Model Number	IN-LINE CHARGE AMPLIFIER	Revision: C
422E20		ECN #: 23737

Performance	ENGLISH	SI	
Sensitivity (± 5 %) (Charge Conversion)	4 mV/pC	4 mV/pC	
Input Range (Electrical Charge)	± 625 pC	± 625 pC	
Overrange	± 3 V	± 3 V	
Low Frequency Response (-5 %)	1 Hz	1 Hz	
High Frequency Response (2.2 mA)	50 kHz	50 kHz	[3]
High Frequency Response (4 mA)	75 kHz	75 kHz	[3]
High Frequency Response (20 mA)	100 kHz	100 kHz	[3]
Non-Linearity	≤ 1.0 % FS	≤ 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/s² 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	<10 ohm	<10 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)	15 µV	-96 dB	[1]
Spectral Noise (1 Hz)	10 µV/√Hz	-100 dB	[1]
Spectral Noise (10 Hz)	0.8 µV/√Hz	-122 dB	[1]
Spectral Noise (100 Hz)	0.2 µV/√Hz	-134 dB	[1]
Spectral Noise (1 kHz)	0.07 µV/√Hz	-143 dB	[1]
Spectral Noise (10 kHz)	0.07 µV/√Hz	-143 dB	[1]
Discharge Time Constant	≥ 0.5 sec	≥ 0.5 sec	
Resistance (Minimum required at input)	5,000,000 ohm	5,000,000 ohm	[2]
Source Capacitance Loading	0.0005 %/pF	0.0005 %/pF	
Physical			
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Welded Hermetic	Welded Hermetic	
Electrical Connector (Input)	2-Pin MIL-C-26482	2-Pin MIL-C-26482	
Electrical Connector (Output)	2-Pin MIL-C-5015	2-Pin MIL-C-5015	
Size (Diameter x Length)	0.62 in x 3.62 in	16 mm x 92.0 mm	
Weight	2.46 oz	69.7 gm	

CE [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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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: JRJ	Engineer: BJ	Sales: MLA	Approved: [illegible]	Spec Number:
Date: 3-1-06	Date: 3-3-06	Date: 3/6/06	Date: 3/7/06	12098

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