



## Long range distance sensors DME5000, SSI

DME5000-321



**Model Name** > [DME5000-321](#)  
**Part No.** > [1025246](#)

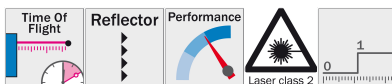


#### At a glance

- 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

|                                               |                                                            |
|-----------------------------------------------|------------------------------------------------------------|
| Measuring range <sup>1)</sup> :               | 0.15 m ... 300 m, on Diamond Grade                         |
| Resolution:                                   | 0.05 mm ... 5 mm                                           |
| Repeatability <sup>2)</sup> , <sup>3)</sup> : | 2 mm                                                       |
| Accuracy:                                     | ± 5 mm                                                     |
| Light source <sup>4)</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:                                  | 1 ms                                                       |
| Max. movement speed:                          | 10 m/s                                                     |

1) 2) On Diamond Grade 3) Statistical error 1  $\sigma$ , environmental conditions constant, min. warm-up time 10 min 4) Average service life of 50,000 h at  $T_A = +25\text{ °C}$

## Interfaces

|                                                                                                                                          |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Data interface:                                                                                                                          | SSI                         |
| Output type <sup>1)</sup> :                                                                                                              | Push-pull: PNP/NPN (100 mA) |
| Multifunctional input <sup>2)</sup> , <sup>3)</sup> :                                                                                    | 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

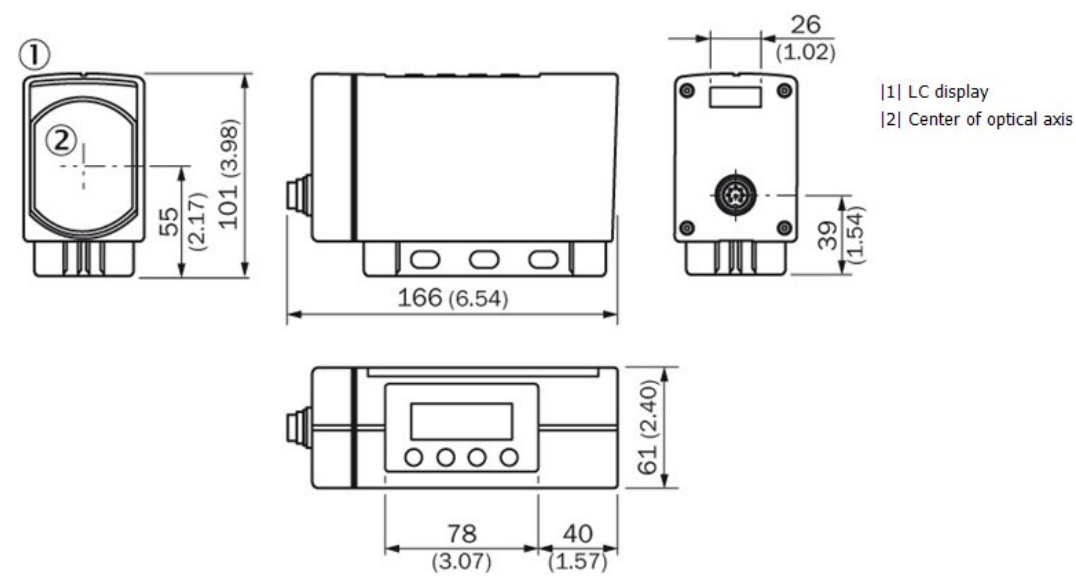
|                                                                                                                                                                                              |                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Supply voltage $V_S$ :                                                                                                                                                                       | DC 18 V ... 30 V , limit values |
| Ripple <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 $< 1,000\text{ mA}$  |
| Connection type:                                                                                                                                                                             | Connector M16, 8-pin            |
| 1) May not fall short of or exceed $V_S$ tolerances 2) After loss of reflector $< 1\text{ s}$ at max. speed $V_{\max} < 1\text{ m/s}$ 3) 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                                                                                                                         |
| 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 with heating: $-40 \dots 55\text{ °C}$<br>Operation with cooling case: $-40 \dots 75\text{ °C}$<br>Storage: $-25 \dots 75\text{ °C}$ |
| Mechanical load:                 | Noise: EN 600 68-2-64<br>Shock: EN 600 68-2-27/-2-29<br>Sine: EN 600 68-2-6                                                                    |

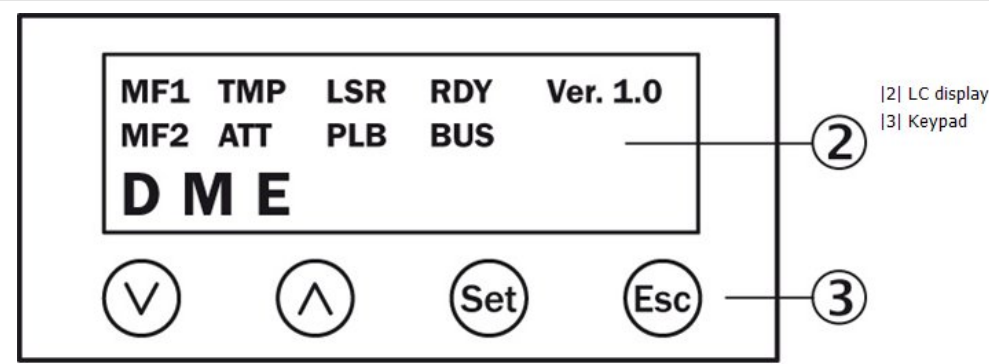
1) Reference voltage DC 32 V

Dimensional drawing



All dimensions in mm (inch)

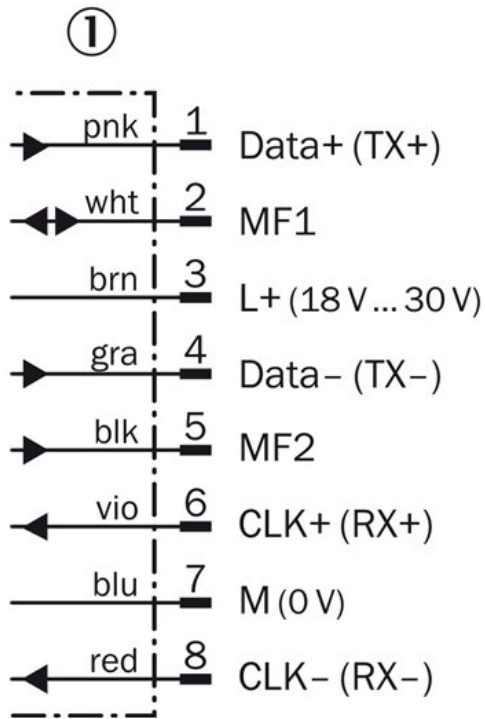
Adjustments



Connection type



Connection diagram



[1] Connector M16, 8-pin

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