PXI/DAQ/DAQe-2500 Series

4/8-CH 12-Bit 1 MS/s Analog Output Multi-Function DAQ Cards

PXI-2502

DAQ-2502

DAQe-2502

Ordering Information / Quick Selection Guide

Model Name	Analog Output				Analog Input				DIO	Timer/Counter
	No. of channels	Resolution	Update rate	Output range	No. of channels	Resolution	Sampling rate	Input range	No. of channels	No. of channels
PXI/DAQ/DAQe-2501	4	12 Bit	1 MS/s	±10 V, 0 to 10 V	8	14 Bit	400 kS/s	±10 V or 0 to 10 V	24-CH 8255 PIO	2-CH, 16-Bit
PXI/DAQ/DAQe-2502	8	12 Bit	1 MS/s	±10 V, 0 to 10 V	4	14 Bit	400 kS/s	±10 V or 0 to 10 V	24-CH 8255 PIO	2-CH, 16-Bit

Specifications

Model Name	PXI/DAQ/DAQe-2501	PXI/DAQ/DAQe-2502
Analog Output		
Number of channels	4 voltage outputs	8 voltage outputs
Resolution	12 Bit	
Output ranges	0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREF	
Maximum update rate	1 MS/s	
Slew rate	20 V/µs	
Settling time	3 µs to ±0.5 LSB accuracy	
Offset error	±8 mV	
Gain error	±0.04% of max. output	
Driving capacity	±5 mA	
Stability	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	8 k samples	16 k samples
Data transfers	Programmed I/O, scatter-gather DMA	
Analog Input		
Resolution	14 Bit, no missing codes	
Number of channels	8 single-ended	4 single-ended
Maximum sampling rate	400 kS/s	
Gain	1	
Bipolar input ranges	±10 V	
Unipolar input ranges	0-10 V	
Offset error	±4 mV	
Gain error	±0.1% of FSR	
Input coupling	DC	
Overvoltage protection	Power on: Continuous ±30 V, Power off: Continuous ±15 V	
Input impedance	1 GΩ/6 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	Polling, scatter-gather DMA	
Digital I/O		
Number of channels	24-CH 8255 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 (6.24" x 3.9") (not including connectors) (PXI-2500 series) 175 mm x 107 mm (6.82" x 4.17") (not including connectors) (DAQ-2500 series) 168 mm x 107 mm (6.55" x 4.17") (not including connectors) (DAQe-2500 series)	
Connector	68-pin VHDCI 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 1.6 A typical (PXI/DAQ-2501) +3.3 V 0.78 A, +12 V 0.66 A typical (DAQe-2501)	+5 V 2.12 A typical (PXI/DAQ-2502) +3.3 V 0.89 A, +12 V 0.76 A typical (DAQe-2502)

Features

- **Supports a 32-Bit 3.3 V or 5 V PCI bus (DAQ-2500 series)**
- **PXI specification Rev 2.2 compliant (PXI-2500 series)**
- **x1 lane PCI Express® Interface (DAQe-2500 series)**
- **Hardware-based arbitrary waveform generation**
- **Onboard 8 k-sample D/A FIFO (PXI/DAQ/DAQe-2501)**
- **Onboard 16 k-sample D/A FIFO (PXI/DAQ/DAQe-2502)**
- **Programmable bipolar or unipolar analog output ranges / internal or external reference sources on per channel basis**
- **8-CH 400 kS/s 14-Bit single-ended analog inputs (PXI/DAQ/DAQe-2501) ; 4-CH 400 kS/s 14-Bit single-ended analog inputs (PXI/DAQ/DAQe-2502)**
- **Onboard 2 k-sample A/D FIFO**
- **Bipolar or unipolar analog input ranges**
- **Scatter-gather DMA for both analog inputs and outputs**
- **24-CH TTL digital input/output**
- **2-CH 16-Bit general-purpose timer/counter**
- **Analog & 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.**