Model Number

VDM35-6-L/20/105/122
Distance sensor
with 5-pin, M12 x 1 connector

Features

- Can be aligned using an integrated pilot laser
- Adjustable switch outputs
- Not sensitive to ambient light
- Analog output 4 mA ... 20 mA

Dimensions

Electrical connection

Option:

1. +UB
2. QB
3. 0 V
4. QA
5. Analogue

Pinout

Indicators/operating means

1. LED Menue, red
2. LED QA, yellow
3. LED Fast, orange
4. LED Power, green
5. LED QB, yellow
6. Button Set
7. Button Toggle
## Technical data

### General specifications
- **Measurement range**: 0.2 ... 6 m
- **Reference target**: Kodak white (90%)
- **Light source**: laser diode
- **Light type**: modulated visible red light, modulated infrared light

### Laser nominal ratings
- **Note**: VISIBLE AND INVISIBLE LASER RADIATION, DO NOT STARE INTO BEAM
- **Laser class**: Measurement laser: 1, Alignment laser: 2
- **Wavelength**
  - Measurement laser: 905 nm
  - Alignment laser: 650 nm
- **Beam divergence**
  - Measurement laser: 2 mrad
  - Alignment laser: 1 mrad
- **Pulse length**
  - Measurement laser: 6 ns
  - Alignment laser: 0.25 μs
- **Repetition rate**
  - Measurement laser: 40 kHz
  - Alignment laser: 1 kHz
- **Maximum optical power output**
  - Measurement laser: 1.8 W
  - Alignment laser: 3 mW

### Measuring method
- **Time of flight measurement**

### Diameter of the light spot
4 mm x 12 mm at a distance of 6 m

### Temperature influence
typ. ≤ 1.2 mm/K

### Indicators/operating means
- **Operation indicator**: LED green
- **Function indicator**: LED yellow: switching state (2x), LED orange: Operating mode
- **Control elements**: Control panel: Adjuster for switch point, Operating mode, Analog output (S - Set, T - Toggle)
- **Parameterization indicator**: LED red (4x)

### Electrical specifications
- **Operating voltage**: $U_B$ 18 ... 30 V DC, class 2
- **Ripple**: 10 % within the supply tolerance
- **No-load supply current**: $I_0$ ≤ 125 mA / 24 V DC
- **Time delay before availability**: $t_v$ ≤ 300 ms

### Output
- **Switching type**: light/dark on, switchable
- **Signal output**: 2 PNP, short-circuit protected
- **Switching current**: max. 100 mA
- **Measurement output**: 1 analog output 4 ... 20 mA, short-circuit/overload protected, $R_{max} = 500$ Ohm
- **Voltage drop**: $U_d$ ≤ 2.4 V
- **Deviation of the characteristic curve**: typ. ≤ 40 mm
- **Response time**
  - Fast: 13 ms / Slow: 80 ms
- **Repeat accuracy**
  - Fast: ≤ 15 mm / Slow: ≤ 10 mm

### Ambient conditions
- **Ambient temperature**: -20 ... 50 °C (-4 ... 122 °F)
- **Storage temperature**: -40 ... 80 °C (-40 ... 176 °F)

### Mechanical specifications
- **Degree of protection**: IP67
- **Connection**: 5-pin, M12 x 1 connector
- **Material**: Housing ABS, Optical face PMMA
- **Mass**: 200 g

### Compliance with standards and directives
- **Standard conformity**: EN 60947-5-2
- **Laser class**: IEC 60825-1:2007

### Approvals and certificates
- **Approvals**
  - CE, cULus

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## Laserlabel

**VISIBLE AND INVISIBLE LASER RADIATION, DO NOT STARE INTO BEAM**

**LASER PRODUCT**

**Measuring LASER class 1**
- Wavelength: 905nm
- Peak power: 2.4W
- Pulse duration: 0.75μs

**Pilot LASER class 2**
- Wavelength: 650nm
- Peak power: 3.8mW
- Pulse duration: 0.25μs

IEC 60825-1:2007 certified
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

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## Accessories

**OMH-VDM35**
- Mounting bracket

**OMH-VDM35-01**
- Adjustment set series VDM35

**VDM35-AR**
- Alignment aid for VDM35 and VDM70 series

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

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

Light spot representation

Smallest detectable part in relation to distance

Measuring range
Automatic reflector mode

With this mode, a scanning zone is set for a signal output so that the detected surface of the background object (automatic reflector) is approx. midway between switch points Qn. 1 and Qn. 2. The background object can also be moved (e.g. a conveyor belt).

The device now virtually operates like a retro-reflective sensor.

All objects are detected in zone A (regardless of their degree of reflection or possible reflective surfaces, exception: transparent objects).