

measurement
SPECIALTIES



Versatile Charge Amplifier Redefined

The Model 161 series is a 4-channel signal conditioning amplifier designed to be used with piezoelectric accelerometers (IEPE or Charge) and most other piezoelectric based transducers. It incorporates front-panel controlled gain adjustments, multiple high-pass and low-pass filter settings, and it is capable of displaying IEEE 1451.4 TEDS information. For various vibration applications where velocity and displacement information are desired, analog integration functions are included as output options with a push of a button. The Model 161 series can also be ordered with a built-in rechargeable battery, perfect for field test applications.

Model 161A/B 4-Channel Charge/IEPE Signal Conditioner

INPUT SPECIFICATIONS

Charge Input	<100,000pC, Single ended, BNC input connector
Charge Input Sensitivity Range	0.001pC/unit to 999.0pC/unit (unit may be g, m/s ² , etc.)
Charge, Source Resistance	>10 M Ω
IEPE Input	<22 Volts (AC+DC components), Single ended, BNC input connector
IEPE Input Sensitivity Range	0.01mV/unit to 999.0mV/unit (unit may be g, m/s ² , etc.)
IEPE Current Excitation	4mA

OUTPUT SPECIFICATIONS

AC Voltage	Single ended (referenced to signal ground), short circuit protected, BNC output connector
Output Impedance	<100 Ω
Output Current	35mA max
Linear Output	\pm 10Vpeak

TRANSFER CHARACTERISTICS

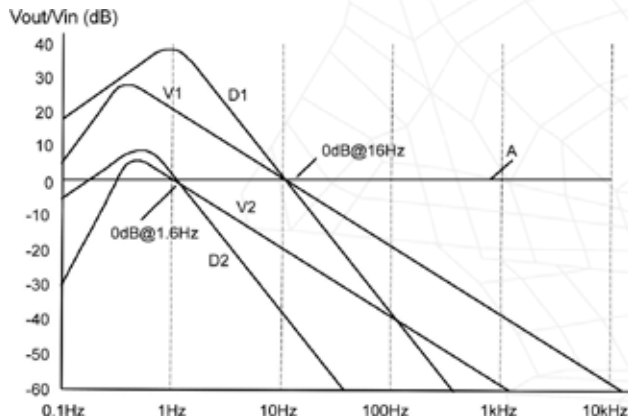
Output Sensitivity Range Settings	Charge: 100 μ , 316 μ , 1m, 3.16m, 10m, 31.6m, 100m, 316m, 1, 3.16, 10 (V/unit) IEPE: 100 μ , 316 μ , 1m, 3.16m, 10m, 31.6m, 100m, 316m, 1 (V/unit)
Accuracy	\pm 0.5% of full scale
Linearity	\pm 0.1% of full scale
Noise	Charge: 0.062 pC rms (RTI) plus 0.004 pC rms per 1000pF of source capacitance referred to input. IEPE: 110uV rms referred to input
Frequency Response	0.1 Hz to 100 kHz
Low-pass Filter (-3dB corner)	100Hz, 1kHz, 3kHz, 10kHz, 30kHz, 100kHz
High-pass Filter (-1dB corner)	0.1Hz, 1Hz, 3Hz, 10Hz
Crosstalk Between Channels	100 db RTI

POWER REQUIREMENTS

Voltage	18-24VDC from supplied 110/220VAC power adaptor
Power dissipation	12W typical

PHYSICAL CHARACTERISTICS

Weight & Size	2.85kg (6.28lbs); H x W x D: 115 (4.5) x 180 (7.1) x 310 (12.2) mm (inches)
Case Material	Anodized aluminum



The velocity and displacement signals are obtained from single and double integrations of the acceleration signal. Piecewise integral method is used to calculate velocity and displacement output.



Ordering Options:
 Model 161A Line-powered, 110/220VAC Adaptor
 Model 161B Built-in Rechargeable Battery

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