



Model Number

VDM100-150-EIP/G2

Distance sensor
with three M12 x 1 connectors

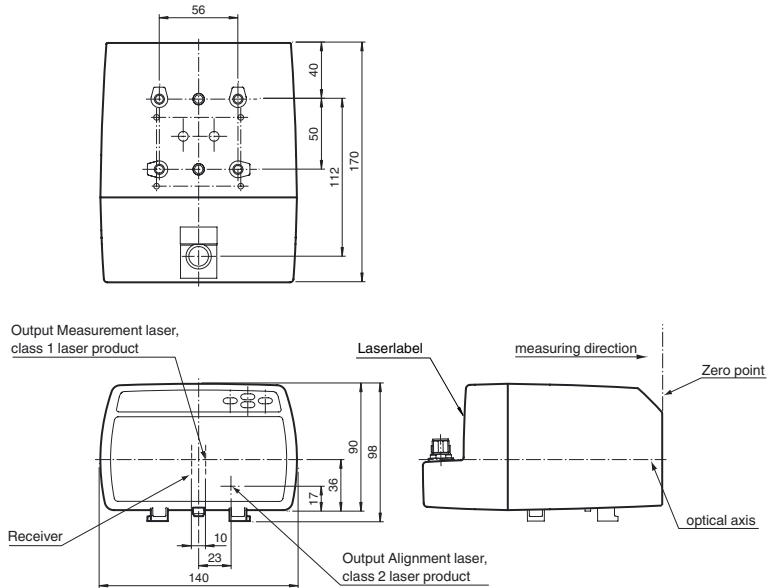
Features

- Measuring method PRT (Pulse Ranging Technology)
- Non-contact precision measurement
- Ultra-fast data acquisition
- Active dynamic control
- Modern lightweight design, extremely robust
- EtherNet/IP

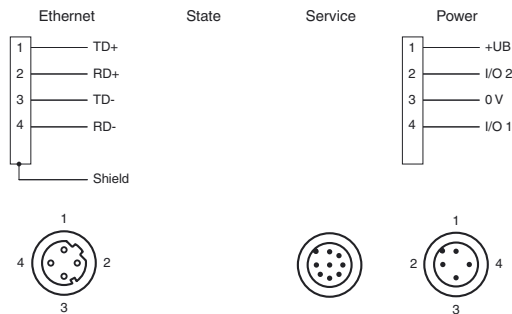
Product information

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.

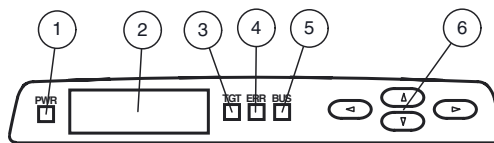
Dimensions



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 ... 150 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
Life span	> 100000 h
Diameter of the light spot	< 35 cm at 150 m
Ambient light limit	> 100000 Lux
Resolution	0.1 mm , adjustable
Temperature influence	0.03 mm/K

Functional safety related parameters

MTTF _d	120 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Diagnostics indicator	3 LEDs connection status: Link, speed, activity
Function indicator	4 LEDs
Control elements	Control panel (4 membrane keys) for setting parameters status
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

Interface

Interface type	EtherNet/IP
Read out rate	1000/s @ 100 Mbit/s

Input/Output

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

Switching threshold	low: U _e < 6 V, high: U _e > 16 V
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Output

Switching threshold	low: U _a < 1 V, high: U _a > U _b - 1 V
Switching current	200 mA per output

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

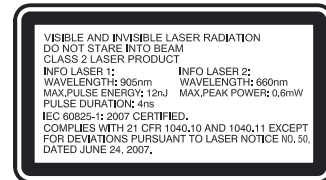
Ambient temperature	-10 ... 50 °C (14 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Relative humidity	95 % , no moisture condensation

Mechanical specifications

Degree of protection	IP65
Connection	4-pin, M12x1 connector, standard (supply) , 4-pin, M12x1 socket, D-coded (LAN) , 8-pin, M12x1 connector, service
Material	
Housing	ABS / PC
Optical face	PMMA , hard coated
Mass	approx. 700 g

Compliance with standards and directives

Directive conformity	
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Laserlabel**Accessories****V15-G-PG9**

Female connector, M12, 5-pin, field attachable

V1SD-G-2M-PUR-ABG-V45-G

Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e

V1SD-G-5M-PUR-ABG-V45-G

Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e

V1SD-G-2M-PUR-ABG-V1SD-G

Ethernet bus cable, M12 to M12, PUR cable 4-pin, CAT5e

V1SD-G-ABG-PG9

Cable connector, M12, 4-pin, D-coded, shielded, non pre-wired

OMH-LS610-01

Mounting bracket for optical data coupler

OMH-VDM100-01

Mounting bracket with deviation mirror for distance measurement devices

Other suitable accessories can be found at www.pepperl-fuchs.com

EMC Directive 2004/108/EC

EN 60947-5-2:2007

Standard conformity

Product standard

EN 60947-5-2:2007

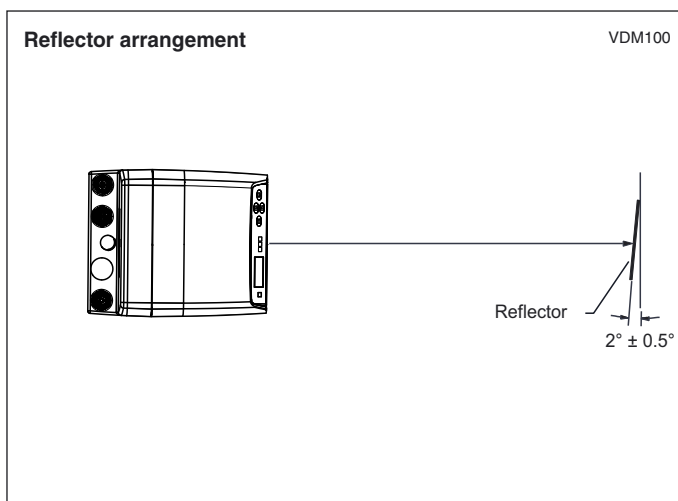
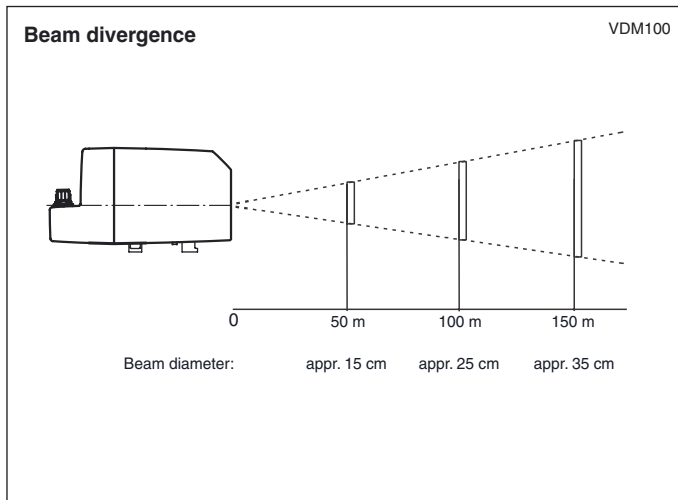
Laser class

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

Approvals and certificates

UL approval

cULus Listed, Class 2 Power Source, Type 1 enclosure

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.