

## XPC10

High temperature miniature pressure sensor

### SPECIFICATIONS

- Ranges 10 to 500 bar [150 to 7 500 psi]
- Absolute, sealed and gauge
- High temp. from -40 up to 220 °C [-40 to 428 °F]
- Stainless steel construction
- For static and dynamic applications
- Linearity up to  $\pm 0.25\%$  F.S.

### FEATURES

- Low Installation Torque Sensitivity
- M10x1 or 3/8-24UNF thread
- Specific threads lengths on request
- Integrated Amplifier optional
- Titanium body on request
- Optional IP67 Ingress Protection

### APPLICATIONS

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

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).

Made of stainless steel, the rugged **XPC10** is suitable for corrosive liquids and gases in a wide variety of harsh environments.

The **XPM10** threaded construction virtually 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.

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

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

**STANDARD RANGES**

Ranges (FS)		Pressure Reference			Resonance Frequency <sup>12</sup>	Sensitivity "FSO" <sup>3</sup>	Overpressure	Burst Pressure
bar	psi	Gauge	Abso.	Sealed		(non amplified)	(rated pressure)	(rated pressure)
10 <sup>1</sup>	150 <sup>1</sup>	•	•	•	34 kHz	1.2 mV/V	1.5 x FS	3 x FS
20	300	•	•	•	50 kHz	1.2 mV/V	1.5 x FS	3 x FS
35	500	•	•	•	70 kHz	1.2 mV/V	1.5 x FS	3 x FS
50	750	•	•	•	80kHz	1.2 mV/V	1.5 x FS	3 x FS
70	1K	•	•	•	95 kHz	1.2 mV/V	1.5 x FS	3 x FS
100	1.5K			•	110 kHz	1.2 mV/V	1.5 x FS	3 x FS
200	3K			•	155 kHz	1.2 mV/V	1.5 x FS	3 x FS
350	5K			•	220 kHz	1.2 mV/V	1.5 x FS	3 x FS
500	7.5K			•	250 kHz	1.2 mV/V	1.5 x FS	3 x FS

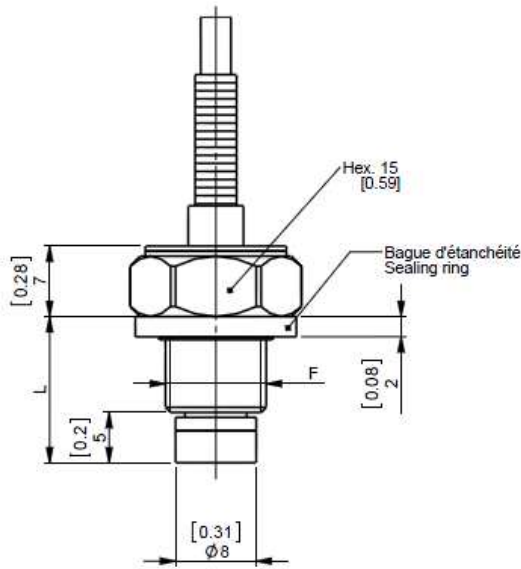
1. Lower pressure range 5 bar [75 psi] on request as custom design.
2. Useful frequency is 20% of Resonance Frequency. Bandwidth is 600Hz for all A1 amplified version.
3. Sensors are calibrated with 10Vdc power supply as standard.

**PERFORMANCE SPECIFICATIONS** (all values are typical at ambient temperature 23±3°C)

Parameters	Non amplified <sup>1</sup>	A1	Notes
Power supply	1 to 10 Vdc regulated	10 to 30 Vdc	
Sensitivity "FSO"	See previous table	4 V ±0.2 V	Signal 0.5 - 4.5V for A1 option
Zero Offset	±1 mV	0.5 V ±0.2 V	
Combined Non-Linearity & Hysteresis	±0.5%FS ±0.3%FS ±0.25%FS		FS ≤ 10 bar 10 bar < FS < 100 bar 100 bar ≤ FS
Operating Temperature (OTR)	-40 to 220°C (-40 to 428°F)	-40°C to 120°C (-40°F to 250°F)	
Compensated Temperature (CTR)	0 to 150°C (32 to 300°F)	0 to 80°C (32°F to 170°F)	
Thermal Zero Shift in CTR (TZS)	< ±1%FS/50°C		
Thermal Sensitivity Shift in CTR (TSS)	< ±1% of reading /50°C		
Input Impedance or consumption	500 Ω nom.	< 50 mA	
Output Impedance	350 Ω nom.	1000 Ω	
Ingress Protection	IP50 IP67		Standard or SC option P7 option
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.

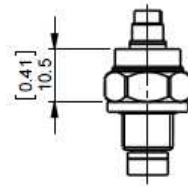
**DIMENSIONS & WIRING SCHEMATIC**



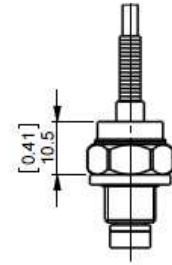
**XPC10**

**Dimensions Metric & Imperial**

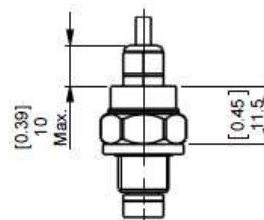
	XPC10-M	XPC10-X
<b>F (thread)</b>	M10x1	3/8-24UNF
<b>L (mm)</b>	14.5	13.1
<b>L (in)</b>	[0.57]	[0.52]



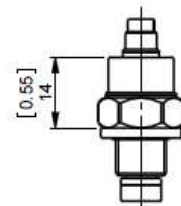
**XPC10-\*-SC**



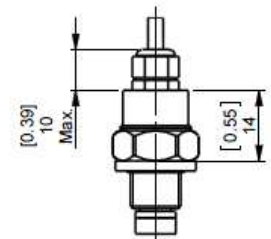
**XPC10-\*-A1**



**XPC10-\*-P7**



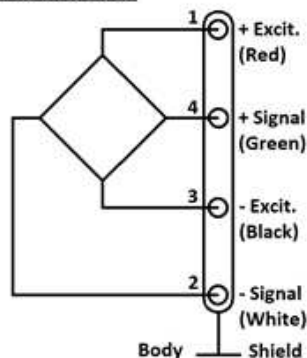
**XPC10-\*-A1-SC**



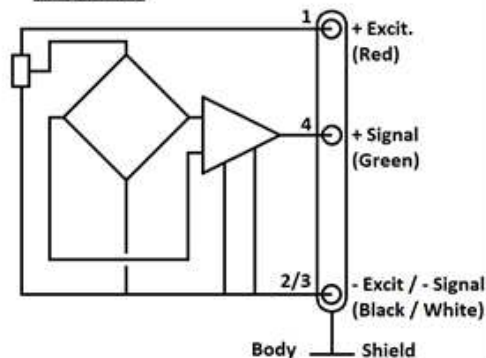
**XPC10-\*-A1-P7**

**WIRING AND CONNECTOR OPTION**

**Not Amplified**



**Version A1**



**Notes:**

1. Recommended Tightening Torque: 5 to 8 Nm (44 to 88 lbf.in)
2. Sealing: 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. Electrical connection: Standard = 2m of shielded cable ø3mm with 4 wires AWG30, Silicon jacket  
 SC option = Integral connector ref. Comtronic CMR-02D-04P supplied with mating plug CMR-02-B-04S wired with 2m of cable (FMC-COM-4B-L2M)

**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>V00</b> : Non-standard power supply calibration, replace "00" with value in Volt (standard 10Vdc, unamplified sensor only)
<b>L00M</b> : special cable length, replace "00" with total length in meters (standard length 2,0 m [6,6 ft])

**ORDERING INFORMATION**

<b>XPC10</b>	-	<b>M</b>	-	<b>A1</b>	-	<b>20B</b>		<b>G</b>	-	<b>/L5M</b>
Model	-	Mounting thread	-	Output signal	-	Pressure Range		Pressure reference	-	Options
<b>XPC10</b>		<b>M</b> : M10x1 <b>X</b> : 3/8-24UNF		(none) : bridge (mV) <b>A1</b> : 0,5 to 4,5V		<b>10B</b> <b>20B</b> <b>35B</b> <b>50B</b> <b>70B</b> <b>100B</b> <b>200B</b> <b>350B</b> <b>500B</b>	<b>150P</b> <b>300P</b> <b>500P</b> <b>750P</b> <b>1KP</b> <b>1.5KP</b> <b>3KP</b> <b>5KP</b> <b>7.5KP</b>	<b>A</b> : absolute <b>G</b> : gauge <b>S</b> : sealed		<b>ZI</b> <b>Z02</b> <b>Z35</b> <b>Z38</b> <b>SC</b> <b>P7</b> <b>L00M</b>

**Psi** range models only supplied with imperial thread  
**Bar** range models only supplied with metric thread.

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