

4-106

Vibration Transducer



Applications

 For vertical or horizontal vibration measurements at low frequencies

Features

- Self-generated velocity transducer
- Converts mechanical vibration into AC voltage signals

Description

Two models of the 4-106 Vibration Transducer have maintained a prominent position in the study of vibration. As a result, much of the early test instrumentation was standardized on their use. Several jet-aircraft engine manufacturers used these early instruments almost exclusively for vibrational analysis in testing.

Externally both models of the 4-106 are similar, but internal construction and damping differ since the 4-106-0001 measures vertical vibration and the 4-106-0002 requires mounting on a horizontal plane.

The stabilized permanent-magnet seismic mass is coupled to the case by coil springs, riding on Nitralloy bushings over a highly polished, hard-chromed, stainless steel shaft. This construction affords excellent wear resistance and minimum sliding friction, a combination insuring long life and good sensitivity at low frequencies. The case is made of cast aluminum to combine strength with minimum weight. Four mounting holes accommodate standard No. 8 fillister-head screws for attaching the transducer to vibrating body, and two screw-terminals on the top are provided for cable attachment.



4-106 Vibration Transducer

Performance Specifications

Type 4-106-0001Type 4-106-0002Mounting Orientation:Sensitive axis in vertical direction base down.Sensitive axis in horizontal direction.Sensitivity: $122 \pm 5m$ Win/sec at 100 Hz, referenced at +77°F (+25°C) $122 \pm 5m$ Win/sec at 100 Hz, referenced at +77°F (+25°C)Frequency Range: $20 Hz$ to 1000 Hz $10 Hz$ to 1000 HzAmplitude Range: 0.2 inch pk-pk max 0.5 inch pk-pk maxAcceleration: 0.1 g to 30 g 0.5 g to 30 gTransverse Response: 22^{M} maximumLinearity: 45% at 100 Hz within the dynamic rangeMeretarize: -22^{27} F to +140°FStatic Acceleration: 0.33% °FStatic Acceleration: 2 g is insensitive axis produces full travel of the moving massDamped Resonant Frequency: 5 Hz nominalSelf-generatingSelf-generatingCoil Resistance: $000 \ 915\%$ at 477°FInsulation Resistance: $100 \ 0.9$ speak without damageWeight: $00 \ 95$ peak without damageVeicity of case is moved upward $100 \ 95$ speak without damageShock: $100 \ 95$ peak without damageWeight: $6 \ 0.7 \ maximumElectrical Connectio:Two no. 3-56 terminal studs ontop of case$				
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Optional Accessories

Cable assembly P/N 49658-XXXX, where -XXXX = length of cable in inches.

Ordering Information

When ordering, specify 4-106-0001 for vertical operation or 4-106-0002 for horizontal operation. In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.