

Model Number 483C41	EIGHT-CHANNEL ICP®/VOLTAGE/CHARGE SENSOR SIGNAL CONDITIONER		Revision: E ECN #: 49172	
Performance	ENGLISH	SI	OPTIONAL VERSIONS	
Channels	8	8	Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.	
Sensor Input Type(s)	ICP®, Voltage, Charge	ICP®, Voltage, Charge		
Gain(ICP®/ Voltage Input)	0.1 to 200	0.1 to 200	[4]	
Gain(mV/pC)(Charge Input)	0.01 to 2000	0.01 to 2000		
Gain Increment(minimum)(ICP®/ Voltage Input)	0.1	0.1	[5]	
Gain Increment(minimum)(Charge Input)	0.01	0.01		
Accuracy(ICP®/ Voltage Input)(Gain, 0.1 to 0.4)	± 5 %	± 5 %	[6]	
Accuracy(ICP®/ Voltage Input)(Gain, 0.5 to 200)	± 1 %	± 1 %		
Accuracy(Charge Input)(Gain, 0.01 to 0.04)	± 6 %	± 6 %	[7]	
Accuracy(Charge Input)(Gain, 0.05 to 2000)	± 1 %	± 1 %		
Input Range(maximum)(Charge Input)	100,000 pC pk	100,000 pC pk	[8]	
Input Range(maximum)(ICP® Input)	10 Vpk	10 Vpk		
Input Range(maximum)(Voltage Input)	5 Vpk	5 Vpk	[9]	
Low Frequency Response(-5 %)(ICP®/ Voltage Input)	≤ 0.05 Hz	≤ 0.05 Hz		
Low Frequency Response(-5 %)(Charge Input)	0.5 Hz	0.5 Hz	[10]	
Electrical Filter Roll-off	160 dB/decade	160 dB/decade		
Filter Type(8-pole Butterworth)	Low Pass	Low Pass	[11]	
High Frequency Response(-3 dB)(Gain from 0.01 to 99.9)	>100 kHz	>100 kHz		
High Frequency Response(-3 dB)(Gain from 100 to 2000)	>80 kHz	>80 kHz	[12]	
Electrical Filter Corner Frequency(-10 %)	0.1-0.3-1-3-10-30 kHz	0.1-0.3-1-3-10-30 kHz		
Electrical Filter Pass Band Amplitude Accuracy	1 %	1 %	[13]	
Phase Response(at 1 kHz)	± 2 °	± 2 °		
Non-Linearity	1 %	1 %	[14]	
Cross Talk	<-72 dB	<-72 dB		
TEDS Sensor Support	Yes	Yes	[15]	
Fault/Bias Monitor LEDs	Open/Short/Overload	Open/Short/Overload		
Control Interface			NOTES: [1] Use T1.6A fuse. [2] User adjustable, factory set at 4 mA (± 1.0 mA). Each channel individually adjustable. [3] Typical. [4] Max input signal is dependant on sensor bias. [5] The low frequency tolerance is accurate within ±25% of the specified frequency. [6] The high frequency tolerance is accurate within ±5% of the specified frequency. [7] See PCB Declaration of Conformance PS024 for details.	
Digital Control Interface	Ethernet	Ethernet		
Human Interface	Keypad	Keypad	[16]	
Display	2 rows, 16 columns	2 rows, 16 columns		
Environmental			[17]	
Temperature Range(Operating)	+32 to +120 °F	0 to +50 °C		
Electrical			[18]	
Power Required(direct input to unit)	AC Power	AC Power		
AC Power(47 to 63 Hz)	100 to 240 VAC	100 to 240 VAC	[19]	
AC Power	≤ 0.7 Amps	≤ 0.7 Amps		
Excitation Voltage(To Sensor)	>24 VDC	>24 VDC	[20]	
DC Offset	<50 mV	<50 mV		
Constant Current Excitation(To Sensor)	2 to 20 mA	2 to 20 mA	[21]	
Output Voltage(minimum)	10 V	10 V		
Output Current(minimum)	10 mA	10 mA	[22]	
Output Impedance	<50 Ohm	<50 Ohm		
Broadband Electrical Noise(1 to 10,000 Hz)(Gain x1)	50 µV/rms	50 µV/rms	[23]	
Spectral Noise(1 Hz)	8 µV/√Hz	8 µV/√Hz		
Spectral Noise(10 Hz)	2 µV/√Hz	2 µV/√Hz	[24]	
Spectral Noise(100 Hz)	0.7 µV/√Hz	0.7 µV/√Hz		
Spectral Noise(1 kHz)	0.7 µV/√Hz	0.7 µV/√Hz	[25]	
Spectral Noise(10 kHz)	0.6 µV/√Hz	0.6 µV/√Hz		
Broadband Electrical Noise(1 to 10,000 kHz)(Gain x10)	75 µV rms	75 µV rms	[26]	
Spectral Noise(1 Hz)	18 µV/√Hz	18 µV/√Hz		
Spectral Noise(10 Hz)	1.5 µV/√Hz	1.5 µV/√Hz	[27]	
Spectral Noise(100 Hz)	1.0 µV/√Hz	1.0 µV/√Hz		
Spectral Noise(1 kHz)	1.0 µV/√Hz	1.0 µV/√Hz	[28]	
Spectral Noise(10 kHz)	1.0 µV/√Hz	1.0 µV/√Hz		
Broadband Electrical Noise(1 to 10,000 Hz)(Gain x100)	350 µV rms	350 µV rms	[29]	
Spectral Noise(1 Hz)	100 µV/√Hz	100 µV/√Hz		
Spectral Noise(10 Hz)	10 µV/√Hz	10 µV/√Hz	[30]	
Spectral Noise(100 Hz)	6 µV/√Hz	6 µV/√Hz		
Spectral Noise(1 kHz)	5 µV/√Hz	5 µV/√Hz	[31]	
Broadband Electrical Noise(1 to 10,000 Hz)(0.1 mV/pC)	52.0 µV/rms	52.0 µV/rms		
Spectral Noise(10 kHz)	5 µV/√Hz	5 µV/√Hz	[32]	
Spectral Noise(1 Hz)	10.0 µV/√Hz	10.0 µV/√Hz		
Spectral Noise(10 Hz)	1.5 µV/√Hz	1.5 µV/√Hz	[33]	
Spectral Noise(100 Hz)	0.6 µV/√Hz	0.6 µV/√Hz		
Spectral Noise(1 kHz)	0.6 µV/√Hz	0.6 µV/√Hz	[34]	
Spectral Noise(10 kHz)	0.6 µV/√Hz	0.6 µV/√Hz		
Broadband Electrical Noise(1 to 10,000 Hz)(1.0 mV/pC)	52.0 µV/rms	52.0 µV/rms	[35]	
Spectral Noise(1 Hz)	14.0 µV/√Hz	14.0 µV/√Hz		
Spectral Noise(10 Hz)	2.0 µV/√Hz	2.0 µV/√Hz	[36]	
Spectral Noise(100 Hz)	0.7 µV/√Hz	0.7 µV/√Hz		
Spectral Noise(1 kHz)	0.7 µV/√Hz	0.7 µV/√Hz	[37]	
Spectral Noise(10 kHz)	0.7 µV/√Hz	0.7 µV/√Hz		
Broadband Electrical Noise(1 to 10,000 Hz)(10.0 mV/pC)	56.0 µV/rms	56.0 µV/rms	[38]	
Spectral Noise(1 Hz)	15.0 µV/√Hz	15.0 µV/√Hz		
Spectral Noise(10 Hz)	2.0 µV/√Hz	2.0 µV/√Hz	[39]	
Spectral Noise(100 Hz)	0.6 µV/√Hz	0.6 µV/√Hz		
Spectral Noise(1 kHz)	0.6 µV/√Hz	0.6 µV/√Hz	[40]	
Spectral Noise(10 kHz)	0.6 µV/√Hz	0.6 µV/√Hz		
Oscillator(+/- 2%)(Internal Generator - ICP®/ Voltage Mode)	0.1 V pk	0.1 V pk	[41]	
Oscillator(+/- 2%)(Internal Generator - Charge Mode)	100 pC pk	100 pC pk		
Oscillator(+/- 2%)(Internal Generator - Voltage Mode)	100/1000 Hz	100/1000 Hz	[42]	
Overload Threshold(± 0.5 Vpk)	± 10 Vpk	± 10 Vpk		
Physical			SUPPLIED ACCESSORIES: Model 017AXX Power Cord (1) Model EE75 PCB MCSC Control Software. (1)	
Electrical Connector(Input, sensor)	BNC Jack	BNC Jack		
Electrical Connector(Output)	BNC Jack	BNC Jack	[43]	
Electrical Connector(Ethernet)	RJ-45	RJ-45		
Size (Height x Width x Depth)(nominal)	1.75 in x 19 in x 13.7 in	44.5 mm x 482.6 mm x 348 mm	[44]	
Weight	8 lb	3.6 kg		
				
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. ICP® is a registered trademark of PCB Group, Inc.				
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