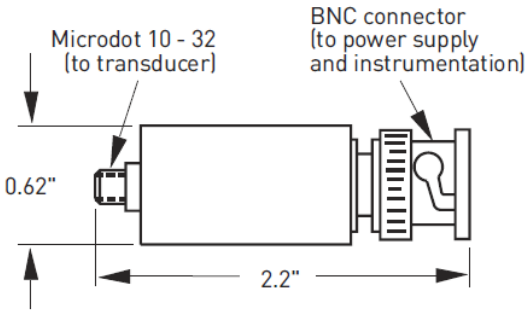
Charge converter
CC701A

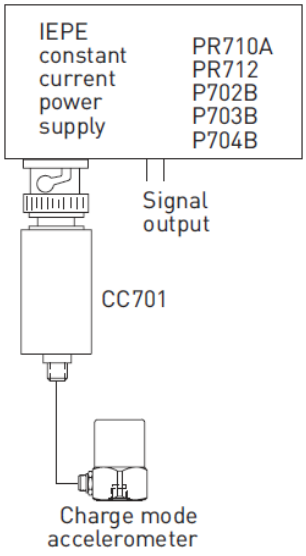
Key features

- Overload protection
- Strong voltage signal
- Immune to cable motion noise
- Compatible with standard signal readout equipment

The CC701A charge converter is a solid state, in-line device which converts the charge output of a high impedance piezoelectric vibration sensor to a low impedance voltage signal. It incorporates an overload-protection circuit and the low noise PIEZOFET® amplifier. The CC701A yields a strong signal, immune to cable motion noise, and is compatible with standard signal readout equipment such as monitors, voltmeters, analyzers, etc. Long cables can be driven without signal loss. The CC701A charge converter is powered by the constant current source of a Wilcoxon power unit/amplifier (models P702, P703B, P704B, PR710 or PR712) or it can be supplied from an external constant current supply of 18-30 VDC, capable of delivering from 2-10 mA (a 4 mA constant current diode is recommended).



Powering diagram



Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

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98324 Rev. D 08/17

Wilcoxon Sensing Technologies
An Amphenol Company

Charge converter
CC701A

SPECIFICATIONS

TRANSFER CHARACTERISTICS[1]		
Sensitivity, ±5%		10 mV/pC
Frequency response:		
	± 5%	10 - 25,000 Hz
	– 3 dB	2.0 Hz
Nonlinearity		<1%
Harmonic distortion		<1%
INPUT CHARACTERISTICS		
Allowable source capacitance, max		6,000 pF
OUTPUT CHARACTERISTICS		
Output voltage, maximum		5 Vrms
Electrical noise, nominal:		
Source capacitance (transducer + cable)		1,000 pF
Broadband	**2.5 Hz to 25 kHz**	30 µV
Spectral	**10 Hz**	4.0 µV/√Hz
	100 Hz	0.6 µV/√Hz
	1,000 Hz	0.2 µV/√Hz
	10,000 Hz	0.06 µV/√Hz
Output impedance (depending on source capacitance)		25 - 150 Ω
Bias output voltage, nominal		10 VDC
POWER REQUIREMENTS		
Voltage source		18 - 30 VDC
Constant current[2]		2 - 10 mA
ENVIRONMENTAL		
Temperature range		–40 to +100° C
PHYSICAL CHARACTERISTICS		
Weight		40 grams
Case material		stainless steel
Connectors	**Signal input**	Microdot 10-32
	Signal output	BNC

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Notes: [1] Measured with 1,000 pF source capacitance, 21V supply, 4 mA.

[2] To minimize the possibility of signal distortion when driving long cables with high vibration signals, 24 to 30 VDC powering is recommended. The higher level constant current source should be used when driving long cables (please consult Wilcoxon customer service).