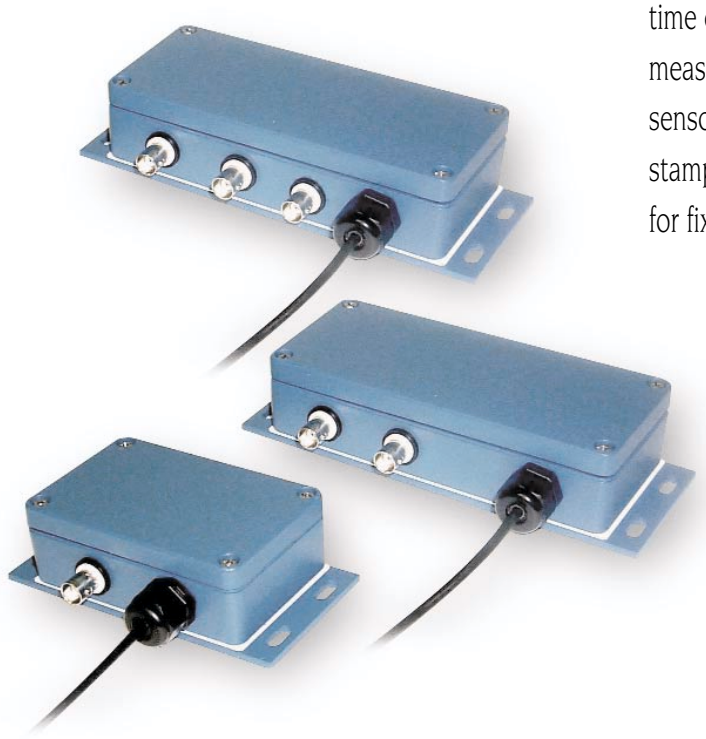
Industrial Charge Amplifiers

- Condition charge mode piezoelectric sensors in harsh industrial environments
- Three user selectable input ranges
- Rugged, surface mountable, sealed aluminum enclosures
- 1, 2, or 3 channel versions available
- Long discharge time constant for quasi-static and low frequency measurements



Series 421A10 industrial charge amplifiers feature a long discharge time constant to enable quasi-static and low frequency measurements. When used with charge-mode piezoelectric force sensors, these units are suitable for monitoring crimping forces, stamping forces and other press forming operations. They are ideal for fixed installations in harsh factory environments.

Standard features include electronic reset and the ability to select from 3 input ranges per channel. Each channel also has a fine gain adjustment potentiometer for normalizing sensor input sensitivity.

The units are packaged in rugged aluminum housings with an isolation plate to provide electrical insulation from the mounting surface. Additional features include high vibration resistance, a cord grip for securing the supplied 10 foot interfacing cable, and our **Total Customer Satisfaction** guarantee.

PCB PIEZOTRONICS INC.
ELECTRONICS DIVISION

Specifications

Available Versions	
Model 421A11	1 Channel
Model 421A12	2 Channels
Model 421A13	3 Channels

Electrical		
Input Ranges (selectable for each channel)		
Range I (5.0 mV/pC sensitivity)	± 100 to ± 1000 pC	
Range II (0.5 mV/pC sensitivity)	± 1000 to ± 10,000 pC	
Range III (0.05 mV/pC sensitivity)	± 10,000 to ± 100,000 pC	
Output Voltage	± 5 V	
Output Impedance	< 10 ohm	
Spectral Noise*		
1 Hz	0.60 µV/√Hz	
10 Hz	0.28 µV/√Hz	
100 Hz	0.20 µV/√Hz	
1000 Hz	0.15 µV/√Hz	
10k Hz	0.09 µV/√Hz	
Broadband Noise (1 to 10k Hz)*	11 µV	
Frequency Range (100 pC to 1000 pC range)		
-5%	~ 0 to 6500 Hz	
-3dB	~ 0 to 21k Hz	
Frequency Range (1000 pC to 10,000 pC range)		
-5%	~ 0 to 10k Hz	
-3dB	~ 0 to 35k Hz	
Frequency Range (10,000 pC to 100,000 pC range)		
-5%	~ 0 to 10k Hz	
-3dB	~ 0 to 35k Hz	
Drift	< ± 0.03 pC/s	
Power Required		
Voltage	15 to 30 VDC	
Current (421A11 / 421A12 / 421A13)	≤ 23 / 33 / 43 mA	

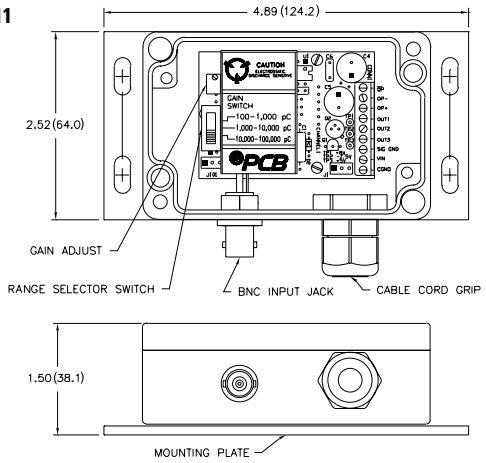
Environmental	
Temperature Range	+ 32 to +140°F [0 to +60°C]

Physical		
Dimensions / Weights†		
Model 421A11	4.89 x 1.50 x 2.52 in	0.92 lb
	124.2 x 38.1 x 64.0 mm	0.42 kg
Model 421A12	6.95 x 1.50 x 2.52 in	1.27 lb
	176.5 x 38.1 x 64.0 mm	0.58 kg
Model 421A13	6.95 x 1.50 x 2.52 in	1.32 lb
	176.5 x 38.1 x 64.0 mm	0.6 kg
Housing Material	Aluminum	
Input Connectors	BNC Jack	
Output & Power Connectors	Screw Terminal	

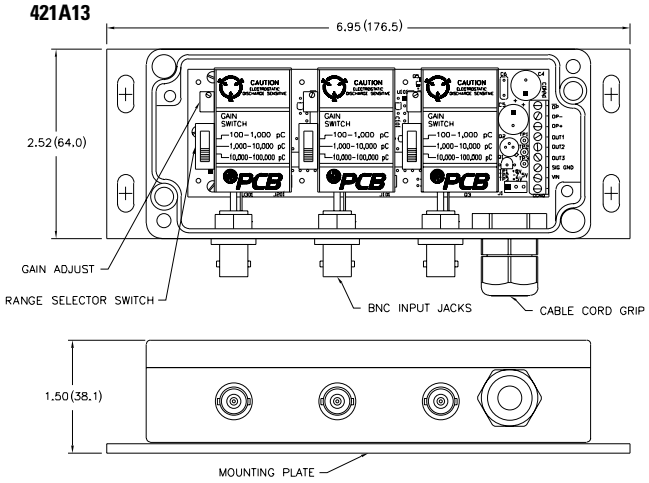
Notes:
* Noise measurements performed at 10,000 pC to 100,000 pC range.
† Weights include supplied, 10 ft (3m) multi-conductor cable.

Supplied Accessories:
(1) 10 ft (3m) multi-conductor cable
(1) PG-9 cord grip

421A11



421A13



Series 421A10 Industrial Charge Amplifiers
(Model 421A12 has same dimensions as Model 421A13)

The Electronics Division of PCB® Piezotronics, Inc. specializes in the development, application, and support of signal conditioners, cables, and accessories for a wide variety of sensor interfacing requirements. This product focus, coupled with the strengths and resources of PCB, permits the Electronics Division to offer timely response to client's needs, exceptional customer service, 24-hour technical assistance and a **Total Customer Satisfaction guarantee**.

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