



# Distance sensor

## VDM18-300/20/88/122/151

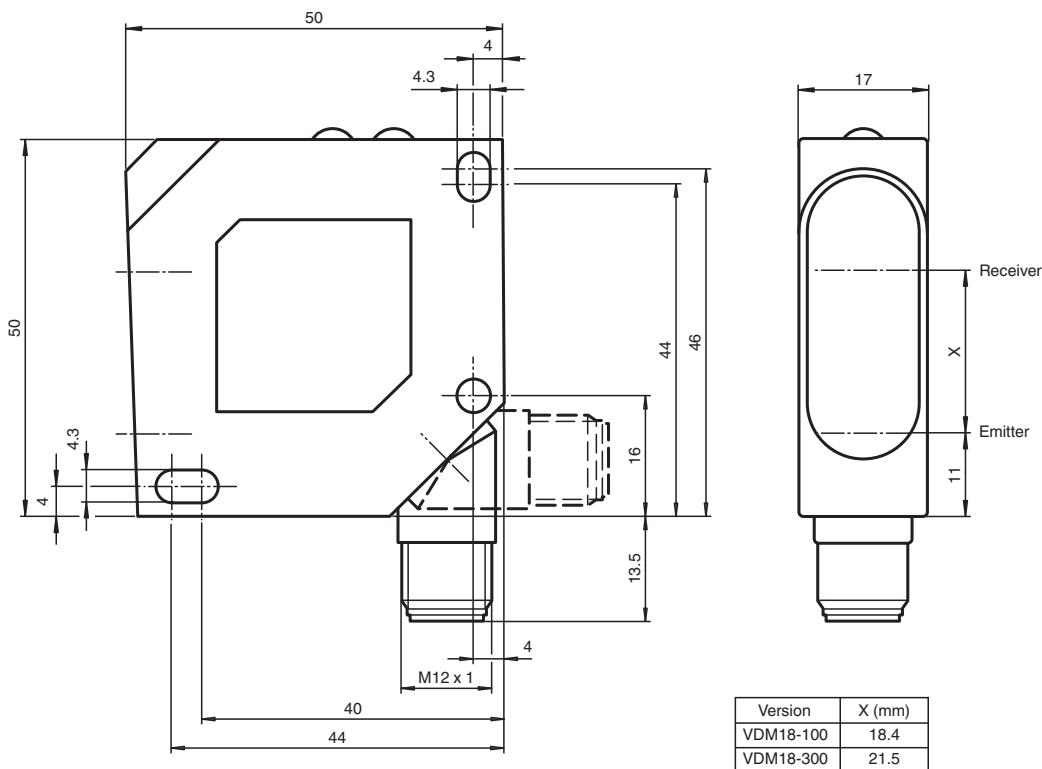


- Analog output 4 mA ... 20 mA
- High resolution
- Very fast response characteristic, suitable for rapid scanning process
- Interface RS 485

Universal distance sensor, measurement to object, 300 mm detection range, red laser light, laser class 2, RS485 interface, 2 x PNP outputs, analog output, M12 plug



### Dimensions



### Technical Data

#### General specifications

Measurement range	80 ... 300 mm
Light source	laser diode typ. service life 50,000 h at Ta = +40 °C
Light type	modulated visible red light

Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193924\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PF** PEPPERL+FUCHS

## Technical Data

<b>Laser nominal ratings</b>		
Note		LASER LIGHT , DO NOT STARE INTO BEAM
Laser class		2
Wave length		650 nm
Light spot representation		approx. 2 mm x 4.5 mm at 300 mm
Measuring method		Laser triangulation
Ambient light limit		≤ 5000 Lux
<b>Nominal ratings</b>		
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
<b>Indicators/operating means</b>		
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
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	18 ... 30 V DC
No-load supply current	I <sub>0</sub>	≤ 40 mA at 24 V DC
Protection class		II , rated voltage ≤ 50 V DC
Time delay before availability	t <sub>v</sub>	≤ 300 ms
<b>Interface</b>		
Interface type		RS-485
<b>Output</b>		
Interfaces		RS-485
Signal output		2 PNP outputs, independent , short-circuit protected, reverse polarity protected
Switching current		max. 100 mA
Measurement output		1 analog output 4 ... 20 mA, short-circuit/overload protected , R <sub>max</sub> = 500 Ohm
Switching frequency	f	≤ 1 kHz
Response time		0.4 ms
<b>Compliance with standards and directives</b>		
Directive conformity		
EMC Directive 2004/108/EC		EN 60947-5-2
Standard conformity		
Laser class		DIN EN 60825-1:2008, IEC 60825-1:2007
<b>Approvals and certificates</b>		
UL approval		cULus Listed
<b>Ambient conditions</b>		
Ambient temperature		-10 ... 60 °C (14 ... 140 °F)
Storage temperature		-20 ... 80 °C (-4 ... 176 °F)
<b>Mechanical specifications</b>		
Housing width		17 mm
Housing height		50 mm
Housing depth		50 mm
Degree of protection		IP67
Connection		M12 connector, 8-pin
<b>Material</b>		
Housing		ABS , impact resistant
Optical face		PMMA
Mass		approx. 43 g

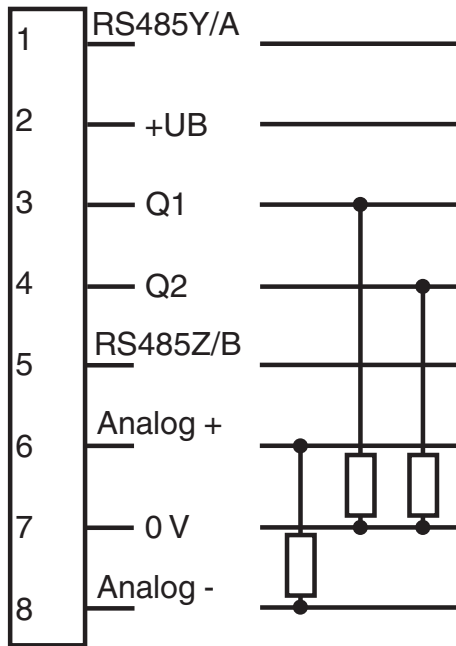
Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193924\_eng.pdf

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

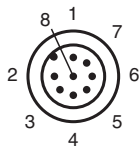
Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.comGermany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

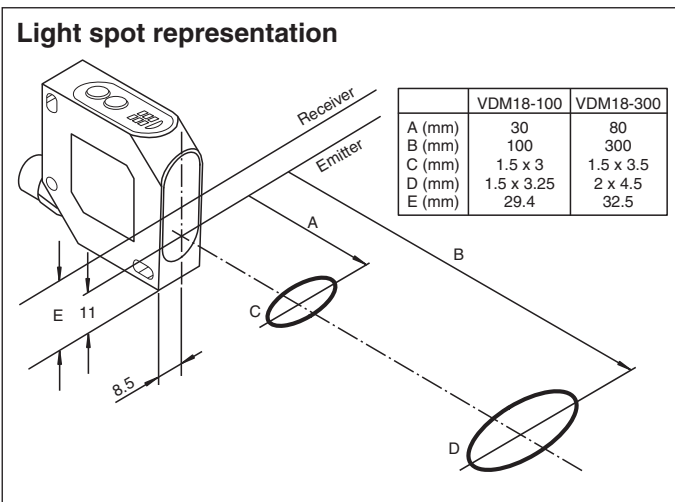
**Connection Assignment**



**Connection Assignment**



**Characteristic Curve**



Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193924\_eng.pdf

**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**

	<b>OMH-VDM18-01</b>	Mounting accessory, distance measuring devices Series VDM18
	<b>OMH-VDM18-02</b>	Mounting accessory, distance measuring devices Series VDM18

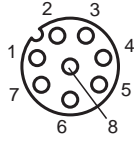
Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193924\_eng.pdf

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

## Connection Assignment



**Caution: PIN 1 and PIN 5 must not be connected to the operating voltage. Otherwise the device will be destroyed**



Release date: 2023-09-05 Date of issue: 2023-09-05 Filename: 193924\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com