

# XPC10 High temperature miniature pressure sensor



- Absolute, sealed and gauge ranges 10 to 500 bar [150 to 7 500 psi]
- High temp. operation from -40 up to 220 °C [-40 to 428 °F]
- Stainless steel construction
- Amplified output available
- For static and dynamic applications
- Optional IP67 Ingress Protection

## DESCRIPTION

The **XPC10** is a miniature pressure transducer specifically designed to measure static and dynamic pressures in temperatures from -40 to 220 °C [-40 °F to 428 °F] (unamplified models). Constructed of stainless steel, the rugged XPC10 is suitable for corrosive liquids and gases in a wide variety of harsh environments. For ease of installation and long term performance, this miniature pressure sensor incorporates Measurement Specialties' cutting edge SanShift™ technology that eliminates zero shifts caused by installation torque. The core technology of the **XPC10** consists of a foil strain gage wired in a Wheatstone bridge circuit to provide excellent temperature stability.

An on-board amplifier is optionally available (**A1**) for all ranges.

A **PT1000** temperature probe is optionally available for all ranges as a custom design.

## FEATURES

- Low Installation Torque Sensitivity
- M10x1 or 3/8-24UNF thread
- Linearity up to ±0.25% F.S.
- For Static and Dynamic Applications

## APPLICATIONS

- Aerospace
- Test benches
- Oven monitoring equipment
- Cooling regulation systems

## STANDARD RANGES

Full Scale (FS)		Referencial pressure			Linearity & Hysteresis combined (%FS)
bar	psi	Absolute	Gauge	Sealed	
10*	150	•	•	•	±0.5%
20	300	•	•	•	±0.3%
35	500	•	•	•	±0.3%
50	750	•	•	•	±0.3%
70	1K	•	•	•	±0.3%
100	1.5K			•	±0.25%
200	3K			•	±0.25%
350	5K			•	±0.25%
500	7.5K			•	±0.25%

The **psi** range models are only supplied with imperial thread design.

The **bar** range models are only supplied with metric thread design.

\*Lower pressure range 5 bar [75 psi] on request as custom design.

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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°C	/50°C
10	150	-40 to 220°C	-40 to 428°F	0 to 150°C	32 to 300°F	< ±1%FS	< ±1%
20	300						
35	500						
50	750						
70	1K						
100	1.5K						
200	3K						
350	5K						
500	7.5K						

### Temperature notes

For sensor which integrated the A1 amplifier: OTR = -40°C to 120°C [-40°F to 250°F], CTR = 0 to 80°C [32°F to 170°F]

## 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
10	150	1.5x FS	3x FS	5	44	10	88
20	300						
35	500						
50	750						
70	1K						
100	1.5K						
200	3K						
350	5K						
500	7.5K						

### 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°C to 200°C [-20°F to 390°F] static; down to -40°C to 220°C [-40°F to 428°F] for short durations.
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)		Frequency resonance	Power supply	Full Scale Output (FSO)	Offset	Input Impedance Ze	Output Impédance Zs
bar	psi						
10	150	34 kHz	10 Vdc	12 mV	< ±0.5mV	500 Ω	350 Ω
20	300	50 kHz					
35	500	70 kHz					
50	750	80kHz					
70	1K	95 kHz					
100	1.5K	110 kHz					
200	3K	155 kHz					
350	5K	220 kHz					
500	7.5K	250 kHz					

### AMPLIFIED VERSION (A1)

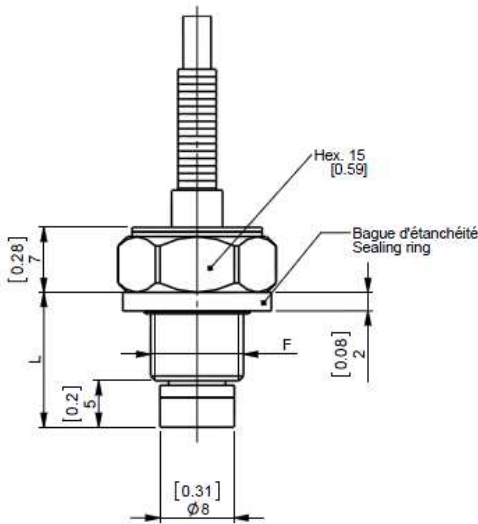
Full Span (FS)		Bandwidth	Power supply	Full Scale Output (FSO) (2)	Offset	Consumption	Output Impédance Zs (5)
bar	psi						
10	150	600 Hz	10 to 30Vdc	4 ±0.2V	0.5 ±0.2V	<50 mA	1 000 Ω
20	300						
35	500						
50	750						
70	1K						
100	1.5K						
200	3K						
350	5K						
500	7.5K						

#### Notes

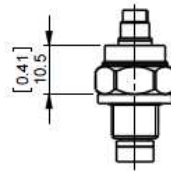
1. All values are typical at temperature 20±1°C.
2. Output signal : 0.5 to 4.5Vdc for A1 option.
3. Standard output signal, custom outputs available on request.
4. Insulation under 50Vdc ≥100MΩ
5. Output impedance standard 1kΩ, available <100Ω on request.
6. CE certification according to EN 61010-1, EN 50081-1, EN 50082-1.

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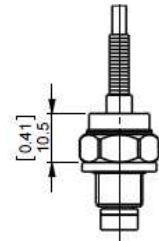
## DIMENSIONS & WIRING SCHEMATIC



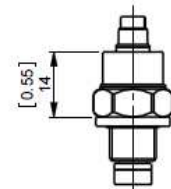
**XPC10**



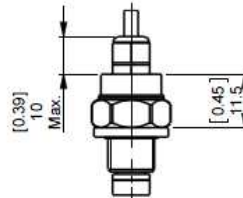
**XPC10\*-SC**



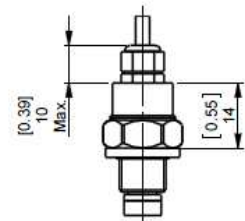
**XPC10\*-A1**



**XPC10\*-A1-SC**



**XPC10\*-P7**



**XPC10\*-A1-P7**

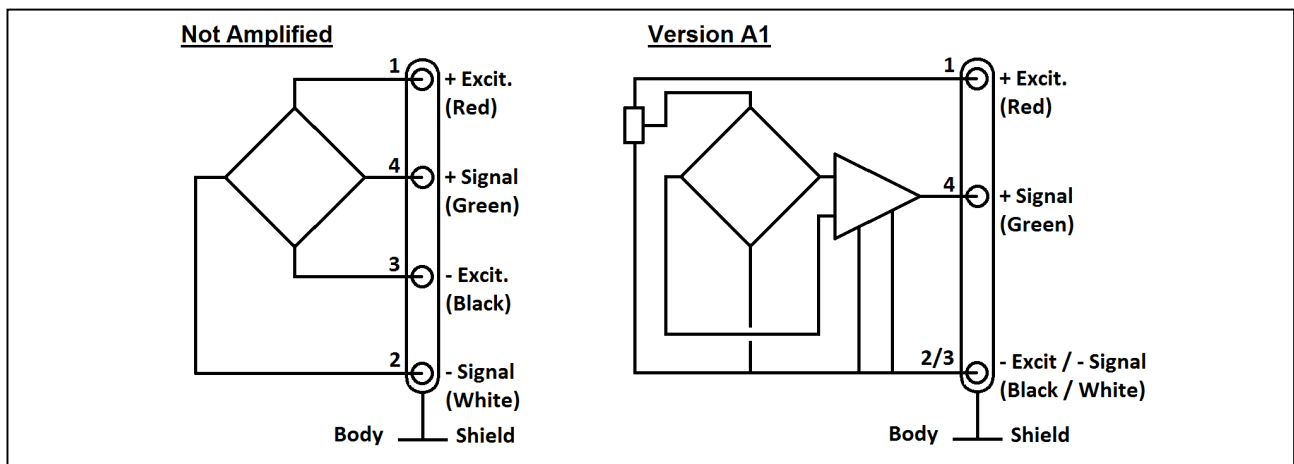
### Dimensions Metric & Imperial

	XPC10-M	XPC10-X
<b>F (thread)</b>	M10x1	3/8-24UNF
<b>L (mm)</b>	14.5	13.1
<b>L (in)</b>	[0.57]	[0.52]

### 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**

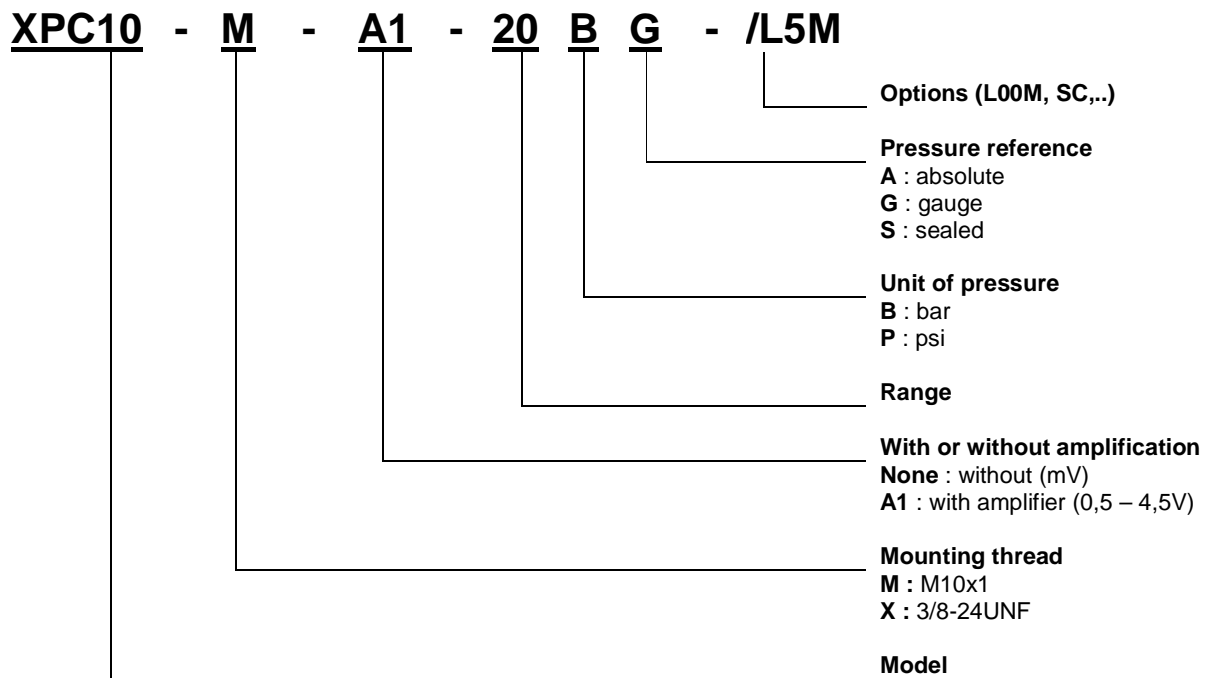


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## OPTIONS

<b>ZI</b> : Zero shift in CTR <0.75% F.S. / 50 °C [ /100 °F]
<b>Z02</b> : CTR -40 to 60 °C [-40 to 140 ° F]
<b>Z35</b> : CTR 20 to 120 °C [70 to 250 ° F]
<b>Z38</b> : CTR +20°C à +200°C [70 to 390°F] (not compatible with A1 and P7 option)
<b>SC</b> : Connector output, mating plug supplied with 2 m cable [6.6 ft]
<b>P7</b> : IP67 protection / -20°C to +150°C [0°F to 300°F ] (not compatible with gauge model)
<b>L00M</b> : special cable length, replace "00" with total length in meters (standard length 2,0 m [6,6 ft])

## ORDERING INFORMATION



## 联系方式



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