



Model Number

OBD30M-R2000-4EP-V1V17-1L

2-D LiDAR Sensor
with three M12 x 1 connectors

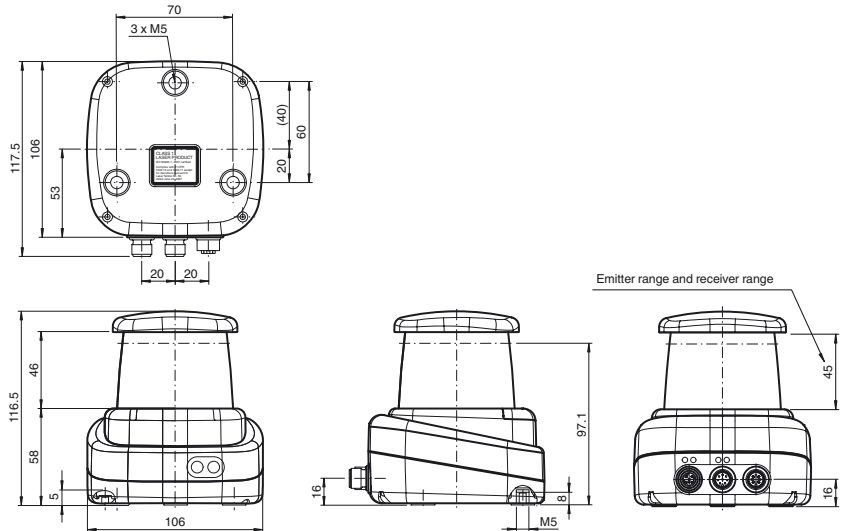
Features

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

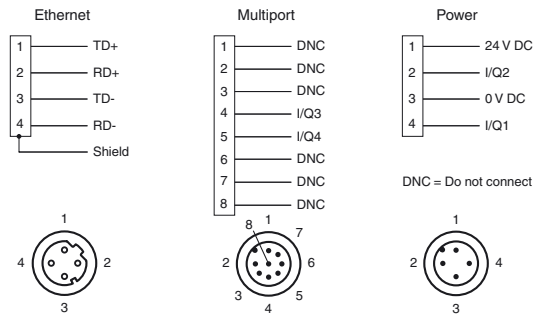
Product information

The new 2-dimensional sensor operates using tried-and-tested Pulse Ranging Technology and offers a range of unique features. For example, the device features a laser emitter with a visible red light. Users can see where the scanning level is and can align the device accordingly. With its classification in laser class 1, the device can be used in all workspaces, without posing a health hazard to people. The device has a measuring angle of 360° and boasts a measuring frequency of up to 54,000 individual measurements per second. In combination with 4 freely programmable monitoring fields and an extremely flat scanning level, the sensor is easy to integrate, even in challenging applications. Another feature is the display integrated in the lens aperture.

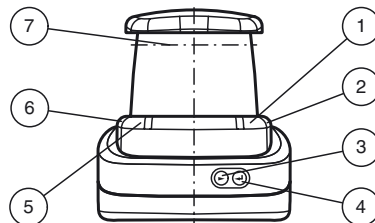
Dimensions



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: 2017-09-21 14:30 Date of issue: 2017-09-21 275236_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 2 mrad , longitudinal 10 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	25 mm x 105 mm at 10 m
Ambient light limit	> 80000 Lux

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 Yellow LED: I/Q1 + I/Q2
Control elements	2 Button
Parameterization indicator	24 x 252 pixels , red

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		10 % within the supply tolerance
No-load supply current	I ₀	≤ 400 mA / 24 V DC
Power consumption	P ₀	< 10 W
Time delay before availability	t _v	< 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)
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Input/Output

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

Switching threshold	low: U _e < 5 V, high: U _e > 10 V
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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	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)
Material	
Housing	ABS + PC + Aluminum
Optical face	PMMA

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-R2000Mounting 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

Mass approx. 0.8 kg

Compliance with standards and directives

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

Laser class IEC 60825-1:2007
EN 60825-1:2007

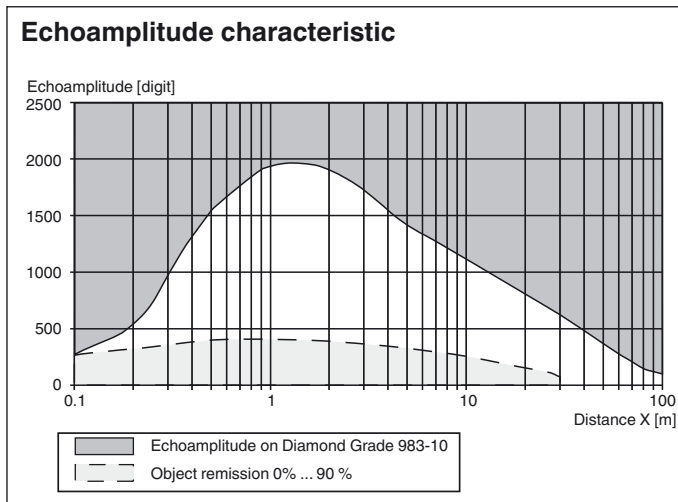
Approvals and certificates

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.