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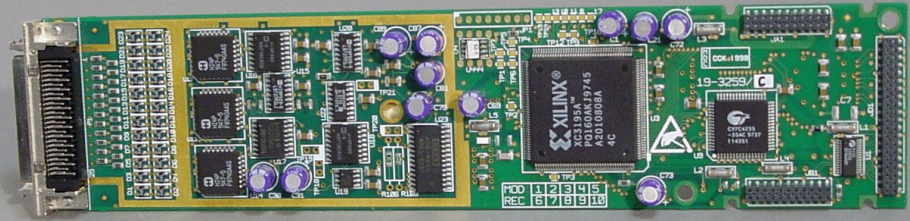
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3410 INPUT PROTECTED ADC FUNCTION CARD



- 24 Fully Differential Channels
- 16-bit Resolution
- 100 kHz Aggregate Conversion Rate
- 70V Input Protection (Higher Protection optional)
- Programmable Filtering
- Programmable Gain
- Accuracy better than 0.03%
- Less than 1 μ V RMS Noise
- 2 kWord FIFO, 16 kWord optional
- Up to 192 Differential ADC Channels per VXIbus Slot

POWER

The ProDAQ 3410 Input-Protected Analog-to-Digital Converter Function Card is one of the ProDAQ high density cards, which can be fitted into the 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 3410 ADC Function Card contains a 100 kHz Analog-to-Digital Converter with 24 fully differential inputs, each having a ± 10 V max. range. This results in a remarkable number of 192 fully differential input channels, if eight ADC function cards are fitted to one ProDAQ Motherboard.

The gain is programmable from 1 to 800, providing the user with voltage ranges from ± 10 V to ± 12.5 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. The achievable accuracy is better than 0.03%, when the voltage reference is used. The RMS noise is less than 1V at a gain of 800. Inputs are protected up to 70V (pk-to-pk), and a diode clamp network ensures no latch-up conditions.

The ProDAQ 3410 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 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 800, 10Hz Filter) | | | | | | | | | | |
| Input Voltage Range | max. ±10V min. 12.5 mV | Trigger Input | Motherboard or Front-Panel Connector | | | | | | | | | | |
| Gain Selection | 1, 2, 4, 8, 10, 20, 40, 80, 100, 200, 400, 800 | Trigger Output | Motherboard or Front-Panel Connector | | | | | | | | | | |
| Sensitivity | 0.305mV / bit (at gain 1) 0.381µV / bit (at gain 800) | FIFO | 2 kSamples or 16 kSamples | | | | | | | | | | |
| Filter Selection | 1000Hz, 100Hz, 10Hz 2-pole Butterworth and Bypass | Operating Temperature | 0° C to 50° C | | | | | | | | | | |
| Filter Bandwidth | 6kHz @ 20V _{pp} 10kHz @ 16V _{pp} | Storage Temperature | -40° C to 70° C | | | | | | | | | | |
| Dynamic Range | 92dB | Input Connector | 50-pin SCSI Female | | | | | | | | | | |
| Integral Linearity Error | Typ. ±0.01% Max. ±0.02% | Dimensions | 235 x 53mm (2.1 x 9.1 inch) | | | | | | | | | | |
| Diff. Linearity Error | Max. +1.5 LSB Min. -1 LSB | Weight | < 100g | | | | | | | | | | |
| Total Full Scale Error | < 0.2% uncalibrated < 0.03% cal. with V _{ref} Note: @ 25° ±1° C | Current Consumption | <table border="1"> <thead> <tr> <th>Voltage (V)</th> <th>Current (mA)</th> </tr> </thead> <tbody> <tr> <td>+15</td> <td>20</td> </tr> <tr> <td>-15</td> <td>10</td> </tr> <tr> <td>+12</td> <td>40</td> </tr> <tr> <td>+5</td> <td>190</td> </tr> </tbody> </table> <p>Note: ±15V derived from VXIbus ±24V</p> | Voltage (V) | Current (mA) | +15 | 20 | -15 | 10 | +12 | 40 | +5 | 190 |
| Voltage (V) | Current (mA) | | | | | | | | | | | | |
| +15 | 20 | | | | | | | | | | | | |
| -15 | 10 | | | | | | | | | | | | |
| +12 | 40 | | | | | | | | | | | | |
| +5 | 190 | | | | | | | | | | | | |
| Sampling Rate | 100kHz/N (N = # of Channels) | Power Consumption | < 1.9 Watts | | | | | | | | | | |
| Settling Time | 51 µsec to 0.01% (gain 1, filter bypass) | Warm-up Time | < 30 Min. | | | | | | | | | | |
| Input Impedance | > 10MΩ / 25pF | Software Support | VXI <i>plug&play</i> driver for the WIN95 and WINNT frameworks | | | | | | | | | | |
| Input Protection | ±35V | Configuration | Cards can be factory installed or field installed by user | | | | | | | | | | |
| Input Coupling | DC | Warranty Period | 12 month standard (Extended periods available at additional cost) | | | | | | | | | | |
| Input Offset Voltage | max. ±5mV typ. ±1mV (gain 1) ±50µV (gain 800) | | | | | | | | | | | | |
| CMRR | 110dB typ. @ 1kHz 80db min. @ 1kHz | | | | | | | | | | | | |

Ordering Information

| | |
|---------|---|
| 3410-AA | 24 Ch. Input-Protected ADC with 2 kWord FIFO |
| 3410-AB | 24 Ch. Input-Protected 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 |
| 5421-AA | Terminal Card, Direct Input |
| 5422-AA | Current Input Card |
| 5423-AA | Attenuator Card 10:1 |
| 5424-AA | Filter Card |
| 8010-AA | 0.5 Meter SCSI Cable |

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