



Optical reading head

PCV100QS-F200-B17-V1D

- Non-contact positioning on Data Matrix code tape
- Mechanically rugged: no wearing parts, long operating life, maintenance-free
- High resolution and precise positioning, especially for facilities with curves and switch points as well as inclines and declines.
- Traverse distance up to 100 km
- PROFINET interface
- Integrated switch
- Quality grade output

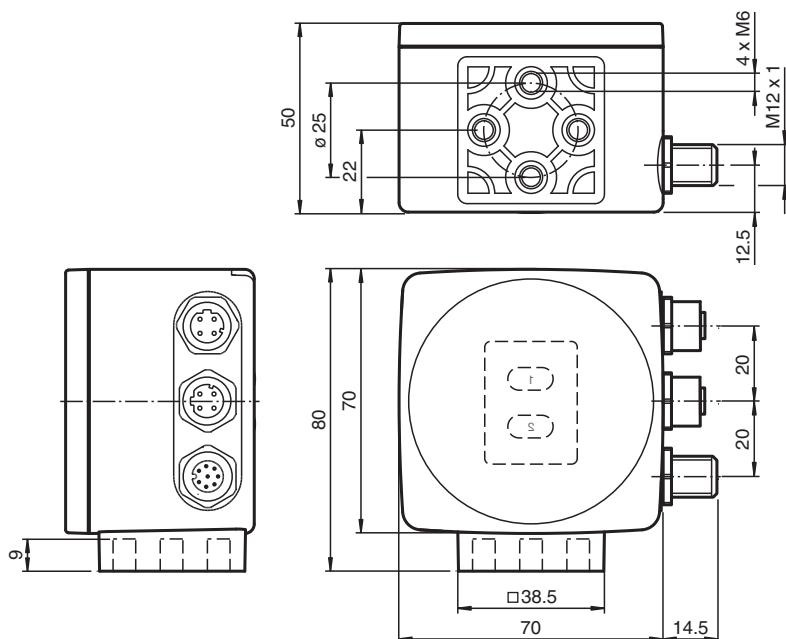
Read head for incident light positioning system



Function

The high-resolution positioning system consists of a read head used in conjunction with suitable positioning markers. The read head is equipped with, among other things, corresponding connection interfaces, a camera module, and an integrated illumination unit. The positioning markers are typically installed permanently along the travel path, while the read head is mounted on a moving object, such as a carriage. The system continuously captures the encoded position information. For position determination, the read head continuously acquires images and detects the positioning markers within them. Based on their location in the image, the exact position is calculated with high precision.

Dimensions



Technical Data

General specifications

Passage speed	v	≤ 12.5 m/s
Maximum track length		max. 100000 m
Light type		Integrated LED lightning (red)
Evaluation frequency		100 s ⁻¹
Latency		20 ms

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

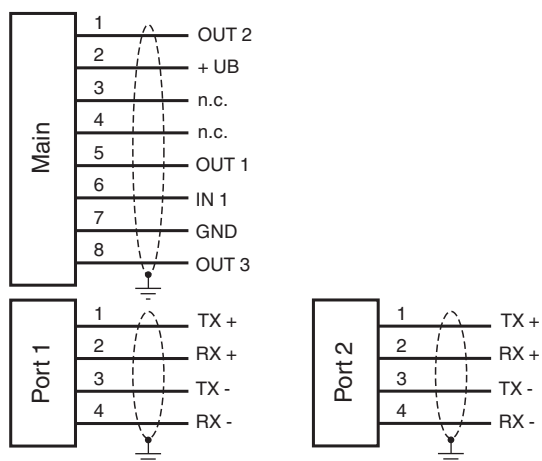
Read distance (z)		100 mm
Reading tolerance in z-direction		± 45 mm
Field of view		70 mm x 50 mm (for z = 100 mm)
Reading tolerance in y-direction		± 25 mm (for z = 100 mm)
Ambient light limit		100000 Lux
Accuracy x-position		± 0.1 mm (for z = 100 mm)
Accuracy y-position		± 0.1 mm (for z = 100 mm)
Angle accuracy		± 1 ° (for z = 100 mm)
Nominal ratings		
Camera		
Type		CMOS , Global shutter
Functional safety related parameters		
MTTF _d		88 a
Indicators/operating means		
LED indication		7 LEDs (communication, status messages)
Electrical specifications		
Operating voltage	U _B	15 ... 30 V DC , PELV
No-load supply current	I ₀	max. 400 mA
Power consumption	P ₀	6 W (at no-load)
Interface		
Interface type		100 BASE-TX
Protocol		PROFINET IO Real-Time (RT) , Conformance class B , Netload Class III
Process data		Position data (x, y) , z-distance , angle , speed (bi-directional) , status data , timestamp , frame counter , quality index , warning , event marker number , number of detected codes
Transfer rate		100 MBit/s
Service interface		
Interface		TCP/IP
Input		
Number		1
Input type		0 level: unswitched or -UB ... +7 V1 level: +13 V ... +UB
Input impedance		≥ 30 kΩ
Output		
Number		3
Output type		PNP
Switching voltage		Operating voltage
Switching current		100 mA each output
Conformity		
Shock resistance		EN 60068-2-27:2009
Vibration resistance		EN 60068-2-6:2008
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61000-6-2:2005
Photobiological safety		exempt group according to EN 62471:2008
Approvals and certificates		
CE conformity		CE
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
Ambient conditions		
Operating temperature		0 ... 50 °C (32 ... 122 °F) , -20 ... 50 °C (-4 ... 122 °F) (non-condensing; prevent icing on the lens!)
Storage temperature		-20 ... 85 °C (-4 ... 185 °F)
Relative humidity		90 % , non-condensing
Mechanical specifications		

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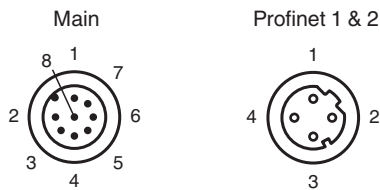
Technical Data

Connection type	8-pin, M12x1 connector, standard (supply+IO) 4-pin, M12x1 socket, D-coded (LAN) 4-pin, M12x1 socket, D-coded (LAN)
Degree of protection	IP67
Material	
Housing	PC/ABS
Mass	approx. 200 g
Dimensions	
Height	80 mm
Width	84.5 mm
Depth	50 mm
Factory settings	
Orientation	0 ° / 180 °
Type of code tape	dual-row
Resolution x-position	1 mm
Resolution y-position	1 mm
Angle resolution	1 °
Speed resolution	0.1 m/s
Input data source	Protocol
X-offset	0 mm
Angle offset	0 °
Behaviour in case of missing x-position data	Substitute value 0
Behaviour in case of missing y-position data	Substitute value 0
Behaviour in case of missing angle data	Substitute value 0
Behaviour in case of missing speed data	Substitute value 32767
Extrapolation	Extrapolation off
Marker position	Event marker instead of code tape
Input 1 (IN1)	No function
Output 1 (OUT1)	No function
Output 2 (OUT2)	No function
Output 3 (OUT3)	No function

Connection Assignment



Connection Assignment



Indication

