

# Charge converter

## CC701A

### SPECIFICATIONS

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

Sensitivity, $\pm 5\%$	10 mV/pC
Frequency response:	
$\pm 5\%$	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, max	5 V rms
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#### Electrical noise, nominal:

Source capacitance (transducer + cable)	1,000 pF
Broadband	2.5 Hz to 25 kHz
Spectral	10 Hz
	100 Hz
	1,000 Hz
	10,000 Hz
	30 $\mu$ V
	4.0 $\mu$ V/ $\sqrt{\text{Hz}}$
	0.6 $\mu$ V/ $\sqrt{\text{Hz}}$
	0.2 $\mu$ V/ $\sqrt{\text{Hz}}$
	0.06 $\mu$ 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
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Constant current <sup>2</sup>	2 - 10 mA
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#### ENVIRONMENTAL

Temperature range	$-40^\circ$ to $+100^\circ\text{C}$
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#### PHYSICAL

Weight	40 grams
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Case material	stainless steel
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#### Connectors:

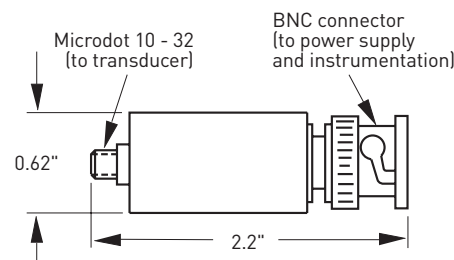
Signal input	Microdot 10-32
Signal output	BNC

**Notes:** <sup>1</sup> Measured with 1,000 pF source capacitance, 21V supply, 4 mA.

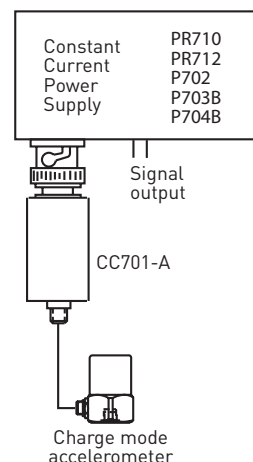
<sup>2</sup> To minimize the possibility of signal distortion when driving long cables with high vibration signals, 24 to 30 VDC powering is recommended. The higher level constant current source should be used when driving long cables.

### Key features

- Strong voltage signal
- Immune to cable motion noise
- Manufactured in ISO 9001 facility



### 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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