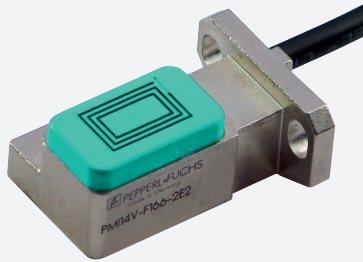


Inductive positioning system

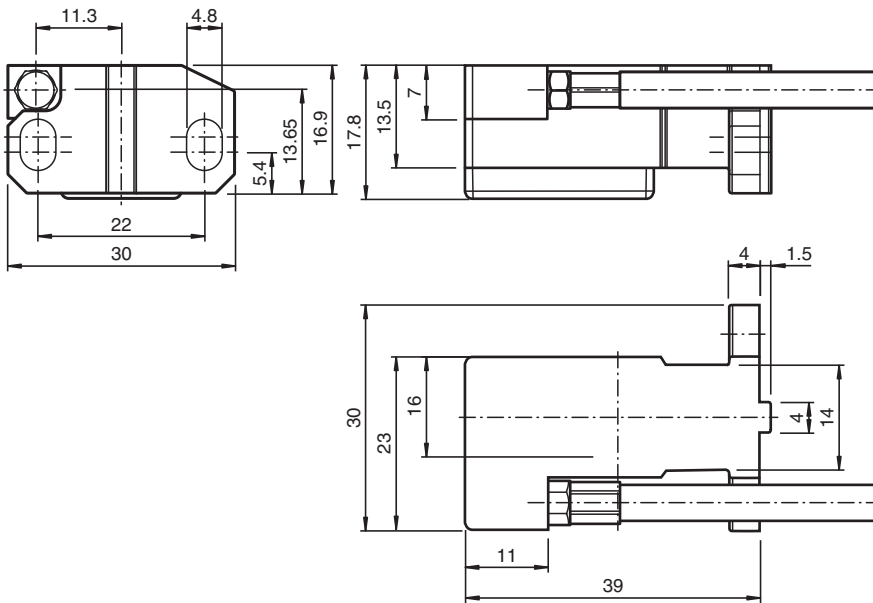
PMI15V-F166-EP-IO-1M-V1



- IO-Link interface for service and process data
- Measuring range 0 ... 15 mm



Dimensions



Technical Data

General specifications

Switching element function	Push-pull (4 in 1) output
Object distance	0.5 ... 2 mm
Measurement range	0 ... 15 mm

Nominal ratings

Operating voltage	U _B	18 ... 30 V DC
Reverse polarity protection		reverse polarity protected
Linearity error		± 0.3 mm (for 1 mm object distance)
Repeat accuracy	R	± 0.05 mm

Technical Data

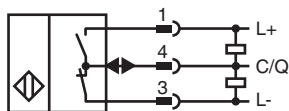
Resolution		10 µm
Temperature drift		± 0.4 mm in the range 0.5 mm ... 14.5 mm (for 1 mm object distance)
No-load supply current	I_0	≤ 20 mA
Functional safety related parameters		
MTTF _d		830 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Interface		
Interface type		IO-Link (via C/Q = Pin 4)
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D Smart Sensor - SSP 0 Smart Sensor - SSP 3.1
Process data		Input 4 byte - Measurement value 16 bit - Scale 8 bit - Signal quality indicator 2 bit - Switching signal 1 1 bit - Switching signal 2 1 bit
Vendor ID		1 (0x0001)
Device ID		2098433 (0x200501)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		3 ms
SIO mode support		yes
Compatible master port type		Class A Class B
Switching output		
Output type		1 Push-pull (4 in 1) output , short-circuit protected , reverse polarity protected , overvoltage protected , programmable
Operating current	I_L	≤ 100 mA / Output
Switching hysteresis		3-step, adjustable 0.4 ... 1 mm
Voltage drop		≤ 3 V
Short-circuit protection		pulsing
Compliance with standards and directives		
Standard conformity		
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012 EN 60947-5-7:2003
Communication interface		IEC 61131-9 / IO-Link V1.1.3
Approvals and certificates		
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
Ambient conditions		
Ambient temperature		-25 ... 80 °C (-13 ... 176 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Connection type		fixed cable with plug
Degree of protection		IP65
Material		
Housing		Zinc diecast, nickel-plated cover , PBT
Target		mild steel, e. g. 1.0037, SR235JR (formerly St37-2)
Connector		
Threading		M12
Number of pins		3
Cable		

Release date: 2023-03-01 Date of issue: 2023-03-01 Filename: 70105594_eng.pdf

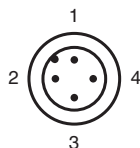
Technical Data

Cable diameter		4.8 mm ± 0.2 mm
Bending radius		> 10 x cable diameter
Material		PUR
Core cross section		0.25 mm²
Shield		yes
Length	L	1 m
Mass		75 g

Connection



Connection Assignment

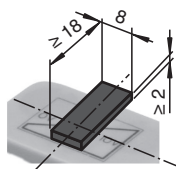


Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Additional Information

dimensions for the target object:



Accessories

	BT-F90-W	Damping element for sensors of type F90, F112, and F166; side hole
	BT-F90-G	Damping element for sensors of type F90, F112, and F166; front hole

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Operation

Information on Operation

Safety Information



Warnung

This product must not be used in applications in which the safety of persons depends on the function of the device.
This product is not a safety component as specified in the EU Machinery Directive.

Actuator

The linear position measurement system is optimally aligned to the geometry of Pepperl+Fuchs actuators.

Using Your Own Actuators

Generally speaking, it is possible for you to use your own actuators. The specified measurement accuracy of the sensor will be achieved only if the actuator has the following properties:

- Material: construction steel such as S235JR+AR (previously St37)
- Dimensions (L x W x H): $\geq 18 \text{ mm} \times 8 \text{ mm} \times \geq 2 \text{ mm}$
- The active surface of the actuator must protrude across the entire sensor width.

Note:

The width of the actuator must be precisely 8 mm. If the width of the actuator deviates from this value, the position values will differ.