



**Model Number**

**OBD30M-R2000-1L-Y295507**

2-D LiDAR Sensor  
with three M12 x 1 connectors

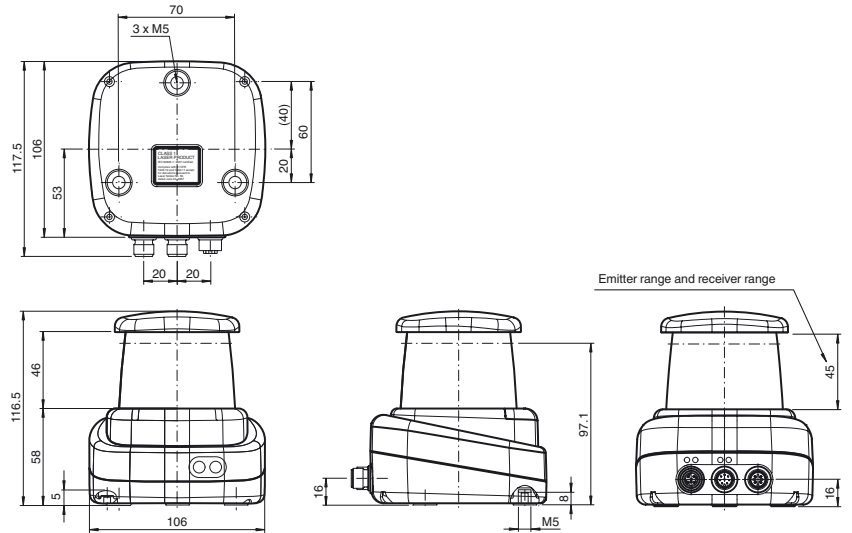
**Features**

- 4 freely programmable monitoring fields
- 4 inputs/outputs (selectable)
- High operating range
- 360°-angle of measurement
- Measuring method PRT (Pulse Ranging Technology)
- Very narrow scan plane

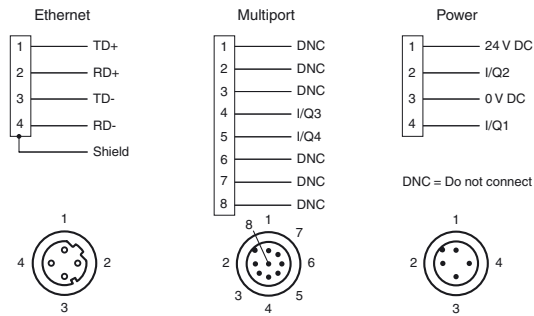
**Product information**

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.

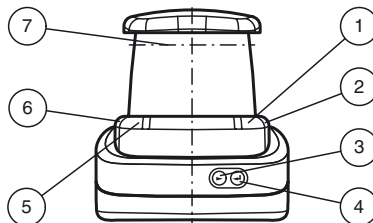
**Dimensions**



**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	

Release date: 2019-04-16 14:10 Date of issue: 2019-04-16 295507\_eng.xml

**Technical data****General specifications**

Measurement range	0.1 ... 10 m (bk 10%) 0,1 ... 30 m (wh 90 %) 0,1 ... 30 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 10 mrad , longitudinal 2 mrad
Pulse length	5 ns
Repetition rate	54 kHz
max. pulse energy	< 94 nJ
Measuring method	Pulse Ranging Technology (PRT)
Scan rate	10 Hz, 20 Hz, 30 Hz
Scanning angle	360°
Diameter of the light spot	105 mm x 25 mm at 10 m
Ambient light limit	> 80000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	75 a
Mission Time (T <sub>M</sub> )	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 Yellow LED: I/Q1 + I/Q2
Control elements	2 Button
Parameterization indicator	24 x 252 pixels , red

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		10 % within the supply tolerance
No-load supply current	I <sub>0</sub>	≤ 400 mA / 24 V DC
Power consumption	P <sub>0</sub>	< 10 W
Time delay before availability	t <sub>v</sub>	< 40 s

**Integrated application**

Application	Field monitoring
Number of fields	4
Response time	30 ms + 1 Scan duration
Detectable object shape	Almost any
Object size	> 1 mm
Linking fields	Up to 4 x 3 levels

**Interface**

Interface type	4 x switching inputs/outputs (selectable)
----------------	---

**Input/Output**

Input/output type	4 Inputs/Outputs , Independently configurable , short circuit/ reverse polarity protected
-------------------	--

**Input**

Switching threshold	low: U <sub>e</sub> < 5 V, high: U <sub>e</sub> > 10 V
---------------------	---

**Output**

Switching threshold	low: U <sub>a</sub> < 1 V, high: U <sub>a</sub> > U <sub>b</sub> - 1 V
Switching current	100 mA per output

**Conformity**

Laser safety	EN 60825-1:2014
--------------	-----------------

**Measurement accuracy**

Measuring speed	54000 measurements per second
Angle resolution	0,071°; 0,15°; 0,2°
Repeat accuracy	< 12 mm

**Ambient conditions**

Ambient temperature	-10 ... 50 °C (14 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Relative humidity	95 % , no moisture condensation

**Mechanical specifications**

Housing width	106 mm
Housing height	116.5 mm
Degree of protection	IP65
Connection	4-pin, M12x1 connector, standard (supply) , 8-pin, M12x1 connector, A-coded (MultiPort) , 4-pin, M12x1 socket, D-coded (LAN)

**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](http://www.pepperl-fuchs.com)

**Material**

Housing ABS + PC + Aluminum

Optical face PMMA

Mass approx. 0.8 kg

**Compliance with standards and directives**

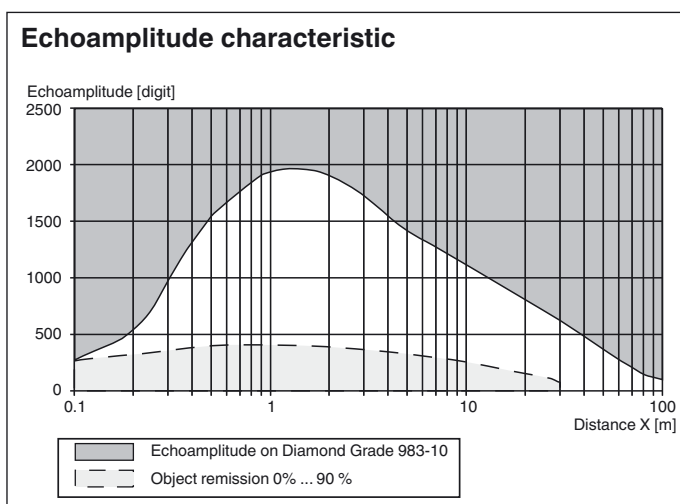
Standard conformity

Product standard IEC 60947-5-2

**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  $\leq 36$  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.