

# Charge converter

## CC701

### SPECIFICATIONS

#### TRANSFER CHARACTERISTICS<sup>1</sup>

Sensitivity, $\pm 5\%$		1 mV/pC
Frequency response:	$\pm 5\%$	10 - 25,000 Hz
	-3 dB	0.5 Hz
Nonlinearity		<1%
Harmonic distortion		<1%

#### INPUT CHARACTERISTICS

Allowable source capacitance, max	6,000 pF
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#### OUTPUT CHARACTERISTICS

Output voltage, max	5 V rms				
Electrical noise, nominal:					
Source capacitance (transducer + cable)	500	1,000	5,000	pF	
Broadband	2.5 Hz to 25 kHz	5	7	10	$\mu\text{V}$
Spectral	10 Hz	0.50	0.50	0.50	$\mu\text{V}/\sqrt{\text{Hz}}$
	100 Hz	0.06	0.07	0.15	$\mu\text{V}/\sqrt{\text{Hz}}$
	1,000 Hz	0.04	0.04	0.07	$\mu\text{V}/\sqrt{\text{Hz}}$
	10,000 Hz	0.02	0.03	0.05	$\mu\text{V}/\sqrt{\text{Hz}}$

Output impedance (depending on source capacitance)	25 - 150 $\Omega$
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Bias output voltage, nominal	10 VDC
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#### POWER REQUIREMENTS

Voltage source	18 - 30 VDC
Constant current <sup>2</sup>	2 - 10 mA

#### ENVIRONMENTAL

Temperature range	-40° to +100°C
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#### PHYSICAL

Weight	40 grams
Case material	stainless steel

Connectors:	
Signal input	Microdot 10-32
Signal output	BNC

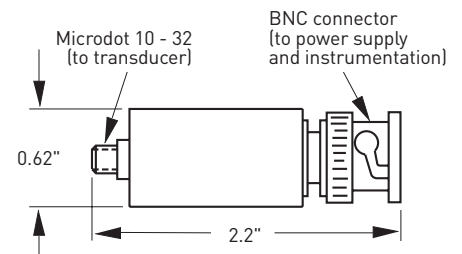
**Notes:** <sup>1</sup> Measured with 1,000 pF source capacitance, 21V supply, 4 mA.  
<sup>2</sup> To minimize the possibility of signal distortion when driving long cables with high vibration signals, 24 to 30 VDC powering is recommended. The higher level constant current source should be used when driving long cables.

**Options:** Filtered for high temperature charge mode with sensitivity of 4 mV/pC (model CC701HT); sensitivity of 10 mV/pC (model CC701A)

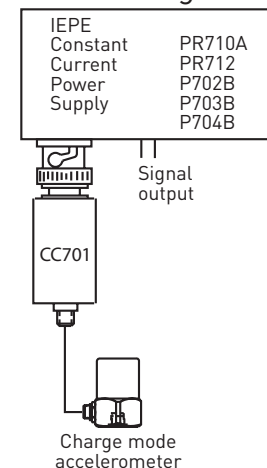


#### Key features

- Converts charge output from a vibration sensor to a strong voltage signal
- Immune to cable motion noise
- Manufactured in ISO 9001 facility



#### Power diagram



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