



Piezoelectric Accelerometer

FEATURES

- Extreme temperature capability
- Operational as loose part monitoring accelerometer
- Proven reliability
- Meets NRC guide 1.133, IEEE 323-1974. Qualified to DIN 25.475.1
- Integral case insulation
- Certified for use in potentially explosive atmospheres
- Frequency response:
3 Hz to 2 800 Hz
- Sensitivity:
10 pC/g
- Temperature range (operational):
-196°C to +700°C



DESCRIPTION

The use of VC2 type single crystal material in the CA 901 compression mode accelerometer provides an extremely stable instrument.

The transducer is designed for long-term monitoring

or development testing. It is fitted with an integral mineral insulated cable (twin conductors) which is terminated with a Lemo or a high-temperature connector from Vibro-Meter.



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SPECIFICATIONS

GENERAL

| | |
|--------------------------|--|
| Input power requirements | : None |
| Signal transmission | : 2 pole system insulated from casing, charge output |
| Signal processing | : Charge converter |

OPERATING

(at +23°C ±5°C)

| | |
|----------------------------------|--|
| Sensitivity (at 120 Hz) | : 10 pC/g ±5% |
| Dynamic measuring range (random) | : 0.001 g to 200 g peak |
| Overload capacity (spikes) | : Up to 500 g peak |
| Linearity | : ±1% over dynamic measuring range |
| Transverse sensitivity | : < 5% |
| Resonance frequency (mounted) | : > 17 kHz nominal |
| Frequency response | |
| • 3 to 2800 Hz nominal | : ±5% (lower cutoff frequency is determined by the electronics used) |
| • 2800 to 3700 Hz | : < 10% |
| Internal insulation resistance | : Min. 10 ⁹ Ω |
| Capacitance (nominal) | |
| • Pole to pole | : 80 pF for transducer + 200 pF/m of cable |
| • Pole to casing | : 18 pF for transducer + 300 pF/m of cable |

ENVIRONMENTAL

| | |
|-----------------------------------|--|
| Temperature range | |
| • Continuous | : -54°C to +650°C |
| • Extreme | : -196°C to +700°C |
| Shock acceleration | : < 500 g peak (half sine 1 ms) along sensitive axis |
| Pressure | : 140 bar 23°C, 80 bar 300°C |
| Corrosion, humidity | : Inconel 600, hermetically welded |
| Radiations | |
| • Gamma flux | : 10 ¹¹ erg/g no effect |
| • Neutron flux | : 10 ¹⁸ n/cm ² no effect |
| Mounting inside tube | : 4 Allen screws M6, fastening torque 15 Nm |
| Use in explosive atmospheres: | |
| • EC type examination certificate | : LCIE 08 ATEX 6017 X II 1 G (Zones 0, 1, 2) Ex ia IIC T6 to T710 |

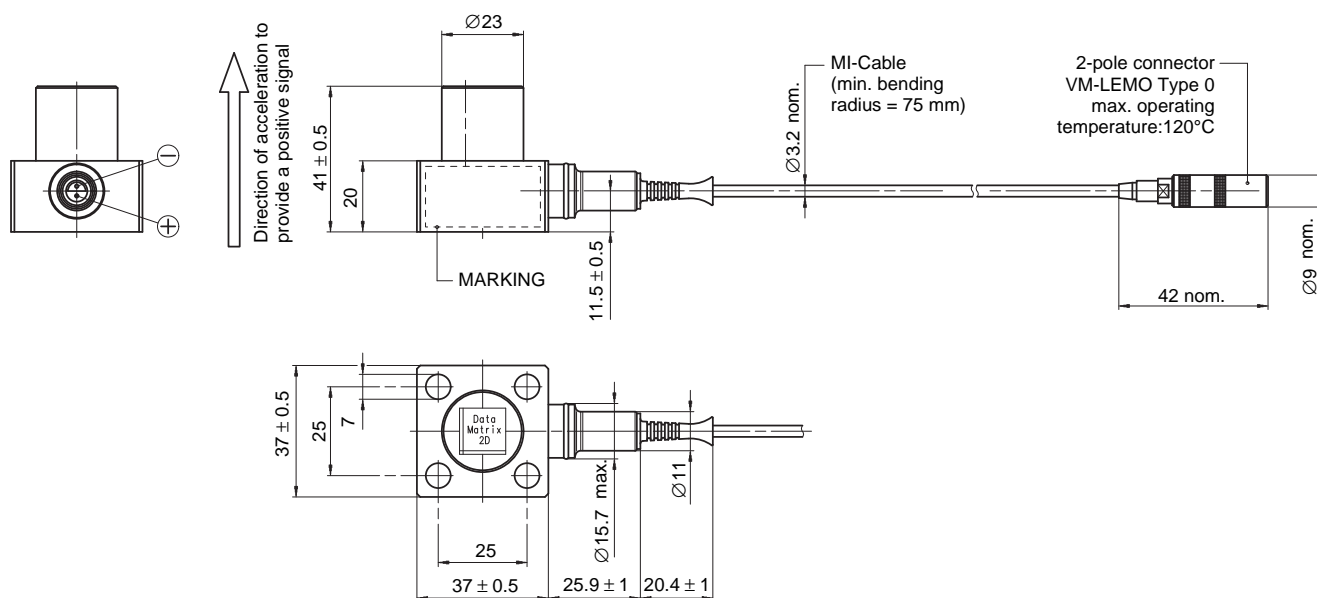


For specific parameters of the mode of protection concerned and special conditions for safe use, please refer to the “EC type examination certificate” that is available from Vibro-Meter SA on demand.

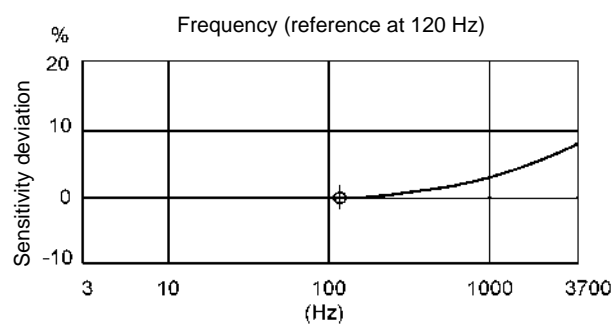
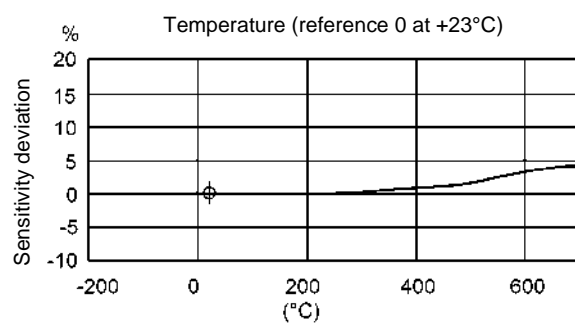
CALIBRATION

Dynamic calibration at factory at 5 g peak and 120 Hz (+23°C). No subsequent calibration necessary.

MECHANICAL DIAGRAM



TYPICAL RESPONSES



ORDERING INFORMATION

To order please specify :

| Type | Version | Ordering Number | |
|--------|----------|-----------------|-----------------------|
| CA 901 | Standard | 144-901-000-2 | VM Lemo connector |
| | | XX | |
| | | 82 | : cable length 3.5 m |
| | | 12 | : cable length 5 m |
| | | 52 | : cable length 8 m |
| | | 22 | : cable length 12.5 m |
| | Ex | 144-901-000-601 | : cable length 5 m |



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