



Model Number

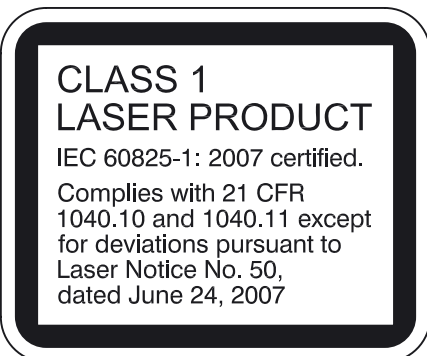
VLM350-F280-2E2-1000

Laser light sensor for profile matching

Features

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

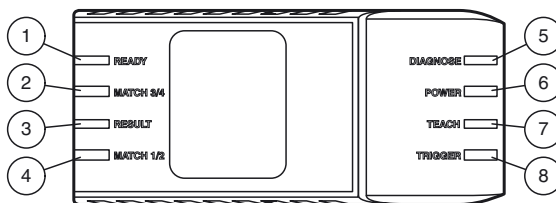
Laserlabel



Function

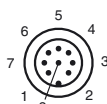
The SmartRunner Matcher compares current height profiles with a previously taught-in height profile. The Matcher is based on innovative SmartRunner technology and combines the light section method for detecting height profiles with a 2-D vision sensor. The light section method involves projecting a laser line onto an object. This 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



1	Ready	green/red
2	Match 3/4	green/yellow
3	Result	green/red
4	Match 1/2	green/yellow
5	Diagnose	red
6	Power	green
7	Teach	yellow
8	Trigger	yellow

Electrical connection



Pin	Signal
1	IN Trigger
2	+UB
3	Data+ RS-485
4	Data- RS-485
5	Teach
6	Good
7	GND
8	Bad

Technical data

General specifications

Measurement range	X = 40 ... 160 mm ; Z = 60 ... 350 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: 0.5 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
Scan rate	10 s ⁻¹
Resolution	X > 0.44 mm ; Z > 0.4 mm at 60 mm read distance

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 detected : 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

Release date: 2017-10-05 14:01 Date of issue: 2018-03-06 284586-100001_eng.xml

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 °C (-4 ... 113 °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 commissioning - Installation, connection and adjustments should only be undertaken by specialist personnel - Not a safety component in accordance with the EU Machinery Directive
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Compliance with standards and directives

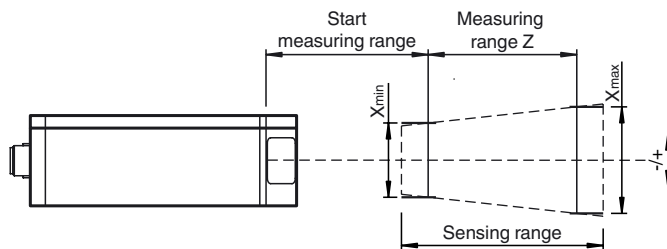
Standard conformity	
Noise immunity	EN 61000-6-2:2005
Emitted interference	EN 61000-6-4:2007/A1:2011
Degree of protection	EN 60529
Shock and impact resistance	EN 60068-2-27:2009
Laser class	IEC 60825-1:2007

Approvals and certificates

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

Notes

Measuring range



Accessories

V19-G-5M-PUR-ABG

Female cordset, M12, 8-pin, shielded, PUR cable

VLX-MB2

Mounting bracket

VLX-MB1

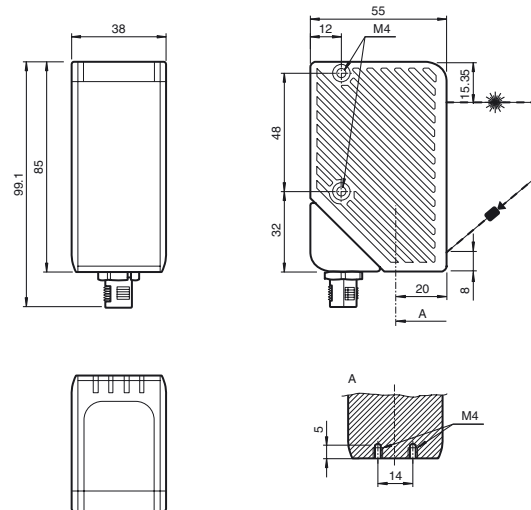
Mounting bracket

PCV-USB-RS485-Converter Set

USB to RS 485 interface converter

ries can be found at

Dimensions



Laser notice laser class 1

- The irradiation can lead to irritation especially in a dark environment. Do not point at people!
- Maintenance and repairs should only be carried out by authorized service personnel!
- Attach the device so that the warning is clearly visible and readable.
- The warning accompanies the device and should be attached in immediate proximity to the device.
- Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.