MEGGiTT
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Model 126
Bridge amplifier

Features

- Three-channel DC differential voltage amplifier
- Programmable excitation voltage
- 200 kHz bandwidth (-3dB corner)
- Independent selectable filters for each channel
- Zero function
- Gain range from 0.00 to 999.9

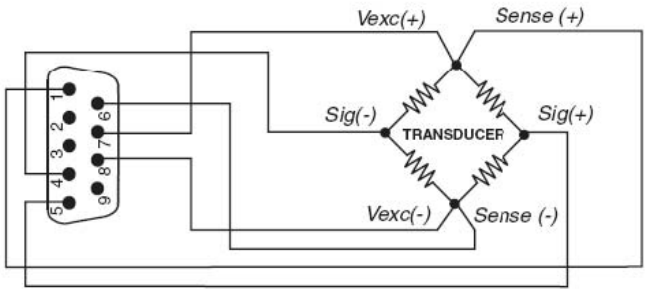
Description

The model 126 is a microprocessor-controlled, 3-channel DC signal conditioner amplifier designed to be used with bridge type or differential output accelerometers and pressure transducers. The model 126 incorporates variable gain adjustment, shunt calibration capability, and multiple excitation level settings.

A microprocessor SLEEP mode is employed to eliminate high frequency clock noise and their associated harmonics. This allows the amplifiers to operate with minimum self generated noise and provides clean, clock free amplified signals.

The model 126 uses dual 12-bit DAC's, for each channel, to auto zero the input and output amplifiers for DC input signals. Input signals with magnitudes of ±10 Vdc can be zeroed. A unique output DAC trimming routine allows trimming the output zero to within ±1 mVdc.

The transducer excitation supplies are individually adjustable for each channel from 0.00 to 12.00 Vdc. Any setting above 12.00 Vdc will generate an excitation voltage of 12.10 Vdc. The outputs are short circuit protected and can supply up to 30 mA each. Remote sense leads are provided to eliminate errors caused by long cable lengths.



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Specifications

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Input specifications (per channel)

Input type	Fully differential
Input range	0 to ±10 Vdc
Input impedance	>1 MegΩ
CMR	±10 Vdc or peak Vac, inclusive of signal, 50 V peak without damage
CMRR	70 dB min, 200 Ω or less imbalance, DC to 60 Hz, gain=1
Autozero	
Range	±10 mVdc for gain <1000 ±100 mVdc for gain ≤100 ±1 Vdc for gain ≤10 ±10 Vdc for gain ≤1
Accuracy	within ±25 mV typ, ±75 mV max
Trim	within ±1 mV typ

Output specifications (per channel)

AC/DC voltage	Single ended and referenced to signal ground, short circuit protected
Impedance	0.6 Ω max
Linear output	10 V peak minimum
Output current	10 mA max
Tempco	±5 µV/ºC RTI or ±100 µV/ºC RTO, whichever is greater, for 24hrs after 1 hr warm up
Time stability	±20 µV RTI or ±5 mV RTO, whichever is greater for 24hrs, after 1 hr warm up

Transducer power supply (per channel)

Voltage	0.00 to 14.00 Vdc, user settable, independently for each channel
Accuracy	±1% max
Current	30 mA max per channel
Noise and ripple	1 mV rms max, 10 Hz to 50 kHz, with 1 kΩ load
Protection	Thermally, short circuit protected

Transfer characteristics (per channel)

Gain	
Range	0.00 to 999.9
Resolution	For 0 ≤ gain ≤10, 0.000 to 9.99 For 10 < gain <100, 10.00 to 99.99 For 100 < gain <1000, 100.00 to 999.9
Accuracy	±0.5% of FS max, DC to 1 kHz with filters disabled
Linearity	±0.1% of FS, best fit straight line at 1 kHz reference
Noise	20 µV rms RTI or 1mV RTO with optional 10 kHz 2-pole Butterworth low pass filter installed
Broadband frequency response	DC to 200 kHz (-3dB), small signal response DC to 150 kHz (-3dB), full power
Corner frequency (-3dB)	10 kHz, other frequencies available
Crosstalk between channels	80 dB RTI min

Accessories

Product	Description	126
EW599	Power cord (qty 1)	Included
EJ724-U	Connector, 9 pin (qty 3)	Included

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