Endevco®

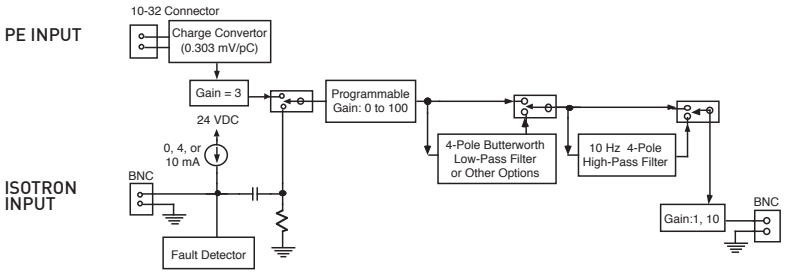
PE / Isotron® signal conditioner

Model 133

Model 133 is a three-channel, Piezoelectric and Isotron signal conditioner that is manually or computer programmable. Manual control is accomplished at the front panel by means of a "Select Channel" push-button, three (3) "Channel LEDs", one "Select Function" push-button, seven "Function LEDs", a four character LED display, showing the state of each function/channel, and four "Edit" push-buttons to change the entries in the LED display. There are three LEDs used as fault status indicators for open/short at the Isotron inputs.

There are two modes of operation, Normal and Programming/Setup. Both modes of operation utilize the front panel LED display. In the Normal Mode, there are two states, Monitoring and Non-Monitoring. In the Monitoring state the LED display indicates the RMS valve (±10%) of the signal present at the output of the selected channel. The Non-Monitoring state turns off the LED display for lower noise applications and to minimize power consumption. In the Programming Mode, the unit is ready for manual programming of existing channel setups. The unit will automatically return to the Normal Mode of operation after 20 seconds of inactivity of the front panel or after pressing the "Select Function" pushbutton while the "Monitoring State" function LED is flashing.

The rear panel contains an RJ-11 connector (RS-232 serial communication is no longer supported), an input power connector, and on a per-channel basis, a BNC output connector, a 10-32 input connector for the PE input, and a BNC connector for the Isotron input. Three model 133 units may be installed in a 19-inch rack mount adapter. The standard unit is powered by 90-264 VAC, 50/60 Hz. The -1 option is powered by 9 to 18 VDC, making it ideal for portable use in automobile test applications.



Key features

- Three-channel PE/Isotron signal conditioner
- 100 kHz bandwidth (-3dB Corner)
- Built-in 4-pole Butterworth high-pass filter with optional corner frequencies
- Gain range 0 to 1000
- 12 VDC power option

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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.

Input specifications (per channel)	
Piezoelectric	Single-ended with one side connected to signal ground
Maximum charge input	10 000 pC
Source resistance	> 10 MΩ
Source capacitance	< 30,000 pF
Isotron	Single-ended with low side connected to signal ground
Excitation current accuracy	Off, 4 mA or 10 mA ± 15%, one range is valid for all 3 channels selectable through front panel or RS-232
Compliance voltage	< 22 VDC
Maximum input voltage	< 22 Volts (AC + DC components)
Input impedance	100 MOhms and 33 000 pF
Outputs	
AC voltage	Single ended with one side connected to output signal ground. Signal proportional to input.
Maximum linear output	10 Vpk minimum
Display non-linearity	Inherent error 1% of full scale reading 10 V = 1%; 1 V = 10%; 100 mV = 100%
Maximum current output	10 mA (10 V into a 1 kOhm load)
DC offset	15 mV maximum
Protection	Short circuit protected
Transfer characteristics	
Gain	
Range	Programmable from 0 to 1000
Resolution	0.0025, Eu 0 ≤ gain ≤ 10 0.025, Eu 10 ≤ gain ≤ 100 0.25, Eu 100 ≤ gain ≤ 1000
Accuracy	± 0.5% at 1 kHz after calibration, filters disabled, gain › 1
Linearity	0.1% of full scale, best fit straight line at 1 kHz reference
Noise	Noise specification valid for the following conditions: (a) unit in non-monitoring state (b) internal standard 10 kHz 4-pole butterworth lowpass filter enabled
Piezoelectric	0.02 pC-RMS plus 0.006 pc-RMS per 1000 pF of source capacitance referred to input (RTI), plus 1 mVRMS referred to output (RTO).
Isotron	20 µVRMS referred to input (RTI), plus 400 µVRMS referred to output (RTO). Input shunted with a 249 Ohm (4 mA excitation) or 100 Ohms load (10 mA excitation).
Broadband frequency response	±5%, 0.1 Hz to 50 kHz, referenced to 1 kHz; -3dB at 100 kHz typical
Filter characteristics	
High pass filter type	4-pole butterworth
Corner frequency (-3 dB)	10 hz ± 5 %
Corner frequency (-3 dB)	10 khz ± 12 % (other corners available by changing internal module 31875: 10 Hz to 80 kHz in 1, 2, 4, 6, 8 steps)
Crosstalk between channels	80 dB RTI minimum
Power requirements	
Voltage	Standard unit: 90-264 VAC 50 to 60 Hz; -1 option: 9-18 VDC
Power dissipation	9 Watts typical
Isolation	No isolation channel to channel or signal ground to case ground
Physical characteristics	
Dimensions	5.57" x 2.52" x 12"
Weight	4 lbs typical
Case material	Black aluminum cover, medium grey plastic bezel

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Specifications, cont.

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Accessories

Product	Description	133
IM133	Instruction manual	Download from website
EW599	Powercord (Model 133)	Included
31875-1000	10kHz 4-pole Butterworth low-pass filter module	Included
EHM1409	Automotive power plug (Model 133-1)	Included
EJ1183	10-32 microdot to BNC adapter (qty 3)	Included
31875-xxxx	Low-pass filter modules (see 31875 data sheet)	Optional
31979	Rack mounting kit	Optional
EHM1413	Desktop DC power supply (Model 133-1)	Optional
EHM1471	Blank panel	Optional

Contact

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