



DME5000-223

DME5000

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-------------|----------|
| DME5000-223 | 1025251 |

Other models and accessories → www.sick.com/DME5000



Detailed technical data

Features

| | |
|----------------------------------|--|
| Measuring range | 0.15 m ... 150 m, on "diamond grade" reflective tape ¹⁾ |
| Target | Reflector |
| Resolution | 50 µm ... 5,000 µm |
| Repeatability | 1 mm ^{1) 2)} |
| Measurement accuracy | ± 3 mm |
| Response time | 6 ms |
| Output time | 2 ms |
| Emitted beam | |
| Light source | Laser, red ³⁾ |
| Type of light | Visible red light |
| Typ. light spot size (distance) | 130 mm (at 70 m) |
| | 270 mm (at 150 m) |
| | 360 mm (at 220 m) |
| Key laser figures | |
| Normative reference | IEC 60825-1:2014, EN 60825-1:2014 |
| Laser class | 2 |
| Max. movement speed | 10 m/s |
| Safety-related parameters | |
| MTTF _D | 101 years |
| DC _{avg} | 0% |

¹⁾ On "diamond grade" reflective tape.

²⁾ Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min.

³⁾ Average service life of 50,000 h at T_A = +25 °C.

Interfaces

| | |
|-----------------------------------|--|
| Serial | ✓, RS-422 |
| Digital output | |
| Number | 2 |
| Type | Push-pull: PNP/NPN |
| Maximum output current I_A | $\leq 100 \text{ mA}$ ^{1) 2)} |
| Multifunctional input (MF) | 1 x MF ^{3) 4)} |

¹⁾ Max. 100 nF/20 mH.

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

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

⁴⁾ Not reverse-polarity protected.

Electronics

| | |
|--|------------------------------------|
| Supply voltage U_B | DC 18 V ... 30 V, limit values |
| Current consumption | At 24 V DC $< 1,000 \text{ mA}$ |
| Ripple | $< 5 \text{ V}_{pp}$ ¹⁾ |
| Initialization time | 1.5 s ²⁾ |
| Display | Display |
| Enclosure rating | IP65 |
| Protection class | II ³⁾ |
| Connection type | Male connector |

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⁾ Reference voltage DC 32 V.

Mechanics

| | |
|-------------------------------|-------------------------|
| Dimensions (W x H x D) | 61 mm x 101 mm x 176 mm |
| Housing material | Metal (zinc diecast) |
| Window material | Glass |
| Weight | Approx. 1,650 g |

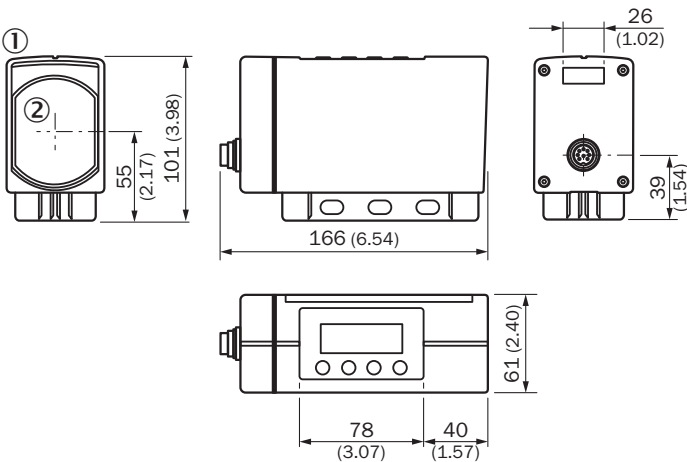
Ambient data

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

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270801 |
| ECLASS 5.1.4 | 27270801 |
| ECLASS 6.0 | 27270801 |
| ECLASS 6.2 | 27270801 |
| ECLASS 7.0 | 27270801 |
| ECLASS 8.0 | 27270801 |
| ECLASS 8.1 | 27270801 |
| ECLASS 9.0 | 27270801 |
| ECLASS 10.0 | 27270801 |
| ECLASS 11.0 | 27270801 |
| ECLASS 12.0 | 27270916 |
| ETIM 5.0 | EC001825 |
| ETIM 6.0 | EC001825 |
| ETIM 7.0 | EC001825 |
| ETIM 8.0 | EC001825 |
| UNSPSC 16.0901 | 41111613 |

Dimensional drawing DME5000 RS-422



Dimensions in mm (inch)

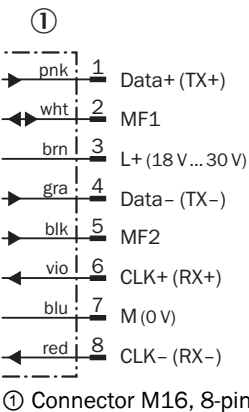
① LC display

② Center of optical axis

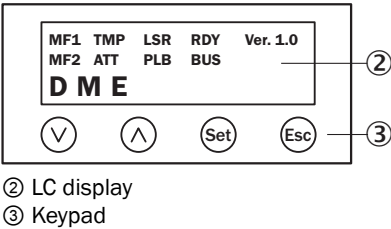
Connection type DME4/5xxx SSI/RS-422 Connector M16, 8-pin



Connection diagram

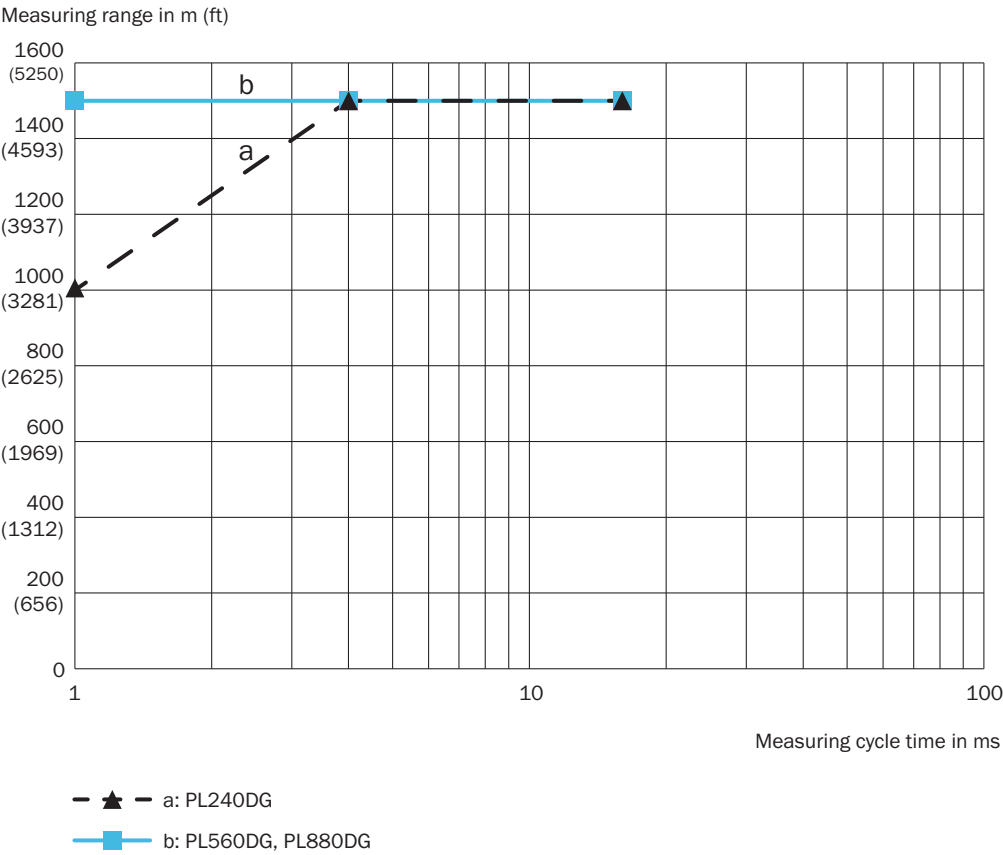


Adjustment possible




- ② LC display
- ③ Keypad

Working range diagram DL1000 measuring range based on measurement cycle time and reflector type



Recommended accessories

Other models and accessories → www.sick.com/DME5000

| | Brief description | Type | part no. |
|---|--|------------|------------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none">Description: Alignment unit for DME5000, stainless steel (1.4541), incl. mounting material, additional base plate mounting kit requiredItems supplied: Mounting hardware included | BEF-AH-DME | 2027721 |
| reflectors and optics | | | |
| | Strich | | On request |

| | Brief description | Type | part no. |
|---|---|--------------------|------------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Flying leads Signal type: Power, CAN Cable: 5 m, 5-wire Description: Power, unshielded, CAN | DOL-1205-G05M_Can | 6021166 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 10 m, 5-wire, PUR, halogen-free Description: Fieldbus, shielded, CANopen, DeviceNet™ Connection systems: Flying leads Note: Shielded on pin 1 | YF2A14-100C1BXLEAX | 6021175 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Cable: 2 m, 8-wire, PUR, halogen-free Description: Shielded Connection systems: Flying leads | YF2A68-020XXXXLEAX | 6032448 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Cable: 5 m, 8-wire, PUR, halogen-free Description: Shielded | YF2A68-050XXXXLEAX | 6032449 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Cable: 10 m, 8-wire, PUR, halogen-free Description: Shielded | YF2A68-100XXXXLEAX | 6032450 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, B-coded Connection type head B: Flying leads Signal type: PROFIBUS DP Cable: 10 m, 2-wire, PUR, halogen-free Description: PROFIBUS DP, twisted pair, shielded Connection systems: Flying leads Application: Zones with oils and lubricants | DOL-1205-G10MQ | 6026008 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, B-coded Connection type head B: Flying leads Signal type: PROFIBUS DP Cable: 5 m, 2-wire, PUR, halogen-free Description: PROFIBUS DP, twisted pair, shielded Connection systems: Flying leads Application: Zones with oils and lubricants | DOL-1205-G05MQ | 6026006 |
| | Strich | | On request |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, B-coded Connection type head B: Flying leads Signal type: PROFIBUS DP Cable: 15 m, 2-wire, PUR, halogen-free Description: PROFIBUS DP, twisted pair, shielded Connection systems: Flying leads Application: Zones with oils and lubricants | DOL-1205-G15MQ | 6032637 |
| | Strich | | On request |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 5-pin, straight, B-coded Connection type head B: Flying leads Signal type: PROFIBUS DP Cable: 10 m, 2-wire, PUR, halogen-free Description: PROFIBUS DP, twisted pair, shielded Note: Wire shield Al-Pt film, overall shield C-screen tin-plated Application: Zones with oils and lubricants, Drag chain operation | STL-1205-G10MQ | 6026007 |
| | Strich | | On request |
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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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