

Model 121 Precision Low Noise DC Amplifier



3-Channel DC Differential Amplifier
Programmable Gain & Output Scaling
$20\mu\text{Vrms}$ Input Noise
Includes Auto-Zero Function
DC to 200kHz Bandwidth



The **Model 121** is a state-of-the-art, 3-Channel Precision DC Amplifier designed to be used with bridge type or differential output accelerometers, pressure transducers, and load cells. The amplifier offers an exceptionally low input noise floor of $20\mu\text{Vrms}$ and wide bandwidth to 200kHz, ideal for transient measurements.

The Model 121 amplifier is also shunt calibration capable and incorporates adjustable 4-pole Butterworth filter modules.

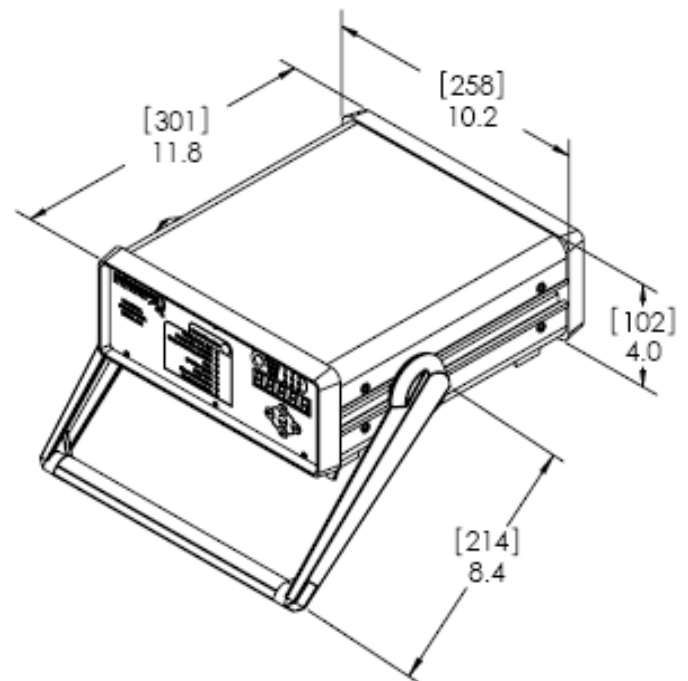
FEATURES

- AC/DC Front Panel Voltage Display
- $\pm 12.5\text{Vdc}$ Dual Excitation Voltage
- 0-25Vdc Single-Ended Excitation Voltage
- $\pm 20\text{mV}$ Auto-Zero Function
- 4-pole Butterworth LP Filters
- Shunt Calibration Function

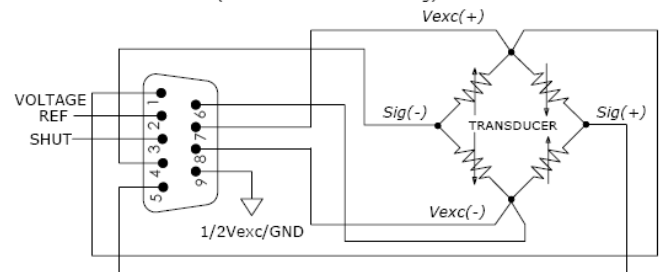
APPLICATIONS

- Instrumentation Labs
- Test Stands
- Process Monitoring
- Vibration & Shock Testing

dimensions



Typical Hookup for Bridge Type Sensors
(Alternate sense lead wiring)



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performance specifications

Parameters	
INPUT SPECIFICATIONS	
Input Range	Differential $\pm 12\text{Vdc}$ or peak Vac
Input Connector	9-pin D-sub connector for each of the 3 channels
Input Impedance	>1 Megohm minimum
Common Mode Input Range	$\pm 12\text{Vdc}$ or peak Vac
Autozero Adjustment Range	The greater of $\pm 100\text{mVdc}$ or $\pm 10/\text{gain}$
Autozero Accuracy	Within $\pm 20\text{mV}$, user actuate/unactuate
OUTPUT SPECIFICATIONS	
AC/DC Voltage	Single ended, short circuit protected. User selectable for DC or AC measurement.
Output Connector	BNC connector for each channel for each of the 3 channels
Output Impedance	0.2 ohms max
Linear Output	$\pm 10\text{Vpeak}$
Current Output	20mA max
Excitation Voltage	$\pm 12.5\text{Vdc}$ dual or 0 to 25 Vdc single-ended, user selectable for each channel
Excitation Voltage Accuracy	The greater of $\pm 1\%$ or 50 mVdc
Excitation Current	30mA maximum per channel, short circuit protected
Shunt Calibration	User configurable to shunt any of the four legs of bridge. 150 kohm default value for shunt.
TRANSFER CHARACTERISTICS	
Gain Range	0 to 9999
Accuracy	$\pm 0.5\%$ of full scale
Linearity	$\pm 0.1\%$ of full scale
Noise	20uVrms RTI plus 1mVrms RTO
Frequency Response	DC to 200 kHz
Low Pass Output Filter	User-installed plug in module (optional), enable/disable switch, two pole
Isolation	Channel to channel signal grounds not isolated, signal ground to case ground isolated
POWER REQUIREMENTS	
Voltage	110/220V~ 50/60 Hz, auto-detects
PHYSICAL CHARACTERISTICS	
Weight (w/o power cord)	8.2 lbs (3.7 kg)
Case Material	Aluminum
Dimensions (H x W x L)	4.0 x 10.2 x 11.8 inches (102 x 258 x 301 mm)
ENVIRONMENTAL	
Temperature Range, Operating	+32°F to +122°F (0°C to +50°C)
Temperature Range, Storage	-40°F to +185°F (-40°C to +85°C)
Humidity	<90%

ordering info

DESCRIPTION

DC Amplifier
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PART NUMBER+POWER CORD OPTION

121-U NEMA 5-15 USA 3 pin Plug (120V, 60Hz)
121-E CEE 7/16 Europlug (220V, 50Hz)
121-A AS-3112 China, Australasia (220V, 50HZ)

Optional Accessories

Filter Module, 20Hz, 4-Pole Low Pass AC-A04542-020
Filter Module, 100Hz, 4-Pole Low Pass AC-A04542-100
Filter Module, 1kHz, 4-Pole Low Pass AC-A04542-1K0
Filter Module, 10kHz, 4-Pole Low Pass AC-A04542-10K
Filter Module, 20kHz, 4-Pole Low Pass AC-A04542-20K
DB9 Connector AC-G03253

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