Vibro Meter Vibro Meter Series Service Manual

143-103-000-931

1. Description

143-103-000-931

3. Product Information

www.autronexa.com

143-103-000-931

Vibro Meter Piezoelectric pressure transducer

FEATURES

» From the Vibro-Meter® product line

» Extreme temperature capability −196 to +700°C

» High-pressure capability up to 250 bar

» For use in gas turbines

» Operational in primary circuit of PWR, APWR, BWR, ABWR, FBR and HTGR

» Proven reliability

» Meets NRC guide 1.20, IEEE 323-1974

» Certified for use in potentially explosive atmospheres

» Internal case insulation

» VC2 type crystal element

Frequency response:2 to 10000Hz Sensitivity:232 pC/bar

DESCRIPTION

The CP 103 dynamic pressure transducer uses a VC2 type single crystal material in compression mode and has been specially designed to minimise sensitivity to acceleration.

This produces an extremely stable measuring instrument that is suitable for long-term monitoring or development testing.

It is fitted with an integral mineral insulated cable (twin conductors) which is terminated with either a LEMO or a high-temperature connector from VibroMeter.

General

Input power requirements : None

www.autronexa.com

Signal transmission : 2-pole system insulated from casing, charge output

Signal processing : Charge converter

Operating

At +23°C ±5°C (+73°F ±41°F)

Sensitivity (at 2 Hz) : 232 pC/bar (16 pC/psi) ±5% typical

Dynamic measuring range (random) : 0.00004 to 20 bar nominal

Overload capacity (spikes) : Up to 250 bar

Linearity : ±1% over dynamic measuring range

Acceleration sensitivity : ≤0.05 pC/g (≤0.000 21 bar/g)

Resonant frequency : >50 kHz

Frequency response : 2 to 10000 Hz ±5% (the lower cut-off frequency is determined by the electronics used)

Internal insulation resistance : Min. 109 Ω.

107 Ω at 300°C (+572°F)

Capacitance (nominal)

Pole to pole : 135 pF for transducer + 200 pF/m of cable

Pole to casing : 18 pF for transducer + 300 pF/m of cable

Environmental

Temperature range

Continuous operation : −54 to +650°C (−65 to +1202°F)

Extreme operation : −196 to +700°C (−321 to +1292°F)

Shock acceleration : <2000 g peak (half sine 1 ms) along sensitive axis

Corrosion, humidity : INCONEL® alloy 600, hermetically welded

Radiation

Gamma flux : 1011 erg/g no effect

Neutron flux : 1018 n/cm2 no effect

Mechanical

Weight

Pressure transducer (nominal) : 120 g

MI cable : 50 g/m

MI cable with overbraid : 140 g/m

Mounting

Flange : Ø27.5/21 mm x 3 mm

Calibration

Dynamic calibration at factory at 1 bar peak and 2 Hz (+23°C (+73°F)). No subsequent calibration necessary

www.autronexa.com