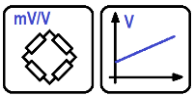
XP5

Miniature pressure sensor

SPECIFICATIONS

- **Ranges 0.5 to 350 bar [7 psi to 5 000 psi]**
- **Absolute, sealed and gauge**
- **Titanium construction**
- **For static and dynamic applications**
- **Linearity up to ±0.25% FS**



FEATURES

- Flush diaphragm
- M5x0.8 or 10-32UNF-2A thread
- Cable or integral connector
- Many options available

APPLICATIONS

- Corrosive liquids and gases
- Braking system pressure
- Onboard equipment monitoring
- Mil-Aero

The **XP5** serie is designed in titanium for pressure measurement in dynamic and static operations even in harsh environments.

The **XP5** threaded construction virtually eliminates zero shifts caused by installation torque.

This rugged sensor is constructed of titanium to enable reliable operation including harsh environments. The **XP5**'s core sensing technology consists of a temperature compensated Wheatstone bridge composed of high stability micro-machined silicon strain gauges.

An on-board amplifier is optionally available (**A1**) for ranges from 5 to 350 bar [75 to 5,000 psi].

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			Resonance Frequency [1]	Sensitivity "FSO" [2][3]	Overpressure	Burst Pressure
bar	psi	Gauge	Abso.	Sealed		(unamplified)	(rated pressure)	(rated pressure)
0.5	7	♠	♠	♠	90 kHz	2.5 mV/V	8 x FS	20 x FS
1	15	♠	♠	♠	90 kHz	5 mV/V	4 x FS	10 x FS
2	30	♠	♠	♠	90 kHz	10 mV/V	2 x FS	5 x FS
5	75	♠	♠	♠	130 kHz	10 mV/V	2 x FS	5 x FS
10	150	♠	♠	♠	160 kHz	10 mV/V	2 x FS	5 x FS
20	300	♠	♠	♠	190 kHz	10 mV/V	2 x FS	5 x FS
35	500	♠	♠	♠	250 kHz	10 mV/V	2 x FS	5 x FS
50	750	♠	♠	♠	300 kHz	10 mV/V	2 x FS	5 x FS
70	1K	♠	♠	♠	320 kHz	10 mV/V	2 x FS	5 x FS
100	1.5K			♠	380 kHz	10 mV/V	2 x FS	5 x FS
200	3K			♠	540 kHz	10 mV/V	2 x FS	5 x FS
350	5K			♠	760 kHz	10 mV/V	2 x FS	3 x FS

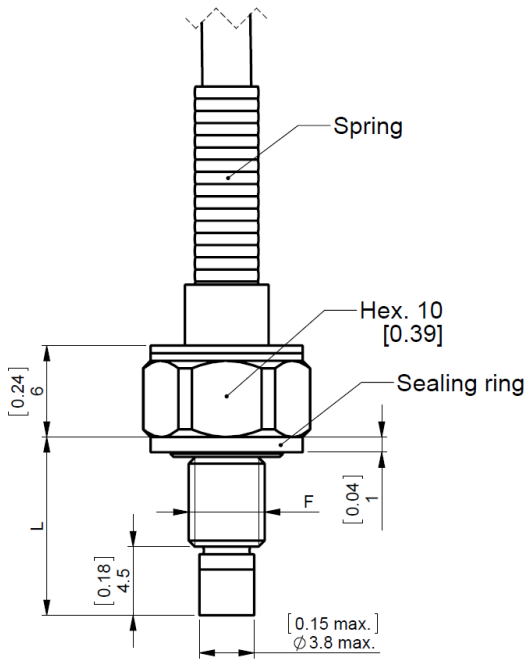
1: Useful frequency is 20% of Resonance Frequency. Bandwidth 3 kHz for amplified model (A1 option)
2. Unamplified version are calibrated with 10Vdc power supply as standard.
3: Sensitivity "FSO" is indicated as nominal value with tolerances -50% to +100%.

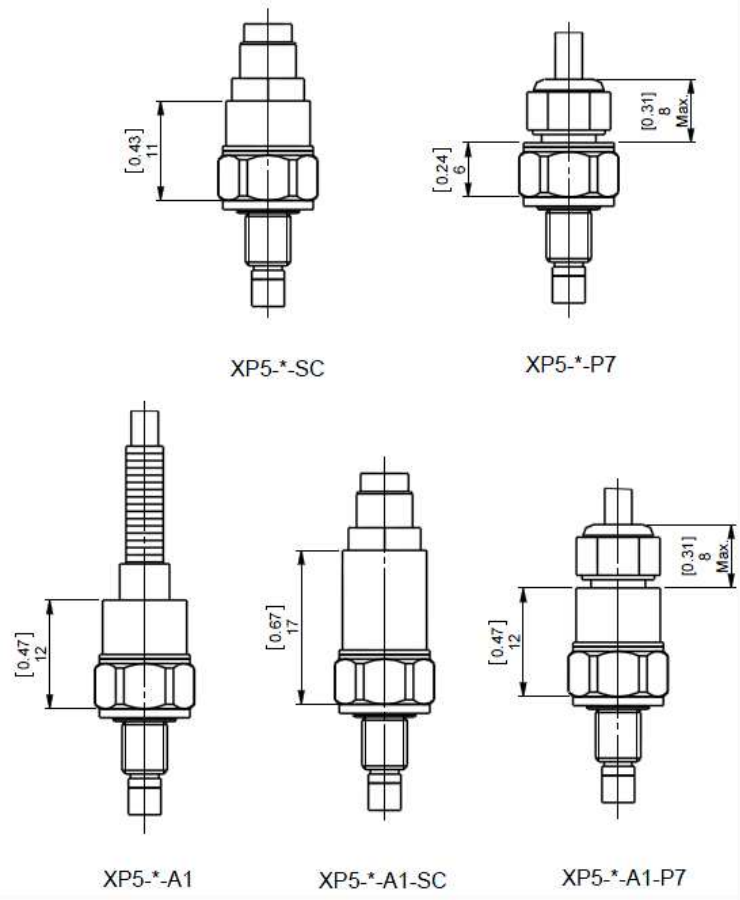
PERFORMANCE SPECIFICATIONS (all values are typical at temperature 23±3°C)

Parameters	Non amplified	A1	Notes
Power supply	1-10 Vdc regulated	10 to 30 Vdc	
Sensitivity "FSO"	See previous table	4 V ±0.2 V	Signal 0.5 - 4.5 V for A1 option
Zero Offset	±10 mV	0.5 V ±0.2 V	
Non Linearity	±0.5%FS ±0.25%FS		FS ≤ 2 bar or 30 psi FS ≥ 5 bar or 75 psi
Hysteresis	±0.5%FS ±0.25%FS		FS ≤ 2 bar or 30 psi FS ≥ 5 bar or 75 psi
Operating Temperature Range (OTR)	-40 to 120°C (-40 to 250°F)		
Compensated Temperature Range(CTR)	0 to 60°C (32 to 140°F)		
Thermal Zero Shift in CTR (TZS)	±6%FS/50°C ±4%FS/50°C ±2%FS/50°C		FS ≤ 1 bar or 15 psi FS = 2 bar or 30 psi FS ≥ 5 bar or 75 psi
Thermal Sensitivity Shift in CTR (TSS)	±4% of reading /50°C ±2% of reading /50°C		FS ≤ 2 bar or 30 psi FS ≥ 5 bar or 75 psi
Input Impedance / consumption	1500 Ω nom. 1000 Ω nom.	< 30 mA	FS ≤ 5 bar or 75 psi FS ≥ 10 bar or 150 psi
Output Impedance	500 Ω nom. 1000 Ωnom.	1000 Ω	FS ≤ 5 bar or 75 psi FS ≥ 10 bar or 150 psi
Ingress Protection	IP50 IP67		Standard or SC option P7 option
Media – Pressure Port	Liquids and Gases compatible with Titanium		

Insulation under 50Vdc ≥100MΩ
CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1.

DIMENSIONS & WIRING SCHEMATIC



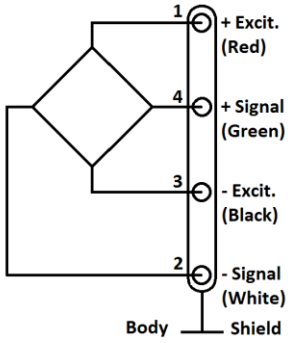


Dimensions **XP5-M** & **XP5-X**

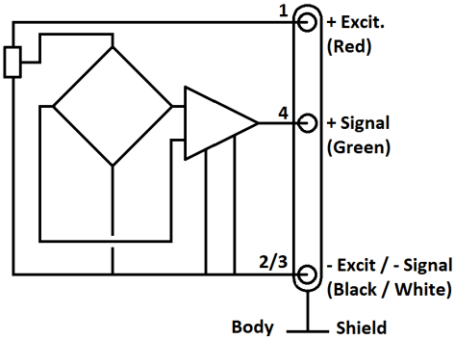
	XP5-M	XP5-X
F (Thread)	M5x0.8-6g	10-32UNF-2A
L (mm)	11.7	12.1
L (in)	[0.46]	[0.48]

WIRING AND CONNECTOR OPTION

Not Amplified



Version A1



Notes:

1. Recommended Tightening Torque: 1 Nm (FS ≤2 bar or 30 psi) ; 1.8 Nm (FS ≥ 5 bar or 75 psi)
2. Sealing: One FKM sealing ring is supplied with the sensor (operating temperature -30 to 150°C)
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

Z02 : Compensation Temperature Range -40 to 60°C [-40 to 140°F]
Z35 : Compensation Temperature Range 20 to 120°C [70 to 250°F]
Z36 : Compensation Temperature Range 20 to 150°C [70 to 300°F] CTR=OTR (not compatible with A1 option)
SC : Connector output, mating plug supplied with 2 m cable [6.6 ft]
P7 : IP67 protection / -20°C to 150°C [0°F to 300°F] (not compatible with gauge model)
V00 : Non-standard power supply calibration, replace “00” with value in Volt (standard 10Vdc, unamplified sensor only)
L00M : special cable length, replace “00” with total length in meters (L5M ; L10M ;…). Note: standard length 2 m [6.6 ft])

ORDERING INFORMATION

XP5	-	M	-	A1	-	20B		G	-	/L5M
Model	-	Mounting thread	-	Output signal	-	Pressure Range		Pressure reference	-	Options
XP5		**M :** M5x0.8 **X** : 10-32UNF-2A		(none) : bridge (mV/V) **A1** : 0,5 to 4,5V		**0.5B** **1B** **2B** **5B** **10B** **20B** **35B** **50B** **70B** **100B** **200B** **350B**	**7P** **15P** **30P** **75P** **150P** **300P** **500P** **750P** **1KP** **1.5KP** **3KP** **5KP**	**A** : absolute **G** : gauge **S** : sealed		**Z02** **Z35** **Z36** **SC** **P7** **V05** **L00M**

Psi range models only supplied with imperial thread
Bar range models only supplied with metric thread.
Amplified Output **A1** are only available for ranges from 5 to 350 bar [75 to 5,000 psi]

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