



Distance sensor

VDM18-100/32/105/122

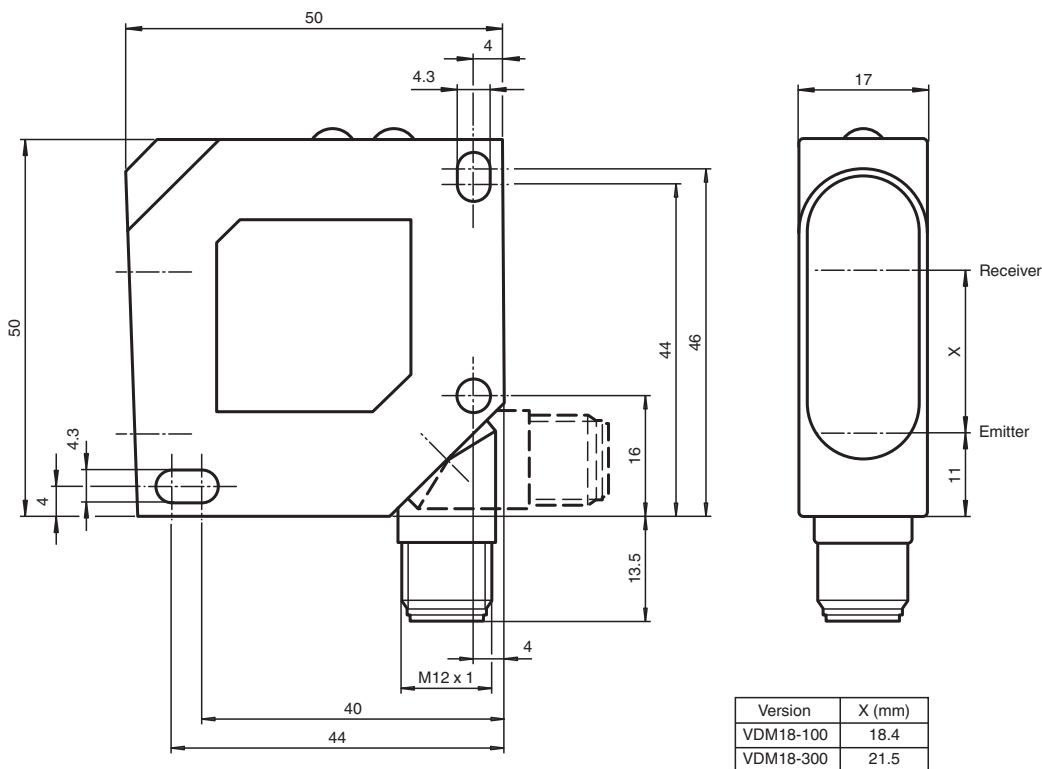


- Analog output 4 mA ... 20 mA
- High resolution
- Very fast response characteristic, suitable for rapid scanning process

Universal distance sensor, measurement to object, 100 mm detection range, red laser light, laser class 2, PNP output, analog output, control input, M12 plug



Dimensions



Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193919_eng.pdf

Technical Data

General specifications

| | |
|-------------------|--|
| Measurement range | 30 ... 100 mm |
| Light source | laser diode typ. service life 50,000 h at Ta = +40 °C |
| Light type | modulated visible red light |

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

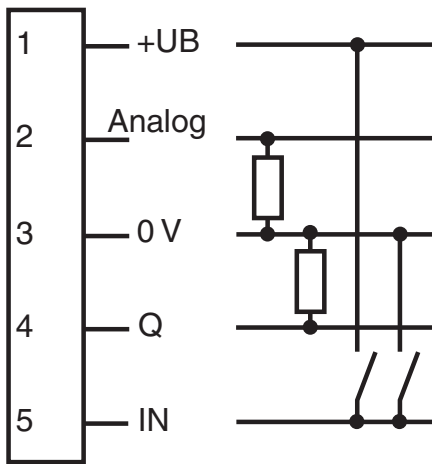
| | | |
|---|----------------|---|
| Laser nominal ratings | | |
| Note | | LASER LIGHT , DO NOT STARE INTO BEAM |
| Laser class | | 2 |
| Wave length | | 650 nm |
| Light spot representation | | approx. 1.5 mm x 3.25 mm at 100 mm |
| Measuring method | | Laser triangulation |
| Ambient light limit | | ≤ 5000 Lux |
| Nominal ratings | | |
| Linearity error | | 0.25 % of the measuring range |
| Repeat accuracy | R | < 0.25 % of the measured value |
| Resolution | | < 0.1 % of the measuring range |
| Temperature drift | | < 0.02 % / °C |
| Indicators/operating means | | |
| Operation indicator | | LED green |
| Function indicator | | 2 yellow LEDs: Switching status (each output) , 4 green LEDs: Operating mode |
| Control elements | | Control panel : Adjuster for switch point , Operating mode , Analog output (S - Set , T - Toggle) |
| Parameterization indicator | | LED red |
| Electrical specifications | | |
| Operating voltage | U _B | 18 ... 30 V DC |
| No-load supply current | I ₀ | ≤ 40 mA at 24 V DC |
| Protection class | | II , rated voltage ≤ 50 V DC |
| Time delay before availability | t _v | ≤ 300 ms |
| Input | | |
| Control input | | Laser off (HIGH +UB) , Keypad lock (LOW 0 V) |
| Output | | |
| Signal output | | 1 PNP output, short-circuit protected, reverse polarity protected, open collector |
| Switching current | | max. 100 mA |
| Measurement output | | 1 analog output 4 ... 20 mA, short-circuit/overload protected , R _{max} = 500 Ohm |
| Switching frequency | f | ≤ 1 kHz |
| Response time | | 0.4 ms |
| Compliance with standards and directives | | |
| Directive conformity | | |
| EMC Directive 2004/108/EC | | EN 60947-5-2 |
| Standard conformity | | |
| Laser class | | DIN EN 60825-1:2008, IEC 60825-1:2007 |
| Approvals and certificates | | |
| UL approval | | cULus Listed |
| Approvals | | CE, cULus |
| Ambient conditions | | |
| Ambient temperature | | -10 ... 60 °C (14 ... 140 °F) |
| Storage temperature | | -20 ... 80 °C (-4 ... 176 °F) |
| Mechanical specifications | | |
| Housing width | | 17 mm |
| Housing height | | 50 mm |
| Housing depth | | 50 mm |
| Degree of protection | | IP67 |
| Connection | | 5-pin, M12 x 1 plastic connector |
| Material | | |
| Housing | | ABS , impact resistant |
| Optical face | | PMMA |
| Mass | | approx. 43 g |

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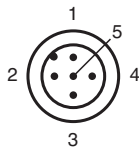
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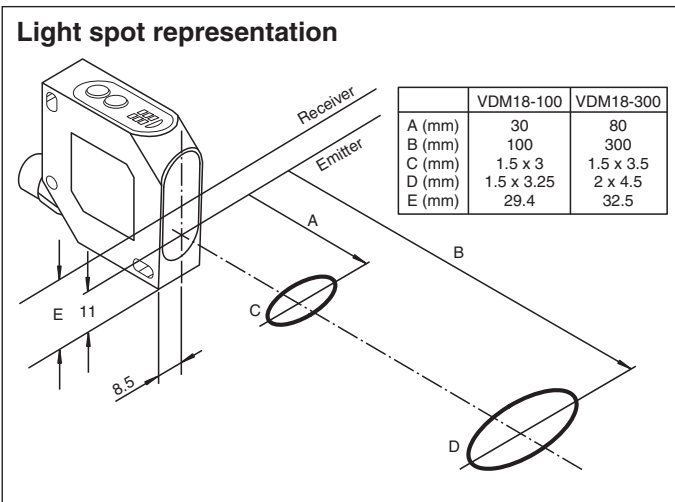
Connection Assignment



Connection Assignment



Characteristic Curve



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Safety Information



Safety Information

Laser Class 2 Information

The irradiation can lead to irritation especially in a dark environment. Do not point at people!



Caution: Do not look into the beam!

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.

Accessories

| | | |
|---|---------------------|---|
|  | OMH-VDM18-01 | Mounting accessory, distance measuring devices Series VDM18 |
|  | OMH-VDM18-02 | Mounting accessory, distance measuring devices Series VDM18 |