

## 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

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### 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 <sup>9</sup> 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 <sup>11</sup> erg/g no effect
• Neutron flux	: 10 <sup>18</sup> n/cm <sup>2</sup> 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

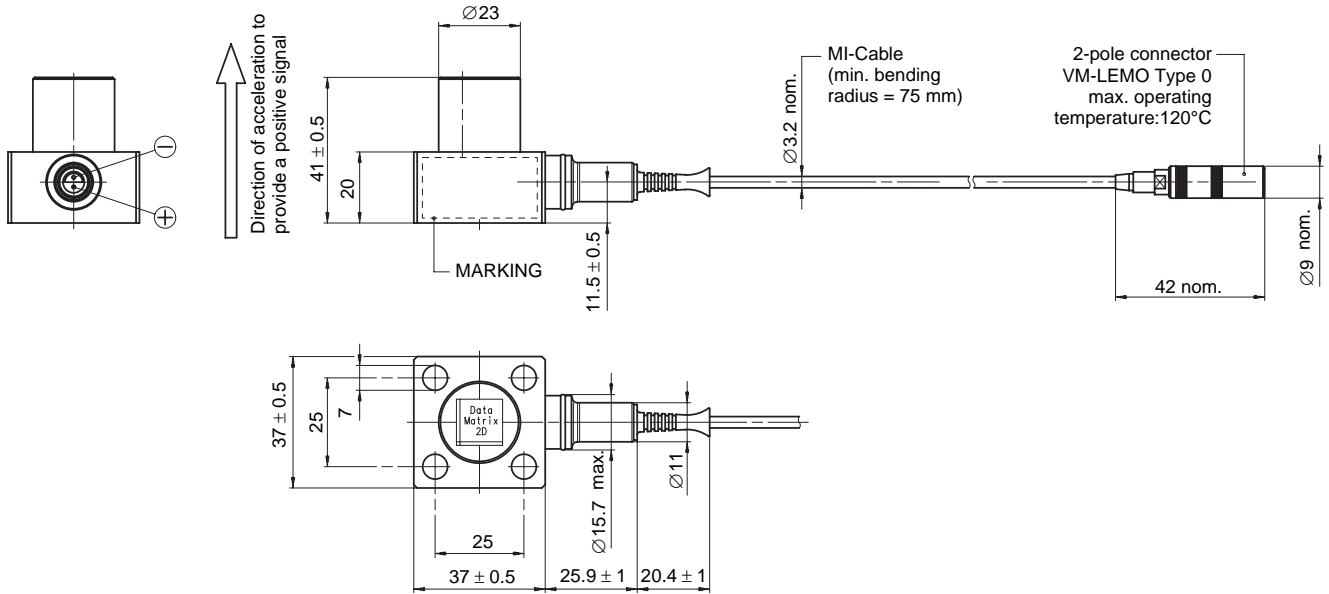


For specific parameters of the mode of protection concerned and special conditions for safe use, please refer to the "EC type examination certificate" that is available from Vibro-Meter SA on demand.

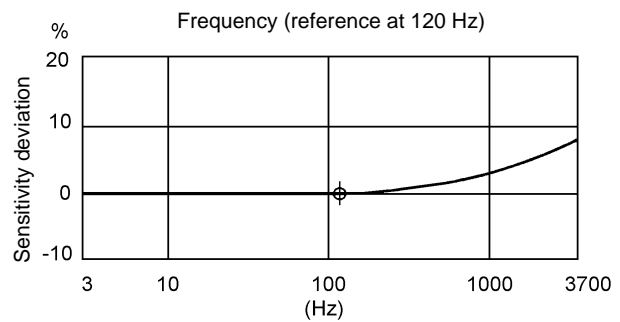
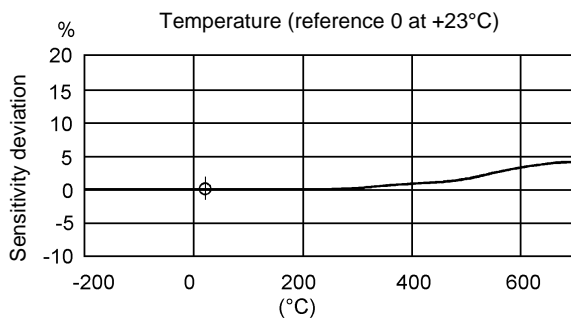
### CALIBRATION

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

## MECHANICAL DIAGRAM



## TYPICAL RESPONSES



**ORDERING INFORMATION**

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To order please specify :

<b>Type</b>	<b>Version</b>	<b>Ordering Number</b>	
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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In this publication, a dot (.) is used as the decimal separator and thousands are separated by spaces. Example : 12 345.678 90.

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