PXI/DAQ/DAQe-2000 Series

4-CH 14/16-Bit Up to 2 MS/s Simultaneous-Sampling DAQ Cards

PXI-2010

DAQ-2010

DAQe-2010

Ordering Information / Quick Selection Guide

Model Name	Analog Input				Analog Output			DIO	Timer/Counter
	No. of channels	Resolution	Sampling rate	Input range	No. of channels	Resolution	Update rate	No. of channels	No. of channels
PXI/DAQ/DAQe-2010	4-CH DI	14 Bit	2 MS/s	±1.25 V to ±10 V	2	12 Bit	1 MS/s	24-CH 8255 PIO	2-CH, 16-Bit
PXI/DAQ/DAQe-2005	4-CH DI	16 Bit	500 kS/s	±1.25 V to ±10 V	2	12 Bit	1 MS/s	24-CH 8255 PIO	2-CH, 16-Bit
PXI/DAQ/DAQe-2006	4-CH DI	16 Bit	250 kS/s	±1.25 V to ±10 V	2	12 Bit	1 MS/s	24-CH 8255 PIO	2-CH, 16-Bit

Specifications

Model Name	PXI/DAQ/DAQe-2010	PXI/DAQ/DAQe-2005	PXI/DAQ/DAQe-2006
Analog Input			
Resolution	14 Bit	16 Bit, no missing codes	16 Bit, no missing codes
Number of channels	4 simultaneous-sampling channels with differential input		
Maximum sampling rate	2 MS/s	500 kS/s	250 kS/s
Programmable gain	1, 2, 4, 8		
Bipolar input ranges	±10 V, ±5 V, ±2.5 V, ±1.25 V		
Unipolar input ranges	0-10 V, 0-5 V, 0-2.5 V, 0-1.25 V		
Offset error	±3 mV	2 mV	±1 mV
Gain error	±0.1% of FSR	±0.04% of FSR	±0.03% of FSR
Input Coupling	DC		
Overvoltage protection	Power on: Continuous ±35 V, Power off: Continuous ±15 V		
Input Impedance	1 GΩ/100 pF		
Trigger sources	Software, external digital/analog trigger, SSI bus		
Trigger modes	Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger		
FIFO buffer size	8 k samples	512 samples	512 samples
Data transfers	Polling, scatter-gather DMA		
Analog Output			
Number of channels	2 voltage outputs		
Resolution	12 Bit		
Output ranges	0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREF		
Maximum update rate	1 μs		
Slew rate	20 V/μs		
Settling time	3 μs to ±0.5 LSB accuracy		
Offset error	±3mV	±1mV	±1mV
Gain error	±0.05% of max. output	±0.04% of max. output	±0.04% of max. output
Driving capacity	5 mA		
Stabililty	Any passive load, up to 1500 pF		
Trigger sources	Software, external digital/analog trigger, SSI bus		
Trigger modes	Post-trigger, delay-trigger, and repeated trigger		
FIFO buffer size	2 k samples		
Data transfers	Programmed I/O, scatter-gather DMA		
Digital I/O			
Number of channels	8255 24-Bit programmable input/output		
Compatibility	5 V/TTL		
Data transfers	Programmed I/O		
Timer/Counter			
Number of channels	2		
Resolution	16 Bit		
Compatibility	5 V/TTL		
Base clock available	40 MHz , external clock up to 10 MHz		
General Specifications			
Auto Calibration	Yes (+5 V, ±2 ppm/˚C)		
Dimensions	160 mm x 100 mm (not including connectors) (PXI-2000 series) 175 mm x 107 mm (not including connectors) (DAQ-2000 series) 168 mm x 107 mm (not including connectors) (DAQe-2000 series)		
Connector	68-pin VHDCI-type female		
Operating temperature	0˚C to 55˚C (32˚F to 131˚F)		
Storage temperature	-20˚C to 70˚C (-4˚F to 158˚F)		
Humidity	5 to 95%, non-condensing		
Power requirements	+5 V 1.82 A typical (PXI/DAQ-2010) +3.3 V 1.246 A, +12 V 0.448 A typical (DAQe-2010)	+5 V 2.04 A typical (PXI/DAQ-2005) +3.3 V 1.03 A, +12 V 0.75 A typical (DAQe-2005)	+5 V 1.82 A typical (DAQ-2006) +3.3 V 1.02 A, +12 V 0.67 A typical (DAQe-2006)

Features

- Supports a 32-Bit 3.3 V or 5 V PCI bus (DAQ-2000 series)
- x1 lane PCI Express® Interface (DAQe-2000 series)
- PXI specification Rev. 2.2 compliant (PXI-2000 series)
- 4-CH differential analog inputs
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x2, x4, x8
- Scatter-gather DMA for both analog inputs and outputs
- 2-CH 12-Bit multiplying analog outputs with waveform generation
- 24-CH TTL digital input/output
- 2-CH 16-Bit general-purpose timer/counter
- Analog and digital triggering
- Fully auto calibration
- Multiple cards synchronization through SSI (System Synchronization Interface) bus or PXI trigger bus

Supported Operating System

- Windows 7/8 x64/x86, Linux

Driver and SDK

- LabVIEW, MATLAB, C/C++, Visual Basic, Visual Studio.NET

Software Utility

- AD-Logger

Terminal Boards & Cables

- DIN-68S-01
- ACL-10568-1
- ACL-SSI-2/3/4

* For more information on mating terminal board and cables, please refer to P3-48/49.

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