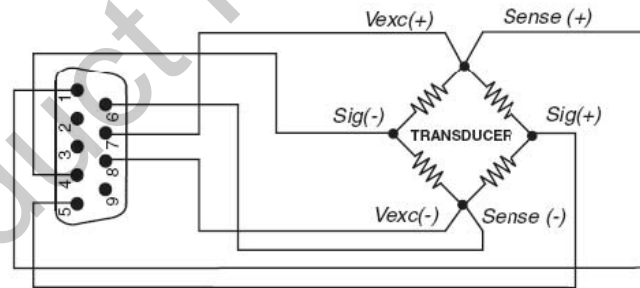


Model 126

Bridge amplifier



Key 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 Meg Ω
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 $\mu\text{V}/^\circ\text{C}$ RTI or ± 100 $\mu\text{V}/^\circ\text{C}$ 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	$\pm 1\%$ max
Current	30 mA max per channel
Noise and ripple	1 mV rms max, 10 Hz to 50 kHz, with 1 k Ω load
Protection	Thermally, short circuit protected

Transfer characteristics (per channel)

Gain	0.00 to 999.9		
Range			
Resolution	For	$0 \leq \text{gain} \leq 10$,	0.000 to 9.99
For	10 < gain < 100,	10.00 to 99.99	
For	100 < gain < 1000,	100.00 to 999.9	
Accuracy	$\pm 0.5\%$ of FS max, DC to 1 kHz with filters disabled		
Linearity	$\pm 0.1\%$ of FS, best fit straight line at 1 kHz reference		
Noise	20 μV rms RTI or 1 mV 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			
Crosstalk between channels	80 dB RTI min		
Accessories			

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Accessories

Product	Description	126
EW599	Power cord (qty 1)	Included
EJ724-U	Connector, 9 pin (qty 3)	Included
IM 126	Instruction manual	Included
43295-0100	1kHz 2-Pole Butterworth Low Pass Filter	Optional
43295-0400	4kHz 2-Pole Butterworth Low Pass Filter	Optional
43295-1000	10kHz 2-Pole Butterworth Low Pass Filter	Optional
43295-2000	20kHz 2-Pole Butterworth Low Pass Filter	Optional
43295-4000	40kHz 2-Pole Butterworth Low Pass Filter	Optional

Ordering information

1. Maintain high levels of precision and accuracy using Endeveco's factory calibration services. Call Endeveco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.