

Model Number

422E13

IN-LINE CHARGE CONVERTER

Revision: R

ECN #: 25218

Performance

	ENGLISH	SI	
Sensitivity ($\pm 2\%$) (Charge Conversion)	1 mV/pC	1 mV/pC	
Input Range (Electrical Charge)	± 2500 pC	± 2500 pC	
Overrange	± 3 V	± 3 V	
Low Frequency Response (-5%)	5 Hz	5 Hz	
High Frequency Response (2.2 mA)	30 kHz	30 kHz	[3]
High Frequency Response (4 mA)	60 kHz	60 kHz	[3]
High Frequency Response (20 mA)	100 kHz	100 kHz	[3]
Non-Linearity	$\leq 1.0\%$ FS	$\leq 1.0\%$ FS	

Environmental

Temperature Range (Operating)	-65 to +250 °F	-54 to +121 °C	
Temperature Response (Sensitivity Deviation)	<1%	<1%	
Maximum Shock	1000 g pk	9810 m/s ² pk	

Electrical

Excitation Voltage	18 to 28 VDC	18 to 28 VDC	
Constant Current Excitation	2.2 to 20 mA	2.2 to 20 mA	
Output Voltage (at specified measurement range)	± 2.5 Vpk	± 2.5 Vpk	
Output Impedance	<20 ohm	<20 ohm	
Output Bias Voltage	12.75 to 14.25 VDC	12.75 to 14.25 VDC	
Output Polarity	Inverted	Inverted	
Maximum Input Voltage	30 V	30 V	
Broadband Electrical Noise (1 to 10,000 Hz)	11 μ V	-99 dB	[1]
Spectral Noise (1 Hz)	10.0 μ V/ $\sqrt{\text{Hz}}$	-100 dB	[1]
Spectral Noise (10 Hz)	0.7 μ V/ $\sqrt{\text{Hz}}$	-123 dB	[1]
Spectral Noise (100 Hz)	0.1 μ V/ $\sqrt{\text{Hz}}$	-140 dB	[1]
Spectral Noise (1 kHz)	0.04 μ V/ $\sqrt{\text{Hz}}$	-148 dB	[1]
Spectral Noise (10 kHz)	0.04 μ V/ $\sqrt{\text{Hz}}$	-148 dB	[1]
Discharge Time Constant	0.1 sec	0.1 sec	
Resistance (Minimum required at input)	7,000,000 ohm	7,000,000 ohm	[2]
Source Capacitance Loading	0.0005 %/pF	0.0005 %/pF	

Physical

Housing Material	Stainless Steel	Stainless Steel	
Sealing	Welded	Welded	
Electrical Connector (Input)	10-32 Coaxial Jack	10-32 Coaxial Jack	
Electrical Connector (Output)	BNC Jack	BNC Jack	
Size (Diameter x Length)	0.52 in x 3.4 in	13 mm x 86 mm	
Weight	1.15 oz	32.7 gm	

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

T - TEDS Capable of Digital Memory and Communication Compliant with IEEE P1451.4		
Temperature Range (Operating)	-40 to +185 °F	-40 to +85 °C
Output Bias Voltage	13.35 to 14.85 VDC	13.35 to 14.85 VDC

NOTES:

- [1] Tested using voltage source and input capacitor equal to the feedback capacitor, to simulate a charge output sensor.
- [2] Not to be used with low values of source resistance such as charge mode sensors at elevated temperatures or contaminated sensor cables (preventing low frequency peaking and/or output bias problems).
- [3] Above stated frequency, the amplifier becomes slew rate limited.
- [4] See PCB Declaration of Conformance PS024 for details.

Entered: <i>Let</i>	Engineer: <i>DD</i>	Sales: <i>SH</i>	Approved: <i>CM</i>	Spec Number:
Date: <i>10/23/06</i>	Date: <i>11-26-06</i>	Date: <i>11/2/06</i>	Date: <i>11/2/06</i>	422-5130-80



[4]

All specifications are at room temperature unless otherwise specified.
In the interest of constant product improvement, we reserve the right to change specifications without notice.

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