



Electronic pressure sensor **PM1604**

URL: <https://www.sxplc.com/electronic-pressure-sensor-pm1604>

Product data sheet

Product characteristics				
Number of inputs and outputs	Number of digital outputs: 1, Number of analog outputs: 1			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection G 1 external thread sealing cone			
Application				
System	gold-plated contacts			
Measuring element	ceramic-capacitive pressure measuring cell			
Temperature monitoring	no			
Application	flush mountable for the food and beverage industry			
Media	viscous media and liquids with suspended particles, liquids and gases			
Medium temperature [°C]	-25...150			
Min. bursting pressure	150 bar	2175 psi	15 MPa	
Pressure rating	50 bar	725 psi	5 MPa	
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure, vacuum			
No dead space	yes			
MAWP (for applications according to CRN) [bar]	50			
Electrical data				
Operating voltage [V]	18...30 DC			
Min. insulation resistance [MΩ]	100 (500 V DC)			
Protection class	III			
Reverse polarity protection	yes			
Integrated watchdog	yes			
2-wire				
Current consumption [mA]	3.5...21.5			
Power-on delay time [s]	1			
3-wire				
Current consumption [mA]	< 45			
Power-on delay time [s]	0.5			
Inputs / outputs				
Number of inputs and outputs	Number of digital outputs: 1, Number of analog outputs: 1			
Outputs				
Total number of outputs	2			
Output signal	analog signal, IO-Link (configurable)			
Number of digital outputs	1 (IO-Link)			
Number of analog outputs	1			
Analog current output [mA]	4...20 (scalable)			
Max. load [Ω]	700 (U _b = 24 V, (U _b - 9 V) / 21.5 mA)			
Short-circuit proof	yes			
Overload protection	yes			
Measuring/setting range				
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Analog start point	-1...8 bar	-14.5...115 psi	-0.1...0.8 MPa	
Analog end point	1...10 bar	14.5...145 psi	0.1...1 MPa	
In steps of	0.005 bar	0.1 psi	0.0005 MPa	
Factory setting	ASP = 0.0 bar		AEP = 10.0 bar	
Accuracy / deviations				
Repeatability [% of the span]	< ± 0.1, (with temperature fluctuations < 10 K, Turn down 1:1)			
Characteristics deviation [% of the span]	< ± 0.2, (linearity incl. hysteresis and repeatability, limit value: setting to DIN EN IEC 62828-1)			
Linearity deviation [% of the span]	< ± 0.15, (Turn down 1:1)			
Hysteresis deviation [% of the span]	< ± 0.15, (Turn down 1:1)			
Long-term stability [% of the span]	< ± 0.1, (Turn down 1:1, per year)			
Total deviation over temperature range	Temperature range	total deviation		
	-25...15 °C	Characteristics deviation ± 0.05 % of the span / 10 K		
	15...80 °C	Characteristics deviation		
	80...150 °C	Characteristics deviation ± 0.1 % of the span / 10 K		
Notes on the accuracy / deviation	for further details see section Diagrams and graphs			
Reaction times				
Damping for the analog output dAA [s]	0...4			
2-wire				
Step response time analog output [ms]	30			
3-wire				
Step response time analog output [ms]	7			
Interfaces				
Communication interface	IO-Link			
Transmission type	COM2 (38.4 kBaud)			
IO-Link revision	1.1			
SDCI standard	IEC 61131-9			
Profiles	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)			
SIO mode	no			
Required master port class	A			
Process data analog	3			
Min. process cycle time [ms]	3.2			
IO-Link resolution pressure [bar]	0.002			
IO-Link process data (acyclical)	Function	bit length		
	pressure	16		
	device status	4		
IO-Link functions (acyclical)	application specific tag, internal temperature			
Supported DeviceIDs	Type of operation	DeviceID		
	default	662		
Operating conditions				
Ambient temperature [°C]	-25...80			
Storage temperature [°C]	-40...100			
Protection	IP 67, IP 68, IP 69K			
Tests / approvals				
EMC	DIN EN 61000-6-2 DIN EN 61000-6-3			
Shock resistance	DIN EN 60068-2-27		50 g (11 ms)	
Vibration resistance	DIN EN 60068-2-8		20 g (10...2000 Hz)	
MTTF [years]	323			
Note on approval	Factory certificate available as download at www.factory-certificate.com			
UL approval	UL approval number		J022	
Mechanical data				
Weight [g]	327.7			
Material	stainless steel (1.4404 / 316L), PBT			
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃), stainless steel (1.4435 / 316L), surface characteristics: Ra < 0.4 / Rz 4, PTFE			
Min. pressure cycles	100 million			
Tightening torque [Nm]	20			
Process connection	threaded connection G 1 external thread sealing cone			

