

**Model Number**

VLM350-F280-R4-1101

Features

- Comparison of up to 32 height profiles
- Resolution 1280 x 960 pixel
- Output of X/Z offset
- Intelligent exposure time control
- Laser class 1, eyesafe
- Data Matrix control codes for parameterization

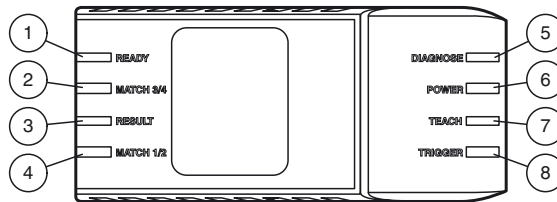
Laserlabel**CLASS 1
LASER PRODUCT**

IEC 60825-1: 2007 certified.

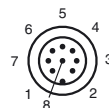
Complies with 21 CFR
1040.10 and 1040.11 except
for deviations pursuant to
Laser Notice No. 50,
dated June 24, 2007

Function

The SmartRunner 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	5 s ⁻¹
Resolution	X > 0.25 mm ; Z > 0.2 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

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

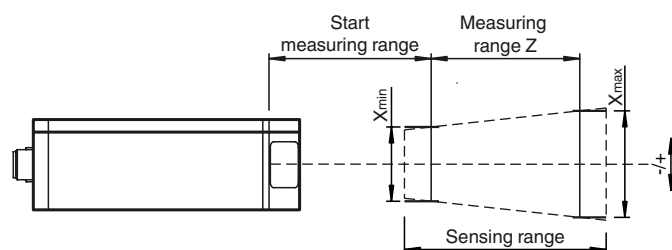
Note	Security Instructions: - Read the operating instructions before attempting commissioning - Installation, connection and adjustments should only be undertaken by specialist personnel - Not a safety component in accordance with the EU Machinery Directive
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Compliance 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

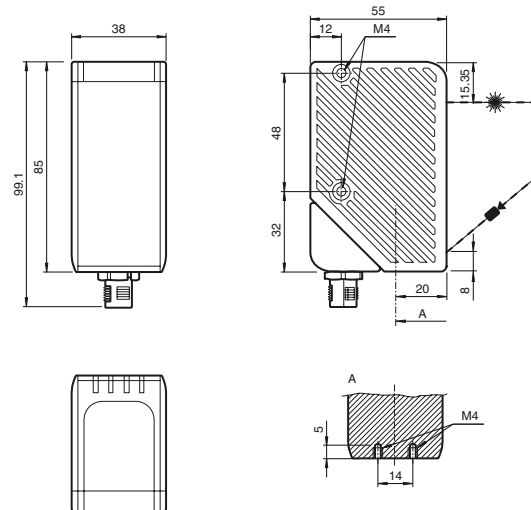
USB to RS 485 interface converter

V19-G-BK0,6M-PUR-U-V1-G-SRMAT

Cordset for SmartRunner Matcher, M12 to M12, 8/4-pin, PUR cable

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

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.