



Model CC701A Charge converter

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 Research 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).

Transfer characteristics¹

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
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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

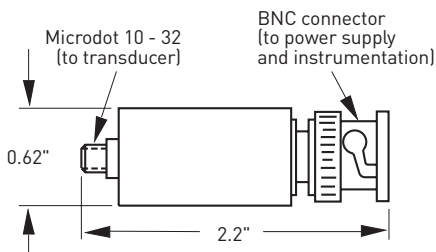
Voltage source	18 - 30 VDC
Constant current ²	2 - 10 mA

Environmental

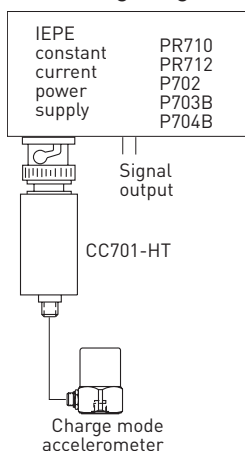
Temperature range	-40 to 100°C
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Physical characteristics

Weight	40 grams
Case material	stainless steel
Connectors:	
Signal input	Microdot 10-32
Signal output	BNC



Powering diagram



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 WR customer service).

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