

FEATURES

- Stainless steel
- M6x1 thread
- Flush Diaphragm
- For Static and Dynamic Applications
- High Level Tension Output Available
- Low Installation Torque Sensitivity

APPLICATIONS

- Explosion test benches
- Extreme Miniature Devices
- Robotics and actuators
- Brake Systems
- Laboratory and research

XPM6

Miniature pressure sensor

SPECIFICATIONS

- Ranges 20 to 1000 bar [300 to 15k psi]
- Sealed and gauge pressure reference
- Stainless steel housing
- Linearity $\pm 0.25\%$ F.S.
- Very low mass, approximately 10 grams without cable (dependent on options)

The **XPM6** 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 and is available in standard ranges from 0-20 to 1000 bars [300 up to 15000 psi].

The **XPM6's** sensing element is a fully temperature compensated Wheatstone bridge made with high stability micro-machined silicon strain gauges. Also available is option MH, which provides protection up to 1000°C [1832°F] for thermal flashes or explosive testing by the addition of extra protection into the diaphragm.

The **XPM6** incorporates a specific feature, which virtually eliminates zero shifts caused by installation torque.

A **PT1000** temperature probe is optionally available 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

| Full Scale (FS) | | Pressure Reference | | Resonant Frequency | Sensitivity "FSO" | Overpressure (rated pressure) | Burst Pressure (rated pressure) |
|-----------------|------|--------------------|--------|--------------------|-------------------|----------------------------------|------------------------------------|
| bar | psi | Gauge | Sealed | | (non amplified) | | |
| 20 | 300 | • | • | 179 kHz | 100 mV | 2 x FS | 3 x FS |
| 35 | 500 | • | • | 195 kHz | 100 mV | 2 x FS | 3 x FS |
| 50 | 750 | • | • | 227 kHz | 100 mV | 2 x FS | 3 x FS |
| 70 | 1k | • | • | 276 kHz | 100 mV | 2 x FS | 3 x FS |
| 100 | 1.5k | | • | 325 kHz | 100 mV | 2 x FS | 3 x FS |
| 200 | 3k | | • | 455 kHz | 100 mV | 2 x FS | 3 x FS |
| 350 | 5k | | • | 585 kHz | 100 mV | 2 x FS | 3 x FS |
| 500 | 7.5k | | • | 764 kHz | 100 mV | 2 x FS | 3 x FS |
| 1000 | 15k | | • | 926 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 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±3°C)

| Parameters | Non amplified | Amplified (A1 opt.) | Notes |
|--|---|--------------------------------|---|
| Power supply | 10 Vdc regulated | 10 to 30 Vdc | |
| Sensitivity "FSO" | See previous table | 4 V ±0.2 V | Signal 0.5 V - 4.5 V for A1 option |
| Zero Offset | ±10 mV | 0.5 V ±0.2 V | |
| Non Linearity | ±0.25%FS | | |
| 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 248°F) | MH option allows thermal flash / explosive testing up to 1000°C |
| Compensated Temperature (CTR) | 0 to 60°C (32 to 140°F) | 0 to 60°C (32 to 140°F) | |
| Thermal Zero Shift in CTR (TZS) | <±2.5%FS/50°C | | |
| Thermal Sensitivity Shift in CTR (TSS) | <±2% of reading /50°C | | |
| Input Impedance or consumption | 1500 Ω nom. | < 30 mA | |
| Output Impedance | 800 Ω nom. | 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 | | |

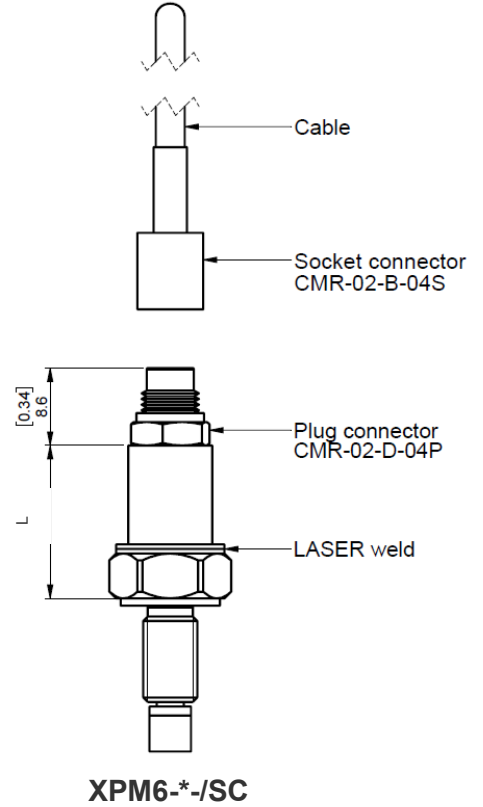
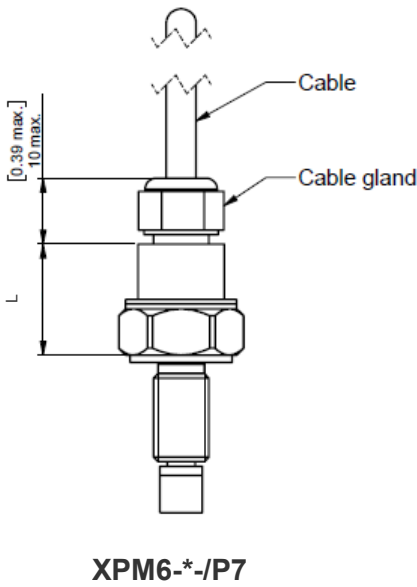
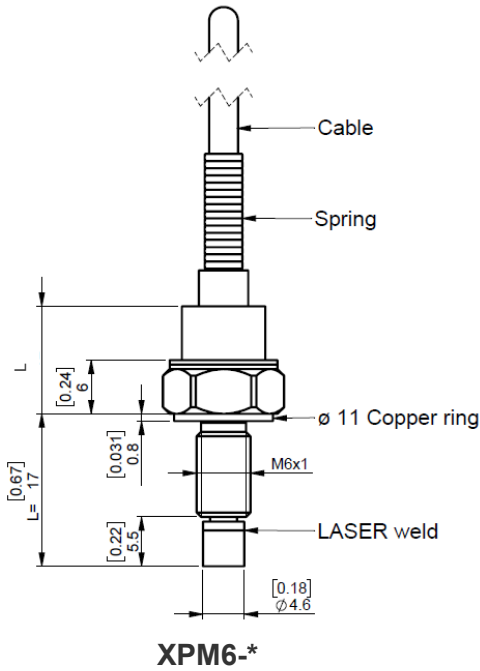
Insulation under 50Vdc ≥100MΩ

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

XPM6

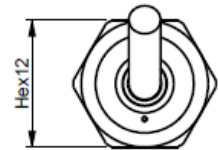
Miniature pressure sensor

DIMENSIONS (metric & [imperial])



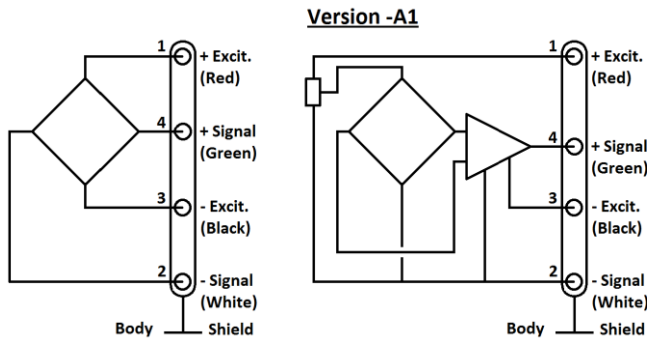
Custom length L = 12 to 30 mm [0.47" to 1.18"] on request.
 * Mechanical tolerances on L are ±0.1 mm

| Version: | Non-Amplified | | | Amplified A1 | | |
|----------|---------------|----|----|--------------|----|----|
| Option: | standard | P7 | SC | standard | P7 | SC |
| L (mm) | 6 | 6 | 11 | 12 | 12 | 17 |



Weight: The standard configuration without cable and sealing ring is < 10g

WIRING SCHEMATICS



ADDITIONAL INFORMATION

- Recommended Tightening Torque: 5 Nm [44 lbf.in] to 10 Nm [88 lbf.in]
- Sealing: One FKM sealing ring is supplied with the sensor (operating static temperature -30 to 150°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)

OPTIONS

| | |
|---|---|
| Temp. Compensation <i>(other compensation range are available on request)</i> | Z04: CTR -40 to 90 °C [-40 to 194 °F] |
| | Z35: CTR 20 to 120 °C [68 to 248 °F] |
| | Z36: CTR 20 to 150 °C [68 to 302 °F] (not available with A1 options) |
| Transient therm. Protection | MH: "H" Diaphragm for thermal flash/explosive testing up to 1000°C |
| Waterproofing | P7: IP67 protection for cable gland output or SC option (available only for Sealed 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

| XPM6 | - | - | 1KB | G | - | /Z35/P7/L5M | |
|-------------|---|--|------------|---|-----------------------|--------------------|--|
| Model | - | Output signal | - | Pressure Range | Pressure reference | - | Options |
| XPM6 | | (none): bridge (mV/V) A1: 0,5 to 4,5V | | 20B 35B 50B 70B 100B 200B 350B 500B 1KB | G: gauge S: sealed | | /Z04 /Z35 /Z36 /MH /P7 /SC /L00M |

The sensor ordering codes uses only bar as units because **XPM6** uses metric threads. Psi value correspondence is noted as information.



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