



Model Number

VDM100-50-P/G2/146

Distance sensor
with four M12 x 1 connectors

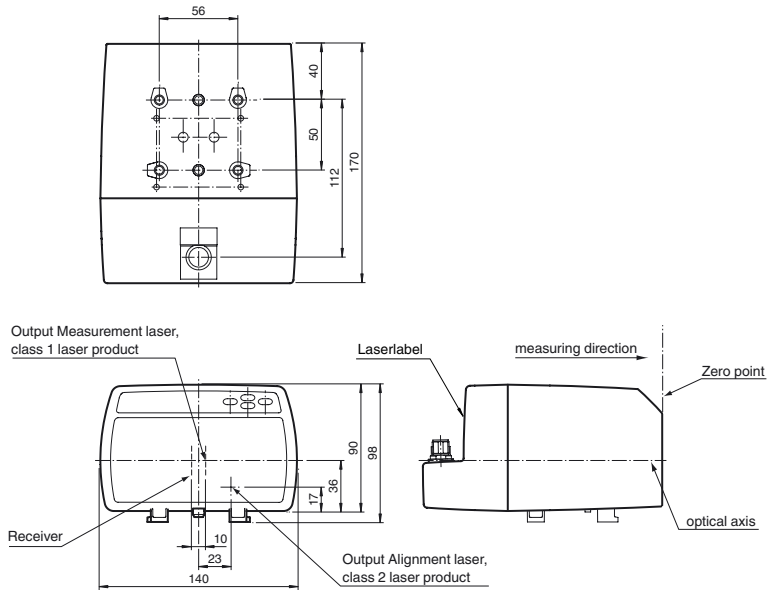
Features

- Measuring method PRT (Pulse Ranging Technology)
- Version for low temperature applications
- Non-contact precision measurement
- Ultra-fast data acquisition
- Active dynamic control
- Modern lightweight design, extremely robust
- Simple programming with 4 keys and luminous display

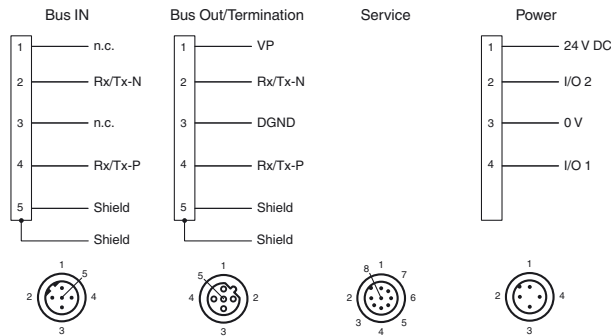
Product information

Series VDM 100 laser distance measurement devices are designed for high distances. They have a repeat accuracy of 0.5 mm. SSI and fieldbusses are used as value interfaces. These devices are used for precise positioning of rack operating units, gantry cranes, rail-bound vehicles, elevators and other linear movable units.

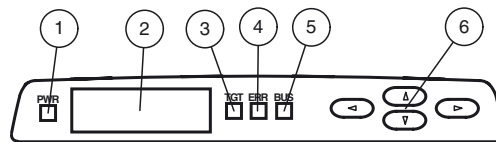
Dimensions



Electrical connection



Indicators/operating means

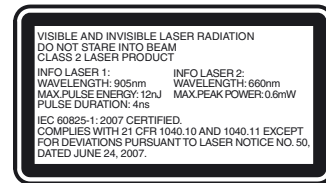


| | | |
|---|--------------|-------|
| 1 | Power-LED | green |
| 2 | Display | |
| 3 | TARGET-LED | green |
| 4 | ERROR-LED | red |
| 5 | BUS-LED | green |
| 6 | Control keys | |

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Technical data**General specifications**

| | |
|---|--|
| Measurement range | 0.3 ... 50 m |
| Reference target | Foil reflector 500 mm x 500 mm |
| Light source | laser diode |
| Laser nominal ratings | |
| Note | VISIBLE AND INVISIBLE LASER RADIATION , DO NOT STARE INTO BEAM |
| Laser class | Measurement laser: 1 Alignment laser: 2 |
| Wave length | Measurement laser: 905 nm Alignment laser: 660 nm |
| Beam divergence | Measurement laser: 2 mrad Alignment laser: 1 mrad |
| Pulse length | Measurement laser: 4 ns |
| Repetition rate | Measurement laser: 20 kHz |
| Maximum optical power output | Alignment laser: 0.6 mW |
| max. pulse energy | Measurement laser: 12 nJ |
| Measuring method | Pulse Ranging Technology (PRT) |
| Max. Motion velocity | 15 m/s |
| Alignment aid | Laser pointer Laser class 2 |
| Life span | > 100000 h |
| Diameter of the light spot | < 15 cm at 50 m |
| Ambient light limit | > 100000 Lux |
| Resolution | 0.1 mm , adjustable |
| Temperature influence | 0.03 mm/K |
| Functional safety related parameters | |
| MTTF _d | 89 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |
| Indicators/operating means | |
| Function indicator | 4 LEDs |
| Control elements | Control panel (4 membrane keys) for setting parameters |
| Parameterization indicator | Illuminated display for displaying measured values and parameterization |
| Electrical specifications | |
| Operating voltage | U _B 18 ... 30 V DC |
| No-load supply current | I ₀ 250 mA (18 V) ... 150 mA (30 V) |
| Protection class | III (operating voltage 50 V) |
| Time delay before availability | t _v < 10 s (-30 °C after 5 min.) |
| Interface | |
| Interface type | PROFIBUS DP acc. to EN 50170 |
| Transfer rate | 9.6 kbit/s ... 12 Mbit/s , adjustable |
| Input/Output | |
| Input/output type | 2 PNP inputs/outputs, independent configuration, short-circuit protected, reverse polarity protected |
| Input | |
| Switching threshold | low: U _e < 6 V, high: U _e > 16 V |
| Output | |
| Switching threshold | low: U _a < 1 V, high: U _a > U _b - 1 V |
| Switching current | 200 mA per output |
| Conformity | |
| Product standard | EN 60947-5-2 |
| Laser safety | IEC 60825-1:2007 |
| Measurement accuracy | |
| Measured value output | 1 ms |
| Average data age | 3 ms , 6 ms , 12 ms , 25 ms , 50 ms , adjustable |
| Offset | max. 2 mm (between two devices) |
| Absolute accuracy | ± 2.5 mm (> 3 m); ± 3.5 mm (0.3 m to 3 m) |
| Repeat accuracy | < 0.5 mm |
| Ambient conditions | |
| Ambient temperature | -30 ... 50 °C (-22 ... 122 °F) , For use in dry cold |
| Storage temperature | -30 ... 70 °C (-22 ... 158 °F) |
| Relative humidity | 95 % , no moisture condensation |
| Mechanical specifications | |
| Housing width | 140 mm |
| Housing height | 100 mm |
| Degree of protection | IP65 |
| Connection | 4-pin, M12x1 connector, standard (supply) , 5-pin, M12x1 connector, B-coded (Bus In) , 5-pin, M12x1 socket, B-coded (Bus Out) , 8-pin, M12x1 connector, service |
| Material | |

Laserlabel**Accessories****V15-G-PG9**

Female connector, M12, 5-pin, field attachable

V15-W-PG9

Female connector, M12, 5-pin, field attachable

V1-W

Female connector, M12, 4-pin, field attachable

V1-G

Female connector, M12, 4-pin, field attachable

V15SB-G-ABG-PG9

Cable connector, M12, for PROFIBUS, adjustable

V15B-G-ABG-PG9

Cable socket, M12, for PROFIBUS, adjustable

ICZ-TR-V15B

Terminal resistor for PROFIBUS

Funktionserdung LS610/VDM100 Zubehoer

Function grounding for LS610 / LS611 / VDM100 series

Schutzkappe LS610 Zubehoer

M12 protective cap set (connector + socket) for series LS610 / LS611

OMH-VDM100-01

Mounting bracket with deviation mirror for distance measurement devices

OMH-LS610-01

Mounting bracket for optical data coupler

OMH-LS610-02

Direct mounting set consisting of 4 x M4 threaded inserts

OMH-LS610-32

Mounting bracket for optical data coupler and distance measurement devices

OMH-LS610-05

Mounting bracket for optical data coupler and distance measurement devices

OFR-500/500

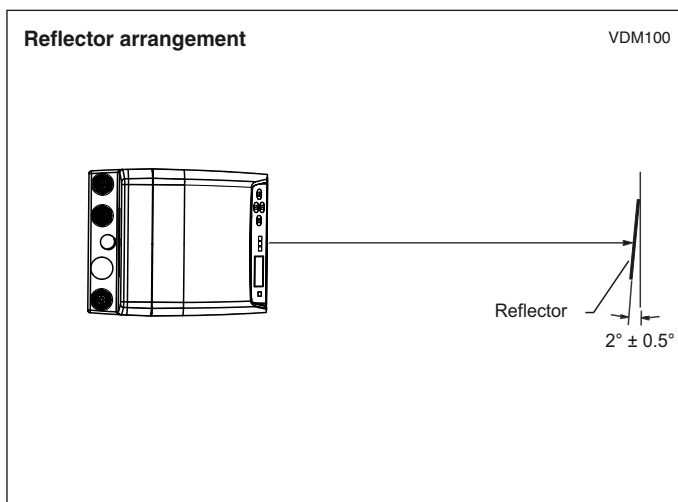
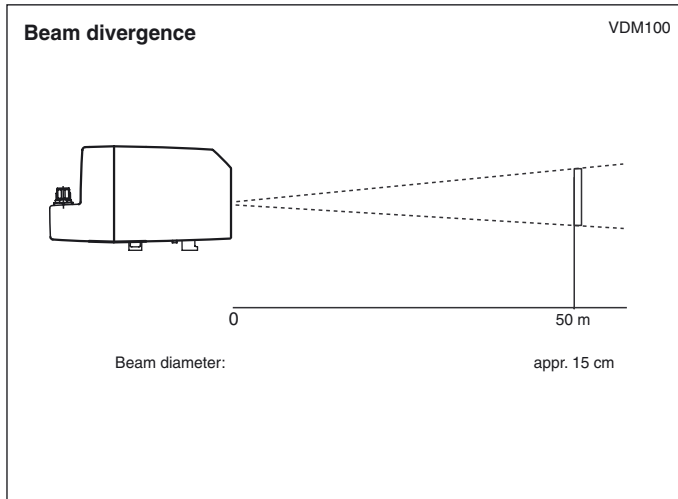
Reflective tape

| | |
|--------------|--------------------|
| Housing | ABS / PC |
| Optical face | PMMA , hard coated |
| Mass | approx. 700 g |

Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, Class 2 Power Source, Type 1 enclosure |
| FDA approval | IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 |

Curves/Diagrams



Laser notice laser class 2

- Caution: visible and invisible laser radiation, do not look at the beam!
- The irradiation can lead to irritation especially in a dark environment. Do not point at people!
- Maintenance and repairs should only be carried out by authorized service personnel!
- Attach the device so that the warning is clearly visible and readable.
- Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.