

# IEPE Multichannel Signal Conditioner

## MODEL 5102

- 12 Channel Current Source Amplifier
- IEPE Transducer Input
- Selectable Current Source  
4 or 10 mA
- Selectable Gain 1 or 10
- Operational Status LED Display

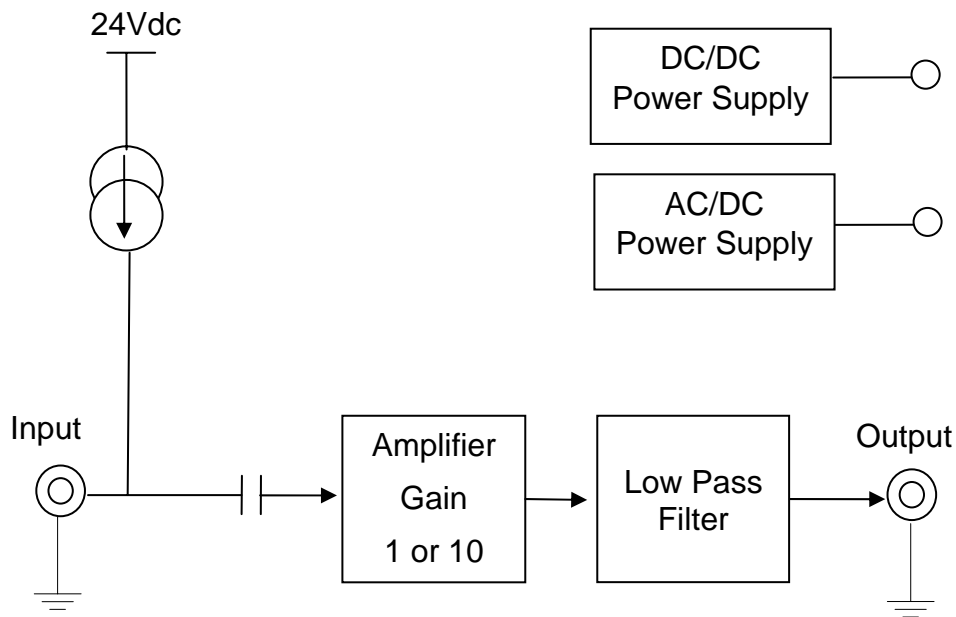


### Description

The 12-channel Current Source Amplifier VIP Sensors Model 5102 supplies a constant current source to integral electronic piezoelectric transducer (IEPE) types, decouples the DC bias voltage input, and amplifies and filters the transducer signal. The conditioned output signals are provided through a common D-type connector located on the unit's back panel

An operation status light above each channel indicates if the corresponding transducer is not connected or open (red), if it is operating normally (green); or if it is shorted (orange).

VIP Sensors Model 5102 is packaged in a 19" enclosure and operates from a DC or AC power source, which may be selected by the front panel switch.



VIP Sensors Model 5102 Functional Diagram

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## SPECIFICATIONS

The following performance specifications are at +75°F (+24°C), unless otherwise noted.

### UNITS

#### INPUT

Input Channels		12 channels, Single-ended
Constant Current Supply to Transducer	mA	4 or 10 selectable (default = 4)
Constant Current Compliance Voltage	Vdc	+24

#### OUTPUT

Output Voltage	Vp	± 10 maximum, 5 mA
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#### TRANSFER CHARACTERISTICS

Transducer Output Voltage	Vp	± 5 maximum
Coupling Capacitance	μF	10
Gain		1 or 10 switch selectable (switch inside top cover, default = 10)
Accuracy	%	± 1 maximum
Noise	mV rms	≤ 1 rto

#### FREQUENCY CHARACTERISTICS

Maximum Frequency	Hz	100,000 (-3 dB) -12 dB/Oct Roll off
Minimum Frequency	Hz	0.05 (-3 dB) -6 dB/Oct Roll off

#### ENVIRONMENTAL CHARACTERISTICS

Temperature	°F (°C)	Operating: +32 to +104 (0 to +40) Storage: -67 to +185 (-55 to 85)
Humidity	%	80 maximum relative humidity

#### POWER SUPPLY

Power Source	AC: 110V ±10%, 50Hz, 0.2A (Model 5102) 220V ±10%, 50Hz, 0.2A (Model 5102V) DC: 20 to 36V, 100mA (24 Vdc recommended)
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#### PHYSICAL CHARACTERISTICS

Dimensions	in (mm)	1.7H × 16.9W × 9.5D (44 × 430 × 240)
Weight	lb (kg)	4.44 (2.0)
Connectors		Input: BNC Output: BNC, 25-wire D-type plug

#### ACCESSORIES

Power Cable, 110-240 Vac

