

Triaxial piezo-tronic accelerometer



A/IBI/V

10mV/g • 19gm wt. • 125°C max. temp.

Lightweight triaxial vibration transducer comprising three KONIC all welded inserts, each with hybrid QVC, bonded orthogonally into a hard anodised aluminium housing. The inserts are electrically insulated, individually and from the housing, thus eliminating ground loop interference. Low impedance O/P provides a high degree of noise immunity ($\approx 80\text{dB}$ improvement vs. equiv. charge source device @ 50Hz) and allows use with low cost coaxial cable. The additional mechanical isolation implicit in the construction provides also near elimination of strain induced error.

The spatial response of a structure to dynamic forcing, may lead to erroneous single axis vibration or shock measurement due to the inherent directional property of the transducer. In cases where this is deemed to be a problem, an orthogonal three axis measurement, allowing computation of absolute value and direction offers a solution.

The d33 component suppression property of the KONIC design, resulting in minimisation of cross axis error, is particularly advantageous for three axis measurement integrity.

CMV Steck GmbH

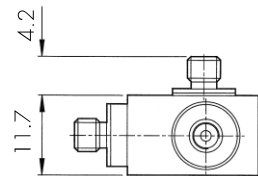
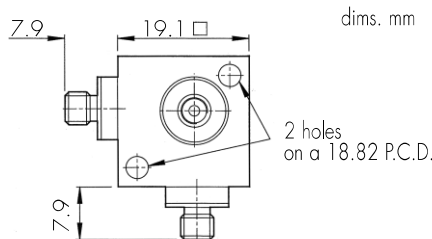
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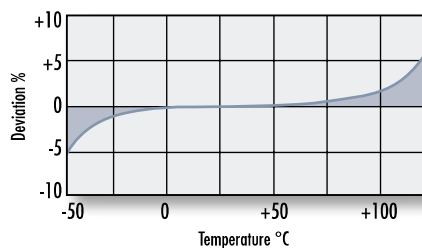
OPTIONS

- > wideband temperature calibration
- > 3% max. cross axis error
- > low frequency QVC version (/L)
- > 100mV/g sensitivity with constraint on low frequency response

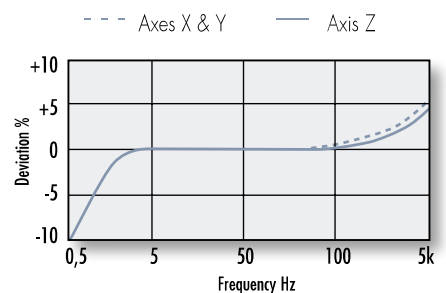
A/IBI/V



TEMPERATURE RESPONSE



FREQUENCY RESPONSE



CONVERSION MODE

KONIC

| | |
|---|---|
| Voltage sens., $\pm 5\%$ @ 20°C, mV/g (X, Y, Z) | 10 |
| Resonant frequency kHz | X (25) Y (25) Z (28) |
| Cross axis error % max | 5 |
| Temperature range °C | -50 / +125 |
| Voltage sens. deviation re 20°C | -5% @ -50°C ; +5% @ +125°C |
| Pyro-electric output, g/°C | 0.15 |
| Pyro-electric corner freq. Hz | 0.005 |
| Base strain sens. g/ μ strain | < 0.01 |
| Max continuous accn. g sine | 1000 |
| Supply voltage, V | 15/35 |
| Supply current, mA | 2/15 |
| Bias voltage V (20°C) | 8.5/9.5 |
| Settling time to 90% final val. secs | 5/8 (/L) |
| L.F. corner frequency, Hz | 0.7 ; 0.3 (/L) |
| Noise level, equiv. mg | 3 |
| Saturation limit, equiv. g | 450 |
| Output resistance, ohms | 50 |
| Supply ripple reject. @ 50Hz, dB | 60 |
| Case seal | transducer inserts welded bonded into hard anodised al. block |
| Insert/block insul. resce, Mohms | 1000 @ 100V, 20°C |
| Materials | inserts s/steel 303 S31, mtg. block al. alloy |
| Mounting | 2 x 3.57 mm \varnothing through holes |
| Weight gm | 19 |
| Connector | Microdot skt. 10/32 UNF thd. |