



# DME4000-114

## DME4000

LONG RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type        | Part no. |
|-------------|----------|
| DME4000-114 | 1029800  |

Other models and accessories → [www.sick.com/DME4000](http://www.sick.com/DME4000)



### Detailed technical data

#### Mechanics/electronics

|                                        |                                                |
|----------------------------------------|------------------------------------------------|
| <b>Supply voltage <math>V_s</math></b> | DC 18 V ... 30 V, limit values                 |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub> <sup>1)</sup>              |
| <b>Initialization time</b>             | 1.5 s <sup>2)</sup>                            |
| <b>Connection type</b>                 | Male connector, 1 x M12, 4-pin, 1 x M16, 8-pin |
| <b>Indication</b>                      | Display                                        |
| <b>Weight</b>                          | Approx. 1,650 g                                |
| <b>Current consumption</b>             | At 24 V DC < 250 mA                            |
| <b>Enclosure rating</b>                | IP65                                           |
| <b>Protection class</b>                | II <sup>3)</sup>                               |

<sup>1)</sup> May not fall short of or exceed  $V_s$  tolerances.

<sup>2)</sup> After loss of reflector < 1 s at max. speed  $V_{max} < 1$  m/s.

<sup>3)</sup> Reference voltage DC 32 V.

#### Performance

|                        |                                                                                                                                                                |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measuring range</b> | 0.15 m ... 50 m, on reflective tape "Diamond Grade"                                                                                                            |
| <b>Target</b>          | Reflector                                                                                                                                                      |
| <b>Resolution</b>      | 0.05 mm ... 5 mm                                                                                                                                               |
| <b>Repeatability</b>   | 1 mm <sup>1)</sup> <sup>2)</sup>                                                                                                                               |
| <b>Accuracy</b>        | ± 3 mm                                                                                                                                                         |
| <b>Response time</b>   | 6 ms                                                                                                                                                           |
| <b>Output time</b>     | 2 ms                                                                                                                                                           |
| <b>Light source</b>    | Laser, red <sup>3)</sup>                                                                                                                                       |
| <b>Laser class</b>     | 2, complies with 21 CFR 1040.10 and 1040.11 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014) |

<sup>1)</sup> On reflective tape "Diamond Grade".

<sup>2)</sup> Statistical error 1  $\sigma$ , environmental conditions constant, min. warm-up time 10 min.

<sup>3)</sup> Average service life of 50,000 h at  $T_A = +25$  °C.

|                                        |                                                            |
|----------------------------------------|------------------------------------------------------------|
| <b>Typ. light spot size (distance)</b> | 130 mm (at 70 m)<br>270 mm (at 150 m)<br>360 mm (at 220 m) |
| <b>Max. movement speed</b>             | 10 m/s                                                     |

<sup>1)</sup> On reflective tape "Diamond Grade".

<sup>2)</sup> Statistical error 1  $\sigma$ , environmental conditions constant, min. warm-up time 10 min.

<sup>3)</sup> Average service life of 50,000 h at  $T_A = +25^\circ\text{C}$ .

## Interfaces

|                                   |                                                  |
|-----------------------------------|--------------------------------------------------|
| <b>DeviceNet™</b>                 | ✓                                                |
| <b>Digital output</b>             |                                                  |
| Number                            | 2                                                |
| Type                              | Push-pull: PNP/NPN                               |
| Maximum output current $I_A$      | $\leq 100\text{ mA}$ <sup>1)</sup> <sup>2)</sup> |
| <b>Multifunctional input (MF)</b> | 1 x MF <sup>3)</sup> <sup>4)</sup>               |

<sup>1)</sup> Max. 100 nF/20 mH.

<sup>2)</sup> HIGH =  $> V_S - 3\text{ V}$  / LOW =  $< 2\text{ V}$ .

<sup>3)</sup> HIGH =  $> 12\text{ V}$  / LOW =  $< 3\text{ V}$ .

<sup>4)</sup> Not reverse-polarity protected.

## Ambient data

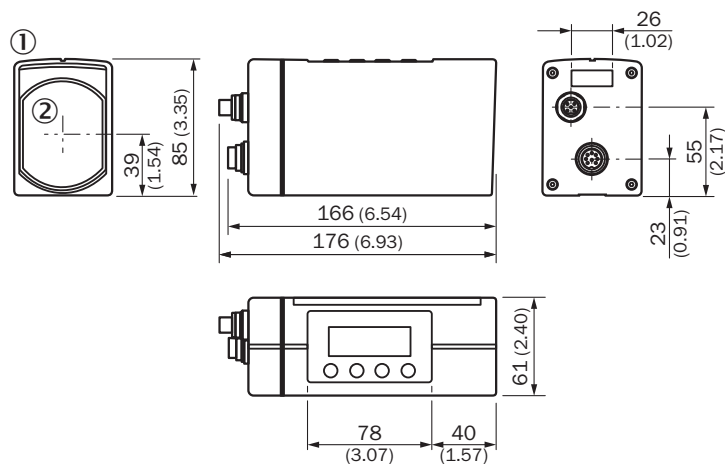
|                                            |                                                                                     |
|--------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 61000-6-2, EN 55011: Class B                                                     |
| <b>Ambient temperature operation</b>       | -10 °C ... +55 °C<br>-10 °C ... +75 °C, operation with cooling case                 |
| <b>Ambient storage temperature</b>         | -25 °C ... +75 °C                                                                   |
| <b>Effect of air pressure</b>              | 0.3 ppm/hPa                                                                         |
| <b>Effect of air temperature</b>           | 1 ppm/K                                                                             |
| <b>Temperature drift</b>                   | Typ. 0.1 mm/K                                                                       |
| <b>Typ. Ambient light immunity</b>         | $\leq 40,000\text{ lx}$                                                             |
| <b>Mechanical load</b>                     | Shock: (EN 600 68-2-27 / -2-29)<br>Sine: (EN 600 68-2-6)<br>Noise: (EN 600 68-2-64) |

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27270801 |
| <b>ECI@ss 5.1.4</b>   | 27270801 |
| <b>ECI@ss 6.0</b>     | 27270801 |
| <b>ECI@ss 6.2</b>     | 27270801 |
| <b>ECI@ss 7.0</b>     | 27270801 |
| <b>ECI@ss 8.0</b>     | 27270801 |
| <b>ECI@ss 8.1</b>     | 27270801 |
| <b>ECI@ss 9.0</b>     | 27270801 |
| <b>ETIM 5.0</b>       | EC001825 |
| <b>ETIM 6.0</b>       | EC001825 |
| <b>UNSPSC 16.0901</b> | 41111613 |

### Dimensional drawing (Dimensions in mm (inch))

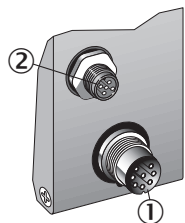
DME4000-xx4 DeviceNet



- ① LC display
- ② Center of optical axis

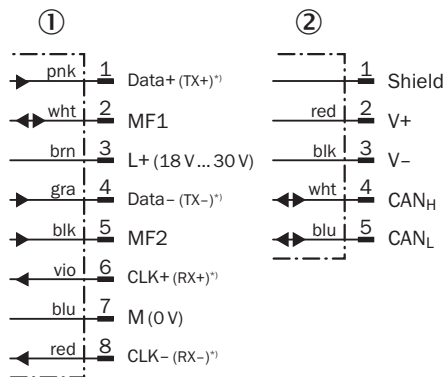
### Connection type

DME4/5xxx-xx4 DeviceNet Connector 1 x M12, 5-pin, A-coded 1 x M16, 8-pin



- ① Connector M16, 8-pin
- ② Connector M12, 5-pin, A-coded

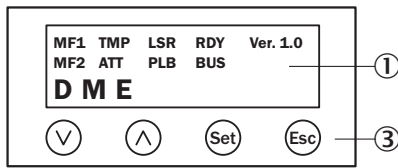
### Connection diagram



\* Internal interface, for production use only.

- ① Connector M16, 8-pin
- ② Connector M12, 5-pin, A-coded

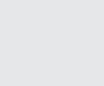
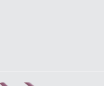
## Adjustment possible



- ① LC display
- ③ Keypad

## Recommended accessories

Other models and accessories → [www.sick.com/DME4000](http://www.sick.com/DME4000)

|                                                                                     | Brief description                                                                                                                                                                                                  | Type                      | Part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------|
| Terminal and alignment brackets                                                     |                                                                                                                                                                                                                    |                           |          |
|    | Alignment unit, stainless steel                                                                                                                                                                                    | BEF-DME alignment bracket | 2040695  |
| Plug connectors and cables                                                          |                                                                                                                                                                                                                    |                           |          |
|   | Head A: female connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 5 m                                                              | DOL-1205-G05MQ            | 6026006  |
|  | Head A: female connector, M12, 5-pin, A-coded<br>Head B: Flying leads<br>Cable: Power, CAN, unshielded, 5 m                                                                                                        | DOL-1205-G05M_Can         | 6021166  |
|  | Head A: female connector, M12, 5-pin, straight<br>Head B: Flying leads<br>Cable: CANopen, shielded, 6 m                                                                                                            | DOL-1205-G06MK            | 6028326  |
|  | Head A: female connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 10 m                                                             | DOL-1205-G10MQ            | 6026008  |
|  | Head A: female connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 15 m                                                             | DOL-1205-G15MQ            | 6032637  |
|  | Head A: male connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 5 m<br>Wire shield Al-Pt film, overall shield C-screen tin-plated  | STL-1205-G05MQ            | 6026005  |
|  | Head A: male connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 10 m<br>Wire shield Al-Pt film, overall shield C-screen tin-plated | STL-1205-G10MQ            | 6026007  |
|  | Head A: male connector, M12, 5-pin, straight, B-coded<br>Head B: Flying leads<br>Cable: PROFIBUS DP, twisted pair, PUR, halogen-free, shielded, 15 m                                                               | STL-1205-G15MQ            | 6036898  |
|  | Head A: female connector, M12, 5-pin, straight<br>Head B: Flying leads<br>Cable: CANopen, shielded, 10 m<br>Shielded on pin 1                                                                                      | YF2A14-100C1BXLEAX        | 6021175  |

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|                                                                                    | Brief description                                                                                                                                   | Type               | Part no. |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|   | Head A: female connector, M12, 8-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 2 m                                   | YF2A68-020XXXXLEAX | 6032448  |
|                                                                                    | Head A: female connector, M12, 8-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m                                   | YF2A68-050XXXXLEAX | 6032449  |
|                                                                                    | Head A: female connector, M12, 8-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 10 m                                  | YF2A68-100XXXXLEAX | 6032450  |
|                                                                                    | Head A: female connector, M16, 8-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 5 m                                   | YF2Z18-050XXXXLEBX | 2026742  |
|                                                                                    | Head A: female connector, M16, 8-pin, straight<br>Head B: Flying leads<br>Cable: PUR, halogen-free, shielded, 10 m                                  | YF2Z18-100XXXXLEBX | 2027193  |
|   | Head A: female connector, 7/8", 5-pin, straight<br>Head B: -<br>Cable: DeviceNet™, CANopen, terminal resistor, shielded<br>For field bus technology | DOS-7805-GKEND     | 6028329  |
|   | Head A: male connector, M12, 4-pin, straight, B-coded<br>Cable: PROFIBUS DP, terminal resistor                                                      | STE-END-Q          | 6021156  |
| Reflectors                                                                         |                                                                                                                                                     |                    |          |
|  | Reflector plate, "diamond grade" reflective tape, 665 mm x 665 mm, base plate material: aluminum, screw connection, Screw-on, 4 hole mounting       | PL560DG            | 1016806  |

## Recommended services

Additional services → [www.sick.com/DME4000](http://www.sick.com/DME4000)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type                        | Part no. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------|
| Warranty extensions                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Identification solutions, Vision, Distance sensors, Detection and ranging solutions</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase), Long-term protection for calculable lump sum.</li> <li>• <b>Duration:</b> Five-year warranty from date of purchase.</li> </ul> | Five-year extended warranty | 1680671  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

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