



### Model Number

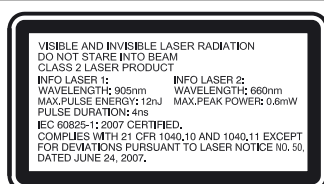
#### VDM100-50-SSI

Distance measurement device  
with three M12 x 1 connectors

### Features

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

### Laserlabel

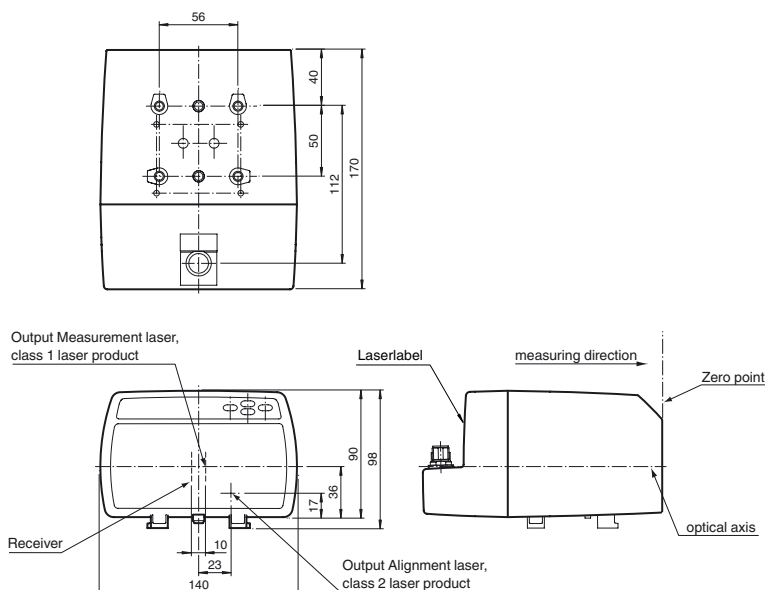


### Product information

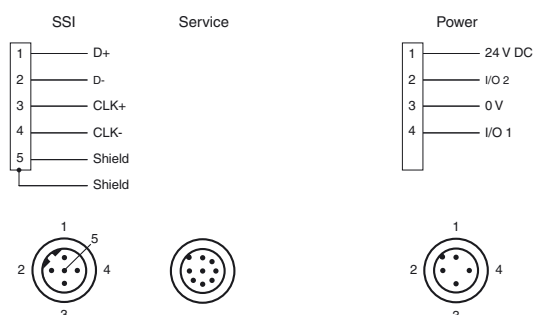
Series VDM 100 laser distance measurement devices are designed for high distances. They have a repeat accuracy of 0.5 mm. SSI and fieldbusses are used as value interfaces.

These devices are used for precise positioning of rack operating units, gantry cranes, rail-bound vehicles, elevators and other linear movable units.

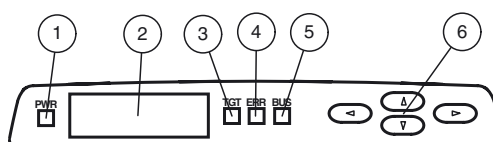
### Dimensions



### 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	

**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	
max. pulse energy	Alignment laser: 0.6 mW Measurement laser: 12 nJ
Measuring method	Pulse Ranging Technology (PRT)
Max. Motion velocity	15 m/s
Alignment aid	Laserpointer 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 <sub>d</sub>	120 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Function display	4 LEDs
Controls	Control panel (4 membrane keys) for setting parameters
Parameterization display	Illuminated display for displaying measured values and parameterization

**Electrical specifications**

Operating voltage	U <sub>B</sub>	18 ... 30 V DC
No-load supply current	I <sub>0</sub>	250 mA (18 V) ... 150 mA (30 V)
Protection class		III (operating voltage 50 V)
Time delay before availability	t <sub>v</sub>	< 10 s

**Interface**

Interface type	SSI
Read out rate	4000/s Clock frequency: 100 kHz ... 1 MHz

**Input/Output**

Input/output type	2 PNP inputs/outputs, independent configuration, short-circuit protected, reverse polarity protection
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**Input**

Switching threshold	low: U <sub>e</sub> < 6 V, high: U <sub>e</sub> > 16 V
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**Output**

Switching threshold	low: U <sub>a</sub> < 1 V, high: U <sub>a</sub> > U <sub>b</sub> - 1 V
Switching current	200 mA per output

**Performance characteristics**

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	-10 ... 50 °C (14 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Relative humidity	95 % , no moisture condensation

**Mechanical specifications**

Protection degree	IP65
Connection	4-pin, M12x1 connector, standard (supply) , 5-pin, M12 x 1 connector, B-coded (SSI) , 8-pin M12x1 connector, service
Material	
Housing	ABS / PC
Optical face	PMMA , hard coated
Mass	approx. 700 g

**Compliance with standards and directives****Accessories****V15-G-PG9**

Cable socket, M12, 5-pin, ready for assembly

**V15-W-PG9**

Cable socket, M12, 5-pin, ready for assembly

**V15B-G**

Cable socket, M12, for PROFIBUS, adjustable

**V15SB-G**

Cable connector, M12, for PROFIBUS, adjustable

**V1-W**

Field attachable female cordset

**V1-G**

4-pin, M12 female field-attachable connector

**V15-G-15M-LIHCH-TP**

SSI bus cable, B-coded M12, 5-pin cable

**Schutzkappe LS610 Zubehoer**

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

**Funktionserdung LS610/VDM100 Zubehoer**

Function grounding for LS610 / LS611 / VDM100 series

**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-LS610-04****OMH-LS610-32**

Mounting bracket for optical data coupler and distance measurement devices

**OFR-1000/1000**

Reflective tape 1000 mm x 1000 mm

**OFR-500/500**

Reflective tape

Suitable reflectors and cable sockets can be found in the Internet

Directive conformity	EMC Directive 2004/108/EC
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Standard conformity	
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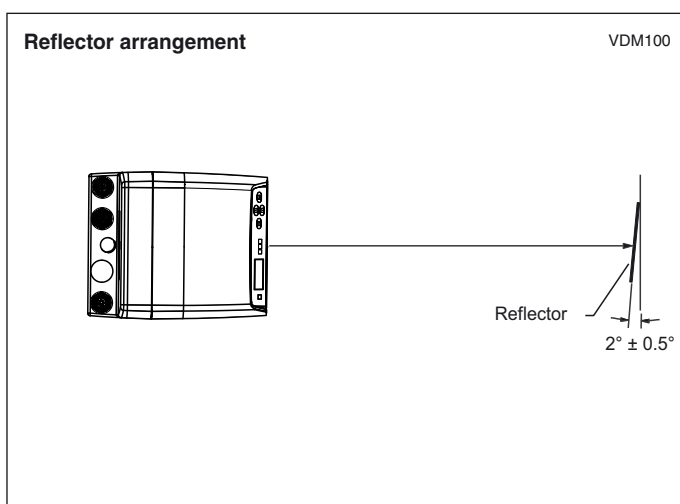
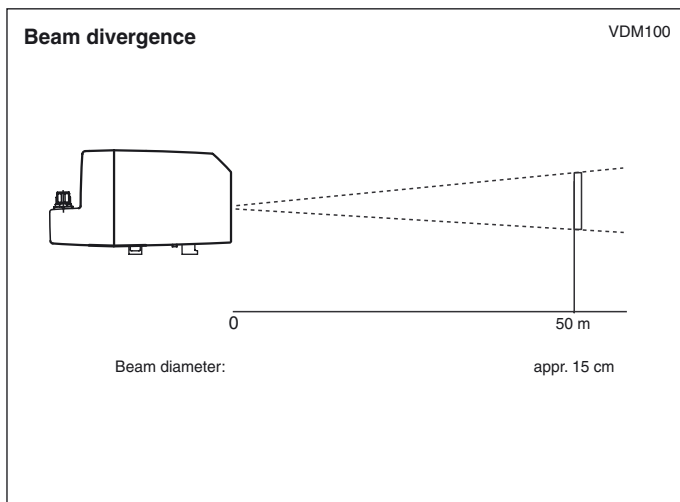
Product standard	EN 61326-1:2006
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Laser class	IEC 60825-1:2007
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#### Approvals and certificates

UL approval	cULus Listed
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### 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.