



Model Number

VLD700-F280-2E2-1000

Laser light sensor for field monitoring

Features

- Intelligent exposure time control •
- Laser class 1, eyesafe ٠
- Data Matrix control codes for parameterization

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

Function

The SmartRunner Detector performs high-precision area monitoring and switches as soon as the smallest objects enter the field of detection. The detector is based on innovative Smart-Runner technology and combines the light section method for detecting height profiles with a 2-D vision sensor. The light section method involves projecting a laser line onto an object. This laser line is then detected by a camera at a specific angle. A height profile is then created using the triangulation principle. This innovative laser technology provides reliable measurements on different surfaces.

Indicating / Operating means



Electrical connection



Technical data				
General specifications				
Measurement range		X = 40 310 mm ; Z = 60 700 mm		
Light source		laser diode		
Light type		red laser + Integrated LED lightning red 650 nm		
Laser nominal ratings				
Note		VISIBLE LASER RADIATION , DO NOT STARE INTO BEAM DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS		
Laser class		1		
Wave length		Measurement laser: 660 nm		
Pulse length		Measurement laser: 2 ms		
Maximum optical power output		Measurement laser: 15 mW		
Laser monitoring		The safety system switches off the laser when the laser current is too high		
Object size		> 0.1 mm at min. read distance		
Scan rate		10 s ⁻¹		
Functional safety related parameters				
MTTF _d		20 a		
Mission Time (T _M)		10 a		
Diagnostic Coverage (DC)		0 %		
Indicators/operating means				
Operation indicator		LED green		
Diagnostics indicator		LED yellow / red		
Function indicator		Trigger: LED yellow ; object in evaluation range : LED red / green		
Control elements		2 push-buttons		
Electrical specifications				
Operating voltage	U _B	24 V ± 20 % , PELV		
No-load supply current	I ₀	max. 250 mA		
Power consumption	P ₀	max. 6 W , Outputs without load		

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Interface	
Interface type	RS 485 interface
Physical	Switchable terminal resistor
Protocol	binary code
Transfer rate	38400 230400 Bit/s
Input	
Input voltage	24 V
Number/Type	External triggering + 1 Input
Switching threshold	low: < 2.5 V, high: > 8 V
Output	
Number/Type	2 digital outputs
Switching type	PNP
Switching voltage	24 V
Switching current	150 mA each output
Ambient conditions	
Operating temperature	-20 45 $^{\circ}\text{C}$ (-4 113 $^{\circ}\text{F})$, (noncondensing; prevent icing on the lens!)
Storage temperature	-20 70 °C (-4 158 °F)
Mechanical specifications	
Degree of protection	IP67
Connection	8-pin, M12 x 1 connector (supply + RS485 + Inputs/Outputs) ; can be rotated 90°; Grounding : Grounding clip for PCV system
Material	
Housing	PC/ABS
Optical face	Plastic pane
Mass	approx. 125 g
Tightening torque, fastening screws	≤ 2 Nm
General information	
Note	Security Instructions: - Read the operating instructions before attempting commissio- ning - Installation, connection and adjustments should only be under-

Compliance with standards and directi-

ves				
	Standard conformity			
	Noise immunity	EN 61000-6-2:2005		
	Emitted interference	EN 61000-6-4:2007/A1:2011		
	Degree of protection	EN 60529		
	Shock and impact resistance	EN 60068-2-27:2009		
	Laser class	IEC 60825-1:2007		

Directive

taken by specialist personnel

Approvals and certificates

CCC approval Approvals

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

- Not a safety component in accordance with the EU Machinery

Notes



Accessories V19-G-5M-PUR-ABG Female cordset, M12, 8-pin, shielded, PUR cable VLX-MB1 Mounting bracket VLX-MB2 Mounting bracket PCV-USB-RS485-Converter Set USB to RS 485 interface converter Other suitable accessories can be found at -20 ... 45 $^{\circ}\text{C}$ (-4 ... 113 $^{\circ}\text{F})$, (noncondensing; prevent icing on www.pepperl-fuchs.com 8-pin, M12 x 1 connector (supply + RS485 + Inputs/Outputs) ; can be rotated 90°; Grounding : Grounding clip for PCV system

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information" USA: +1 330 486 0001 Pepperl+Fuchs Group www.pepperl-fuchs.com

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