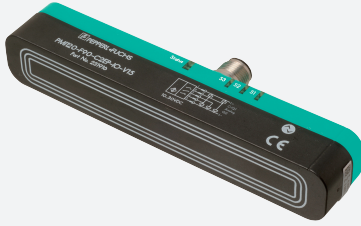


Inductive positioning system

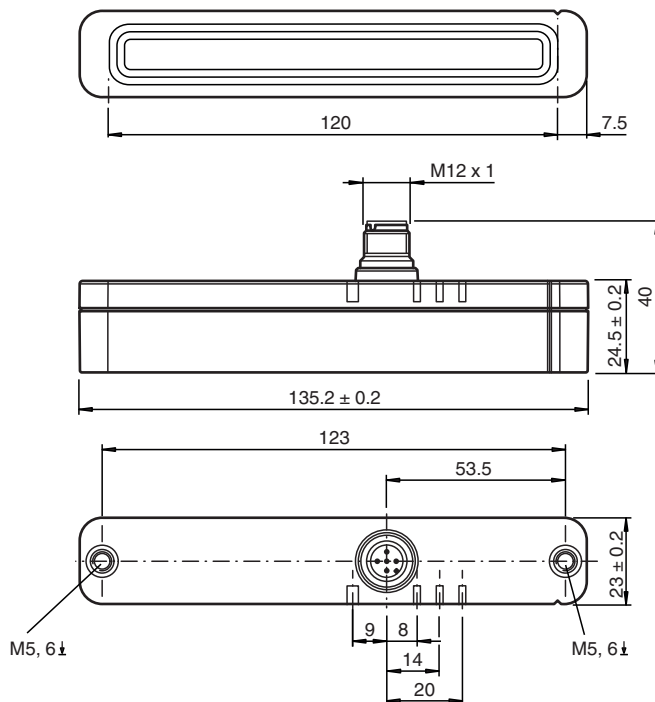
PMI120-F90-IU2EP-IO-V15-3G-3D



- Parameterization and diagnosis via IO-Link
- Measuring range 0 ... 120 mm
- Parameterisable measuring range
- Analog current or voltage output, programmable
- 2 Push-pull outputs
- Switch points programmable via IO-Link



Dimensions



Technical Data

General specifications

Switching element function	Analog current or voltage output, programmable 2 switch outputs, programmable	
Object distance		0.5 ... 3 mm , recommended: 1.5 mm
Measurement range		0 ... 120 mm
Linearity range		1 ... 119 mm

Nominal ratings

Operating voltage	U _B	12 ... 30 V DC (13 ... 30 V when analog voltage output is parameterized)
Reverse polarity protection		reverse polarity protected

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

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PEPPERL+FUCHS

Technical Data

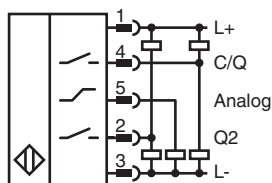
Linearity error		within measuring range: ± 0.8 mm within linearity range: ± 0.4 mm
Repeat accuracy	R	± 0.1 mm
Resolution		50 μ m
Temperature drift		± 0.5 mm (-25 °C ... 70 °C)
No-load supply current	I ₀	≤ 40 mA
Operating voltage indicator		LED green
Functional safety related parameters		
MTTF _d		278 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
LED S1		switching state Switching output 1
LED S2		switching state Switching output 2
LED S3		Damping element in the configured analog measuring range
LED STATUS		Status display LED, green/red (Power on, communication/error, missing damping element)
Interface		
Interface type		IO-Link (via C/Q = Pin 4)
IO-Link Revision		1.1
Device profile		Smart Sensor
Device ID		0x200404 (2098180)
Transfer rate		COM 2 (38.4 kBaud)
Value range		0000h ... 9600h
Min. cycle time		2.3 ms
Process data width		Process data input: 16 Bit Process data output: none
SIO mode support		yes
Compatible master port type		A
Switching output		
Output type		2 push-pull outputs (can be parameterized), short-circuit-proof, reverse polarity protection, surge-proof
Operating current	I _L	≤ 100 mA / output
Switching window		± 1 mm
Switching hysteresis		0.2 mm
Voltage drop		≤ 3 V
Short-circuit protection		pulsing
Analog output		
Output type		1 current output: 4 ... 20 mA or 1 voltage output: 0 ... 10 V, programmable
Load resistor		current output: ≤ 400 Ω voltage output: ≥ 1000 Ω
Short-circuit protection		voltage output: current limit
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 EN 61131-9:2013 IEC 60947-5-7:2003 IEC 61131-9:2013
Approvals and certificates		
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
Ambient conditions		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		

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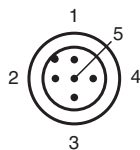
Technical Data

Connection type	5-pin, M12 x 1 connector	
Degree of protection	IP67 / IP69K	
Material		
Housing	PBT, stainless steel 1.4571 , brass, nickel-plated	
Target	mild steel, e. g. 1.0037, SR235JR (formerly St37-2)	
Mass	113 g	
Data for application in connection with hazardous areas		
Equipment protection level	Gc (nA) , Dc	
Equipment protection level Gc (nA)		
Type of protection	"n"	
CE marking	[*PD-Z02586A*]	
Certificates		
ATEX certificate	PF 15 CERT 3754 X	
ATEX marking	Ⓔ II 3G Ex nA IIC T6 Gc	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-15:2010	
Possible characteristics	maximum operating voltage U _{Bmax} , maximum load current I _{Lmax} , minimum series resistance R _V , maximum analog output voltage U _{Amax} , maximum analog output current I _{Amax}	
Maximum permissible ambient temperature	T _{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. mode of operation 1 at U _{Bmax} = 30 V and maximum 2 switching outputs with each I _{Lmax} =100 mA and 1 analog output with I _{Amax} = 20mA or U _{Amax} = 10 V : 35 °C (95 °F) mode of operation 2 at U _{Bmax} = 30 V and maximum 1 switching output with I _{Lmax} =100 mA : 50 °C (122 °F)
Equipment protection level Dc		
Type of protection	Protection by enclosure "tc"	
CE marking	[*PD-Z02586A*]	
Certificates		
ATEX certificate	PF 15 CERT 3774 X	
ATEX marking	Ⓔ II 3D Ex tc IIIC T80°C Dc	
Standards	EN 60079-0:2012/A11+2013 , EN 60079-31:2014	
Possible characteristics	maximum operating voltage U _{Bmax} , maximum load current I _{Lmax} , minimum series resistance R _V , maximum analog output voltage U _{Amax} , maximum analog output current I _{Amax}	
Maximum permissible ambient temperature	T _{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. mode of operation 1 at U _{Bmax} = 30 V and maximum 2 switching outputs with each I _{Lmax} =100 mA and 1 analog output with I _{Amax} = 20mA or U _{Amax} = 10 V : 35 °C (95 °F) mode of operation 2 at U _{Bmax} = 30 V and maximum 1 switching output with I _{Lmax} =100 mA : 50 °C (122 °F)
General information		
Use in the hazardous area		see instruction manuals

Connection



Connection Assignment

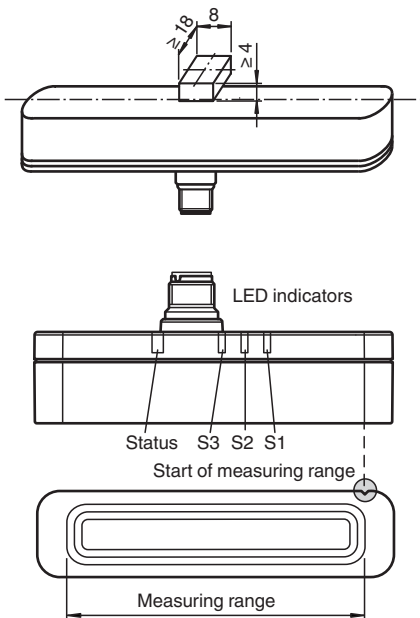


Wire colors in accordance with EN 60947-5-2

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

Application

dimensions for the target object:



Accessories

	BT-F90-W	Damping element for sensors of type F90, F112, and F166; side hole
	MH-F90	Mounting bracket for mounting of F90 sensors
	V15-G-2M-PVC	Female cordset, M12, 5-pin, PVC cable
	V15-W-2M-PVC	Female cordset, M12, 5-pin, PVC cable

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Operation

Attention!

If the sensor is supplied via an IO-Link-Master, ensure that the sum of the no-load supply current and operating currents of all sensor outputs does not exceed the maximum current the IO-Link-Master can supply.