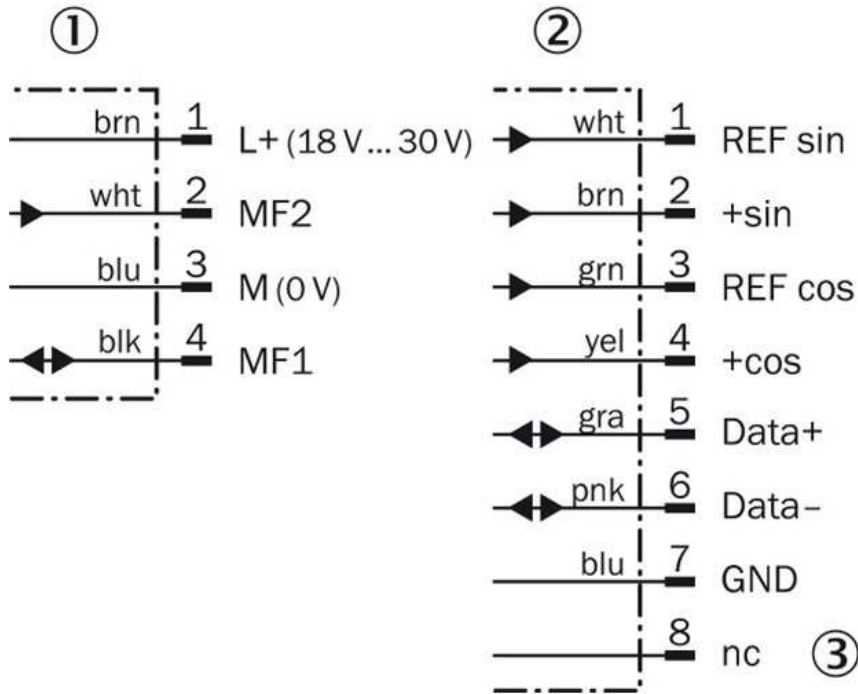


Connection type



- |1| Supply voltage M12, 4-pin
- |2| HIPERFACE connection M12, 8-pin

Connection diagram



- |1| Supply voltage M12, 4-pin
- |2| HIPERFACE connection M12, 8-pin
- |3| not connected

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