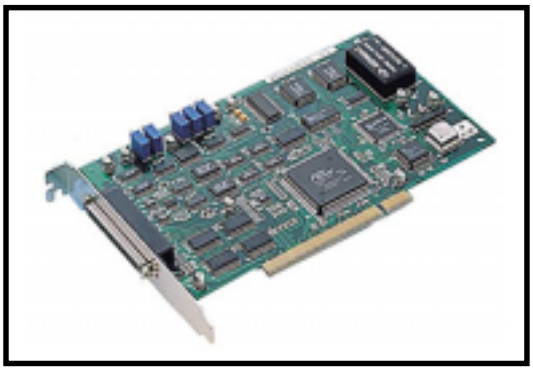
PCI-Bus Multi-Function Data Acquisition Card CE

Model PCI-1710



The PCI-1710 is a multi-function data acquisition card for the PCI bus. Advanced circuitry allows the user to utilize measurement and control functions such as 12-bit A/D conversion, D/A conversion, digital input, digital output, and counter/timer.

The card features an automatic channel/gain scanning circuit. The circuit (rather than your software) controls multiplexer switching during sampling. The on-board SRAM stores different gain values and configurations for each channel. This design lets you perform multi-channel high-speed sampling (up to 100 kHz) with different gains for each channel and with free combination of single-ended and differential inputs.

The PCI-1710 has an on-board FIFO buffer, which can store up to 4 k A/D samples. An interrupt is generated when the FIFO is half full providing continuous high-speed data transfer and more predictable performance on Windows systems.

The PCI-1710 provides a programmable counter for generating a pacer trigger for the A/D conversion. The counter chip is an 82C54 or equivalent, which includes three 16-bit counters on a 10 MHz clock. One counter is used as an event counter for counting events coming from the input channels. The other two are cascaded together to make a 32-bit timer for a pacer trigger.

Specifications:

Analog Input

Channels:	16 single-ended or 8 differential (software programmable)
Resolution:	12-bit
On-board FIFO:	4K samples
Conversion Time:	8μs
Bipolar Input Range:	±10 V, ±5 V, ±2.5 V, ±1.25 V, 0.625 V
Unipolar Input Range:	0 ~ 10 V, 0 ~ 5 V, 0 ~ 2.5 V, 0 ~ 1.25 V
Maximum Input Over Voltage:	±30 V
Common Mode Rejection Ratio:	CMRR
Gain 0.5, 1:	75 dB
Gain 2:	80 dB
Gain 4:	84 dB
Gain 8:	84 dB
Maximum Sampling Rate:	100 kHZ
Accuracy:	
Gain 0.5, 1:	0.01% of FSR ±1 LSB
Gain 2:	0.02% of FSR ±1 LSB
Gain 4:	0.02% of FSR ±1 LSB
Gain 8:	0.04% of FSR ±1 LSB
Linearity Error:	±1 LSB
Input Impedance:	1 G ohm
Trigger Mode:	Software, on-board programmable pacer or external

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Analog Output

Channels:	2
Resolution:	12-bit
Relative Accuracy:	±1/2 LSB
Gain error:	±1 LSB
Throughput:	38 kHz (min.)
Slew Rate:	10 V/μs
Output Range:	Software programmable
Internal Reference:	0 ~ 5 V @ -5 V and 0 ~ 10 V @ -10 V
External Reference:	0 ~ +x V @ -x V (-10 ≤ x ≤ 10)
Driving Capability:	10 mA

Digital Input

Channels:	16
Input Voltage:	Low: 0.4 V max. High: 2.4 V min.
Input Load:	Low: -0.2 mA @ 0.4 V High: 20 mA @ 2.7 V

Digital Output

Channels:	16
Output Voltage:	Low: 0.4 V max. @ 8.0 mA (sink) High: 2.4 V min. @ -0.4 mA (source)

Programmable Timer/Counter

Counter Chip:	82C54 or equivalent
Counters:	3 channels, 16 bits, 2 channels are permanently configured as a 32-bit programmable pacer; 1 channel is free for user applications
Input, Gate:	TTL/CMOS compatible
Time Base:	10 MHz max. (selected by software) Channel 1: 10 MHz Channel 2: Takes input from output of channel 1 Channel 0: Internal 1 MHz or external clock

General

I/O Connector:	68-pin SCSI-II female connector
Operating Temperature:	32 to 140 °F (0 to 60 °C)
Storage Temperature:	-4 to 158 °F (-20 to 70 °C)
Humidity:	5 to 95% (RH non-condensing)
Power:	5 V @ 850 mA (typical) 5 V @ 1 A (max.)
Dimensions:	6.9 x 3.9 in (17.5 x 10 cm)
Compliances:	CE certified to CISPR 22 class B
MTBF:	Over 64,770 hrs @ 25°C, grounded-fix environment

Accessory Items:

PCL-10168-2 ..... 68-pin SCSI-II Shielded Cable, 2m
ADAM-3968 ..... 68-pin SCSI-II Wiring Terminal Board, DIN Rail Mount

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