

PCIe-8620

PCI Express, 200 kS/s, 8-ch, 16-bit Simultaneously Sampled AI Board with 4-ch Isolated DIO

Features

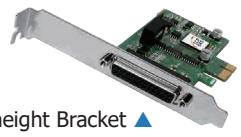
- PCI Express x1 Interface, Full-profile or Low-profile
- 4-channel Isolated Digital Input
- 4-channel Isolated Digital Output
- 8 Single-ended Analog Input channels
  - Synchronous Sample and Hold
  - Built-in MagicScan Controller
  - Analog Input Range: ±10 V, ±5 V
  - 16-bit, 200 kS/s Sampling Rate for each channel
  - Hardware FIFO for Analog Input with a total of 2048 Samples

Introduction

The PCIe-8620 is a bus-type, isolated high-speed Analog Input board with isolated DI/O. The simultaneously sampled AD offers a mix of up to 8 single-ended 16-bit Analog Input channels with a 2 k Sample hardware FIFO. All channels feature a programmable input range of ±10 V or ±5 V with a sampling rate up to 200 kS/s per channel. The PCIe-8620 provides 4 isolated Digital Input channels and 4 isolated Digital Output channels. The isolation range of the board has been increased to 2500 VDC, making it one of the most cost-effective solutions when considering isolated AD with DI/O boards.

PCIe-8620 also includes a second-order anti-alias analog filter where the -3 dB frequency for the ±5 V input range is typically 15 kHz, and is typically 23 kHz for the ±10 V input range.

The PCIe-8620 is a low-profile PCI Express board that is suitable for computers with limited space, and is also suitable for standard-size computers since the board is shipped with both full-height and low-profile brackets.



Full-height Bracket ▲



Low-profile Bracket ▲

Hardware Specifications

Hardware	
Card ID	Yes (4-bit)
Connector	Female DB25 x 1
Analog Input	
Channels	8 single-ended (Simultaneously)
Range	Gain: 1, 2 Bipolar Range: ±10 V, ±5 V
Resolution	16-bit
Accuracy	0.05 % of FSR ±1 LSB @ 25 °C, ±10 V
Sampling Rate	200 kS/s
Input Impedance	10,000 MΩ/4pF
Overvoltage Protection	Continuous ±35 Vp-p
FIFO Size	2048 samples
Trigger Mode	Software, Pacer
Isolation	2500 VDC (Bus-type)
Data Transfer	Polling, Interrupt, DMA
Digital Input	
Channels	4
Type	5 V/TTL
ON Voltage Level	2.0 V Min.
OFF Voltage Level	0.8 V Max.
Response Speed	1.0 MHz (Typical)
Trigger Mode	Static Update
Data Transfer	Polling
Isolation	2500 VDC

Digital Output	
Channels	4
Type	5 V/CMOS
Operation Mode	Static Update
Load Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.
Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V
Response Speed	1.0 MHz (Typical)
Isolation	2500 VDC
DO Readback	Yes
PC Bus	
Type	PCI Express x1
Data Bus	32-bit
Power	
Consumption	500 mA @ +3.3 V 200 mA @ +12 V
Mechanical	
Dimensions (mm)	Full-profile: 120 x 107 x 22 Low-profile: 80 x 107 x 22 (W x L x D)
Environment	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

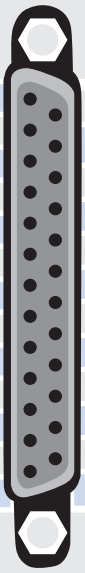
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Ordering Information

PCIe-8620 CR	PCI Express, 200 kS/s, 8-ch, 16-bit Simultaneously Sampled AI Board with 4-ch Isolated DIO (RoHS) Includes one CA-PC25M D-Sub Connector and One Low-profile bracket

Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
AD0	01	14	AGND
AD1	02	15	AGND
AD2	03	16	AGND
AD3	04	17	AGND
AD4	05	18	AGND
AD5	06	19	AGND
AD6	07	20	AGND
AD7	08	21	DGND
DGND	09	22	DIN0
DIN1	10	23	DIN2
DIN3	11	24	DOUT0
DOUT1	12	25	DOUT2
DOUT3	13		



CON1

Software

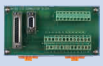
Drivers

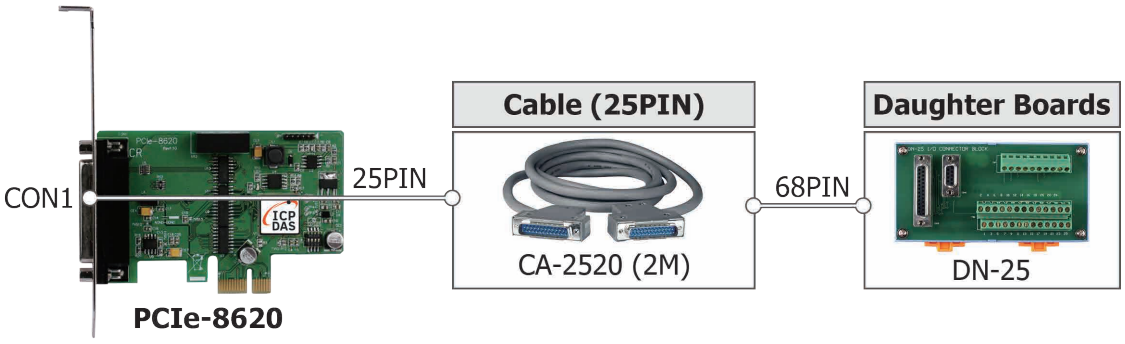
- [x] 32/64-bit Windows 10/11

Sample Programs

- [x] VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Accessories

 CA-2520 CR	DB25 Male/90° to Male/90° Cable, 2M (RoHS)
 DN-25 CR	DIN-Rail Mountable I/O Connector Block with 25/9-pin D-sub Connector for PCIe-8620 (RoHS) Include: one CA-0920 Cable and one Ca-2520 Cable



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