

Model Number 422M182	DIFFERENTIAL INPUT IN-LINE CHARGE AMPLIFIER	Revision: B ECN #: 39690
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	<u>ENGLISH</u>	<u>SI</u>	
Performance			
Sensitivity($\pm 5\%$)(Charge Conversion)	4 mV/pC	4 mV/pC	
Low Frequency Response(-5%)	2 Hz	2 Hz	[2]
High Frequency Response(2.2 mA)	30 kHz	30 kHz	[3]
High Frequency Response(4 mA)	45 kHz	45 kHz	[3]
High Frequency Response(20 mA)	55 kHz	55 kHz	[3]
Non-Linearity	$\leq 1.0\%$ FS	$\leq 1.0\%$ FS	
Environmental			
Temperature Range(Operating)	-60 to +185 °F	-51 to +85 °C	
Temperature Response(Sensitivity Deviation)	<1 %	<1 %	
Electrical			
Excitation Voltage	22 to 28 VDC	22 to 28 VDC	
Constant Current Excitation	2.2 to 20 mA	2.2 to 20 mA	
Output Voltage(at specified measurement range)	± 5 Vpk	± 5 Vpk	
Output Impedance	<250 Ohm	<250 Ohm	
Output Bias Voltage	12 to 16 VDC	12 to 16 VDC	
Broadband Electrical Noise(1 to 10,000 Hz)	28 μ V	-91 dB	[1]
Spectral Noise(1 Hz)	10.0 μ V/ \sqrt Hz	-100 dB	[1]
Spectral Noise(10 Hz)	3.2 μ V/ \sqrt Hz	-110 dB	[1]
Spectral Noise(100 Hz)	1.0 μ V/ \sqrt Hz	-120 dB	[1]
Spectral Noise(1 kHz)	0.56 μ V/ \sqrt Hz	-125 dB	[1]
Spectral Noise(10 kHz)	0.56 μ V/ \sqrt Hz	-125 dB	[1]
Discharge Time Constant	0.25 sec	0.25 sec	
Resistance(Minimum required at input)	50,000 Ohm	50,000 Ohm	
Source Capacitance Loading	0.0009 %/pF	0.0009 %/pF	
Physical			
Housing Material	Aluminum	Aluminum	
Electrical Connector(Input)	2-Pin	2-Pin	
Electrical Connector(Output)	BNC Jack	BNC Jack	
Weight	3.5 oz	109 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.

NOTES:

[1] Tested using voltage source and input capacitor equal to the feedback capacitor, to simulate a charge output sensor.

[2] The low frequency tolerance is accurate within $\pm 20\%$ of the specified frequency.

[3] Above stated frequency, the amplifier becomes slew rate limited.

[4] See PCB Declaration of Conformance PS024 for details. A low impedance connection from case to earth ground is required to maintain CE compliance.

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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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