

FEATURES

- Stainless steel
- M10x1 thread
- Flush Diaphragm
- For Static and Dynamic Applications
- High Level Tension Output Available
- Low Installation Torque Sensitivity

APPLICATIONS

- Hydraulic regulation process
- Explosion test benches
- Brake Systems
- Laboratory and research

XPM10

M10x1 Low Mass Miniature pressure sensor

SPECIFICATIONS

- Ranges 1 to 350 bar [15 psi to 5,000 psi]
- Absolute, sealed and gauge ranges
- Amplified output available
- Linearity up to $\pm 0.25\%$ F.S
- Very low mass, approximately 20 grams without cable (dependent on options)

The XPM10 is a miniature transducer designed to measure static and dynamic pressure under a wide variety of conditions, including hostile environments. It is made of stainless steel or titanium and is available in standard ranges from 0-1 to 350 bars [15 up to 5000 psi].

The XPM10 incorporates a specific feature, which minimizes zero shifts caused by installation torque.

A PT1000 temperature probe is optionally available as a custom design.

The XPM10 may integrate different electronics for amplified outputs: A1 0.5-4.5V, A2 $\pm 5V$, A3 4-20mA.

On request, instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

STANDARD RANGES

Full Scale (FS)		Pressure Reference			Resonant Frequency	Sensitivity "FSO"	Overpressure	Burst Pressure
bar	psi	Gauge	Absolute	Sealed		(non amplified)	(rated pressure)	(rated pressure)
1	15	•	•	•	32 kHz	50 mV	2 x FS	5 x FS
2	30	•	•	•	32 kHz	100 mV	2 x FS	5 x FS
5	75	•	•	•	35 kHz	100 mV	2 x FS	5 x FS
10	150	•	•	•	50 kHz	100 mV	2 x FS	5 x FS
20	300	•	•	•	69 kHz	100 mV	2 x FS	5 x FS
35	500	•	•	•	79 kHz	100 mV	2 x FS	5 x FS
50	750	•	•	•	109 kHz	100 mV	2 x FS	5 x FS
100	1.5K			•	154 kHz	100 mV	2 x FS	5 x FS
200	3K			•	218 kHz	100 mV	2 x FS	5 x FS
350	5K			•	288 kHz	100 mV	2 x FS	3 x FS

Notes: 1. The suggested frequency of use is 20% of the resonant frequency
 2. The bandwidth for versions with A1, A2 and A3 electronics is 3kHz.
 3. Sensor characterized with a 10 VDC supply voltage as standard
 4: The sensitivity "FSO" has a tolerance of -30% to +50%.

PERFORMANCE SPECIFICATIONS (all values are typical at ambient temperature 23°C)

Parameters	Non amplified	Amplified A1	Amplified A2	Amplified A3	Notes
Power supply	10 Vdc regulated	10 to 30 Vdc	±12 to ±18 Vdc	10 to 26 Vdc	A3 version uses a 2 wires circuit
Sensitivity “FSO”	Previous table	4 V ±0.2 V	5 V ±0.25 V	16 ±0.4 mA	
Zero Offset	<±10 mV	0.5 V ±0.2 V	0 V ±0.25 V	4 ±0.4 mA	
Non Linearity	±0.5%FS ±0.25%FS				FS ≤ 2 bar or 30 psi FS ≥ 5 bar or 75 psi
Hysteresis	±0.25%FS				
Repeatability	±0.2%FS				
Operating Temperature (OTR)	-40 to 150°C (-40 to 302°F)	-40 to 120°C (-40 to 250°F)		-20°C to 80°C (-4°F to 176°F)	
Compensated Temperature (CTR)	0 to 60°C (32 to 140°F)				
Thermal Zero Shift in CTR	±3%FS/50°C ±2%FS/50°C				FS = 1 bar or 15 psi FS ≥ 2 bar or 30 psi
Thermal Sensitivity Shift in CTR	±2% of reading /50°C				
Input Impedance or consumption	500 Ω to 1500 Ω	< 30 mA			
Output Impedance	500 Ω to 800 Ω	1000 Ω			
Ingress Protection	IP50 IP67 (consult factory for IP68)				Standard or SC P7 or P7-SC
Media – Pressure Port	Fluids compatible with Stainless steel				

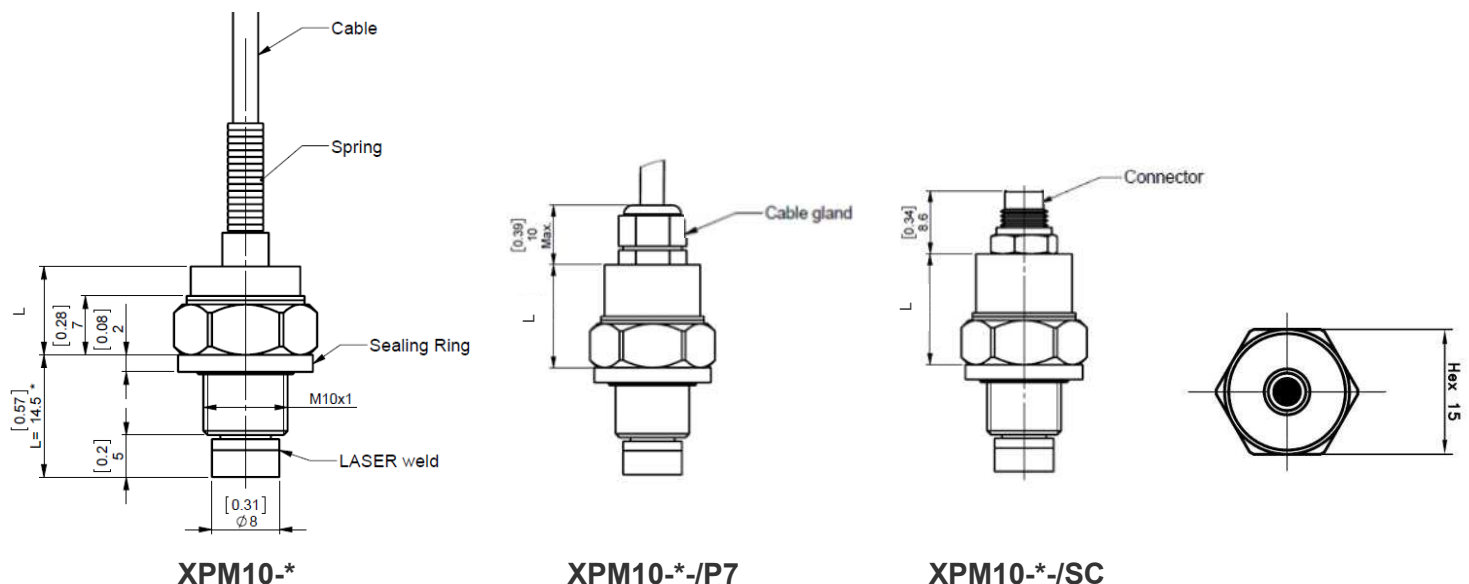
Insulation under 50Vdc ≥100MΩ

CE certification according to EN 61010-1, EN 50081-1, EN 50082-1.

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DIMENSIONS (metric & [imperial])



Version:	Non-Amplified			Amplified A1/A2			Amplified A3		
Option:	standard	P7	SC	standard	P7	SC	standard	P7	SC
L (mm)	7	11.5	11.5	10.5	14	15	23.5	23.5	28

Weight: The standard configuration without cable and sealing ring is < 20g

WIRING SCHEMATICS

Functions (non-amplified)	Wire / Pin
+SUPPLY	Red / 1
+OUTPUT	Green / 4
-OUTPUT	White / 2
-SUPPLY	Black / 3
Shield	Body

0-5V Functions (A2)	Wire / Pin
+SUPPLY	Red / 1
+OUTPUT	Green / 4
-0V / COM	White / 2
-SUPPLY	Black / 3
Shield	Body

0.5-4.5V Functions (A1)	Wire / Pin
+SUPPLY	Red / 1
+OUTPUT	Green / 4
-OUTPUT	White / 2 (common with - supply)
-SUPPLY	Black / 3 (common with - output)
Shield	Body

4-20mA Functions (A3)	Wire / Pin
+SUPPLY / +OUTPUT	Red / 1
-SUPPLY / -OUTPUT	Black / 3
Shield	Body

ADDITIONAL INFORMATION

- Recommended Tightening Torque: 4 to 10 Nm (44 to 88 lbf.in) for FS ≤5 bar or 75 psi
10 to 15 Nm (88 to 132 lbf.in) for FS ≥ 5 bar or 75 psi
- Sealing: One FKM sealing ring Ø 16x2 is supplied with sensor. (Operating static temperature -30°C to 200°C)
- Electrical connection: Standard = 2m of shielded cable ø3mm with 4 wires AWG30, Silicon jacket
SC option = Integral connector ref. OMNETICS CMR-02D-04P supplied with mating plug CMR-02-B-04S wired with 2m of cable (FMC-COM-4B-L2M)

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OPTIONS

Temp. Compensation <i>(other compensation range are available on request)</i>	Z04: CTR -40 to 90 °C [-40 to 194 °F] (not available with A3 and P7 options)
	Z35: CTR 20 to 120 °C [68 to 248 °F] (not available with A3 options)
	Z36: CTR 20 to 150 °C [68 to 302 °F] (not available with A1, A2 and A3 options)
Waterproofing	P7: IP67 protection for cable gland output or SC option (available only for Absolute and Sealed Gauge versions)
Removable cable	SC: Connector output with prewired mating connector, cable length 2 m [6.6 ft]
Cable Length	L00M: special cable length = L5M / L10M / L15M / L20M, total length in meters (standard length 2,0 m [6,6 ft])

Note: ETxx options are now replaced by Zxx options.

ORDERING INFORMATION

XPM10	-	A1	-	20B	G	-	/Z35/P7/L5M
Model	-	Output signal	-	Pressure Range	Pressure reference	-	Options
XPM10		(blank): non-amplified A1: 0,5 to 4,5V A2: 0 to 5V A3: 4 to 20 mA		1B 2B 5B 10B 20B 35B 50B 100B 200B 350B	A: Absolute G: Gauge S: Sealed		/Z04 /Z35 /Z36 /P7 /SC /L00M

The sensor ordering codes uses only bar as units because **XPM10** uses metric threads. Psi value correspondence is noted as information.