Model Number

OMD8000-R2100-R2-2V15

2-D LiDAR Sensor

with two M12 x 1 connectors

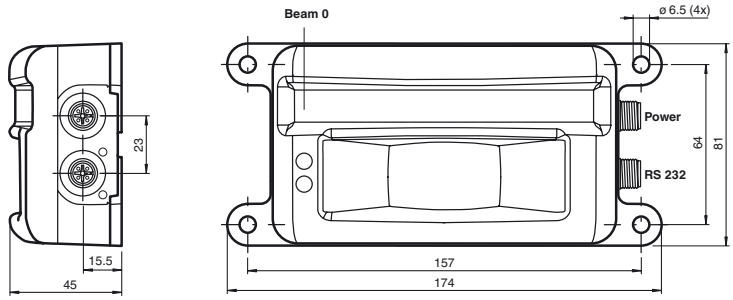
Features

- Measuring method PRT (Pulse Ranging Technology)
- Distance measurement using object
- Two-dimensional measurement with no moving parts
- Measurement using eye-safe LED technology
- 88° scanning angle

Product information

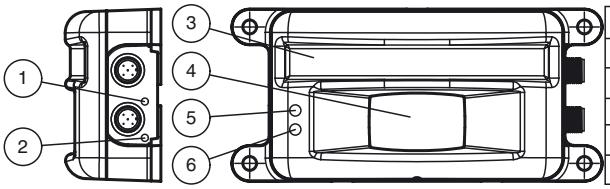
The new 2-dimensional multi-ray LED scanner uses tried-and-tested Pulse Ranging Technology and boasts a wide range of user-friendly features. The eye-safe LED technology in the sensor allows it to be used by personnel in all working areas without posing a danger. The 11 emitter elements arranged side by side span a scanning range of 88 degrees, while the emitter LEDs set themselves apart through their large light spot. Measuring on a surface rather than on a point makes it easier to measure inhomogeneous surfaces. A further highlight is the absence of any moving parts such as a motor or bearings, which makes the device less complex in its design and more resistant to mechanical stress.

Dimensions



Electrical connection

Indicators/operating means



1	No function	
2	No function	
3	Emitter	
4	Receiver	
5	Operating indicator	yellow
6	Function indicator	green

Release date: 2019-04-26 15:23 Date of issue: 2019-04-26 264888_eng.xml

Technical data

General specifications		
Measurement range		0.2 ... 2 m (bw 6%) 0.2 ... 8 m (wh 90%)
Light source		IRED
Light type		modulated infrared light , 850 nm
Measuring method		Pulse Ranging Technology (PRT)
Scan rate		50 s^{-1} (1 scan = 11 measurements)
Scanning angle		88°
Diameter of the light spot		550 mm at 4 m (orthogonal)
Ambient light limit		> 80000 Lux
Resolution		1 mm
Functional safety related parameters		
$MTTF_d$		123 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green
Function indicator		LED yellow
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC
Ripple		10 % within the supply tolerance
No-load supply current	I_0	≤ 120 mA / 24 V DC
Protection class		III
Time delay before availability	t_v	< 3 s
Interface		
Interface type		RS 232
Protocol		P+F R2100 115k, 8N1
Conformity		
Product standard		EN 60947-5-2
Measurement accuracy		
Measured value noise		20 mm (1 sigma, 4 m on white, orthogonal)
Angle resolution		8 °
Absolute accuracy		+/- 50 mm (orthogonal)
Ambient conditions		
Ambient temperature		-30 ... 60 °C (-22 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
Relative humidity		95 % , no moisture condensation
Mechanical specifications		
Housing width		81 mm
Housing height		45 mm
Degree of protection		IP67
Connection		5-pin, M12x1 connector, standard (supply; color black) 5-pin, M12x1 connector, standard (RS 232; color grey; shielded)
Material		
Housing		plastic
Optical face		Lexan (PC)
Mass		approx. 250 g

Approvals and certificates	
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Accessories

V1-G-2M-PUR
Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR
Female cordset, M12, 4-pin, PUR cable

V15-G-5M-PUR-ABG
Female cordset, M12, 5-pin, shielded, PUR cable

V1-G-BK5M-PUR-U
Female cordset, M12, 4-pin, PUR cable

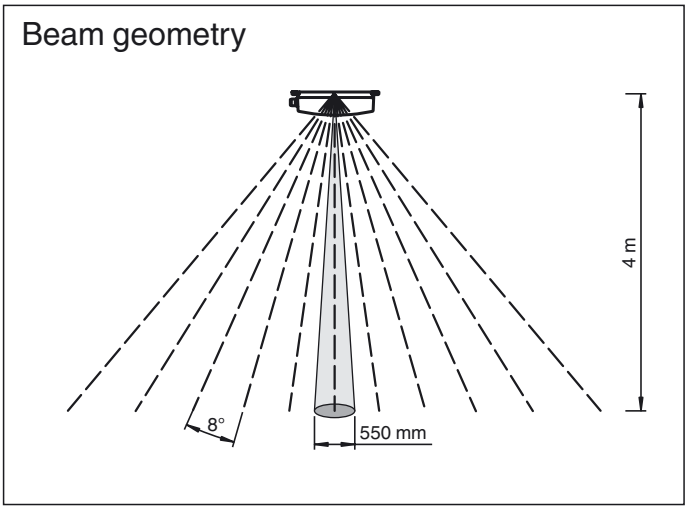
V1-W-BK5M-PUR-U
Female cordset, M12, 4-pin, PUR cable

V15-G-BK5M-PUR-U/ABG
Female cordset, M12, 5-pin, shielded, PUR cable

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

Release date: 2019-04-26 15:23 Date of issue: 2019-04-26 264888_eng.xml

Curves/Diagrams



Release date: 2019-04-26 15:23 Date of issue: 2019-04-26 264888_eng.xml