DAQ-ACP4000-1810E

High performance 4U Rackmount DAQ Starter Kit

Features

- DAQ Card
  - 12-bit, 800KS/s, 16 ch analog input
  - 24-ch digital input/output
  - Advantech DAQNavi (Data Acquisition Software)
  - Cables and Wiring Board
- Intel Q87 Platform
  - Supports Intel® Core™ i7/i5/i3/Pentium processor
  - Supports four DIMM sockets up to 32 GB DDR3 1333/1600
  - Supports triple display VGA/2 DVI-D and dual GbE LAN
- Expandability for today and the future
  - Supports four PCI, one PCIe x4, and one PCIe x16
  - Provides great scalability with 3.5" and 5.25" drive bays

System Specifications

Form Factor		4U	
Computing System	Chipset	Intel Q87	
	CPU*	Supports 4th Generation Core™ i7/i5/i3/Pentium processor (LGA1150)	
	Memory*	Supports four DIMM sockets up to 32 GB DDR3 1333/1600	
Graphics	Controller	Intel HD Graphics (Depends on processor)	
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed	
Expansion Slot	PCI	4 x 32 bit	
	PCIe	1 x PCIe x4, 1 x PCIe x16	
Storage	SATA 3.0	6	
Drive Bay	5.25" (front-accessible)	3	
	3.5" (front-accessible)	1	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	GbE LAN1: Intel I217LM, GbE LAN2: Intel I211AT	
I/O Port	Front I/O Ports	2 x USB, 1 x PS/2	
	Rear I/O Ports	4 x USB(Two USB 3.0), 2 x PS/2, 1 x COM, 1 x VGA, 2 x DVI, 2 x RJ-45, 1 x Line-Out, 1 x Mic-In, Five 9-pin D-Sub & one 68-pin (SCSI openings)	
Operating System*		Microsoft® Windows® 7/8.1/10	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec	
Power Supply	Power Output Wattage	300W	
	Type	Single ATX PS2 auto-switching power supply	
Cooling	Chassis Fan	2	
	Air Filter	Yes	
Environment		Operating	Non-Operating
	Temperature	0 ~ 40° C (32 ~ 104° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	10 ~ 85% @ 40° C non-condensing	10 ~ 95% @ 40° C non-condensing
Physical Characteristics	Color	Black	
	Dimensions (W x H x D)	482 x 177 x 478 mm (19"x 7" x 18.8")	
	Weight	21 kg (46 lb)	

* Configurations are variable upon regions. Please contact Advantech sales for more details.

Last updated : 13-May-2016

DAQ Card Specifications

Analog Input

- **Channels Single-end** 16-ch Differential 8-ch
- **Resolution** 12 bits
- **Sample Rate** Single Channel 800 kS/s max.
  Multi-Channel 500 kS/s max.
  Note: The sampling rate for each channels will be affected by used channel number.
  For example, if 4 channels of PCIE-1810 are used, the sampling rate is 500k/4 = 125 kS/s per channel.
- **Trigger Reference** Digital Trigger,Analog Trigger
- **Trigger Mode** Start trigger, Delay to Start triggerStop trigger, Delay to Stop trigger
- **FIFO Size** 4k samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software and external clock
- **Input Range Software programmable**

Gain	0.5	1	2	4	8
Unipolar	NA	0~10	0~5	0~2.5	0~1.25
Bipolar	±10	±5	±2.5	±1.25	±0.625
Gain Error (%FSR)	0.1	0.1	0.2	0.2	0.4

Analog Output

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static- Software Polling500 KS/s max.
- **Output Range** Software programmable

Output Range	Internal Reference	0V~5V, 0V~10V, ±5V, ±10V	
	External Reference	Reference Input	Maximum Range
	Unipolar	-10V ≦ x ≦ 10V	0 ~ x V
	Bipolar		-x V ~ x V

- **Slew Rate** 20 V/μs
- **Driving Capability** 5 mA
- **Operation Mode** Static update, Waveform generation
- **Accuracy** INLE: ± 1 LSB, DNLE: ± 1 LSB

Digital I/O

- **Channels** 24
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.
- **Output Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.
- **Output Capability** Sink: 15 mA @ 0.8 V
  Source: 15 mA @ 2.0 V

Counter

- **Channels** 2
- **Resolution** 32 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Pulse Generation** Yes
- **Timebase Stability** 50 ppm

Dimensions

Unit: mm [inch]