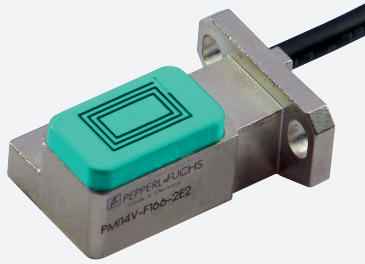


# Inductive positioning system

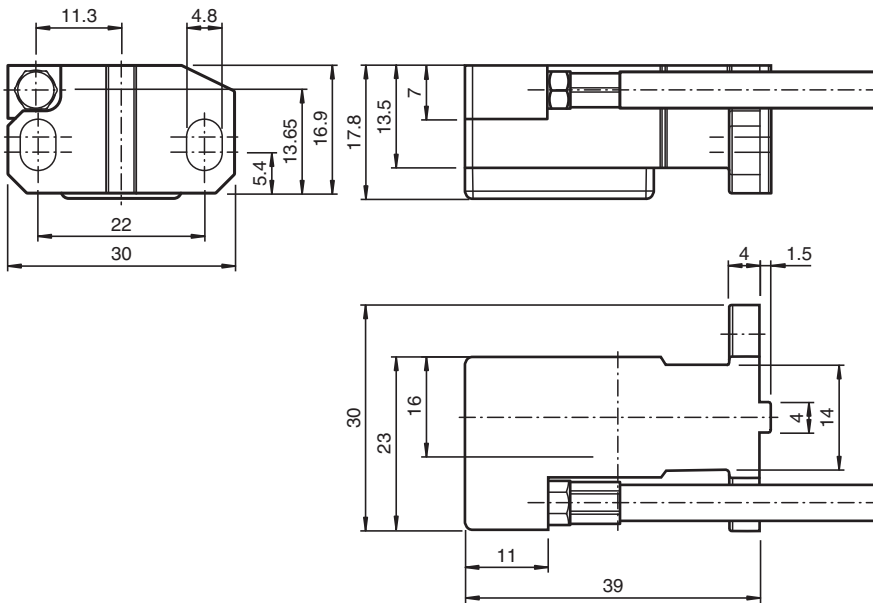
## PMI15V-F166-EP-IO



- 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		$\pm 0.3$ mm (for 1 mm object distance)
Repeat accuracy	R	$\pm 0.05$ mm

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

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## 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
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		830 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Interface</b>		
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
<b>Switching output</b>		
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
<b>Compliance with standards and directives</b>		
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
<b>Approvals and certificates</b>		
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 80 °C (-13 ... 176 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		cable
Degree of protection		IP65
Material		
Housing		Zinc diecast, nickel-plated cover , PBT
Target		mild steel, e. g. 1.0037, SR235JR (formerly St37-2)
Cable		
Cable diameter		4.8 mm ± 0.2 mm
Bending radius		> 10 x cable diameter
Material		PUR

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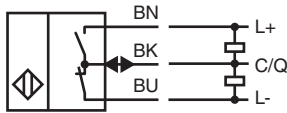
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**PEPPERL+FUCHS**

### Technical Data

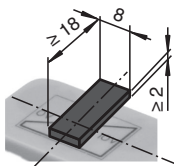
Number of cores		3
Core cross section		0.25 mm <sup>2</sup>
Shield		yes
Length	L	2 m
Mass		95 g

### Connection



### Additional Information

dimensions for the target object:



### Accessories

	<b>BT-F90-W</b>	Damping element for sensors of type F90, F112, and F166; side hole
	<b>BT-F90-G</b>	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.