



Model Number

OMD30M-R2000-B23-V1V1D-T-1L

2-D LiDAR Sensor
with three M12 x 1 connectors

Features

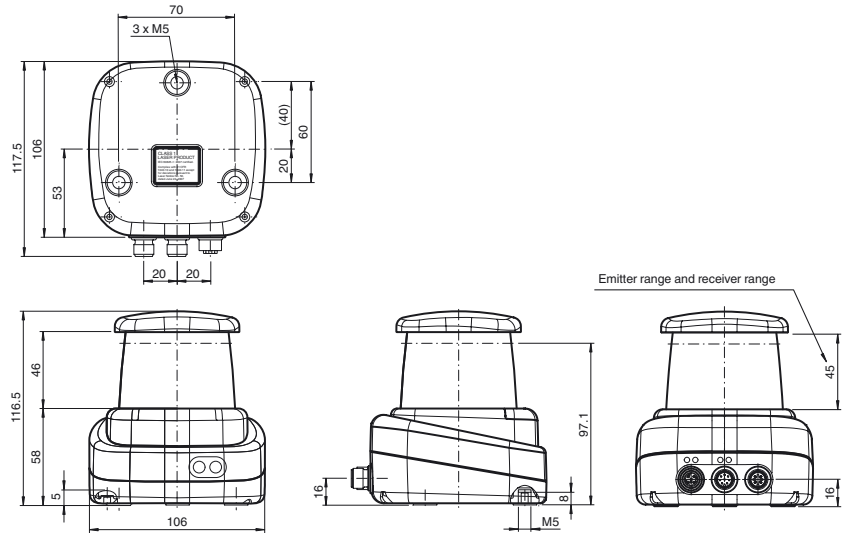
- High operating range
- Very high angle resolution
- Infrared light
- Deep-freeze applications
- Measuring method PRT (Pulse Ranging Technology)
- Flexible measured data filter

Product information

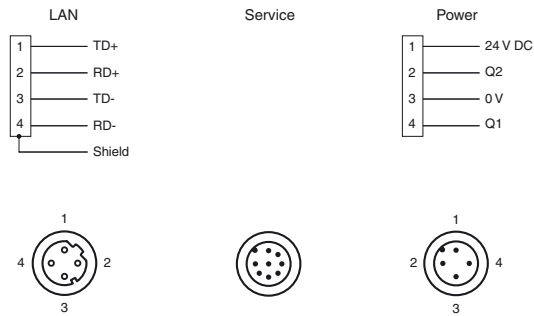
Based on Pulse Ranging Technology (PRT), the sensor is powerful for measurements with a long range and a small light spot. The device scans its environment over the complete measuring angle of 360°. Due to the high scanning frequency, this sensor type is suitable for advanced applications. The device meets laser class 1 and is eye safe. Additional precautions to protect the operating personnel are not required. The interactive all-round display integrated in the optical surface can freely display individual texts and graphics. A wide range of accessories enables the sensor to be used in different applications. A PACTware device type manager (DTM) specially developed for this series offers extensive configuration and diagnostic options.

Release date: 2019-02-06 08:21 Date of issue: 2019-02-06 305987_eng.xml

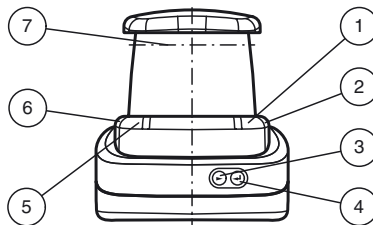
Dimensions



Electrical connection



Indicators/operating means



1	Operating status	green
2	Fault indication	red
3	Menu button	
4	Menu button	
5	Q2 signal indicator	yellow
6	Q1 signal indicator	yellow
7	Laser outlet	

Technical data**General specifications**

Measurement range	0.1 ... 10 m (bk 10%) 0,1 ... 30 m (wh 90 %) 0.1 ... 200 m (reflector) Min. reflectivity 2.5%
Light source	laser diode
Light type	modulated infrared light
Laser nominal ratings	
Note	LASER RADIATION , DO NOT STARE INTO BEAM
Laser class	1
Wave length	905 nm
Beam divergence	transversal 2 mrad , longitudinal 10 mrad
Pulse length	5 ns
Repetition rate	250 kHz
max. pulse energy	< 94 nJ
Measuring method	Pulse Ranging Technology (PRT)
Scan rate	10 ... 80 s ⁻¹
Scanning angle	360°
Diameter of the light spot	25 mm x 105 mm at 10 m
Filter	Maximum, average, median, reflectivity
Ambient light limit	> 80000 Lux
Resolution	1 mm
Functional safety related parameters	
MTTF _d	75 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
Operation indicator	LED green
Data flow indicator	LED yellow: active ethernet LED green: Ethernet link
Function indicator	LED red: fault LED yellow: Q1 + Q2
Control elements	2 Button
Parameterization indicator	24 x 252 pixels , red
Electrical specifications	
Operating voltage	U _B 10 ... 30 V
Ripple	10 % within the supply tolerance
No-load supply current	I ₀ ≤ 600 mA / 24 V DC
Power consumption	P ₀ < 15 W
Time delay before availability	t _v < 40 s
Interface	
Interface type	Fast Ethernet, 2 switching outputs
Protocol	HTTP , TCP/IP and UDP/IP
Input/Output	
Input/output type	2 Outputs , Independently configurable , short circuit/reverse polarity protected
Output	
Switching threshold	low: U _a < 1 V, high: U _a > U _b - 1 V
Switching current	100 mA per output
Measurement accuracy	
Measuring speed	250000 measurements per second
Measured value noise	typ. ± 10 mm (1 sigma; max 20 mm; 0,1 m ... 8 m) typ. ± 12 mm (1 sigma; max 20 mm; 8 m ... 30 m) with measured value filter deactivated
Angle resolution	0.014 °
Absolute accuracy	typ. ± 25 mm
Repeat accuracy	< 12 mm
Ambient conditions	
Ambient temperature	-30 ... 50 °C (-22 ... 122 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Relative humidity	95 % , no moisture condensation
Mechanical specifications	
Housing width	106 mm
Housing height	116.5 mm
Degree of protection	IP67
Connection	4-pin, M12x1 connector, standard (supply) , 8-pin, M12x1 connector, A-coded (MultiPort) , 4-pin, M12x1 socket, D-coded (LAN)
Material	
Housing	ABS + PC + Aluminum
Optical face	PMMA
Mass	approx. 0.8 kg

Compliance with standards and directives**Laserlabel****CLASS 1
LASER PRODUCT**

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**Accessories****Schutzkappe LS610 Zubehoer**

M12 protective cap set (connector + socket) for series LS610 / LS611

Funktionserdung LS610/VDM100 Zubehoer

Function grounding for LS610 / LS611 / VDM100 series

V1SD-G-2M-PUR-ABG-V45-G

Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e

V1SD-G-5M-PUR-ABG-V45-G

Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e

V1SD-G-ABG-PG9

Cable connector, M12, 4-pin, D-coded, shielded, non pre-wired

V1-G-5M-PUR

Female cordset, M12, 4-pin, PUR cable

V1-G-BK5M-PUR-U

Female cordset, M12, 4-pin, PUR cable

MH-R2000

Mounting aid for R2000 series, Quick clamp and adjustment system

PACTware 4.1

FDT Framework

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

Directive conformity

EMC Directive 2004/108/EC EN 60947-5-2:2007

Standard conformity

Product standard EN 60947-5-2:2007 , IEC 60947-5-2:2007

Shock and impact resistance EN 60068-2-27:1995

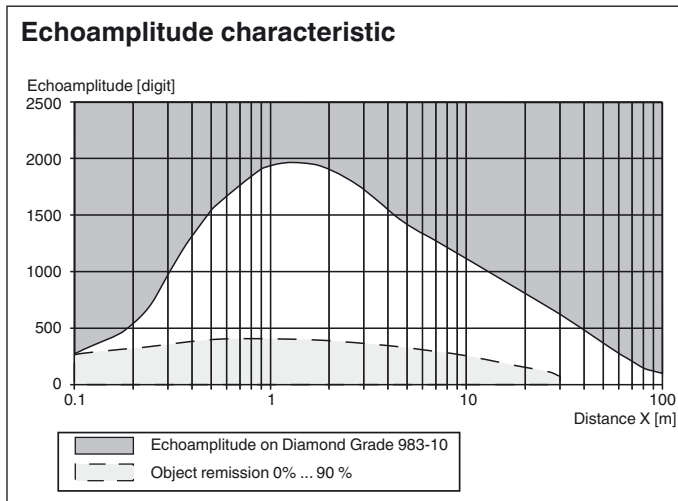
Vibration resistance EN 60068-2-6; EN 60068-2-64

Laser class IEC 60825-1:2007
EN 60825-1:2007**Approvals and certificates**

Protection class III (operating voltage 50 V)

UL approval cULus Listed, Class 2 Power Source, Type 1 enclosure

CCC approval CCC approval / marking not required for products rated ≤36 V

Curves/Diagrams**Laser notice laser class 1**

- 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.