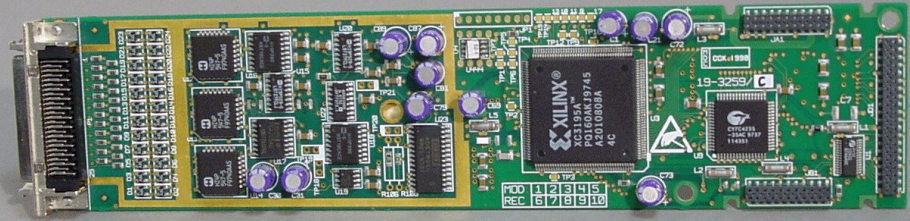


3411 24-CHANNEL ENHANCED ADC FUNCTION CARD



- 24 Differential Channels
- Accuracy better than 0.02% (with optional Vref Source)
- Less than 1 μV RMS Noise
- Accuracy for Thermocouples 1° C, for PT100 0.1° C
- Open Thermocouple Detection
- 16-bit Resolution
- 100 kHz Internal, 20kHz Aggregate Conversion Rate
- Programmable Gain and Filtering
- 2 or 16 kSamples FIFO
- Up to 192 Differential ADC Channels per VXIbus Slot

POWER

The ProDAQ 3411 Enhanced Analog-to-Digital Converter Function Card is one of the ProDAQ high density cards, which can be fitted into ProDAQ Motherboards. ProDAQ modules are the most versatile VXIbus modules in the market. They provide the user with the highest channel density and functionality available today.

The ProDAQ 3411 Enhanced ADC Function Card contains a 100 kHz Analog-to-Digital Converter with 24 fully differential inputs, each having a $\pm 10\text{V}$ max. range. This results in a remarkable number of 192 fully differential input channels in a single VXIbus slot, if eight ADC function cards are fitted into one ProDAQ Motherboard.

The gain is programmable from 1 to 1000, providing the user with voltage ranges from $\pm 10\text{V}$ to $\pm 10\text{mV}$. Three different filter bandwidth and bypass can be selected by software.

The voltage from the ProDAQ 3201 Programmable Voltage Reference card can be switched directly to the programmable gain amplifier for calibration "on-the-fly" or self-

test purposes. Using the Voltage Reference Option an accuracy of better than 0.02% can be achieved.

The accuracy for temperature measurements is 1° C for thermocouples and 0.1° C for PT100s over the entire temperature range, if used with our ProDAQ 5000 series of Signal Conditioning Cards and our Signal Conditioning Unit. (Note this does not include any sensor errors).

The RMS noise is less than 1 μV at a gain of 1000.

The ProDAQ 3411 Enhanced ADC Function Card is supplied with VXIplug&play drivers, that can be used with all popular software packages. The driver automatically detects and initializes all the function cards installed in one of the ProDAQ motherboard modules, removing any possibility of configuration errors.

The ProDAQ modules and function cards allow the user to safely and simply expand their existing hardware and software systems.



Number of Input Channels	24	Thermal Drift	±1 LSB / 10° C
Input Type	Differential	Noise	< 1µV RMS (gain 1000, 10Hz Filter)
Input Voltage Range	max. ±10V min. 10 mV	Trigger Input	Motherboard or Front-Panel Connector
Resolution	16 bit (monotonic)	Trigger Output	Motherboard or Front-Panel Connector
Gain Selection	1, 10, 100, 1000	FIFO	2 kSamples or 16 kSamples
Sensitivity	0.305mV / bit (at gain 1) 0.381µV / bit (at gain 1000)	Operating Temperature	0° C to 50° C
Filter Selection	1000Hz, 100Hz, 10Hz 2-pole Butterworth and Bypass	Storage Temperature	-40° C to 70° C
Filter Bandwidth	6kHz @ 20V _{pp} 10kHz @ 16V _{pp}	Input Connector	50-pin SCSI Female
Dynamic Range	92dB	Dimensions	235 x 53mm (2.1 x 9.1 inch)
Integral Linearity Error	Typ. ±0.01% Max. ±0.02%	Weight	< 100g
Diff. Linearity Error	Max. +1.5 LSB Min. -1 LSB	Current Consumption	Voltage (V) Current (mA) +15 20 -15 10 +12 40 +5 190 Note: ±15V derived from VXIbus ±24V
Total Full Scale Error	< 0.2% uncalibrated < 0.02% cal. with V _{ref} Note: @ 25° ±1° C	Power Consumption	< 1.9 Watts
Sampling Rate	100kHz Internal, 20 kHz Aggregate	Warm-up Time	< 30 Min.
Settling Time	51 µsec to 0.01% (gain 1, filter bypass)	Software Support	VXI <i>plug&play</i> driver for the WIN95 and WINNT frameworks
Input Impedance	> 10MΩ / 25pF	Configuration	Cards can be factory installed or field installed by user
Input Protection	±35V	Warranty Period	12 month standard (Extended periods available at additional cost)
Input Coupling	DC		
Input Offset Voltage	max. ±5mV typ. ±1mV (gain 1) ±50µV (gain 1000)		
CMRR	120dB typ. @ 1kHz 80db min. @ 1kHz		

Ordering Information

- 3411-AA 24 Ch. Enhanced ADC with 2 kWord FIFO
- 3411-AB 24 Ch. Enhanced ADC with 16 kWord FIFO

Related Products:

- 3120-AA Standard Motherboard
- 3150-AA High-Performance Motherboard
- 3201-AA Voltage Reference Card
- 5010-AA Signal Conditioning Unit
- 5X1Y-AA Power Supply Unit
- 5310-AA Isothermal Termination Panel
- 5410-AX 4 Wire Connector Card
- 8010-AA 0.5 Meter SCSI Cable

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