



## Piezoelectric Accelerometer

### FEATURES

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- Designed for high temperature gas turbine applications
- Continuous operation up to 500°C
- High output of 50 pC/g
- Improved transverse frequency resonance
- 4-hole mounting according to ARINC Characteristic 554
- Certified for use in potentially explosive atmospheres
- Construction:  
Hermetically welded Inconel 600 superalloy
- Frequency response:  
5 Hz to 3 000 Hz



### DESCRIPTION

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The CA 306 series of high temperature accelerometers has been designed specifically for gas turbine applications.

The accelerometers feature a rugged design with hermetically sealed connectors.

An integral mineral insulated (MI) cable with stainless

steel overbraid ensures signal integrity even in the most hostile environments.

The differential output signal minimizes noise pick-up due to electrical ground potentials.

A version with side connector is available when an integral cable is not required.



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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 amplifier

### OPERATING

(at 23°C ± 5°C)

Sensitivity (at 120 Hz)	: 50 pC/g ± 5%
Dynamic measuring range (random)	: 0.01 g to 100 g peak
Overload capacity (spikes)	: Up to 200 g peak
Linearity	: ±1% over dynamic measuring range
Transverse sensitivity	: <5%
Resonant frequency	: >15 kHz
Frequency response (typical)	: ± 5% between 5 and 3 000 Hz (lower cut-off frequency is determined by electronics used)
Internal insulation resistance	: Min. 10 <sup>9</sup> Ω pole-ground Min. 10 <sup>9</sup> Ω pole-pole

### ENVIRONMENTAL

Temperature range

- *Transducer and cable* (VM-Lemo connector) : -55°C to 500°C  
(-65°C to 125°C)

Temperature response : ± 10% between -55°C and 500°C

Shock acceleration : <1000 g peak (1 ms half sine wave) along sensitive axis

Base strain sensitivity : ≤10<sup>-4</sup> g/με

Corrosion, humidity : Inconel 600, hermetically welded

Use in explosive atmospheres:

- *EC type examination certificate* : KEMA 04 ATEX 1294 II 1 G (Zones 0, 1, 2) Ex ia IIC T6 to T510



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.

- *cCSAus standard* : Certificate 1550831,  
Class I, Division 1, Groups A, B, C and D  
Ex ia T6 to T1

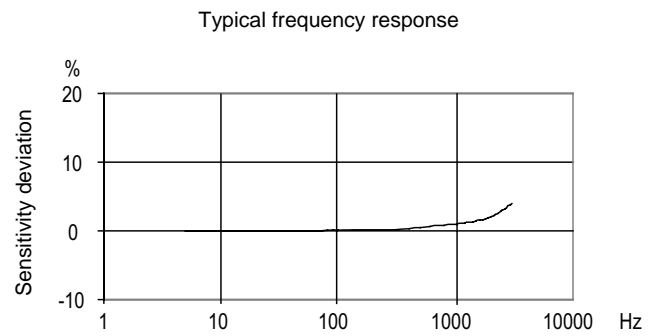
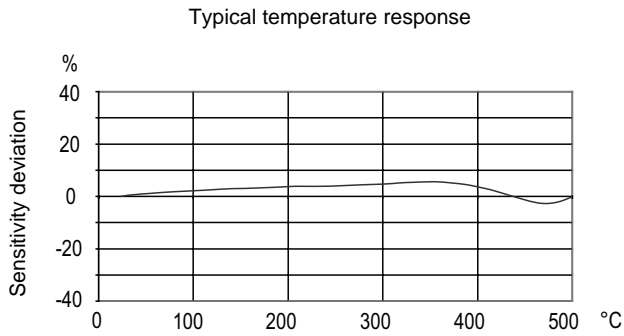
### MECHANICAL

Mounting : Four 6-32 NC bolts (according to ARINC 554) or M3.5 bolts, screw torque 5 Nm. No need for electrical insulation of mounting surface.

### CALIBRATION

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

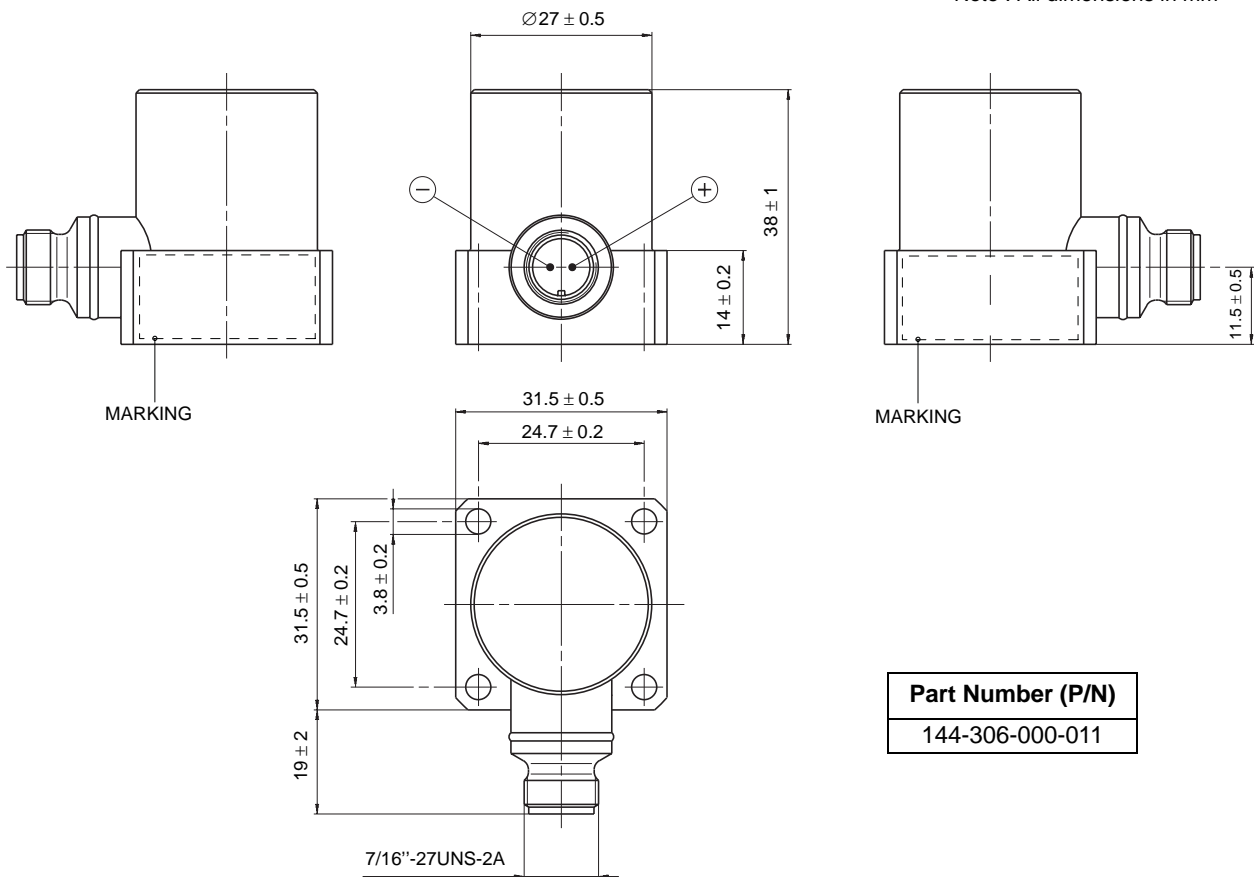
## TYPICAL RESPONSE CURVES



## DIMENSIONS AND ORDERING INFORMATION

### CA 306 Version 011

Note : All dimensions in mm

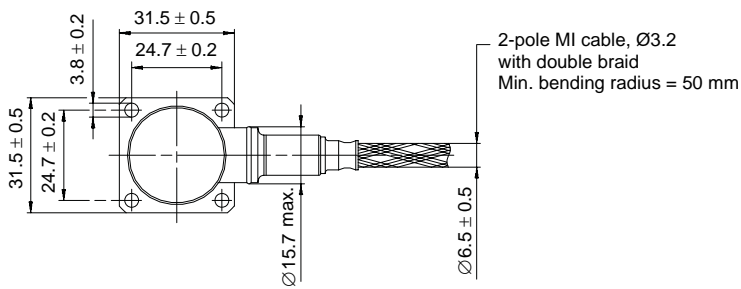
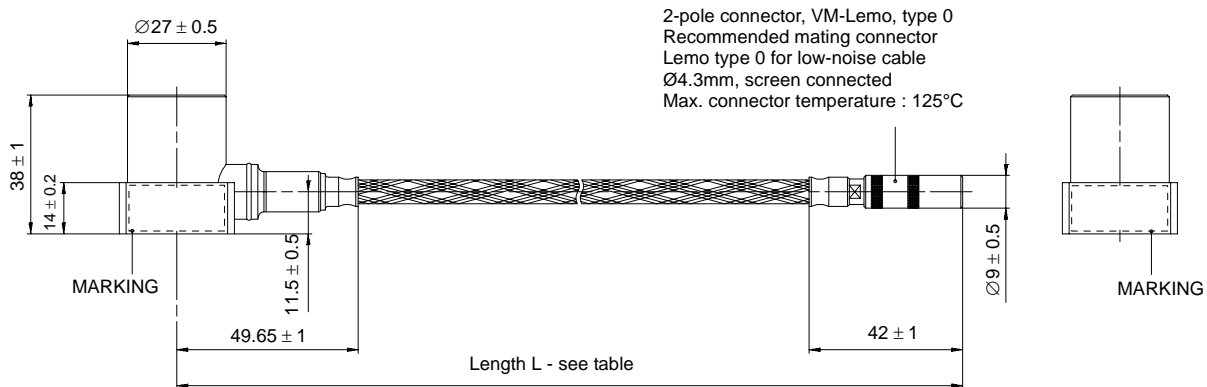


<b>Part Number (P/N)</b>
144-306-000-011

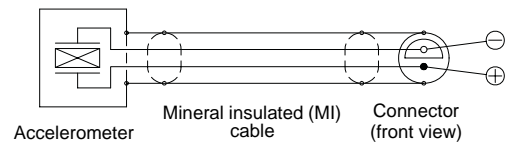
**DIMENSIONS AND ORDERING INFORMATION (Continued)**

**CA 306 Version 1XX**

Note : All dimensions in mm



Wiring diagram



Part Number (P/N)	Length L in mm
144-306-000-111	3000 ± 100
144-306-000-121	6000 ± 150
144-306-000-131	9000 ± 200
144-306-000-141	12000 ± 200





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