



7612 IEPE Voltage Signal Conditioning Amplifier



Features:

- Dual channel per module
- Differential signal amplifier with high bandwidth up to 200kHz
- Gain accuracy at $\pm 0.1\%$
- Gain linearity at 0.01%
- Fully calibrated gain from 1 to 1,000 by 1 / 2 / 5..
- Accepts quartz type sensors.
- Selectable step excitation : 2 to 20mA
- Plug-in amplifier
- Front-panel monitors : transducer bias voltage
- Front-panel monitors : short or open circuit in the cable

Applications:

- Quartz Accelerometer
- Pressure transducer
- Force transducer
- Strain transducer
- Vibration test ...etc.

Description:

7612 Voltage signal conditioning system is designed with and incorporates all the features necessary for dynamic precise conditioning of quartz transducer inputs in the most severe operating environments.

7612 can simultaneously signal condition and amplifies low-level signals to high-level outputs on multiple channels. It is also capable of dynamically recording and displaying on external devices.

Use for powering ADI low impedance quartz transducers and amplifying the signal in multi-channel systems for laboratory, field or factory applications.

These dual channel amplifying power units provide adjustable 2 to 20 mA constant current excitation to the transducer and gain adjustment from 0 to 1,000 by 1 / 2 / 5 step gain switch.

High-level excitation current is particularly useful when driving long cables at high frequencies in field or factory applications.

Buffer amplifier output maintains the time constant independent of the load impedance.

The self-test circuit monitors the transducer bias voltage and indicates normal or faulty operations such as a short or open circuit in the cable.

Microdot SMA input and BNC output connectors are isolated from chassis ground.





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Specification:

- Number of Channels : 2 channels per module
- Input
 - Transducers: Piezo-resistive types transducers
- Excitation
 - Fixed settings: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20 mA \pm 0.1%
 - Noise and ripple: 0.05% Vp-p, max (dc to 10 kHz)
 - Stability: \pm 0.02%/° C
- Amplifier
 - Input Impedance : $>1M \Omega$
 - Input Common Voltage : $\pm 30V_{pp}$ ϵ
 - Gain Step : 1 to 1,000 Direct setting.
Accuracy : \pm 0.1% Max
 - Gain Linearity : $< 0.01\%$ Max
 - Common mode rejection: @ Gain = 1,000
 - DC to 100 kHz, >121 dB
 - 100 kHz to 1M Hz, >102 dB
 - Frequency response versus all gain (1~1,000),
200kHz @ -3 dB
 - Rise Time $< 2\mu\text{sec}$
 - Stability (gain over X 100)
 - Noise (gain over X 100, all outputs)
 - 0.01 to 10 Hz: $1\mu V_{p-p}$ RTI
 - 0.5 to 125 kHz: $6 \mu V_{RMS}$, Max, RTI
- Monitor:
 - transducer bias voltage
 - short or open circuit in the cable
- Input & Output
 - Two Microdot SMA input connector for sensor input
 - Output : Two BNC connector for each channel amplifier output.
 - Output impedance $<10 \Omega$.
- Operational Environment
 - Operating temperature: $-10^{\circ} \text{C} \sim 60^{\circ} \text{C}$
 - Storage temperature: $-20^{\circ} \text{C} \sim 70^{\circ} \text{C}$
 - Humidity: Below 95% RH, non-condensing
- Power Requirement
 - Input: 110 or 220 VAC \pm 10% by switch, 50 or 60 Hz, 2 A
- Dimensions & Weight
 - Panel: 1.3" X 5.2" (33.4 X 133.3 mm)
 - Amplifier depth behind panel: 10.6" (270 mm)
 - Weight: 1.32 Lb (0.6 Kg)
- Enclosure option:
 - 7001C. Single-channel Enclosure with power supply.
 - 7002C. 2-channels Enclosure with power supply.
 - 7006C. 6-channels Enclosure with power supply.
 - 7012C. 12-channels Enclosure with power supply.