**Model Number**

**VDM100-150-SSI/G2**

Distance sensor with three M12 x 1 connectors

**Features**

- Measuring method PRT (Pulse Ranging Technology)
- Non-contact precision measurement
- Switchable SSI/RS 422 interface
- 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.
### 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**: 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
- Measurement laser: 12 nJ

#### max. pulse energy
- Measurement laser: 12 nJ

#### Measuring method
- Pulse Ranging Technology (PRT)

#### Max. Motion velocity
- 15 m/s

#### Alignment aid
- Laser pointer switchable

#### Life span
- > 100000 h

#### Diameter of the light spot
- < 35 cm at 150 m

#### Ambient light limit
- > 100000 Lux

#### Absolute accuracy
- ± 2.5 mm (> 3 m); ± 3.5 mm (0.3 m to 3 m)

#### Average data age
- 3 ms , 6 ms , 12 ms , 25 ms , 50 ms , adjustable

#### 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

#### Interface 1
- Interface type: RS-422
- Read out rate: 4.8 ... 115.2 kBit/s

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

#### Input
- Switching threshold: low: Ue < 1 V, high: Ue > 16 V

#### Output
- Switching threshold: low: Ua < 1 V, high: Ua > Ub - 1 V
- Switching current: 200 mA per output

#### Measurement accuracy
- Measured value output: ± 0.3 mm
- 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
- Temperature influence: 0.03 mm/K
- Ambient light limit: > 100000 Lux
- Life span: > 100000 h
- Max. Motion velocity: 15 m/s

#### Laser specifications
- Pulse Ranging Technology (PRT)
- Diode laser
- Beam divergence: 2 mrad
- Measuring method: Pulse Ranging Technology
- Laser class: 1
- Wave length: 905 nm
- Maximum optical power output: 0.6 mW
- Pulsed laser
- Pulse length: 4 ns
- Pulse Ranging Technology (PRT)
- Alignment laser
- Beam divergence: 0.6 mW
- Measuring method: Laser Ranging Technology
- Laser class: 1
- Wave length: 660 nm
- Maximum optical power output: 0.6 mW

#### Accessories
- **V15-G-P9**: Female connector, M12, 5-pin, field attachable
- **V15-W-P9**: Female connector, M12, 5-pin, field attachable
- **OMH-VD100-01**: Mounting bracket with deviation mirror for distance measurement devices
- **OMH-VD100-02**: Direct mounting set consisting of 4 x M4 threaded inserts
- **OMH-VD100-05**: Mounting bracket for optical data coupler and distance measurement devices
- **OMH-VD100-32**: Mounting bracket for optical data coupler and distance measurement devices

---

Refer to “General Notes Relating to Pepperl+Fuchs Product Information”.

Release date: 2015-09-16 14:58 Date of issue: 2015-09-16 241268_eng.xml
Distance sensor

VDM100-150-SSI/G2

Mass  approx. 700 g

Compliance with standards and directives

Directives
- EMC Directive 2004/108/EC

Product standards
- IEC 60825-1:2007

Approvals and certificates
- UL approval - cULus Listed

Curves/Diagrams

Beam divergence

0 50 m 100 m 150 m
Beam diameter: appr. 15 cm appr. 25 cm appr. 35 cm

Reflectors

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.