

Quick Selection Guide

Model number	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
DAQ-2010	4-CH DI	14 bits	2 MS/s	±1.25 V to ±10 V	2	12 bits	1 MS/s	24-CH 8255 PIO	2-CH, 16-bit
DAQ-2005	4-CH DI	16 bits	500 kS/s	±1.25 V to ±10 V	2	12 bits	1 MS/s	24-CH 8255 PIO	2-CH, 16-bit
DAQ-2006	4-CH DI	16 bits	250 kS/s	±1.25 V to ±10 V	2	12 bits	1 MS/s	24-CH 8255 PIO	2-CH, 16-bit

Specifications

Model Number	DAQ-2010	DAQ-2005	DAQ-2006
Analog Input			
Resolution	14 bits, no missing codes	16 bits, no missing codes	16 bits, 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	±1 mV	±1 mV
Gain error	±0.03% of FSR	±0.01% of FSR	±0.01% of FSR
Input Coupling	DC		
Overvoltage protection	Power on: Continuous ±35 V, Power off: Continuous ±15 V		
Input Impedance	1 GΩ/100 pF		
CMRR (gain = 1)	85 dB		
-3dB small signal bandwidth (gain = 1)	1 MHz	700 kHz	400 kHz
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	8K samples	512 samples	512 samples
Data Transfers	Polling, scatter-gather DMA		
Analog Output			
Number of channels	2 voltage outputs		
Resolution	12 bits		
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	±1 mV		
Gain error	±0.02% 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	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 bits		
Compatibility	5 V/TTL		
Base clock available	40 MHz, external clock up to 10 MHz		
Auto Calibration			
On-board reference	+5 V		
Temperature drift	±2 ppm/°C		
Stability	6 ppm/1000 Hrs		
General			
Dimension	175 mm x 107 mm (not including connectors)		
Connector	68-pin VHDCI-type female		
Operating temperature	0 to 55 °C		
Storage temperature	-20 to 80 °C		
Humidity	5 to 95%, noncondensing		
Power requirement	+5 V 1.82 A typical	+5 V 2.04 A typical	+5 V 1.82 A typical

