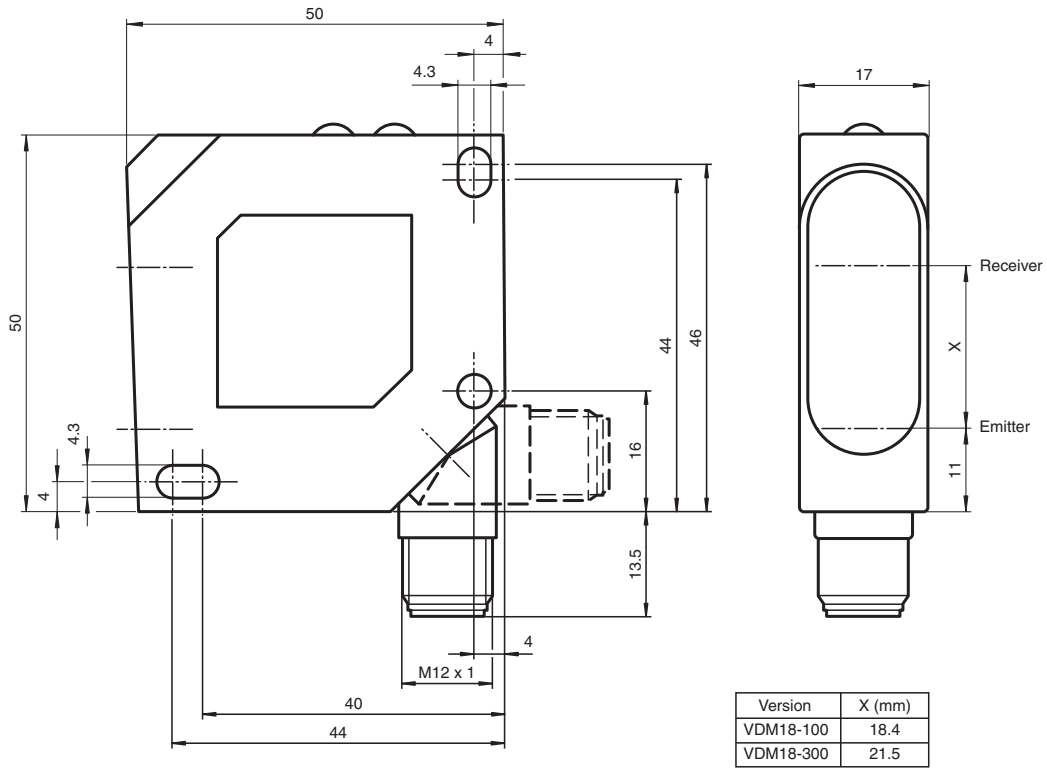
Distance sensor

VDM18-100/20/122/151

- 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, 2 x PNP outputs, analog output, M12 plug

Dimensions



Version	X (mm)
VDM18-100	18.4
VDM18-300	21.5

Technical Data

General specifications	
Measurement range	30 ... 100 mm

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Technical Data

Light source		laser diode typ. service life 50,000 h at Ta = +40 °C
Light type		modulated visible red light
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 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
Output		
Signal output		2 PNP outputs, independent
Switching current		max. 100 mA
Measurement output		1 analog output 4 ... 20 mA, short-circuit/overload protected , Rmax = 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		M12 connector, 8-pin
Material		
Housing		ABS , impact resistant
Optical face		PMMA
Mass		approx. 43 g

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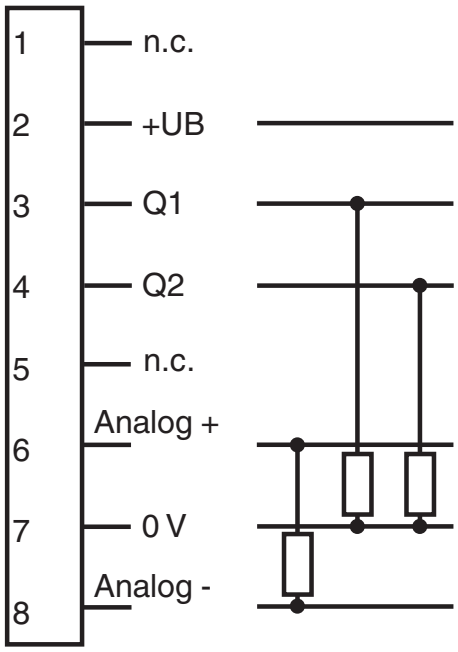
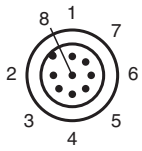
Connection Assignment

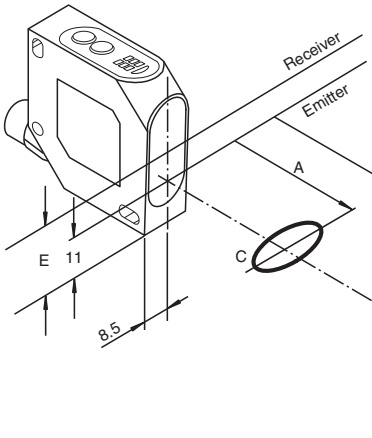


Connection Assignment



Characteristic Curve

Light spot representation



	VDM18-100	VDM18-300
A (mm)	30	80
B (mm)	100	300
C (mm)	1.5 x 3	1.5 x 3.5
D (mm)	1.5 x 3.25	2 x 4.5
E (mm)	29.4	32.5

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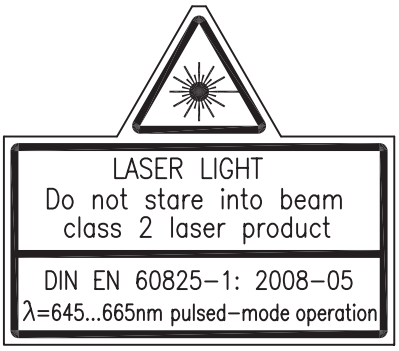
Safety Information



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

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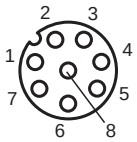
Connection Assignment

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



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