



Piezoelectric Accelerometer Type CE 134

FEATURES

- ▶ Vibration monitoring of turbines, turbocompressors, etc.
- ▶ Integrally attached electronics
- ▶ Long distance signal transmission
- ▶ Medium temperature
- ▶ Certified for use in potentially explosive atmospheres



CHARACTERISTICS



- ▶ 2-pole system with current modulation output
- ▶ Integral case insulation
- ▶ Frequency response
5 Hz to 10 000 Hz
- ▶ Sensitivity
5 μ A/g
- ▶ Temperature range
-54°C to 350°C

WEIGHT

- ▶ Accelerometer:
500 g

DESCRIPTION

The CE 134 accelerometer is equipped with a centre mounted symmetrical compression mode crystal element. The attached electronics eliminates the need for connectors in the high impedance zone B. The hermetic integral cable link is protected by a flexible steel tube brazed to the transducer and to the electronics steel casing.

The electronics in zone C provides a charge-to-current conversion. The modulated current output signal allows the use of a 2-pole cable for trouble-free transmission over long distances. The system is fully protected against cooling fluids, lubricants, water, steam etc.

SPECIFICATIONS

Input power requirements	: Zero signal current 3...8 mA, 12...18 V _{DC}
Signal transmission	: 2-wire system with modulated current output
Signal processing	: Galvanic separation unit

OPERATING

(at +23°C ±5°C)

Sensitivity (at 120 Hz)	: 5 µA/g ±5%
Dynamic measuring range (random)	: 0.001 g to 400 g peak The transducer resonance effect is corrected by filter
Overload capacity (spikes)	: Up to 1000 g peak within random vibration
Transverse sensitivity	: ≤ 5%
Linearity	: ≤ 1% over dynamic measuring range
Resonant freq. (mounted)	: 14 kHz nominal
Frequency response	: LP version -10% 1 kHz, -30% 2 kHz HF version +5% 10 kHz

CALIBRATION

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

CONNECTION

Bayonet connector, type MS 3112 E8-3P (stainless steel) or threaded connector, type MIL-C-83723, series III T, size 0803N (stainless steel).

ENVIRONMENTAL

Temperature range	
• <i>Transducer</i>	: -54°C to +350°C (zone A)
• <i>BOA cable</i>	: -54°C to +260°C (zone B)
• <i>Converter</i>	: -54°C to +100°C (zone C)
Shock acceleration	: ≤ 2000 g peak (half sine 1 ms)

Use in explosive atmospheres

Equipment available in following versions :

- *EC type examination certificate (copy attached)* : LCIE 02 ATEX 6089 X
II 2 G (Zone 1, 2)
EEx ib IIC T6 to T1 (see copy)



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* : cCSAus 1545315, Class I, Div. 1,
Groups A, B, C, D
Ex ia T6 to T1 (see copy)

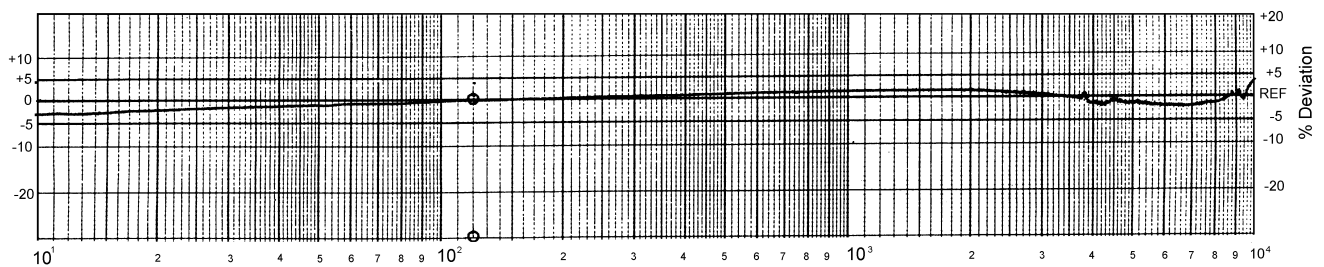
Corrosion, humidity : Inconel 600, stainless steel, hermetically welded

Base strain sensitivity : $\leq 10^{-4}$ g/ $\mu\epsilon$

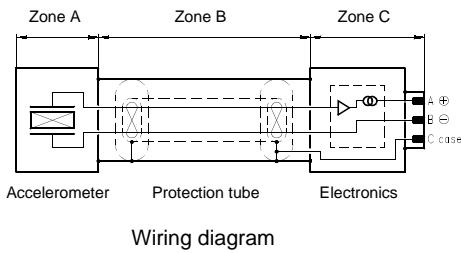
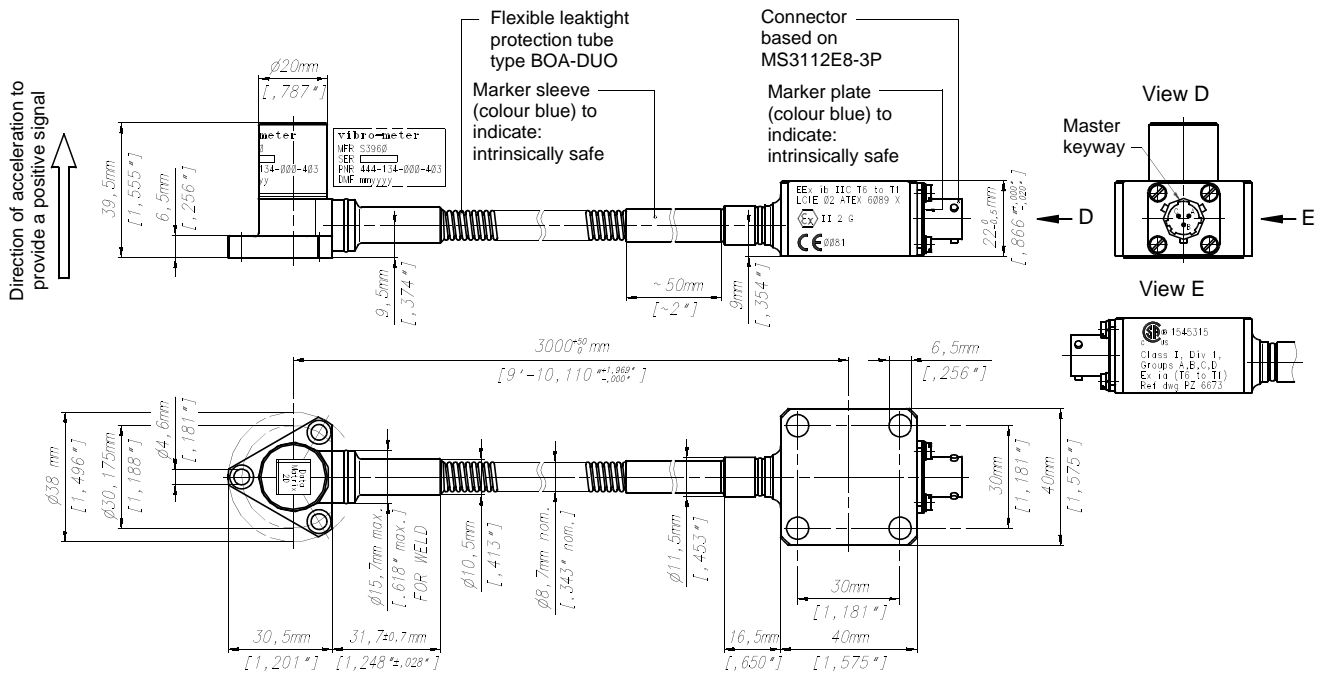
MOUNTING

- *Transducer* : 3 Allen screws M4 x 16, with 3 spring lock washers M4. Fastening torque 4.5 Nm
- *Electronic box* : 4 Allen screws M6 x 35, with 4 spring lock washers M6. Fastening torque 15 Nm

FREQUENCY CURVES FOR HF VERSIONS 60 / 70 / 71

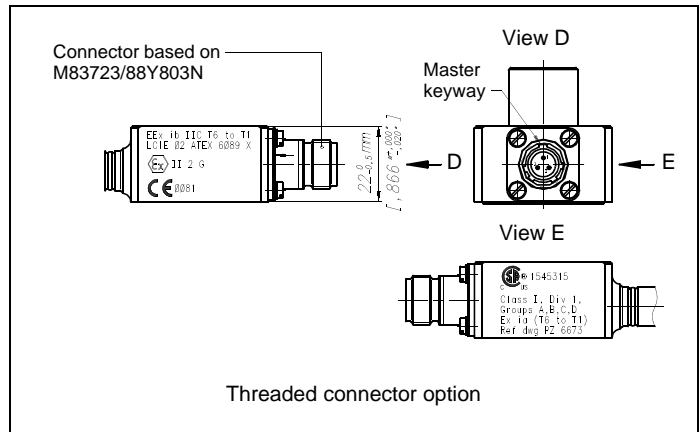


MECHANICAL DRAWING



Temperature:
 Zone A : -54°C to +350°C
 Zone B : -54°C to +260°C
 Zone C : -54°C to +100°C

Note:
 Pins B and C to be connected together externally
 (Pins 2 and 3 on threaded connector, see insert)



ORDERING INFORMATION

To order please specify :

Type	Designation		Ordering Number
CE 134	Piezoelectric Accelerometer	Ex i, LF version, 3 m cable	444-134-000-40
		Ex i, HF version, 3 m cable	444-134-000-60
		Ex i, HF version with threaded connector, 3 m cable	444-134-000-70
		Ex i, HF version with threaded connector, 6 m cable	444-134-000-71



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