XPM10 Miniature pressure sensor

- **Absolute, sealed and gauge ranges 1 to 350 bars [15 psi to 5 000 psi]**
- **Stainless steel**
- **High level output in option**
- **Linearity up to ±0.25% F.S**
- **For static and dynamic applications**
- **Optional IP67 Ingress Protection**

DESCRIPTION

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 Measurement Specialties' cutting edge SanShiftTM technology, which virtually eliminates 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** ±5V, **A3** 4-20mA.

Do not hesitate to discuss with your local MEAS contact for any details or information.

FEATURES

- Flush Diaphragm
- M10x1 thread
- For Static and Dynamic Applications
- Low Installation Torque Sensitivity

APPLICATIONS

- Hydraulic regulation process
- Explosion test benches
- Breaking system pressure
- Laboratory and research

STANDARD RANGES

Full Scale (FS)		Pressure Reference			Linearity	Hysteresis	Repeatability
bar	psi	Absolute	Gauge	Sealed	(%FS)	(%FS)	(%FS)
1	15	•	•	•	±0.35%	±0.25%	±0.2%
2	30	•	•	•	±0.25%	±0.25%	±0.2%
5	75	•	•	•	±0.25%	±0.25%	±0.2%
10	150	•	•	•	±0.25%	±0.25%	±0.2%
20	300	•	•	•	±0.25%	±0.25%	±0.2%
35	500	•	•	•	±0.25%	±0.25%	±0.2%
50	750	•	•	•	±0.25%	±0.25%	±0.2%
100	1.5K			•	±0.25%	±0.25%	±0.2%
200	3K			•	±0.25%	±0.25%	±0.2%
350	5K			•	±0.25%	±0.25%	±0.2%

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

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TEMPERATURE CHARACTERISTICS

Full Scale (FS)		Operating Temperature Range (OTR)		Compensated Temperature Range (CTR)		ZeroShift in CTR	Sensitivity Shift in CTR
bar	psi	Celsius	Fahrenheit	Celsius	Fahrenheit	/50℃	/50℃
1	15	-40 to 120℃	-40 to 250℉	0 to 60℃	32 to 140℉	< ±3%FS	< ±2%
2	30	|	|	|	|	< ±2%FS	|
5	75	|	|	|	|	< ±2%FS	|
10	150	|	|	|	|	< ±2%FS	|
20	300	|	|	|	|	< ±2%FS	|
35	500	|	|	|	|	< ±2%FS	|
50	750	|	|	|	|	< ±2%FS	|
100	1.5K	|	|	|	|	< ±2%FS	|
200	3K	|	|	|	|	< ±2%FS	|
350	5K	|	|	|	|	< ±2%FS	|

Temperature notes
For sensor which integrated the A3 amplifier: OTR = -20℃ to 80℃ [-4℉ to 176℉], CTR = 0 to 60℃ [32 ℉ to 140℉]

MECHANICAL CHARACTERISTICS

Full Scale (FS)		Pressure limit		Tightening Torque		Max. tightening Torque	
bar	psi	Without damage	Without destruction	N.m	lbf.in	N.m	lbf.in
1	15	2x FS	5x FS	5	44	10	88
2	30	|	|	5	44	10	88
5	75	|	|	5	44	10	88
10	150	|	|	10	88	15	132
20	300	|	|	10	88	15	132
35	500	|	|	10	88	15	132
50	750	|	|	10	88	15	132
100	1.5K	|	|	10	88	15	132
200	3K	|	|	10	88	15	132
350	5K	|	|	10	88	15	132

Notes
1. Material: Body and flush diaphragm in stainless steel; laser welded. A titanium construction is on request.
2. One Self-centred "FKM" sealing ring Ø 16x2 is supplied with the sensor. Operating temperature is -30℃ to 200℃ [-20℉ to 390℉] static.
3. Specific threads lengths on request.
4. Protection Index: IP50
5. Electrical Termination: Shielded Ø3 mm cable with 4 wires (AWG30)

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ELECTRICAL SPECIFICATIONS

NON-AMPLIFIED VERSION

Full Scale (FS) bar	Full Scale (FS) Psi	Frequency response	Power supply	Full Scale Output (FSO)	Offset	Input Impedance Ze	Output Impedance Zs
1	15	30 kHz	10 Vdc	50 mV	< ±10mV	500 to 1500 Ω	500 to 800 Ω
2	30	30 kHz	|	100 mV	|	|	|
5	75	35 kHz	|	100 mV	|	|	|
10	150	50 kHz	|	100 mV	|	|	|
20	300	69 kHz	|	100 mV	|	|	|
35	500	79 kHz	|	100 mV	|	|	|
50	750	109 kHz	|	100 mV	|	|	|
100	1.5K	154 kHz	|	100 mV	|	|	|
200	3K	218 kHz	|	100 mV	|	|	|
350	5K	288 kHz	|	100 mV	|	|	|

AMPLIFIED VERSION

Option	Bandwidth	Power supply	Full Scale Output (1) (FSO)	Offset	Consumption	Output Impedance Zs (2)
A1	3 kHz	10 to 30 Vdc	4 ±0.2V	0.5 ±0.2V	< 30 mA	1 000 Ω
A2	3 kHz	±15 Vdc (±3 Vdc)	5 ±0.2V	0 ±0.2V	< 30 mA	1 000 Ω
A3	3 kHz	10 to 26 Vdc	16 ±0.4mA	4 ±0.4mA	-	-

Notes

All values are typical at temperature 20±1ºC.
Insolation under 50Vdc ≥100MΩ
CE certification according to EN 61010-1, EN 50081-1, EN 50082-1.

1. Signal outputs 0.5 to 9.5Vdc for A1 and ±10Vdc for A2 on request as custom product.
2. Output impedance standard 1kΩ, available <100Ω on request.
3. A3 amplifier option uses a 2 wires circuit.

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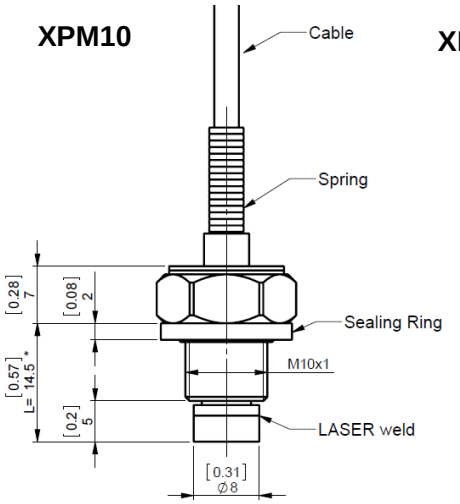
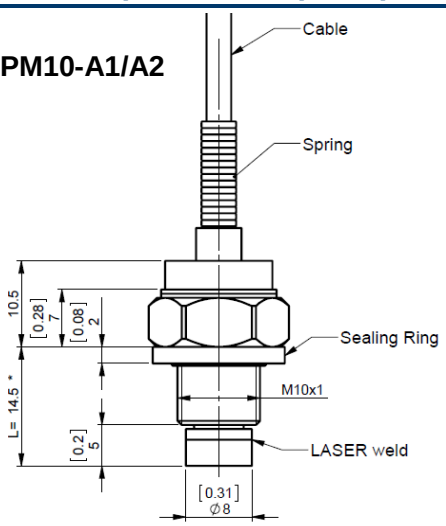
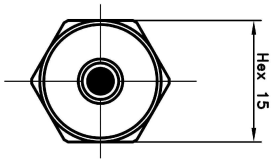
DIMENSIONS & WIRING SCHEMATIC (metric & imperial)

XPM10

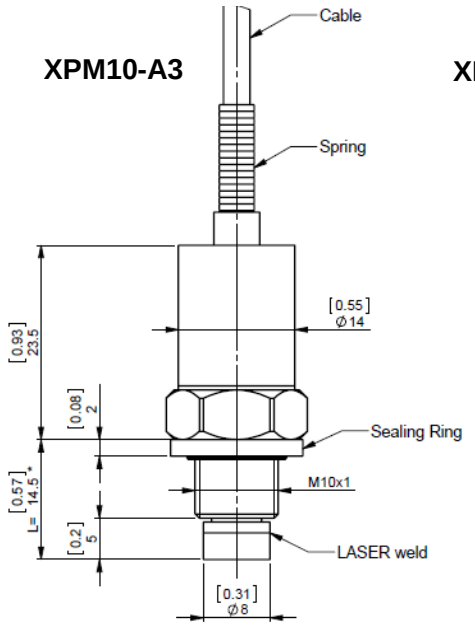


XPM10-A1/A2

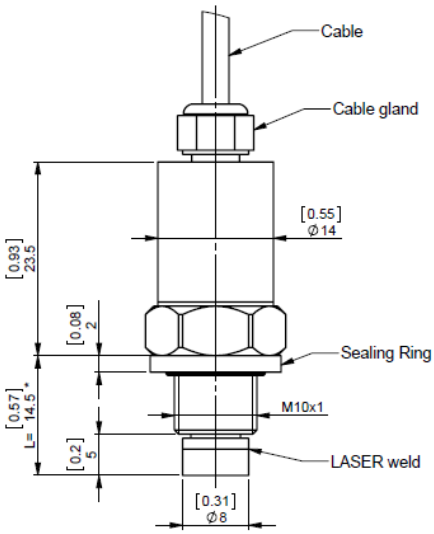




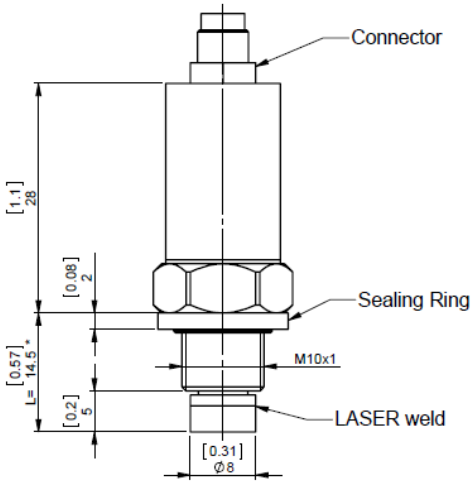
XPM10-A3



XPM10-A3-/P7

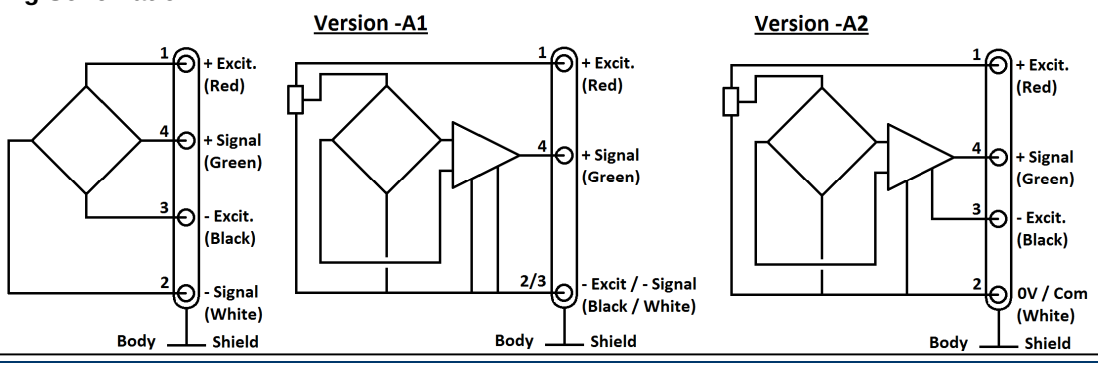


XPM10-A3-/SC



Integral connector (**SC** option):
Base ref. **CMR-02D-04P**
Supplied Accessories: mating plug **CMR-02-B-04S** with 2m cable ref. **FMC-COM-4B-L2M**

Wiring Schematic



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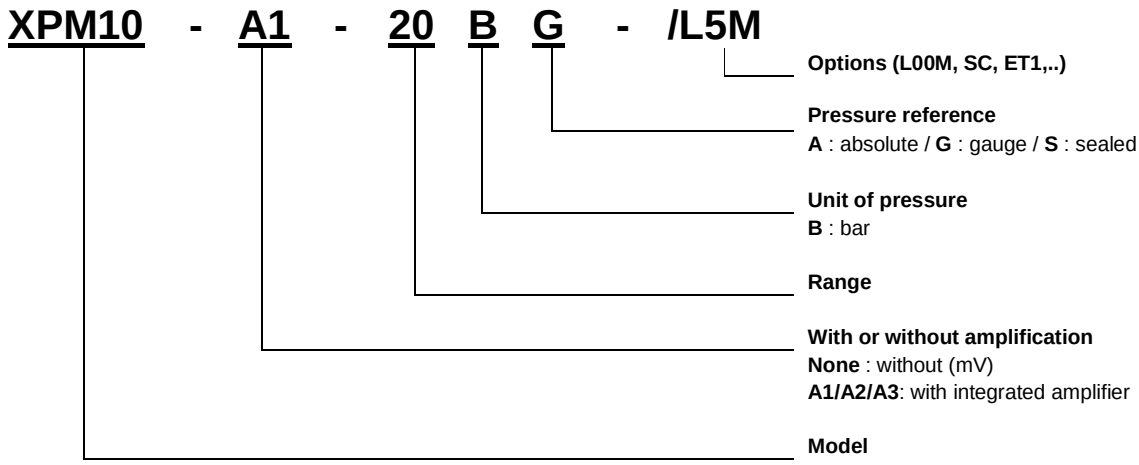
OPTIONS

A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
A3 : Amplified Current output with 2 wires (OTR: -40 to 80℃)
HA : High Accuracy (CN L&H) ≤±0.25% F.S. (≤±0.35% F.S. for 1 bar [15psi] model)
SI : Sensitivity shift in CTR ≤1% of reading / 50 °C [/100 °F] (except 1 and 2 b ar [15, 30 psi] models)
ZI : Zero shift in CTR ≤1.5% F.S. / 50 °C [/100 °F] (except 1 and 2 bar [15, 30 psi] models)
ET1 : CTR -20 to 100 °C [-4 to 212 °F]
ET3 : CTR -40 to 150 °C [-40 to 302 °F] OTR=CTR (not available with A1, A2, A3 and P7 options)
ET5 : CTR -40 to 80 °C [-40 to 176 °F] OTR=CTR (not available with A1, A2, A3 and P7 options)
ET7 : CTR -20 to 120 °C [-4 to 248 °F] OTR=CTR (avai lable only when P7 option is requested)
SC : Connector output, prewired, cable length 2 m [6.6 ft]
P5 : IP65 protection (available only for Absolute and Sealed Gauge versions)
P7 : IP67 protection (available only for Absolute and Sealed Gauge versions)
L00M : special cable length, replace “00” with total length in meters (standard length 2,0 m [6,6 ft])

ORDERING INFORMATION



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