

vibro-meter  
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# CA 250 M2XX CA 250 M8XX

## Piezoelectric Accelerometer Type CA 250 M2XX / M8XX

### CHARACTERISTICS

- Qualified for flight on Ariane 5 versatile launcher (ESA-CNES-Snecma Moteurs-Arianespace Program)
- High-temperature capability -269°C to +777°C
- Differential stud eases integral cable mounting
- Proven reliability

### FEATURES

- VC2 type crystal element
- Frequency response:  
1 Hz to 20,000 Hz
- Sensitivity  
1 pC/g

### WEIGHT

Accelerometer : 35 g  
Integral cable : 14 g/m



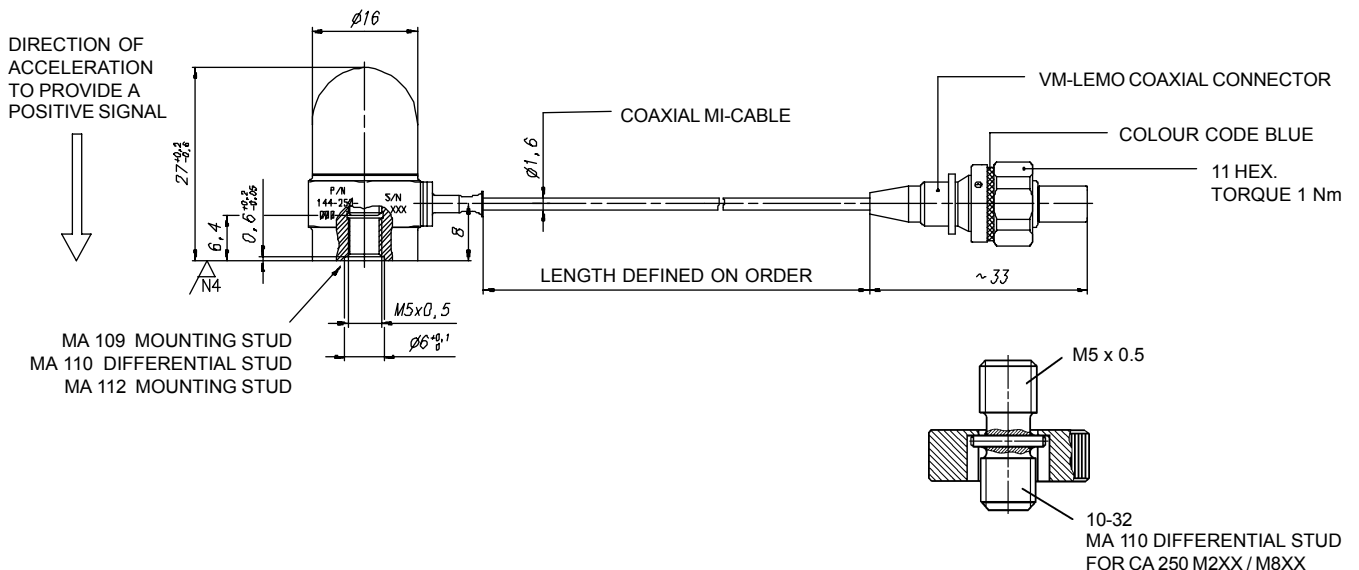
### DESCRIPTION

The use of VC2 type single crystal material in the CA 250 compression mode accelerometer makes it an extremely stable device.

The transducer is designed for extremely high-temperature measurements. It is fitted with an integral mineral insulated cable (coaxial) which is terminated with a coaxial Lemo connector adapted by Vibro-Meter.

Where space is available for mounting the accelerometer with its integral cable, the standard MA 109 or MA 112 stud can be used. A unique MA 110 differential stud is available for mounting the CA 250 (M2XX / 8XX) accelerometer without having to rotate it.

CA 250 M2XX / M8XX



# SPECIFICATIONS

# CA 250 M2XX / M8XX

**Input power requirements** : None  
**Signal transmission** : Unipolar system, charge output  
**Signal processing** : Charge converter

**OPERATING** (at 23°C ±5°C)

**Sensitivity** (at 120 Hz) : 1 pC/g ±5%  
**Dynamic measuring range** (random) : 0.1 g to 5000 g peak  
**Overload capacity** (spikes) : Up to 7000 g peak  
**Linearity** : ±2% over dynamic measuring range, 1% up to 500 g  
**Transverse sensitivity** : <5%  
**Resonant frequency** (mounted) : >48 kHz nominal  
**Frequency response**  
 - 1 to 10,000 Hz nominal : ±5% (lower cutoff frequency is determined by the electronics and cable mounting)  
 - 20,000 Hz : <10%  
**Internal insulation resist.** : Min. 10<sup>9</sup>Ω

**Capacitance**  
 - Transducer : 120 pF nominal pole/ground  
 - Integral cable : 220 pF/m nominal pole/ground

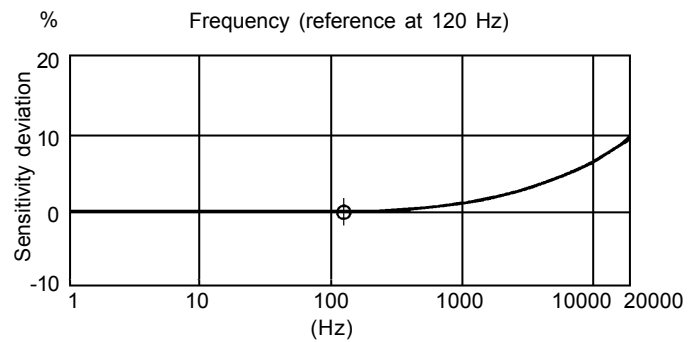
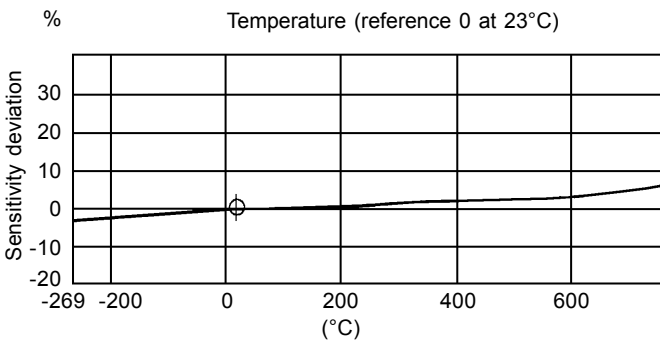
**ENVIRONMENTAL**

**Temperature range** : -253°C to +727°C  
**Shock acceleration** : <7000 g peak (half sine, 0.5ms) along sensitive axis  
**Pressure** : <50 bar  
**Base strain sensitivity** : <0.03 g/microstrain (with HP 0.3 Hz - 3 dB)  
**Acoustic sensitivity** : (under 180 dB SPL) < 1 g RMS equivalent  
**Corrosion, humidity** : Inconel 600, hermetically welded  
**Mounting** : On surface roughness max. N4 (Ra≤0.2mm) stud 10-32 UNF2B or M5 x 0.5

**CALIBRATION**

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

**Typical Responses**



**Accessories:**

- Stud M5 x 0.5 / 10-32 MA 109 : See drawing 809-109-000 D 01
- Stud M5 x 0.5 / M5 x 0.5 MA 112 : See drawing 809-112-000 D 01
- Differential stud M5 x 0.5 / 10-32 MA 110 : See drawing 809-110-000 D 01
- Charge converter : See data sheet 278-002 TCC 1XX
- Softline cables EC 212 / 272 / 906 / 907 : See drawing 912-XXX-000 D011 as appropriate
- Triaxial mounting adaptor available

**Ordering Information :**

- Description / Ordering No : CA 250 / 144-250-000-2X Tapped hole M5 x 0.5
  - └ 1 cable length 1 m 4 cable length 4 m
  - └ 2 cable length 2 m 5 cable length 5 m
  - └ 3 cable length 3 m 6 cable length 6 m
- CA 250 / 144-250-000-8X Tapped hole M5 x 0.5
  - └ 1 cable length 1 m 2 cable length 6 m
- MA 109 / 809-109-000-01 Stud M5 / 10-32 for CA 250 M5 x 0.5
- MA 110 / 809-110-000-01 Differential stud M5 / 10-32 for CA 250 M5 x 0.5
- MA 112 / 809-112-000-01 Stud M5 / M5 x 0.5 for CA 250 M5 x 0.5
- EC 212 / 272 / 906 / 907 See drawing 912-XXX-000 D011, as appropriate, for cable lengths and connector types



Due to the continual development of products, Vibro-Meter reserves the right to modify these specifications without forewarning.



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