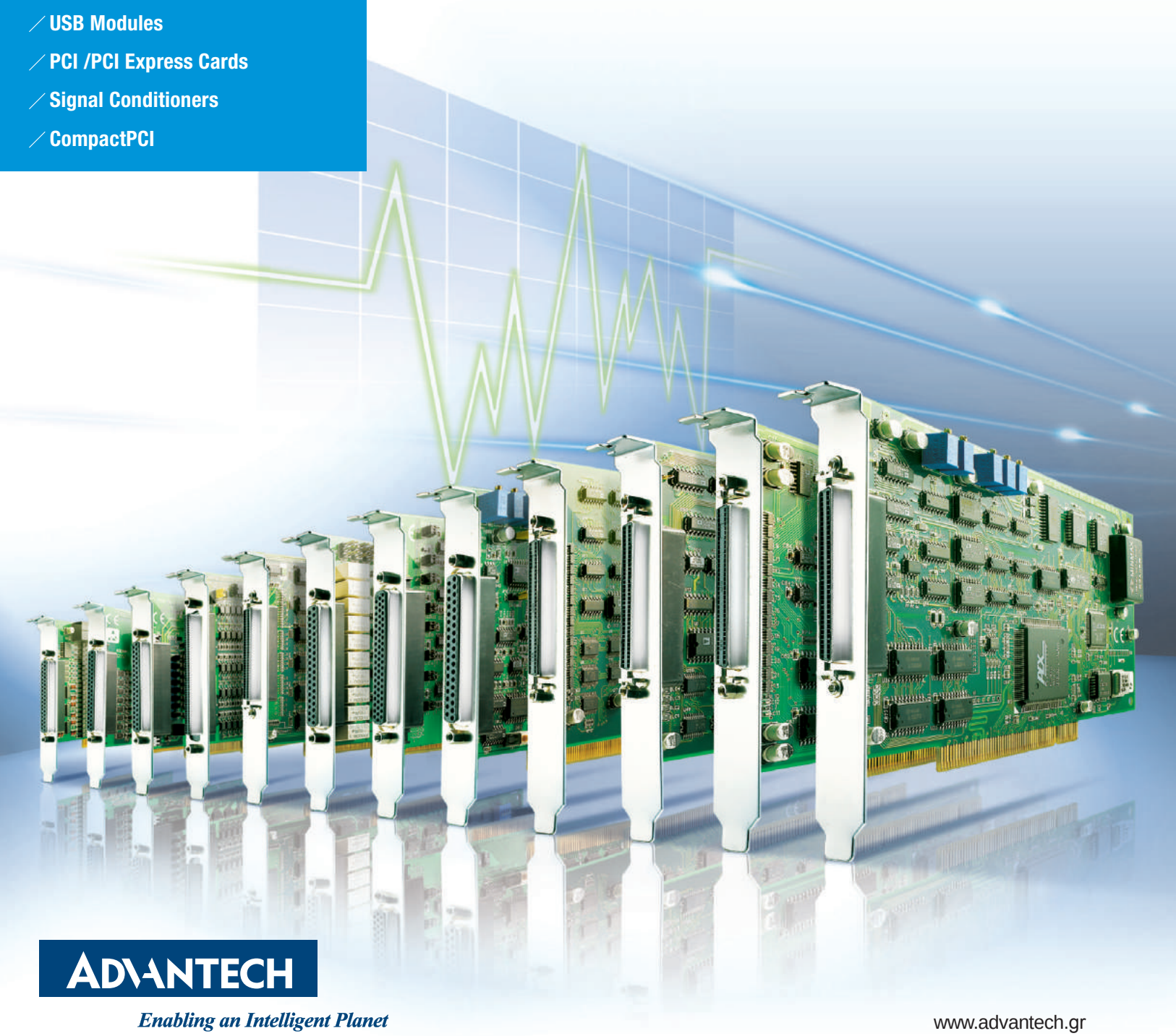
Advantech
Data Acquisition Solutions

A Broad Selection of Form Factors to Satisfy All Your DAQ Needs

- DAQ Software - DAQNavi
- Communication Cards
- PC/104 & PCI-104 Modules
- USB Modules
- PCI /PCI Express Cards
- Signal Conditioners
- CompactPCI



ADVANTECH

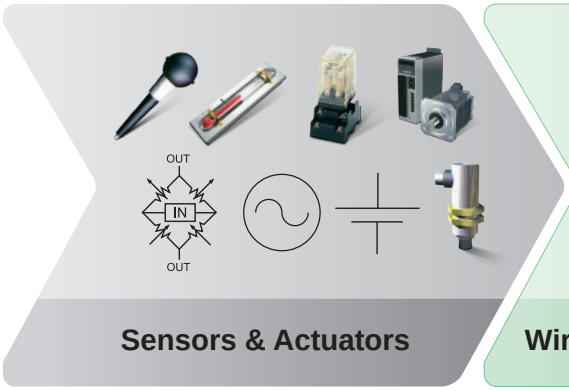
Enabling an Intelligent Planet

www.advantech.gr

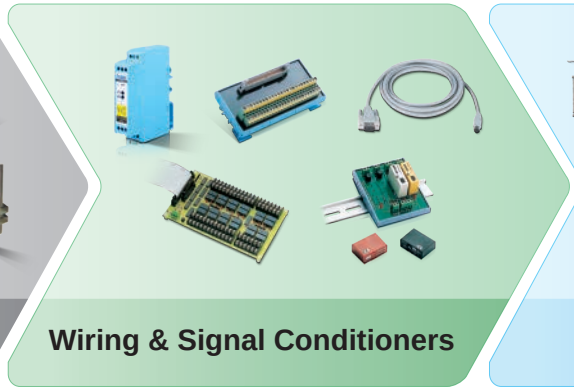
Advantech Data Acquisition Solutions Overview

As a leading supplier of data acquisition products worldwide, Advantech offers a wide range of I/O devices with various interfaces and functions based on PC technology, from legacy ISA to modern USB, from signal-conditioning to graphical software tools. Advantech's industrial I/O products are reliable, accurate, affordable, and suitable for many industrial automation applications, such as T&M (Test & Measurement) and laboratory applications like monitoring, control, machine automation and production testing.

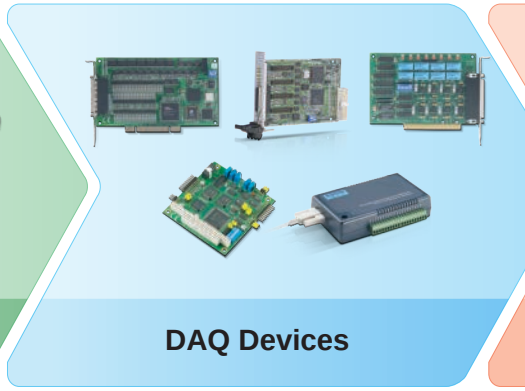
Comprehensive Product Offerings



Sensors & Actuators

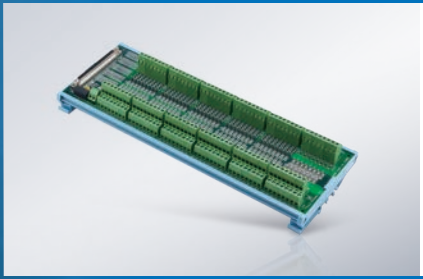


Wiring & Signal Conditioners



DAQ Devices

Industrial I/O Product Lines



Signal Conditioning

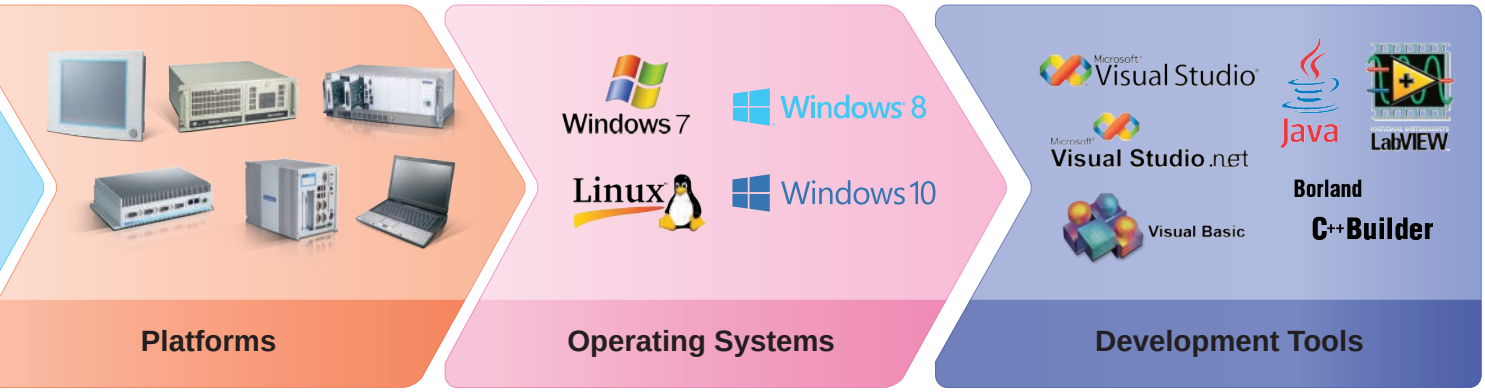
Signal conditioning circuits improve the quality of signals generated by transducers before they are converted into digital signals by the PC's data acquisition hardware. The ADAM-3000 series covers a wide range of signals from DC micro voltage to AC 400 V; and from mini-amp to 5 amp signals.

Data Acquisition Hardware

Advantech offers dedicated products for USB, PCI, PCI Express, ISA, CompactPCI, PC/104 or PCI-104 interfaces. So regardless if the platform is an IPC, embedded PC, desktop computer or laptop, customer requirements are covered.

Data Acquisition Software

DAQNavi, Advantech's next-generation driver package, delivers higher performance, compatibility, and reliability through a brand new driver and SDK; programmers benefit from many new, user-friendly templates and shortened development times.



DAQNavi Greatly Reduces Costs and Improves Performance

DAQ Software - DAQNavi

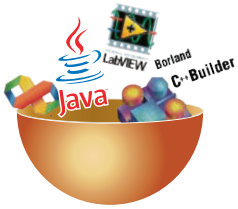
Features

Guaranteed Reliable Execution for Multi-Thread Programming

Multi-thread programming is now widely-used in DAQ applications. But without careful handling, it can cause unexpected problems like system crashes or data errors. Thread-safe programming technology prevents such problems. DAQNavi has thread-safe mechanisms built into its design, relieving programmers from multi-thread programming problems.

Latest Operating System Support

DAQNavi adheres to the latest Windows (32-bit and 64-bit) and Linux operating system requirements. In addition, DAQNavi software design helps programmers easily migrate their DAQ applications between OS's, without spending lots of time solving OS-compatibility issues.



Supports Multiple Programming Languages

For DAQ application development, DAQNavi supports 10 popular programming languages, including C/C++, Visual Basic, C#, VB.NET, Delphi, Qt, Borland C++ Builder (BCB), Java, MATLAB and LabVIEW. DAQNavi saves programmer development time when it is necessary to change programming languages.

What is DAQNavi?

DAQNavi, Advantech's next-generation driver package, delivers higher performance, compatibility, and reliability through a brand new driver and SDK; programmers benefit from many new user-friendly templates and shortened development times.

DAQNavi Software Architecture

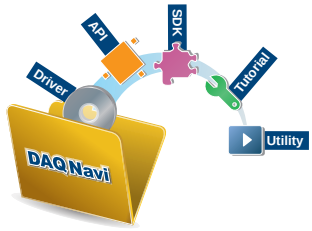
<table>
<tr><td rowspan="2">Apps</td><td colspan="4">Native Code</td><td colspan="2">Managed Code</td></tr>
<tr><td>Examples</td><td>Examples</td><td>Examples</td><td>Examples</td><td>Examples</td><td>Tools</td></tr>
<tr><td></td><td>Java UI</td><td>C++Console
MFC
Qt/BCB</td><td>LabVIEW</td><td>ANSI C</td><td>C#Console
C#
VB.NET
MATLAB
Delphi</td><td>Navigator Plug-in
DataLogger
Multi-meter</td></tr>
<tr><td>Interpreter</td><td>Java Class Library</td><td>C++ class library</td><td>LabVIEW VIs</td><td>ANSI C API</td><td colspan="2">.NET component</td></tr>
<tr><td rowspan="2">Core</td><td colspan="6">integrated DLL (BioDAQ.DLL for Windows 10, Windows 8, Windows 7, QNX, Linux)</td></tr>
<tr><td colspan="6">DAQ Device Driver (Windows 10, Windows 8, Windows 7, QNX, Linux)</td></tr>
</table>

LabVIEW Programming Support

LabVIEW programmers can easily build DAQ applications with DAQNavi Assistant and Polymorphic VI. DAQNavi Assistant, based on LabVIEW Express VI technology, provides an intuitive wizard window that helps complete configuration programming quickly. DAQNavi Polymorphic VI delivers more programming flexibility to experienced LabVIEW programmers.

Component-based Programming

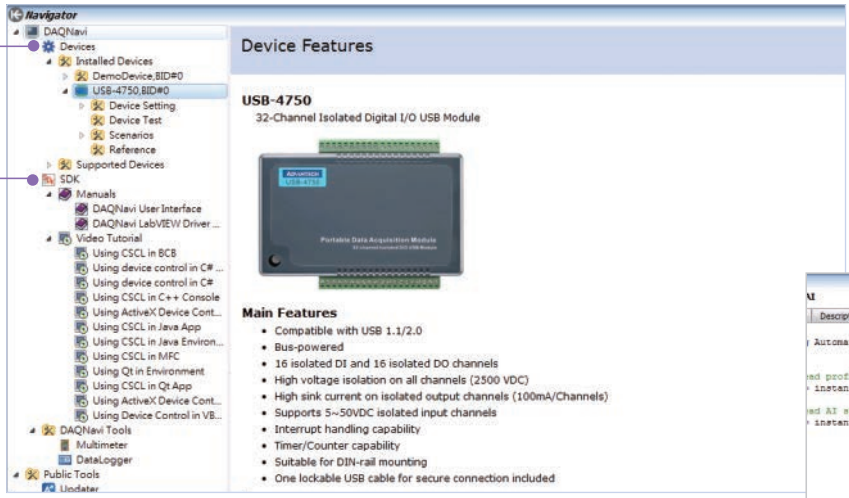
Rapidly changing application requirements challenge DAQ developers, who are pressed to shorten development times. DAQNavi delivers reuseable, component-based libraries, which can save up to 70% on programming code. Programmers can ignore many detailed low-level hardware settings, and concentrate on major parameter configurations. For Visual Studio, BCB and Delphi users, DAQNavi offers step-by-step wizards that complete configurations without coding.

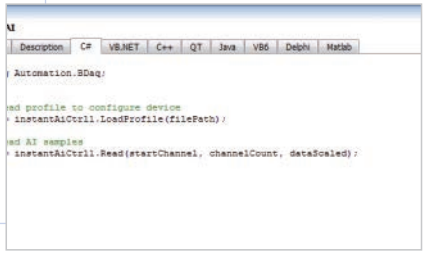


Easy-to-Use Utility

DAQNavi provides an integrated utility, Advantech Navigator, where programmers can perform hardware configurations and functionality testing without programming. Hardware manual, software library documentation, and sample source codes are also provided. Everything necessary for DAQ programming is provided in this utility.

Easy-to-Use Navigation Utility





SDKs

Software Development Kit Manual

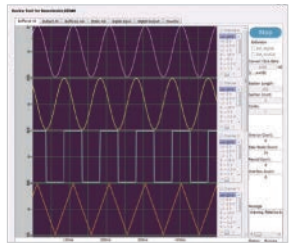
DAQNavi features detailed instructions that explain the methods, properties, and events for each library, describe programming flows, and provide examples.

Video Tutorial

For each programming language, a dedicated tutorial video is provided that shows how to create a DAQ project.

Devices

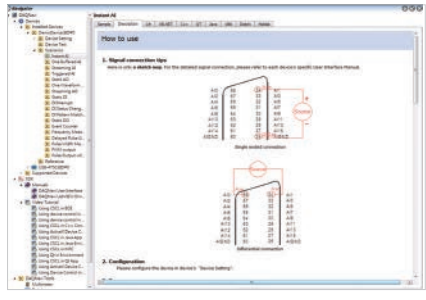
All installed Advantech DAQ devices are displayed here, including simulated “Demo Devices”. Thus, even if no DAQ hardware is connected to the computer, relevant operations can be performed. For every device, there are four configurable options.



1. Device Setting: Hardware parameter configurations

2. Device Test: DAQ function test without coding

3. Scenario: To quickly familiarize programmers with DAQNavi component-based libraries, Advantech designed many DAQ application references known as “Scenarios”. For different programming languages, examples with source codes are provided. The utility contains more than 300 examples to dramatically reduce programming efforts.

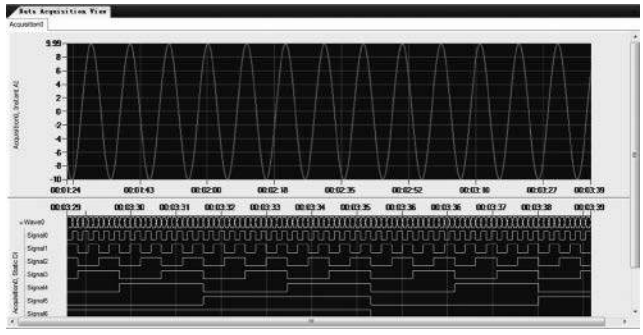


4. Reference: Selected-device hardware manual

DAQNavi DataLogger

Features

- Data logging, display, and recording without programming
- Instant AI, buffered AI, and static DI data logging
- Hardware channel parameter configuration wizard
- Supports simulated device operation
- Save configurations into a project file for future use
- Real-time display with zoom and pan
- Supports data recording, file storage to disk
- View historical data via recorded data playback
- Supports both analog and digital graph display



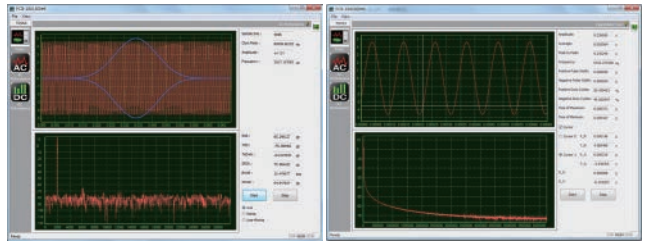
Introduction

Advantech DAQNavi DataLogger is ready-to-use application software that engineers can leverage to perform data logging, recording, and display. Without spending time programming, engineers benefit from the flexibility of acquiring and storing data from various Advantech data acquisition devices.

DAQNavi SignalMeter

Features

- Real-time displays of frequency spectrum based on zoom and pan operations in the time domain. Automatic amplitude, average, peak-to-peak, and frequency measurements.
- Cursor measurement for signal analysis.
- Enables Windows function for AC signal.
- Provides DC and AC performance measurement.
- Easy to use without programming.



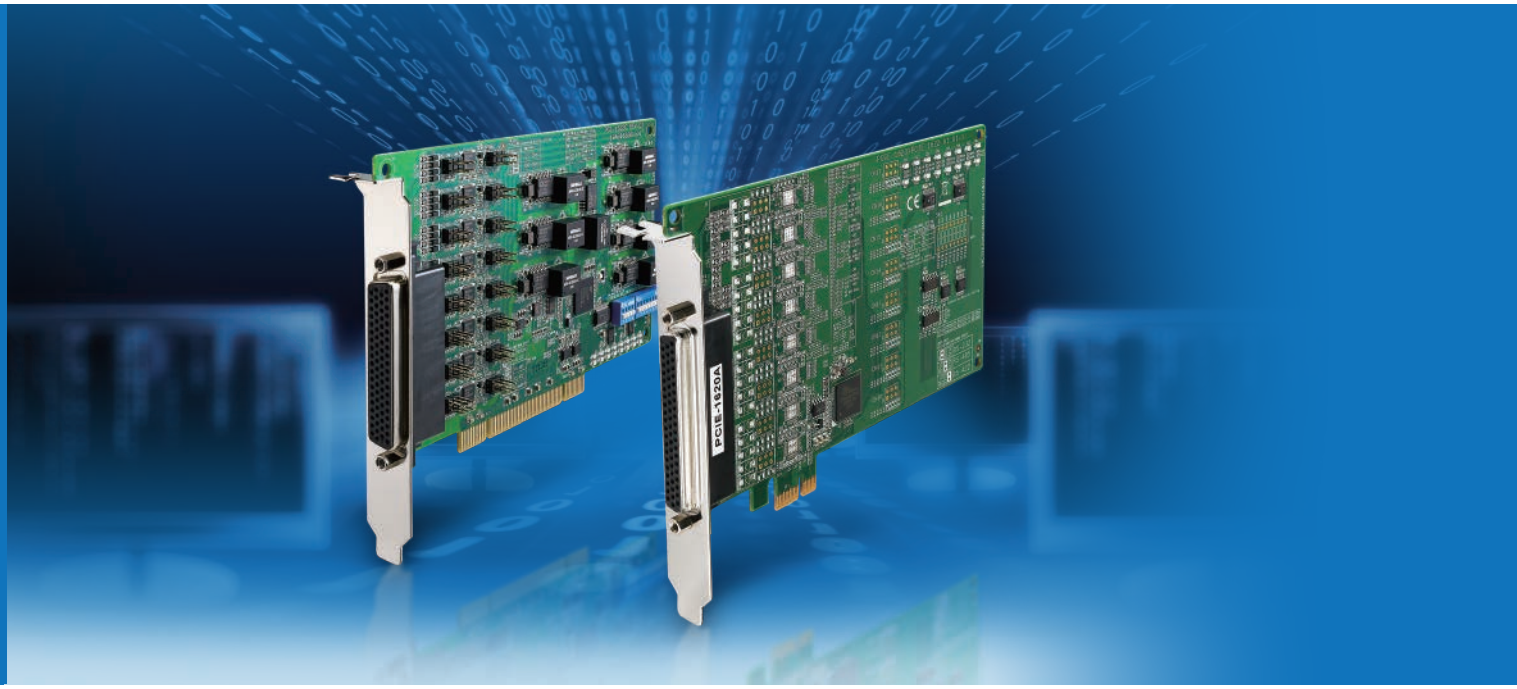
Introduction

SignalMeter is a software utility that provides three functions for Advantech DAQ devices. These functions are Scope, AC Performance, and DC Performance, which provide various look angles for data acquisition.
Scope offers simple oscilloscope features:

- **Amplitude:** Returns the difference between the signal high and low
- **Average:** This is the mean vertical level of the entire captured waveform
- **Peak to Peak:** Returns the difference between the extreme maximum and minimum values
- **Frequency:** The period is the average completion time for a cycle using the entire waveform in the capture window. Thus, frequency is the inverse of period

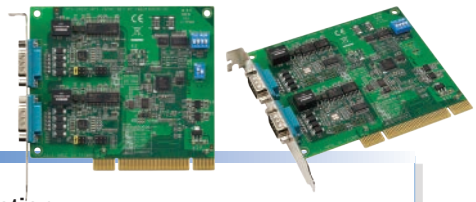
The Scope function not only shows the time and frequency domains simultaneously, but also enables synchronous zoom on the time and frequency domains. The AC Performance function enables automatic calculation of the SNR, THD, and SIMAD — important information for data acquisition. For a DC signal, the DC Performance function will display the RMS noise and plot a histogram graph. The interface is simple and easy to navigate.

Diverse PCI and PCI Express Cards for Reliable Communication



PCI-1602/1604

2-Port RS-232 or RS-232/422/485 PCI Communication Card



Features

- Universal PCI v2.2
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 2 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V352 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

Ordering Information

• PCI-1602B-CE	2-port RS-232/422/485 PCI Comm. Card w/Surge
• PCI-1602C-AE	2-port RS-232/422/485 PCI Comm. Card w/Surge & Isolation
• PCI-1604C-AE	2-port RS-232 PCI Comm. Card w/ Surge & Isolation

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Full Range of Communication Cards with Isolation Protection

Advantech provides a full range of PCI and PCI-Express cards to satisfy all automation and equipment monitoring needs. Equipped with isolation protection, Advantech's PCI and PCI-Express cards are ideal for demanding industrial environments.

Suitable for Multiple Applications

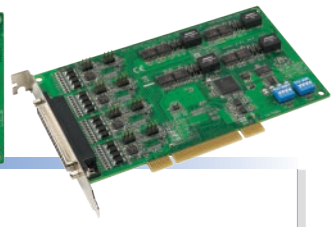
Factory Automation

Machine Automation

Distributed Monitoring and Control Systems

PCI-1610/1612

4-Port RS-232 or RS-232/422/485 PCI Communication Card



Features

- Universal PCI v2.2
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 4 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V354 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Ordering Information

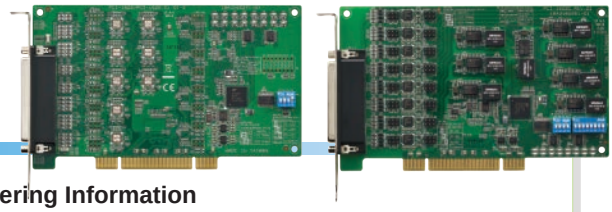
• PCI-1610B-DE	4-port RS-232 PCI Comm. Card w/Surge
• PCI-1610C-CE	4-port RS-232PCI Comm. Card w/ Surge & Isolation Protection
• PCI-1612B-DE	4-port RS-232/422/485 PCI Comm. Card w/Surge
• PCI-1612C-CE	4-port RS-232/422/485 PCI Comm. Card w/Surge & Isolation

Note: this series includes cable OPT4A.

Communication Cards

PCI-1620/1622

8-Port RS-232 or RS-232/422/485 PCI Communication Card



Features

- Universal PCI v2.2
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 8 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V358 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

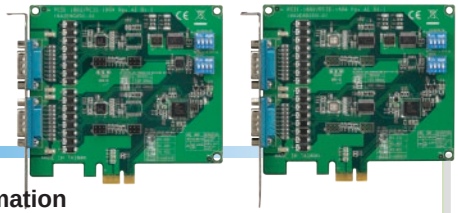
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Ordering Information

• PCI-1620A-DE	8-port RS-232 PCI Comm. Card
• PCI-1622B-DE	8-port RS-232/422/485 PCI Comm. Card w/ Surge Protection
• PCI-1622C-DE	8-port RS-232/422/485 PCI Comm. Card w/ Surge & Isolation Protection

PCIE-1602/1604

2-Port RS-232 or RS-232/422/485 PCIe Communication Card



Features

- PCI Express bus 2.0 compliant
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 2 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V352 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

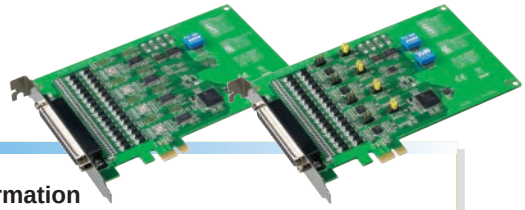
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Ordering Information

• PCIE-1602B-AE	2-port RS-232/422/485 PCI Express Comm. Card w/Surge
• PCIE-1602C-AE	2-port RS-232/422/485 PCI Express Comm. Card w/Surge & Isolation
• PCIE-1604B-AE	2-port RS-232 PCI Express Comm. Card w/Surge
• PCIE-1604C-AE	2-port RS-232 PCI Express Comm. Card w/Surge & Isolation

PCIE-1610/1612

4-Port RS-232 or RS-232/422/485 PCIe Communication Card



Features

- PCI Express bus 2.0 compliant
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 4 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V354 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

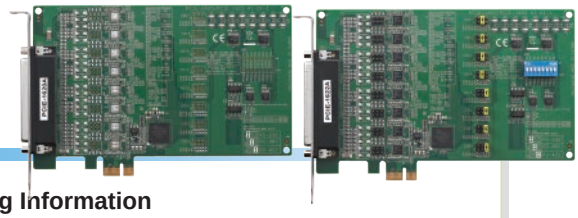
Ordering Information

• PCIE-1610B-AE	4-port RS-232 PCI Express Comm. Card w/Surge
• PCIE-1612B-AE	4-port RS-232/422/485 PCI Express Comm. Card w/Surge
• PCIE-1612C-AE	4-port RS-232/422/485 PCI Express Comm. Card w/Surge & Isolation

Note: this series includes cable OPT4A.

PCIE-1620/1622

8-Port RS-232 or RS-232/422/485 PCIe Communication Card



Features

- PCI Express bus 2.0 compliant
- Speeds up to 921.6 kbps for extremely fast data transmission
- Supports any baud rate setting
- 8 x RS-232 or RS- 232/422/485 ports
- Supported operating systems: Windows 7/8/10, and Linux.
- XR17V358 UART with 256-byte FIFOs
- 1KV Surge protection / 3KV Isolation protection

Ordering Information

- PCIE-1620A-BE 8-port RS-232 PCI-express Comm. Card
- PCIE-1622B-BE 8-port RS-232/422/485 PCI-express Comm. Card
- w/ Surge Protection
- PCIE-1622C-AE 8-port RS-232/422/485 PCI-express Comm. Card
- OPT8C-AE DB62 ox1 to DB25 x8 Cable, 1m
- OPT8H-AE DB62 x1 to DB9 x8 Cable, 1m
- OPT8J-AE DB78 x1 to DB9 x8 Cable, 1m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1680U

2-Port CAN-Bus Universal PCI Card with Isolation Protection

Features

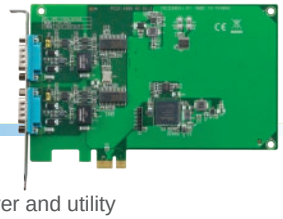
- Operates two separate CAN networks simultaneously
- High speed transmission up to 1 Mbps
- Optical isolation protection of 1000 VDC
- Windows DLL library and examples included
- I/O address automatically assigned by PCI PnP
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7 and Linux
- 1KV Isolation protection

Ordering Information

- PCI-1680U 2-port CAN Uni-PCI COMM Card with Isolation

PCIE-1680

2-Port CAN-Bus PCIe Card with Isolation Protection



Features

- PCIe bus specification 1.2 compliant
- Operates two separate CAN networks at the same time
- High speed transmission up to 1 Mbps
- Optical isolation protection of 2,500
- Transmit/Receive status LED indicators
- Windows DLL library and examples included
- Supports Windows XP/7 driver and utility
  Supports Linux 2.4.xx / 2.6.xx; Intel x86 hardware platform
- 2.5KV Isolation protection

Ordering Information

- PCIE-1680-AE 2-Port CAN-Bus PCIE card with Isolation Protection

Enhance Embedded Systems with PC/104 and PCI-104 Modules

Advantech Offers Comprehensive Range of DAQ and Serial Communication Cards

Embedded computers are at the heart of many industrial, transportation, military, and aerospace applications. Due to their compact size, expansion capabilities, reliability, anti-vibration, wide operating temperature range and high-speed throughput, PC/104 and PCI-104 are the standard form factors used in embedded computing platforms. Advantech provides a wide variety of PC/104 and PCI-104 module options, such as isolated digital I/O, analog I/O, relay, counter, and multifunction cards.

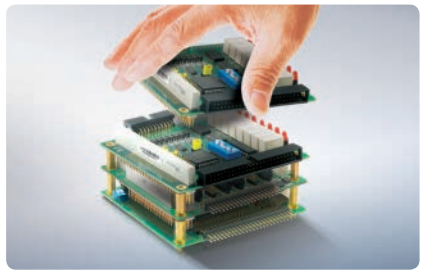
Key Features

Anti-Vibration

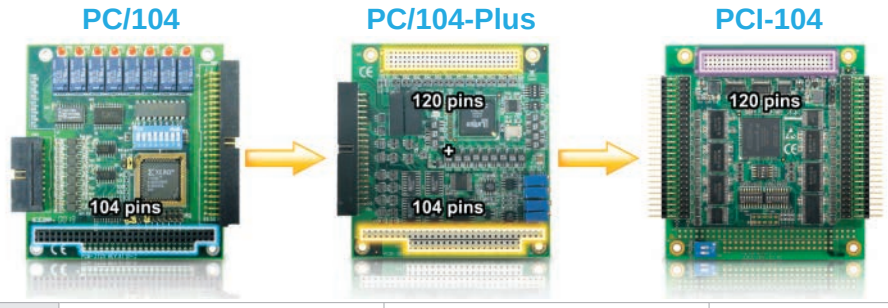
PC/104 and PCI-104 products support 104 pin, 120 pin, or both, for signal and data transmission. Each pin mates with its corresponding connector so firmly that data integrity is assured, along with a high level of vibration resistance.

Stackable for Easy Expansion

The PC/104 and PCI-104 family supports standard ISA/PCI interfaces, uses open architectures, and is easy to expand upon. The consistent form factor allows different modules to be stacked on top of one another, providing the versatility to easily expand I/O and functionality.



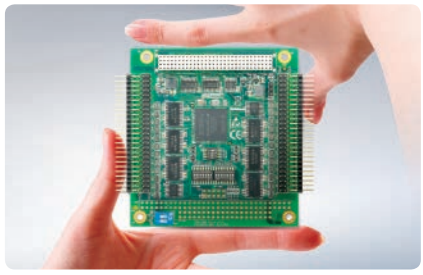
Form Factors

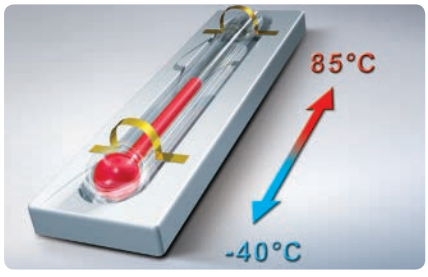


Form Factor	PC/104	PC/104-Plus	PCI-104
Release Year	1992	1997	2003
Connector	ISA (AT and XT)	ISA and PCI	PCI
Current Version	2.5	2.0	1.0

Compact Size

With a standard dimensions of 96 x 90 mm (L x H), the design of the PC/104 and PCI-104 takes less space than traditional I/O cards and is also a perfect solution for compact embedded systems.





Wide Operating Temperature

Unlike traditional IPCs, the PC/104 and PCI-104 form factors are capable of operating in temperatures from -40~85 °C (-40~185 °F) for reliable operation in harsh environments.

Fast Read/Write Speeds

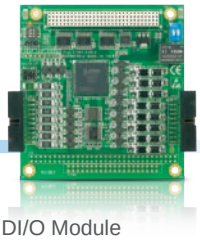
While PCI-104 products use the standard PC/104 form factor, they have dropped the ISA interface, providing more bandwidth for data transmission and allowing faster read/ write speeds than traditional ISA cards.

PC/104 & PCI-104 Modules

PCI-104 Form Factors

PCM-3730I

32-ch Isolated Digital I/O PCI-104 Module



Features

- 16-ch Isolated DI and 16-ch Isolated DO
- 2,500 V_{DC} Isolation Protection
- Supports DI Interrupt
- 70 V_{DC} over voltage protection on input channels
- Isolated DO current: max. 250 mA / channel
  max. 200 mA / channel (all channel used)

Ordering Information

• PCM-3730I	32-ch Isolated DI/O Module
• ADAM-3920	20-pin DIN-rail Wiring Board
• PCL-10120	20-pin Flat Cable,1 m/ 2m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3753I

96-ch Digital I/O PCI-104 Module

Features

- Supports 5V/TTL and dry contact
- Keeps DIO port configuration and DO state after system reset
- Supports DI interrupt, Pattern Match and Change of States
- Wide operating temperature range (-20 ~ 70°C, -4 ~ 158°F)

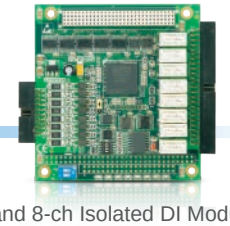
Ordering Information

• PCM-3753I	96-ch DI/O Module
• PCL-10150-1.2	50-pin Flat Cable, 1.2 m
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board
• PCLD-782B	24-ch Isolated DI Board with 20-pin & 50-pin Flat Cables
• PCLD-785B	24-ch Relay Board with 20-pin & 50-pin Flat Cables

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3761I

8-ch Relay and 8-ch Isolated Digital Input PCI-104 Module



Features

- Relay Type: 8 x Form C (SPDT)
- Contact Rating: 0.25 A @ 250 V_{AC}, 2 A @ 30 V_{DC}
- 2,500 V_{DC} isolation protection for DI
- 70 V_{DC} over voltage protection for DI

Ordering Information

• PCM-3761I	8-ch Relay and 8-ch Isolated DI Module
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board
• PCL-10150-1.2	50-pin Flat Cable, 1.2 m
• PCL-10120	20-pin Flat Cable, 1 m/ 2 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCM-3810I

250 kS/s, 12-bit, 16-ch Multifunction PCI-104 Module

Features

- 16-ch single-ended / 8-ch differential AI: 12-bit, 250 kS/s
- 2-ch AO: 12-bit, 250 kS/s
- 5V/TTL DIO: 16 input / output
- 3-ch counter: 24-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train and PWM output

Ordering Information

• PCM-3810I	250 kS/s, 12-bit Multifunction Module
• PCL-10150-1.2	50-pin Flat Cable, 1.2 m
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCM-3612I

4-port RS-232/422/485 PCI-104 Module

Features

- Automatic RS-485 data flow control
- LED indicators: TX, RX
- Powerful and easy-to-use utility (ICOM Tools)

Ordering Information

- PCM-3612I-AE 4-port RS-232/422/485 PCI-104 Module

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PC/104 & PCI-104 Modules

PC/104 Form Factors

PCM-3724

48-ch Digital I/O PC/104 Module

Features

- Supports 5V/TTL
- Supports DI Interrupt

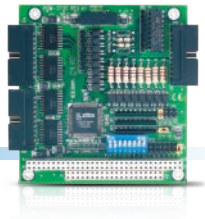
Ordering Information

• PCM-3724	48-ch Digital I/O Module
• PCL-10150-1.2E	50-pin Flat Cable, 1.2 m
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board
• PCLD-782B	24-ch Isolated DI Board with 20-pin & 50-pin Flat Cable
• PCLD-785B	24-ch Relay Board with 20-pin & 50-pin Flat Cable

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3730

16-ch Isolated Digital I/O PC/104 Module



Features

- 8-ch Isolated DI and 8-ch Isolated DO
- 16-ch 5V/TTL DI and 16-ch 5V/TTL DO
- 2,500 V_{DC} isolation protection for isolated DIO
- Supports DI Interrupt
- Isolated DO current: max. 200 mA / channel
  max. 150 mA / channel (all channel used)

Ordering Information

• PCM-3730	16-ch Isolated Digital I/O Module
• PCL-10120	20-pin Flat Cable, 1 m/2 m
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• PCLD-785	16-ch Relay Board with 20-pin Flat Cable
• PCLD-885	16-ch Power Relay Board with 20-pin & 50-pin Flat Cable

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3780

2-ch Counter/Timer with 24-ch Digital I/O PC/104 Module

Features

- 2-ch counter: 16-bit, up to 20 MHz
- 5V/TTL DIO: 24 input / output
- Supports DI Interrupt

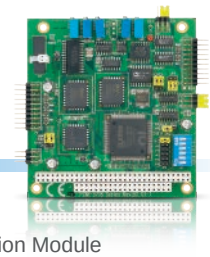
Ordering Information

• PCM-3780	2-ch Counter and 24-ch Digital I/O Module
• PCL-10120	20-pin Flat Cable, 1 m
• PCL-10150-1.2E	50-pin Flat Cable, 1.2 m
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3718H/HO/HG

100 kS/s, 12-bit, 16-ch PC/104 Multifunction Module



Features

- 16-ch single-ended / 8-ch differential AI: 12-bit, 100 kS/s
- 1-ch AO: 12-bit, 100 kS/s (PCM-3718HO only)
- 5V/TTL DIO: 16 input / output
- 1-ch counter: 16-bit (PCM-3718HO only, for event counting, frequency measure, pulse train output)

Ordering Information

• PCM-3718H	12-bit Multifunction Module
• PCM-3718HG	12-bit High-gain Multifunction Module
• PCM-3718HO	12-bit Multifunction with AO Module
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• PCLD-780	Screw Terminal Board with Two 20-pin Flat Cables
• PCL-10120	20-pin Flat Cable,1 m/ 2 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCM-3725

8-ch Relay and 8-ch Isolated Digital Input PC/104 Module

Features

- Relay Type: 8 x Form C (SPDT)
- Relay contact rating: 30 V_{DC} @ 1.5 A
- 2,500 V_{DC} isolation protection for DI
- 70 V_{DC} over voltage protection for DI

Ordering Information

• PCM-3725	8-ch Relay and 8-ch Isolated DI Module
• PCL-10120	20-pin Flat Cable, 1 m/ 2m
• PCL-10150-1.2	50-pin Flat Cable, 1.2 m
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• ADAM-3950	50-pin DIN-rail Flat Cable Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCM-3614

4-port RS-422/485 High-speed PC/104 Module

Features

- Automatic RS-485 data flow control
- Shared IRQ settings for each ports
- LED indicators: TX, RX
- Powerful and easy-to-use utility (ICOM Tools)

Ordering Information

• PCM-3614	4-port RS-422/485 High-speed Module

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Think Outside the Box

Portable, Robust & Versatile USB DAQ Modules

Advantech's USB DAQ modules are known for their user-friendly design and ability to replace traditional serial and parallel devices as they eliminate the need for external power supplies and and allow hot swapping. Through the Advantech USB DAQ series, users can easily upgrade their computing platforms with cutting edge technologies and realize cost-effective maintenance while allowing the data acquisition devices to operate as usual. By adding industrial-grade features, including lockable cables, multiple mounting methods and advanced detection functions, Advantech's USB data acquisition devices are a great fit for any industrial need.

Key Features

Lockable USB Cable

Reliable connections are critical to automation control and online production. While the standard USB cable is designed for convenience, Advantech provides lockable USB cables that prevent them from being unplugged accidentally.

480Mbps High Speed Data Transfer

Advanced data acquisition functions are covered. Up to 200 kS/s sampling rate, 16-bit resolution, 16-ch analog input, 48-ch digital I/O specifications, as well as interrupt, event counter, and pulse width modulation (PWM) functions are available on Advantech's USB data acquisition modules.

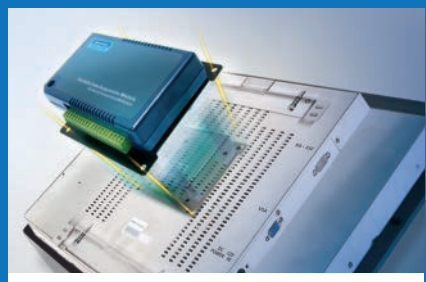
Mounting Schemes

DIN-rail Mount

Advantech's USB DAQ modules come with a bracket that facilitates DIN-rail mounting in industry standard streamlined systems.

Wall/Panel Mount

The wallmount kit can help users hang their modules on walls or other flat surfaces.

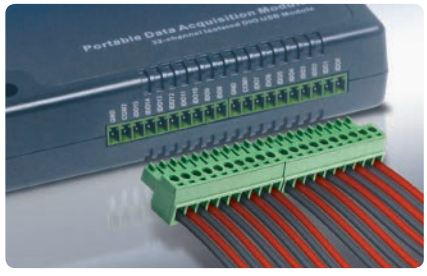


VESA Mount

The VESA bracket can mount the USB data acquisition module to VESA-ready appliances, such as Advantech's touch panel computers (TPC series) and flat panel monitors (FPM series).

Bus-powered

With no need for external power, these devices are highly mobile as they derive power from system USB ports, freeing users from the inconvenience of finding additional power sources.



Detachable Screw Terminal & On-Module Pin Assignment Index

Saving space and money are the main benefits of using detachable screw terminals. Significant savings are realized by not having to buy additional cables and/or wiring boards, and extra space can be saved as well. Furthermore, Advantech's on-module pin assignment simplifies maintenance efforts and reduces incorrect connections that can cause damage to the system.

Device Identification

Identification assignment of each Advantech USB DAQ module is easily made through the provided utility. This ensures that application programs control the correct modules, even if the computer is changed or the USB DAQ modules are switched or rearranged at the USB hub. This feature shortens development time of each control site and reduces duplicate programs.

USB Modules

USB-4711A

150 kS/s, 12-bit, 16-ch Multifunction USB Module

Features

- 16 single-ended / 8 differential AI: 12-bit, 150 kS/s
- 2-ch AO: 12-bit, static update
- 5V/TTL DIO: 8 inputs, 8 outputs
- 1-ch counter: 32-bit, up to 1 kHz
- Event counting, frequency measurement
- One lockable USB cable for secure connection included

Ordering Information

• USB-4711A	150 kS/s, 12-bit, 16-ch Multi. USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4716

200 kS/s, 16-bit, 16-ch Multifunction USB Module

Features

- 16 single-ended / 8 differential AI: 16-bit, 200 kS/s
- 2-ch AO: 16-bit, static update
- 5V/TTL DIO: 8 inputs, 8 outputs
- 1-ch counter: 32-bit, up to 1 kHz
- Event counting, frequency measurement
- One lockable USB cable for secure connection included

Ordering Information

• USB-4716	200 kS/s, 16-bit, 16-ch Multi. USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4718

8-ch Thermocouple Input USB Module with 8-ch Isolated Digital Input

Features

- 8 differential AI: 16-bit, 10 S/s
- Supports voltage, current and thermocouple inputs
- 8-ch isolated DI & 8-ch isolated DO
- 2,500 V_{DC} isolation protection
- One lockable USB cable for secure connection included

Ordering Information

• USB-4718	8-ch Thermocouple Input USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4750

32-ch Isolated Digital I/O USB Module

Features

- 16-ch isolated DI & 16-ch isolated DO
- Isolated DO current: max. 200 mA / channel
- Supports DI Interrupt
- 2-ch isolated counter: 32-bit, up to 1 MHz
- Event counting and frequency measurement
- 2,500 V_{DC} isolation protection

Ordering Information

• USB-4750	32-ch Isolated Digital I/O USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4751/L

48/24-ch Digital I/O USB Module

Features

- USB-4751L: 24-ch TTL DIO
  USB-4751: 48-ch TTL DO
- Supports both dry and wet contact
- Supports DI Interrupt
- 2-ch counter: 32-bit, up to 8 MHz
- Event counting, frequency measurement, pulse train and PWM output
- One lockable USB cable for secure connection included

Ordering Information

• USB-4751	48-ch Digital I/O USB Module
• USB-4751L	24-ch Digital I/O USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4761

8-ch Relay and 8-ch Isolated Digital Input USB Module

Features

- LED indicators to show activated relays
- Relay type: 8 x Form C
- Contact Rating: 0.25 A @ 250 V_{AC}, 1 A @ 30 V_{DC}
- 8-ch Isolated DI with 5 - 30 V_{DC} range
- Supports DI Interrupt
- 2,500 V_{DC} protection for Isolated DI on input channels
- One lockable USB cable for secure connection included

Ordering Information

• USB-4761	8-ch Relay and 8-ch Isolated DI USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB Modules

USB-4702

10 kS/s, 12-bit, 8-ch Multifunction USB Module

Features

- 8 single-ended / 4 differential AI: 12-bit, 10 kS/s
- 2-ch AO: 12-bit, static update
- 5V/TTL DIO: 8 inputs, 8 outputs
- 1-ch counter: 32-bit, up to 5 MHz
- Event counting, frequency measurement

Ordering Information

• USB-4702	10 kS/s, 12-bit, Multifunction. USB Module
• PCL-10137-1	DB37 Cable, 1m
• PCL-10137-2	DB37 Cable, 2m
• PCL-10137-3	DB37 Cable, 3m
• ADAM-3937	DB37 DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4704

48 kS/s, 14-bit, 8-ch Multifunction USB Module

Features

- 8 single-ended / 4 differential AI: 14-bit, 48 kS/s
- 2-ch AO: 12-bit, static update
- 5V/TTL DIO: 8 inputs, 8 outputs
- 1-ch counter: 32-bit, up to 5 MHz
- Event counting, frequency measurement
- Suitable for DIN-rail mounting

Ordering Information

• USB-4704	48 kS/s, 14-bit, Multifunction. USB Module
• 1960004544	Wall Mount Bracket
• 1960005788	VESA Mount Bracket

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

USB-4620

5-port Full-speed Isolated USB 2.0 Hub

Features

- 5 downstream USB 2.0 ports
- Compatible with USB 2.0 full-speed, USB 1.1, USB 1.0
- Up to 12 Mbps data transfer rate
- 3,000 V_{DC} voltage isolation for each downstream port
- Suitable for DIN-rail mounting
- One lockable USB cable included
- 10 ~ 30 V_{DC} power input (power adapter not included)

Ordering Information

• USB-4620	5-port Full-speed Isolated USB 2.0 Hub
• PWR-242	DIN-rail Power Supply
• 1960004544	Wallmount Bracket
• 1960005788	VESA Mounting Bracket
• USB-LOCKCABLE-AE	1.8 M Lockable USB 2.0 Cable with Screw Kit

USB-4622

5-port USB 2.0 Hub

Features

- Compatible with USB 2.0 high speed, USB 2.0 full-speed, USB 1.1, USB 1.0
- Up to 480 Mbps data transfer rate
- LED indicator
- Suitable for DIN-rail mounting
- One lockable USB cable included
- 10 ~ 30 V_{DC} power input (power adapter not included)

Ordering Information

• USB-4622	5-port USB 2.0 Hub
• PWR-242	DIN-rail Power Supply
• 1960004544	Wallmount Bracket
• 1960005788	VESA Mounting Bracket
• USB-LOCKCABLE-AE	1.8 M Lockable USB 2.0 Cable with Screw Kit

USB-4630

4-Port SuperSpeed Isolated USB 3.0 Hub

Features

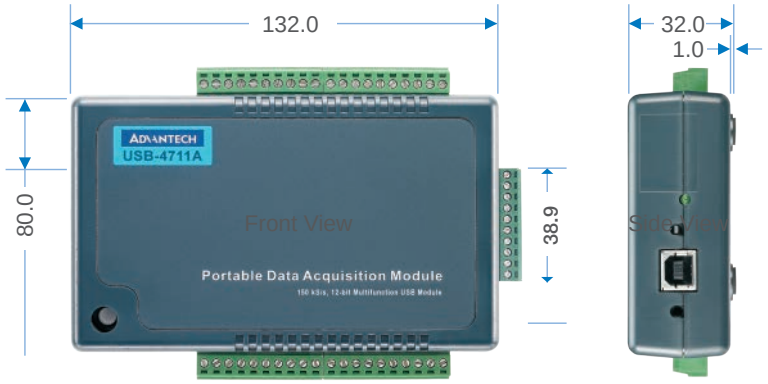
- 2,500 VDC voltage isolation for upstream port
- 4 downstream USB 3.0 SuperSpeed ports
- Supplied by external 10 ~ 30 VDC power or by USB bus power only
- Suitable for DIN-rail mounting
- LED indicators for power-on and speed of each downstream port

Ordering Information

• USB-4630	5-port USB 3.0 Hub
• 96PS-A40WDIN	DIN-rail Power Supply
• 1960004544	Wallmount Bracket
• 1960005788	VESA Mounting Bracket
• USB 3.0 Cable	1.8 M Lockable USB 3.0 Cable

Dimensions

Unit: mm

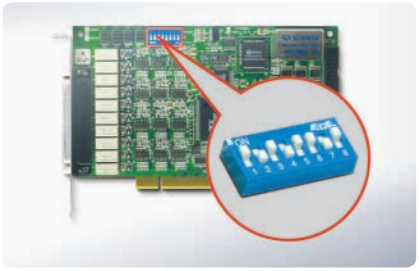


Complete PCI and PCI Express Card Range to Meet any Machine and Test Equipment Need

One Source for All High-precision PC-based Applications

With over 20 years of plug-in DAQ card design and manufacturing experience, Advantech has become a global leader, providing a full range of industrial data acquisition and control products. The most requested features for industrial and laboratory applications, such as monitoring, control, data acquisition, and automated testing, are included.

Key Features

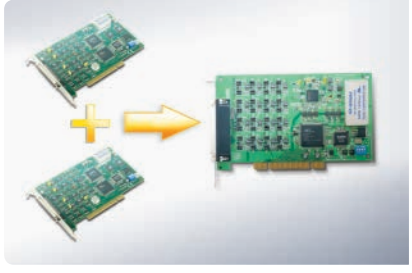


BoardID Switch

The BoardID DIP switch defines each card's unique identity when multiple identical PCI cards are installed in the same computer. BoardID switch settings easily identify and provide access to each card for hardware configuration and software programming.

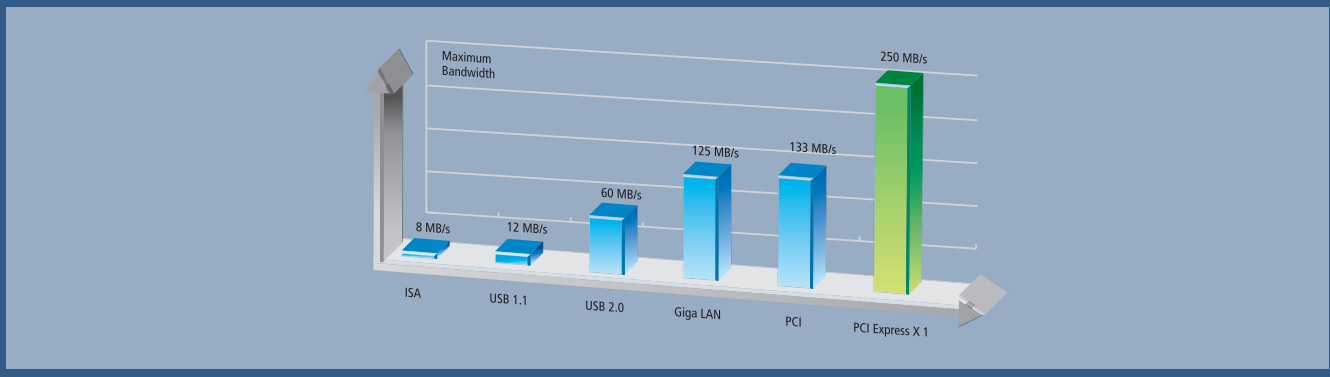
High Density

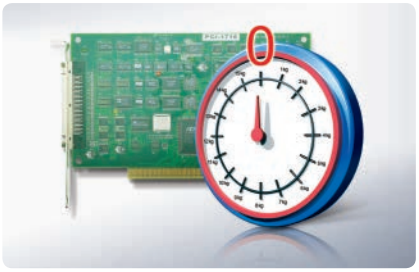
High density means many input/output functions are packed onto one PCI card. In the past, customers were often forced to buy more than one card to fulfill their functions, but now they can achieve their goals with just one card. The advantages are: saved space, and more efficient installation.



New Generation Interface for DAQ: PCI Express

PCI Express is a computer expansion bus standard that was designed to replace the older PCI bus standard. The PCI Special Interest Group (PCI-SIG) preserved and developed the PCI specification and released the new PCI Express standard (PCIe 1.0a) in 2003. PCI Express delivers 30 times the bandwidth of PCI bus, with a per-lane data rate of 250 MB/s and a transfer rate of 2.5 GT/s. This new generation interface features high speed point-to-point architecture, high throughput performance, software backward compatibility, I/O simplification, and more. In accord with this technological trend, Advantech offers a series of PCI Express data acquisition cards with the same development software as a PCI card, to satisfy a variety of automation needs.



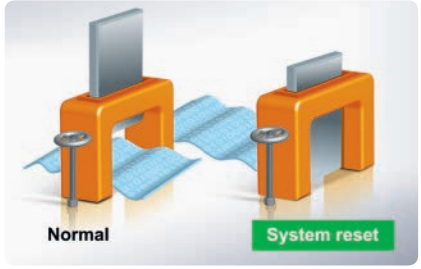


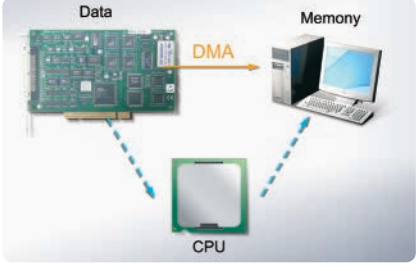
Auto Calibration

The built-in auto-calibration circuitry corrects gain and offset errors in analog input and analog output channels, thereby eliminating the need for external equipment and user adjustments.

Keeping the Output Values after System Reset

When the system is hot reset (with no power shutoff), Advantech's DAQ cards with this function can either retain the last digital (or analog) output values, or return to their default configurations, depending on jumper settings. This practical function eliminates any danger caused by misoperation during unexpected system resets.





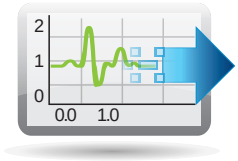
DMA - Direct Memory Access

This is a method of transferring data to or from memory at a high rate without involving the CPU. DMA is the hardware/software technique that allows the highest rate of data transfer to or from RAM. DMA provides the means to read or write data at precise times, without restricting the microprocessor's tasks.

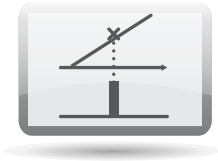
New Generation Instrumentation Solutions for Test & Measurement

Powerful PCI Express Multi-Function Data Acquisition Card

Advantech offers multifunction DAQ cards that combine high performance signal measurement, arbitrary wave generation, digital I/O, and counter functionality. All these DAQ cards are equipped with both digital trigger and high-resolution analog trigger, so users can use easily and flexibly define when to start or stop data acquisition.



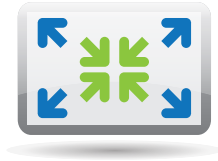
Waveform Generator



16-bit Analog Trigger

Double Clock

500kS/1MS Sample Rate



Flexible Trigger Option

Auto-calibration

High-Speed PCI Express Digitizer

PCIE-1840 can perform extremely high speed measurements with 16-bit resolution. Its four channels can all acquire signals at a 125 MS/s sampling rate, or the user can cascade all channels into a single channel, and push the sampling rate to 500 MS/s. With its re-trigger function and time-stamp ability, the user can get relative timing information when performing measurements.

PCI Express Dynamic Signal Analyzer

PCIE-1802, with high precisision 24-bit resolution, is an ideal solution for sound, audio, and vibration measurements, as well as machine condition monitoring applications. Its high density, 8-channel analog inputs can connect to IEPE and TEDS sensors directly, and can perform simultaneous 256 kS/s sampling acquisition, with an anti-alias filter.

Model Name	Analog Input			Analog Output			Digital I/O	Counter
	Channels	Sampling Rate	Resolution	Channels	Uprdate Rate	Resolution	Channels	Channels
PCIE-1810	16 SE/8 DI	Single-ch: 800 kS/s Multiple-ch: 500 kS	12-bit	2	500 kS/s	12-bit	24	2
PCIE-1816	16 SE/8 DI	Single-ch: 1 MS/s Multiple-ch: 500 kS	16-bit	2	3 MS/s	16-bit	24	2
PCIE-1816H	16 SE/8 DI	Single-ch: 5 MS/s Multiple-ch: 1 MS	16-bit	2	3 Ms/s	16-bit	24	2
PCIE-1840	4 SE	125 MS/s per channel	16-bit	-	-	-	-	-
PCIE-1802	8 DI	216 kS/s per channel	24-bit	-	-	-	3	-

Model Name	TTL DIO		Isolated DIO		Relay Output	Timer/Counter
	Input Channels	Output Channels	Input Channels	Output Channels	Channels	Channels
PCIE-1730	16	16	16	16	-	-
PCIE-1751	48		-	-	-	3
PCIE-1752	-	-	-	64	-	-
PCIE-1753	96		-	-	-	-
PCIE-1754	-	-	64	-	-	-
PCIE-1756	-	-	32	32	-	-
PCIE-1760	-	-	8	-	8	8

Selection Guide

Model Name	Analog Input			Analog Output	
	Sampling Rate	Resolution	Channel	Resolution	Channel
PCI-1710U	100 kS/s	12-bit	16 SE/ 8 DI	12-bit	2
PCI-1710UL	100 KS/s	12-bit	16 SE/ 8 DI	-	-
PCI-1710HGU*	100 kS/s	12-bit	16 SE/ 8 DI	12-bit	2
PCI-1711U	100 kS/s	12-bit	16 SE	12-bit	2
PCI-1711UL	100 kS/s	12-bit	16 SE	-	-
PCI-1712	1 MS/s	12-bit	16 SE/ 8 DI	12-bit	2
PCI-1712L	1 MS/s	12-bit	16 SE/ 8 DI	-	-
PCI-1716	250 kS/s	16-bit	16 SE/ 8 DI	16-bit	2
PCI-1716L	250 kS/s	16-bit	16 SE/ 8 DI	-	-
PCI-1706U	250 kS/s	16-bit	8 DI	12-bit	2
PCI-1742U	1 MS/s	16-bit	16 SE/ 8 DI	16-bit	2
PCI-1747U	250 kS/s	16-bit	64 SE/ 32 DI	-	-
PCI-1718HDU	100 kS/s	12-bit	16 SE/ 8 DI	12-bit	1
PCI-1713U	100 kS/s	12-bit	32 SE/ 16 DI	-	-
PCI-1715U	500 kS/s	12-bit	32 SE/ 16 DI	-	-
PCI-1714UL	10 MS/s	12-bit	4 SE	-	-
PCI-1714U	30 MS/s	12-bit	4 SE	-	-
PCI-1720U	-	-	-	12-bit	4
PCI-1721	-	-	-	12-bit	4
PCI-1723	-	-	-	16-bit	8
PCI-1724U	-	-	-	14-bit	32
PCI-1727U	-	-	-	14-bit	12
PCI-1730U	-	-	-	-	-
PCI-1735U	-	-	-	-	-
PCI-1737U	-	-	-	-	-
PCI-1757UP	-	-	-	-	-
PCI-1739U	-	-	-	-	-
PCI-1751	-	-	-	-	-
PCI-1753	-	-	-	-	-
PCI-1755	-	-	-	-	-
PCI-1750	-	-	-	-	-
PCI-1733	-	-	-	-	-
PCI-1734	-	-	-	-	-
PCI-1752U	-	-	-	-	-
PCI-1754	-	-	-	-	-
PCI-1756	-	-	-	-	-
PCI-1758UDI	-	-	-	-	-
PCI-1758UDO	-	-	-	-	-
PCI-1758UDIO	-	-	-	-	-
PCI-1760U	-	-	-	-	-
PCI-1761	-	-	-	-	-
PCI-1762	-	-	-	-	-
PCI-1780U	-	-	-	-	-
PCI-1671UP	-	-	-	-	-

*Note: PCI-1710HGU offers more gain options than PCI-1710U to increase measurement accuracy.

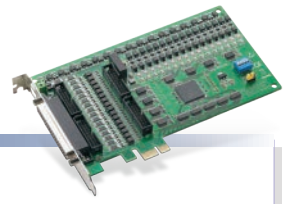
Model Name	Digital Input	Digital Output	Timer/Counter	Connector
	Channel	Channel	Channel	
PCI-1710U	16 TTL	16 TTL	1	68-pin SCSI
PCI-1710UL	16 TTL	16 TTL	1	68-pin SCSI
PCI-1710HGU*	16 TTL	16 TTL	1	68-pin SCSI
PCI-1711U	16 TTL	16 TTL	1	68-pin SCSI
PCI-1711UL	16 TTL	16 TTL	1	68-pin SCSI
PCI-1712	16 TTL (shared)		3	68-pin SCSI
PCI-1712L	16 TTL (shared)		3	68-pin SCSI
PCI-1716	16 TTL	16 TTL	1	68-pin SCSI
PCI-1716L	16 TTL	16 TTL	1	68-pin SCSI
PCI-1706U	16 TTL (shared)		2	68-pin SCSI
PCI-1742U	16 TTL	16 TTL	1	68-pin SCSI
PCI-1747U	-	-	-	68-pin SCSI
PCI-1718HDU	16 TTL	16 TTL	1	1 x DB37, 2 x 20-pin
PCI-1713U	-	-	-	DB37
PCI-1715U	-	-	-	DB37
PCI-1714UL	-	-	-	4 x BNC
PCI-1714U/ PCIE-1744	-	-	-	4 x BNC
PCI-1720U	-	-	-	DB37
PCI-1721	16 TTL (shared)		1	68-pin SCSI
PCI-1723	16 TTL (shared)		-	68-pin SCSI
PCI-1724U	-	-	-	DB62
PCI-1727U	16 TTL	16 TTL	-	1 x DB37, 2 x 20-pin
PCI-1730U /PCIE-1730	16 TTL, 16 Isolated	16 TTL, 16 Isolated	-	1 x DB37, 4 x 20-pin
PCI-1735U	32 TTL	32 TTL	3	5 x 20-pin
PCI-1737U	24 TTL (shared)		-	1 x 50-pin, 2 x 20-pin
PCI-1757UP	24 TTL (shared)		-	DB25
PCI-1739U	48 TTL (shared)		-	2 x 50-pin
PCI-1751	48 TTL (shared)		3	68-pin SCSI
PCI-1753	96 TTL (shared)		-	100-pin SCSI
PCI-1755	32 TTL (shared, high speed)		-	100-pin SCSI
PCI-1750	16 isolated	16 isolated	1	DB37
PCI-1733	32 isolated	-	-	DB37
PCI-1734	-	32 isolated	-	DB37
PCI-1752U /PCIE-1752	-	64 isolated	-	100-pin SCSI
PCI-1754 / PCIE-1754	64 isolated	-	-	100-pin SCSI
PCI-1756 / PCIE-1756	32 isolated	32 isolated	-	100-pin SCSI
PCI-1758UDI	128 isolated	-	-	dual 100-pin mini-SCSI
PCI-1758UDO	-	128 isolated	-	dual 100-pin mini-SCSI
PCI-1758UDIO	64 isolated	64 isolated	-	dual 100-pin mini-SCSI
PCI-1760U /PCIE-1760	8 isolated	6 x Form A, 2 x Form C	10 (PCI), 2 (PCIE)	DB37
PCI-1761	8 isolated	4 x Form A, 4 x Form C	-	DB37
PCI-1762	16 isolated	16 Relay	-	DB62
PCI-1780U	8 TTL	8 TTL	8	68-pin SCSI
PCI-1671UP	-	-	-	24-pin IEEE 488

PCI / PCI Express Cards

PCI Express

PCIE-1730

32-ch TTL and 32-ch Isolated Digital I/O PCI Express Card



Features

- 16-ch isolated DI and 16-ch isolated DO
- 16-ch 5V/TTL DI and 16-ch 5V/TTL DO
- Supports DI Interrupt
- 2,500 V_{DC} isolation protection
- High sink current on isolated output channels (500mA max./ch)

Ordering Information

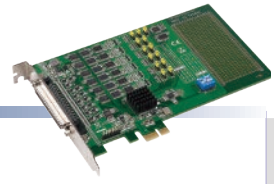
• PCIE-1730	32-ch Isolated Digital I/O PCIe Card
• PCL-10120	20-pin Flat Cable, 1 m/2 m
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• PCLD-782	16-ch Isolated DI Board with 1m 20-pin Flat Cable
• PCLD-885	16-ch Power Relay Board with 20p & 50p Flat Cables
• PCLD-785	16-ch Relay Board with 1m 20-pin Flat Cable
• ADAM-3937	DB37 DIN-rail Wiring Board
• PCL-10137	DB37 Cable, 1 m/2 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

*Note: When you use PCLD-782/785/885 wiring board, remember to connect external power for relay usage.

PCIE-1751

48-ch Digital I/O and 3-ch Counter PCI Express Card



Features

- Supports 5V/TTL and dry contact
- Programmable DI filter
- Keeps DIO port configuration and DO state after system reset
- Supports DI interrupt, Pattern Match and Change of States
- 3-ch counter: 32-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train and PWM output

Ordering Information

• PCIE-1751	48-ch Digital I/O and 3-ch Counter PCI Express Card
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• ADAM-3968/20	68-pin to 3 20-pin Box Header Board
• ADAM-3968/50	68-pin to 2 50-pin Box Header Board
• PCLD-8751	48-ch Isolated DI Board
• PCLD-8761	24-ch Relay/Isolated DI Board
• PCLD-8762	48-ch Relay Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCIE-1752

64-ch Isolated Digital Output PCI Express Card

Features

- Wide output range (5 ~ 40 V_{DC})
- High sink current on isolated output channels (500mA max./ch)
- 2,500 V_{DC} isolation protection

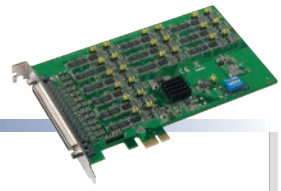
Ordering Information

• PCIE-1752	64-ch Isolated Digital Output PCI Express Card
• PCL-10250	100-pin SCSI to Two 50-pin SCSI Cable, 1 m/2 m
• ADAM-3951	50-pin DIN-rail Wiring Board with LED Indicators
• PCL-101100M-3	100-pin SCSI to 100-pin SCSI Cable, 3 m
• ADAM-39100	100-pin DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCIE-1753

96-ch Digital I/O PCI Express Card



Features

- Supports 5V/TTL and dry contact
- Programmable DI filter
- Keeps DIO port configuration and DO state after system reset
- Supports DI interrupt, Pattern Match and Change of States

Ordering Information

• PCIE-1753	96-ch Digital I/O PCI Express Card
• PCL-10268	100-pin to Two 68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• ADAM-3968/20	68-pin to 3 20-pin Box Header Board
• ADAM-3968/50	68-pin to 2 50-pin Box Header Board
• PCLD-8751	48-ch Isolated DI Board
• PCLD-8761	24-ch Relay/Isolated DI Board
• PCLD-8762	48-ch Relay Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCIE-1754

64-ch Isolated Digital Input PCI Express Card

Features

- Wide input range (10 ~ 30 V_{DC})
- High over-voltage protection (70 V_{DC})
- 2,500 V_{DC} isolation protection
- Supports DI interrupt

Ordering Information

• PCIE-1754	64-ch Isolated Digital Input PCI Express Card
• PCL-10250	100-pin SCSI to Two 50-pin SCSI Cable, 1 m/2 m
• ADAM-3951	50-pin DIN-rail Wiring Board with LED Indicators
• PCL-101100M-3	100-pin SCSI to 100-pin SCSI Cable, 3 m
• ADAM-39100	100-pin DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCIE-1756

64-ch Isolated Digital Input/Output PCI Express Card

Features

- Wide input range (10 ~ 30 V_{DC}) and output range (5 ~ 40 V_{DC})
- High sink current on isolated output channels (500mA max./ch)
- Supports DI interrupt
- High over-voltage protection (70 V_{DC})
- 2,500 V_{DC} isolation protection

Ordering Information

• PCIE-1756	64-ch Isolated Digital I/O PCI Express Card
• PCL-10250	100-pin SCSI to Two 50-pin SCSI Cable, 1 m/2 m
• ADAM-3951	50-pin DIN-rail Wiring Board with LED Indicators
• PCL-101100M-3	100-pin SCSI to 100-pin SCSI Cable, 3 m
• ADAM-39100	100-pin DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI / PCI Express Cards

PCI Express

PCIE-1760

8-ch Relay and 8-ch Isolated Digital Input PCI Express Card with 2-ch Counter/Timer

Features

- Relay Type: 2 x Form C, 6 x Form A
- Contact Rating: 0.5 A @ 125 V_{AC}, 1 A @ 30 V_{DC}
- 8-ch counter input and 2-ch PWM output
- Isolated DI supports both dry or wet contact (jumper selectable)
- LED indicators to show activated relays
- Programmable DI filter
- Supports DI Interrupt, Pattern Match and Change of Status

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Ordering Information

• PCIE-1760	8-ch Relay and 8-ch Isolated DI PCIe Card with 2-ch Counter/Timer
• PCL-10137	DB37 Cable, 1 m/2 m/3 m
• ADAM-3937	DB37 DIN-rail Wiring Board

PCIE-1810

800 kS/s, 12-bit, 16-ch PCI Express Multifunction DAQ Card

Features

- 16-ch AI: 12-bit, 800 kS/s (single-channel), 500 kS/s (multiple-channel)
- 2-ch AO: 12-bit, 500 kS/s
- Supports both digital trigger and analog trigger (12-bit)
- 5V/TTL DIO: 24 input/output (direction programmable)
- 2-ch counter: 32-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train and PWM output
- Support DI Interrupt, Pattern Match and Change of Status

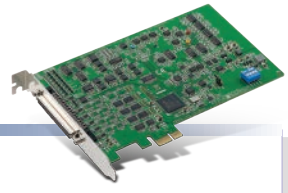
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Ordering Information

• PCIE-1810	800 kS/s, 12-bit Multifunction Card
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810E	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

PCIE-1816

1 MS/s, 16-bit, 16-ch PCI Express Multifunction DAQ Card



Features

- 16-ch AI: 16-bit, 1 MS/s (single-channel), 500 kS/s (multiple-channel)
- 2-ch AO: 16-bit, 3 MS/s
- Supports both digital trigger and analog trigger (16-bit)
- 5V/TTL DIO: 24 input/output (direction programmable)
- 2-ch counter: 32-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train and PWM output
- Supports DI Interrupt, Pattern Match and Change of Status

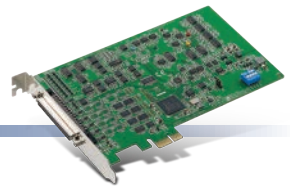
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Ordering Information

• PCIE-1816	1 MS/s, 16-bit Multifunction Card
• PCL-10168H	68-pin SCSI Shielded Cable with Noise Rejection, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810E	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

PCIE-1816H

5 MS/s, 16-bit, 16-ch PCI Express Multifunction DAQ Card



Features

- 16-ch AI: 16-bit, 5 MS/s (single-channel), 1 MS/s (multiple-channel)
- 2-ch AO: 16-bit, 3 MS/s
- Supports both digital trigger and analog trigger (16-bit)
- 5V/TTL DIO: 24 input/output (direction programmable)
- 2-ch counter: 32-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train and PWM output
- Supports DI Interrupt, Pattern Match and Change of Status

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Ordering Information

• PCIE-1816	5 MS/s, 16-bit Multifunction Card
• PCL-10168H	68-pin SCSI Shielded Cable with Noise Rejection, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810E	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

PCIE-1840

4-ch 16-bit 125 MS/s High Speed PCI Express Digitizer

Features

- 4-ch simultaneous AI: 16-bit, 125 MS/s per channel
- Cascade channels to achieve higher sampling rate 250 MS/s (2-ch only), 500 MS/s (1-ch only)
- Non-stop data streaming capable
- 2 GB on-board memory
- Onboard anti-aliasing filter
- 1M or 50 Ohm selectable input impedance

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Ordering Information

• PCIE-1840	4-ch 16-bit 125 MS/s High Speed PCI Express Digitizer
• PCL-1010B-1E	BNC Cable, 1m
• PCLD-8840-AE	20-pin DIN-rail HDMI Cable Wiring Board for PCIE-1802 and PCIE-1840

PCIE-1802

24-bit, 8-ch PCI Express Dynamic Signal Analyzer

Features

- 8-ch simultaneous AI: 24-bit, 216 kS/s per channel
- 6 gains settings: input ranges from ±0.2 V to ±10 V
- IEPE and TEDS smart sensors support
- 0 - 10 mA excitation, software selectable per channel
- AC or DC coupling, software selectable per channel
- digital trigger and analog trigger (24-bit)
- anti-aliasing filter
- onboard FIFO size: 4096 samples
- DC offset null adjustment
- 5V/TTL DIO: 1 input, 1 output

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Ordering Information

• PCIE-1802	216 kS/s, 24-bit Dynamic Signal Analyzer Card
• PCLD-8840-AE	20-pin DIN-rail HDMI Cable Wiring Board for PCIE-1802 and PCIE-1840
• PCL-108BNC-50E	Mini-SCSI to 8-BNC Cable
• PCL-10119-1E	HDMI Cable

PCI / PCI Express Cards

Multifunction

PCI-1710U/UL/HGU

100 kS/s, 12-bit, 16-ch PCI Multifunction Card

Features

- 16 single-ended / 8 differential AI: 12-bit, 100 kS/s
- 2-ch AO: 12-bit, static update (PCI-1710U and PCI-1710HGU only)
- 5V/TTL DIO: 16 inputs, 16 outputs
- 1-ch counter: 16-bit, up to 10 MHz
- Event counting, pulse train output

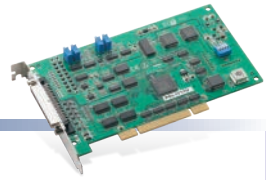
Ordering Information

• PCI-1710U	100 kS/s, 12-bit Multifunction Card
• PCI-1710UL	100 kS/s, 12-bit Multifunction Card w/o AO
• PCI-1710HGU	100 kS/s, 12-bit High-gain Multifunction Card (For precise small-signal measurement)
• PCLD-8710	DIN-rail Wiring Board with CJC
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810I	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1711U/UL

Entry-level 100 kS/s, 12-bit, 16-ch PCI Multifunction Card



Features

- 16 single-ended AI: 12-bit, 100 kS/s
- 2-ch AO: 12-bit, static update (PCI-1711U only)
- 5V/TTL DIO: 16 inputs, 16 outputs
- 1-ch counter: 16-bit, up to 10 MHz
- Event counting, pulse train output

Ordering Information

• PCI-1711U	100 kS/s, 12-bit Multifunction Card
• PCI-1711UL	100 kS/s, 12-bit Multifunction Card w/o AO
• PCLD-8710	DIN-rail Wiring Board with CJC
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810I	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1712/L

1 MS/s, 12-bit, 16-ch PCI Multifunction Card

Features

- 16 single-ended / 8 differential AI: 12-bit, 1 MS/s
- 2-ch AO: 12-bit, 1 MS/s (PCI-1712 only)
- 5V/TTL DIO: 16 inputs / outputs (direction programmable)
- 3-ch counter: 16-bit, up to 10 MHz
- Event counting, frequency and pulse width measure, pulse train output

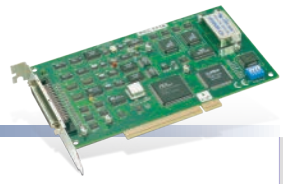
Ordering Information

• PCI-1712	1 MS/s, 12-bit Multifunction Card
• PCI-1712L	1 MS/s, 12-bit Multifunction Card w/o AO
• PCLD-8712	DIN-rail Wiring Board for PCI-1712/L
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1716/L

250 kS/s, 16-bit, 16-ch PCI Multifunction Card



Features

- 16 single-ended / 8 differential AI: 16-bit, 250 kS/s
- 2-ch AO: 16-bit, static update (PCI-1716 only)
- 5V/TTL DIO: 16 inputs, 16 outputs
- 1-ch counter: 16-bit, up to 10 MHz
- Event counting, pulse train output

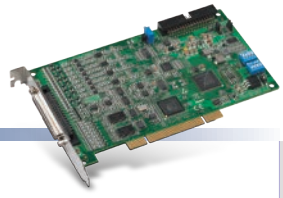
Ordering Information

• PCI-1716	250 kS/s, 16-bit Multifunction Card
• PCI-1716L	250 kS/s, 16-bit Multifunction Card w/o AO
• PCLD-8710	DIN-rail Wiring Board with CJC
• PCL-10168H	68-pin SCSI Shielded Cable with Noise Rejection, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8810I	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1706U/UL

250 kS/s, 16-bit, Simultaneous 8-ch Universal PCI Multifunction Card



Features

- 8 differential AI: 16-bit, 250kS/s for each channel (simultaneously sampling)
- 2-ch AO: 12-bit, static update (PCI-1706U only)
- 5V/TTL DIO: 16 inputs, 16 outputs
- 2-ch counter: 32-bit, up to 10 MHz
- Event Counting, pulse train output, frequency input, PWM input, PWM output

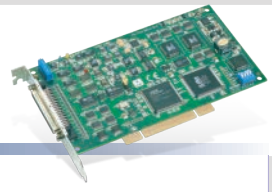
Ordering Information

• PCI-1706U	250 KS/s, 16-bit Simultaneous Multifunction Card
• PCI-1706UL	250 KS/s, 16-bit Simultaneous Multifunction Card w/o AO
• PCL-10168H	68-pin SCSI Shielded Cable with Noise Rejection, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1742U

1 MS/s, 16-bit, 16-ch PCI Multifunction Card



Features

- 16 single-ended / 8 differential AI: 16-bit, 1 MS/s
- 2-ch AO: 16-bit, static update
- 5V/TTL DIO: 16 inputs, 16 outputs
- 1-ch counter: 16-bit, up to 10 MHz
- Event counting, pulse train output

Ordering Information

• PCI-1742U	1 MS/s, 16-bit, 16-ch Multifunction Card
• PCL-10168H	68-pin SCSI Shielded Cable with Noise Rejection, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• PCLD-8710	DIN-rail Wiring Board with CJC
• PCLD-8810I	DIN-rail Wiring Board with CJC
• PCLD-8811	Low-Pass Active Filter Board

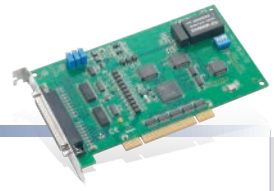
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI / PCI Express Cards

Analog Input

PCI-1713U

100 kS/s, 12-bit, 32-ch Isolated Analog Input PCI Card



Features

- 32 single-ended / 16 differential AI: 12-bit, 100 kS/s
- 2,500 V_{DC} isolation protection
- 4,096 onboard FIFO

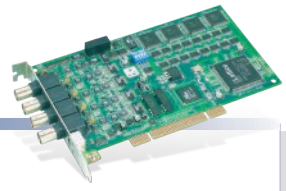
Ordering Information

• PCI-1713U	100 kS/s, 12-bit, 32-ch Isolated AI Card
• ADAM-3937	DB37 DIN-rail Wiring Board
• PCL-10137	DB37 Cable, 1 m/2 m/3 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1714U/UL

30/10 MS/s, 12-bit, Simultaneous 4-ch Analog Input PCI Card



Features

- 4 A/D converters simultaneously sampling
- 4 single-ended AI: 12-bit
  PCI-1714UL: 10 MS/s per channel
  PCI-1714U: 30 MS/s per channel
- Supports digital trigger
- Onboard FIFO:
  PCI-1714UL: 8,192 samples per channel
  PCI-1714U: 32,768 samples per channel

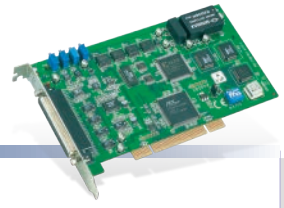
Ordering Information

• PCI-1714U	30 MS/s, 12-bit, Simultaneous 4-ch AI Card
• PCI-1714UL	10 MS/s, 12-bit, Simultaneous 4-ch AI Card
• ADAM-3909	DB9 DIN-rail Wiring Board
• PCL-1010B-1	BNC to BNC Wiring Cable, 1 m
• PCL-10901	PS/2 to DB9 Cable, 1 m/3 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1715U

500 kS/s, 12-bit, 32-ch Isolated Analog Input PCI Card



Features

- 32 single-ended / 16 differential AI: 12-bit, 100 kS/s
- 2,500 V_{DC} isolation protection
- 1,024 onboard FIFO

Ordering Information

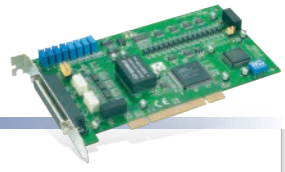
• PCI-1715U	500 kS/s 12-bit, 32-ch Isolated AI Card
• ADAM-3937	DB37 DIN-rail Wiring Board
• PCL-10137	DB37 Cable, 1 m/2 m/3 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

Analog Output

PCI-1720U

12-bit, 4-ch Isolated Analog Output PCI Card



Features

- 4-ch AO: 12-bit, static update
- 2,500 V_{DC} isolation protection
- Keeps the output settings and values after system hot reset

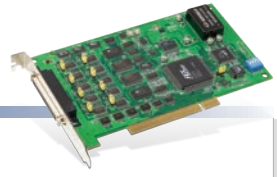
Ordering Information

• PCI-1720U	12-bit, 4-ch Isolated AO Card
• PCL-10137	DB37 Cable, 1 m/2 m/3 m
• ADAM-3937	DB37 DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1723

16-bit, 8-ch Analog Output PCI Card with 16-ch Digital I/O



Features

- 8-ch AO: 16-bit, static update
- Keeps the output settings and values after system hot reset
- 5V/TTL DIO: 16 input/output (direction programmable)
- Supports DI Interrupt

Ordering Information

• PCI-1723	16-bit, 8-ch AO Card
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1724U

14-bit, 32-ch Isolated Analog Output PCI Card

Features

- 32-ch AO: 14-bit, static update
- Keeps the output settings and values after system hot reset

Ordering Information

• PCI-1724U	14-bit, 32-ch Isolated AO Card
• PCL-10162	DB62 Cable, 1 m/3 m
• ADAM-3962	DB62 DIN-rail Wiring Board

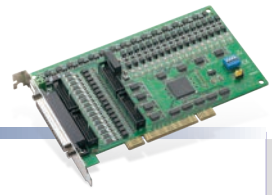
OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI / PCI Express Cards

Digital I/O & Counter

PCI-1730U

32-ch Isolated Digital I/O PCI Card



Features

- 16-ch isolated DI and 16-ch isolated DO
- 16-ch TTL DI and 16-ch TTL DO
- Support DI Interrupt
- 2,500 V_{DC} isolation protection
- Isolated DO current: max. 300 mA / channel
- Keeps DIO port configuration and DO state after system reset

Ordering Information

• PCI-1730U	32-ch Isolated Digital I/O PCI Card
• PCL-10120	20-pin Flat Cable, 1 m/2 m
• ADAM-3920	20-pin DIN-rail Flat Cable Wiring Board
• PCLD-885	16-ch Power Relay Board with 20p & 50p Flat Cables
• PCLD-785	16-ch Relay Board with 1m 20-pin Flat Cable
• PCLD-782	16-ch Isolated DI Board with 1m 20-pin Flat Cable
• ADAM-3937	DB37 DIN-rail Wiring Board
• PCL-10137	DB37 Cable, 1 m/2 m/3 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1733/1734

32-ch Isolated Digital Input / Digital Output PCI Card

Features

- PCI-1733: 32-ch isolated DI
  PCI-1734: 32-ch isolated DO
- Supports DI Interrupt (PCI-1733 only)
- 2,500 V_{DC} isolation protection
- Isolated DO current: (PCI-1734 only)
  max. 200 mA / channel

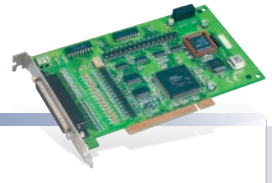
Ordering Information

• PCI-1733	32-ch Isolated Digital Input PCI Card
• PCI-1734	32-ch Isolated Digital Output PCI Card
• ADAM-3937	DB37 DIN-rail Wiring Board
• PCL-10137	DB37 Cable, 1 m/2 m/3 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1750

32-ch Isolated Digital I/O and 1-ch Counter PCI Card



Features

- 16-ch isolated DI & 16-ch isolated DO
- Supports DI Interrupt
- 2,500 V_{DC} isolation protection
- Isolated DO current:
  max. 200 mA / channel
- 1-ch counter: 16-bit, up to 1 MHz
- Event counting, pulse train output

Ordering Information

• PCI-1750	32-ch Isolated DIO and 1-ch Counter PCI Card
• PCL-10137	DB37 Cable, 1 m/2 m/3 m
• ADAM-3937	DB37 DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1751

48-ch Digital I/O and 3-ch Counter PCI Card

Features

- Supports 5V/TTL and dry contact
- Supports DI Interrupt
- Keeps DIO port configuration and DO state after system reset
- 3-ch counter: up to 10 MHz
- Event counting, pulse train output

Ordering Information

• PCI-1751	48-ch Digital I/O and Counter PCI Card
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• ADAM-3968/20	68-pin SCSI to 3 20-pin Box Header Terminal
• ADAM-3968/50	68-pin SCSI to 2 50-pin Box Header Terminal
• PCLD-8751	48-ch Isolated Digital Input Board
• PCLD-8761	24-ch Replay/ Isolated Digital Input Board
• PCLD-8762	48-ch Relay Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1752U

64-ch Isolated Digital Output Universal PCI Card

Features

- 2,500 V_{DC} isolation protection
- Wide output range (5 ~ 40 V_{DC})
- Isolated DO current: max. 200 mA / channel
- Keeps DO state after system reset

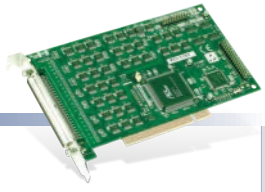
Ordering Information

• PCI-1752U	64-ch Isolated Digital Output Universal PCI Card
• PCL-10250-1	100-pin SCSI to Two 50-pin SCSI Cable, 1 m
• ADAM-3951	50-pin DIN-rail Wiring Board with LED Indicators
• PCL-101100M-3	100-pin SCSI to 100-pin SCSI Cable, 3 m
• ADAM-39100	100-pin DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1753

96-ch Digital I/O PCI Card



Features

- Supports 5V/TTL and dry contact
- Keeps DIO port configuration and DO state after system reset
- Supports DI interrupt, Pattern Match and Change of States

Ordering Information

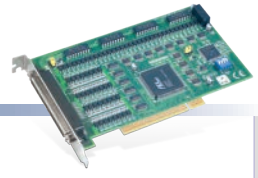
• PCI-1753	96-ch Digital I/O PCI Card
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board
• ADAM-3968/20	68-pin SCSI to 3 20-pin Box Header Terminal
• ADAM-3968/50	68-pin SCSI to 2 50-pin Box Header Terminal
• PCLD-8751	48-ch Isolated Digital Input Board
• PCLD-8761	24-ch Replay/ Isolated Digital Input Board
• PCLD-8762	48-ch Relay Board
• PCL-10268	100-pin to Two 68-pin SCSI Cables, 1 m/2 m

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI / PCI Express Cards

PCI-1756

64-ch Isolated Digital I/O PCI Card



Features

- 2,500 V_{DC} isolation protection
- 70 V_{DC} over-voltage protection for DI
- Supports DI Interrupt
- Isolated DO current: max. 200 mA / channel
- Keeps DIO port configuration and DO state after system reset

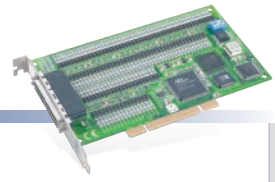
Ordering Information

• PCI-1756	64-ch Isolated Digital I/O PCI Card
• PCL-10250-1	100-pin SCSI to Two 50-pin SCSI Cable, 1 m
• ADAM-3951	50-pin DIN-rail Wiring Board with LED Indicators
• PCL-101100M-3	100-pin SCSI to 100-pin SCSI Cable, 3 m
• ADAM-39100	100-pin DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1758UDI

128-ch Isolated Digital Input Universal PCI Card



Features

- 2,500 V_{DC} isolation protection
- Supports DI Interrupt
- Programmable DI filter

Ordering Information

• PCI-1758UDI	128-ch Isolated DI Universal PCI Card
• PCL-101100S	100-pin SCSI Cable, 1 m/2 m
• ADAM-39100	100-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1758UDO

128-ch Isolated Digital Output Universal PCI Card

Features

- 2,500 V_{DC} isolation protection
- Isolated DO current: max. 90 mA / channel
- Keeps DO state after system reset

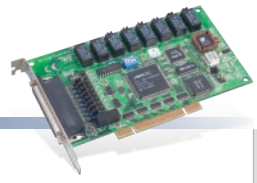
Ordering Information

• PCI-1758UDO	128-ch Isolated DO Universal PCI Card
• PCL-101100S	100-pin SCSI Cable, 1 m/2 m
• ADAM-39100	100-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1760U

8-ch Relay and 8-ch Isolated Digital Input Universal PCI Card with 10-ch Counter/Timer



Features

- Relay Type: 2 x Form C, 6 x Form A
- Contact Rating: 0.5 A @ 125 V_{AC}, 1 A @ 30 V_{DC}
- LED indicators to show activated relays
- Programmable DI filter
- 2,500 V_{DC} isolation protection for DI
- DI support for both wet and dry contacts
- Supports DI interrupt, Pattern Match and Change of States
- 8-ch counter: 16-bit, up to 500 Hz for event counting
- 2-ch PWM output

Ordering Information

• PCI-1760U	8-ch Relay and 8-ch Isolated DI PCI Card
• PCL-10137	DB37 Cable, 1 m/2 m/3 m
• ADAM-3937	DB37 DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

PCI-1761

8-ch Relay and 8-ch Isolated Digital Input PCI Card

Features

- Relay Type: 4 x Form A, 4 x Form C
- Contact Rating: 2 A @ 250 V_{AC}, 2 A @ 30 V_{DC}
- LED indicators to show activated relays
- 3,750 V_{DC} isolation protection for DI
- Supports DI Interrupt

Ordering Information

• PCI-1761	8-ch Relay and 8-ch Isolated DI PCI Card
• PCL-10137	DB37 Cable, 1 m/2 m/3 m
• ADAM-3937	DB37 DIN-rail Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7 Linux

PCI-1780U

8-ch, 16-bit Counter/Timer Universal PCI Card

Features

- 8-ch counter: 16-bit, up to 20 MHz
- Event counting, frequency and pulse width measure, pulse train output
- 8-ch PWM output
- 5V/TTL DIO: 8 inputs, 8 outputs
- Supports DI Interrupt
- Keeps DO state after system reset

Ordering Information

• PCI-1780	8-ch, 16-bit Counter/Timer PCI Card
• PCL-10168	68-pin SCSI Shielded Cable, 1 m/2 m
• ADAM-3968	68-pin DIN-rail SCSI Wiring Board

OS Support Windows 10 Windows 8.1 Windows 8 Windows 7

Terminal Boards

Compatibility Chart

Recommended Cables, I/O Wiring Terminal Boards and Isolated Digital I/O Terminals for Connecting to Data Acquisition Products:

PCI and PCI Express Card PC/104, PCI-104 Module	Cable	
		
PCI-1710U/1710UL/1710HGU, PCI-1711U/1711UL, PCI-1716/1716L, PCI-1741U, PCI-1742U, PCIE-1810, PCIE-1816, PCIE-1816H	PCL-10168, PCL-10168H	
PCI-1712/1712L	PCL-10168, PCL-10168H	
PCI-1718HDU/HGU	PCL-10137	
	PCL-10120, PCL-10121	
PCI-1727U, PCI-1730U, PCIE-1730	PCL-10137	ADAM-3937, PCLD-880
PCI-1751, PCIE-1751	PCL-10168	
PCI-1753	PCL-10268	
PCI-1713U, PCI-1715U	PCL-10137	
PCI-1720U, PCI-1733, PCI-1734,PCI-1750, PCI-1760U, PCIE-1760, PCI-1761, USB-4702	PCL-10137	
PCI-1784U	PCL-10137	
PCI-1752U, PCI-1754, PCI-1756 PCIE-1752, PCIE-1754, PCIE-1756	PCL-10250	
PCI-1724U, PCI-1762	PCL-10162	
PCI-1737U, PCI-1739U, USB-4751/L	PCL-10150	
PCI-1714U/1714UL, PCIE-1744	PCL-10901	
	PCL-1010B	
PCI-1757UP	PCL-10125	
PCI-1747U, PCI-1721, PCI-1723, PCI-1780U	PCL-10168	
PCI-1735U	PCL-10120, PCL-10121	
	PCL-10501+, PCL-10137, ADAM-3937	
PCI-1755	PCL-101100	
PCI-1758UDI/1758UDO/1758UDIO	PCL-101100S	
USB-4671	PCL-10488	
PCM-3718H/HO/HG, PCM-3730	PCL-10120, PCL-10121	
PCM-3724, PCM-3753I	PCL-10150	
PCM-3725, PCM-3780, PCM-3761I	PCL-10120, PCL-10121	
	PCL-10150	
PCM-3810I	PCL-10126	
	PCL-10150	
PCM-3730I	PCL-10120, PCL-10121	

I/O Wiring Terminal Board

PCLD-8710

ADAM-3968, PCLD-8810I, PCLD-8810E, PCLD-8811

PCLD-8712

ADAM-3937, PCLD-880
PCLD-8115, PCLD-789D

PCL-10502+, PCL-10120, PCL-10121

PCL-10503+, PCL-10137, ADAM-3937

ADAM-3968

PCLD-8751, PCLD-8761, PCLD-8762

ADAM-3968/50

ADAM-3968/20

ADAM-3937, PCLD-880, PCLD-881B

ADAM-3937

ADAM-3951

ADAM-3962

ADAM-3950, PCLD-782B, PCLD-785B,
PCLD-885, PCLD-7216

ADAM-3909

ADAM-3925

ADAM-3968

PCL-10502+, PCL-10120, PCL-10121

PCL-10503+, PCL-10137, ADAM-3937

ADAM-39100

ADAM-3950, PCLD-782B, PCLD-785B
PCLD-885, PCLD-7216

ADAM-3920

ADAM-3950

PCL-10125 — ADAM-3925

ADAM-3950

ADAM-3920

Extension Cable

PCL-10120
PCL-10121

PCL-10150+
ADAM-3950
PCLD-782B
PCLD-785B
PCLD-885
PCLD-7216

PCL-10120

Digital I/O Terminal Board

ADAM-3920

PCLD-782

PCLD-782B

PCLD-785

PCLD-785B

PCLD-786

PCLD-788

PCLD-885

PCLD-7216

ADAM-3920
PCLD-780
PCLD-782
PCLD-782B
PCLD-785
PCLD-785B
PCLD-786
PCLD-788
PCLD-885
PCLD-7216

DIN-rail Mountable Signal Conditioning Modules

Compact Design with 3-way Isolation Protection and Multiple Input Types

The ADAM-3000 Series consists of the most cost-efficient, field configurable, isolation-based, signal conditioners on the market today. The modules are easily installed to protect your instruments and process signals from the harmful effects of ground loops, motor noise, and other electrical interference.

Products

ADAM-3011

Isolated Thermocouple Input Module

Specifications

- Input Type: J, K, T, E, S, R, B Type Thermocouple
- Output Type: 0~10 V

Ordering Information

- ADAM-3011 Isolated Thermocouple Input Module

ADAM-3013

Isolated RTD Input Module

Specifications

- Input Type: Pt or Ni Type RTD
- Output Type: 0~5 V, 0~10 V, 0~20 mA

Ordering Information

- ADAM-3013 Isolated RTD Input Module

Key Features

Three-way Signal Isolation

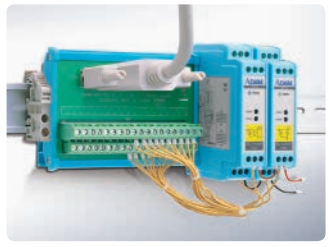
Three-way (input/output/power) 1,000 V_{DC} isolation.

Easy Daisy Chain Power Wiring

Power can be connected conveniently from adjacent modules.

Field Configurable I/O Range

The I/O range can be configured on-site with switches inside the module.



Small Dimensions & DIN-rail Mounting

Saves space and can be easily mounted on a DIN-rail.

ADAM-3014

Isolated DC Input/Output Module

Specifications

- Input Type:
  ±10 mV, ±50 mV, ±100 mV, ±0.5 V, ±1 V, ±5 V, ±10 V, 0~10 mV, 0~50 mV, 0~100 mV, 0~0.5 V, 0~1 V, 0~5 V, 0~10 V, 0~20mA, ±20mA
- Output Type: ±5 V, ±10 V, 0~10 V, 0~20 mA

Ordering Information

- ADAM-3014 Isolated DC Input/ Output Module

ADAM-3016

Isolated Strain Gauge Input Module

Specifications

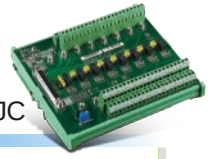
- Input Type:
  Electrical input: ±10, ±20, ±30, ±100 mV
  Excitation voltage: 1~10 V (60 mA max.)
- Output Type: ±5 V, ±10 V, 0~10 V, 0~20 mA

Ordering Information

- ADAM-3016 Isolated Strain Gauge Input Module

PCLD-8810I/8810E

68-pin SCSI DIN-rail Wiring Board with CJC



Specifications

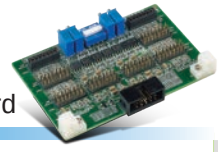
- 16-single-ended or 8 differential AI inputs, programmable
- On-board CJC circuit for direct thermocouple measurement
- Reserved space for signal-conditioning circuit such as PCLD-8811

Ordering Information

- PCLD-8810I-AE
- PCLD-8810E-AE

PCLD-8811

Bandwidth-Configurable Filter Board



Specifications

- Offset Error ± 1 LSB
- Gain Error ± 1 LSB
- Filter Frequency -3dB,10Hz, 50Hz,100Hz, 500Hz, 1KHz, 5KHz, 10KHz,40KHz
- Max. Input Voltage ± 10 V
- Input Impedance 1G Ω / 2pF

Ordering Information

- PCLD-8811-AE PCLD-8811-AE

New Generation of CompactPCI

Reliable PC-based Computing Platform for Mission-critical Applications

This industrial CompactPCI features front-end access, high shock and vibration tolerance, automatic cooling system, fault resilience, and hot swap capability. Advantech leverages 3U CompactPCI as the industrial high-end computing platform, providing Pentium® 4-grade CPU modules, 8-slot chassis, high-speed IO, and serial communication modules. Advantech is a one-stop provider for industrial CompactPCI solutions.

Selection Guide

CompactPCI



Model		MIC-3106-00	MIC-3111-00	MIC-3121-00
Power Type		ATX		
Input Voltage		100-240VAC		200-240VAC
Wattage		180W		300W
System Slot		1, on the right		
Peripheral Slot		2 Slots	7 Slots	7 Slots
PCI Bus		32-bit 33MHz	32-bit 33MHz	32-bit 33MHz
Dimensions (W x H x D mm)		134 x 177 x 238	234 x 177 x 258	482 x 177 x 310
Weight (kg)		4.33	6.14	9.65
Temperature	Operating	0 ~ 50°C		
	Non-Operating	-20 ~ 60°C		
Vibration (5 ~ 500 Hz)	Operating	2Grms (without HDD)		
	Non-Operating	2G		
Shock (11ms)	Operating	10G		
	Non-Operating	30G		
Regulatory Compliance		CE, FCC, CCC, UL, RoHS, BSMI PICMG 2.0 Rev. 3.0		

CompactPCI CPU Options

		L1	L2	H1	H2
Processor	CPU	Intel Atom N455, 1.66GHz	Intel Atom D525, 1.8GHz	Intel 3rd Gen. Core i3-3217UE, 1.6GHz	Intel 3rd Gen. Core i7-3517UE, 1.7 GHz
	Memory	2GB On board	2GB On board	4GB On board	4GB On board
	Storage	1 x CompactFlash Type II 1 x 2.5" SATA HDD	1 x CompactFlash Type II 1 x 2.5" SATA HDD	1 x CFast 1 x 2.5" SATA HDD	1 x CFast 1 x 2.5" SATA HDD
Front I/O	VGA	1 x DB15 port	1 x DB15 port	1 x DB15 port	1 x DB15 port
	Ethernet	2 x 10/100/1000 Mbps, RJ45 connector	2 x 10/100/1000 Mbps, RJ45 connector	2 x 10/100/1000 Mbps, RJ45 connector	2 x 10/100/1000 Mbps, RJ45 connector
	USB 2.0	3 x Type A	3 x Type A	2 x Type A	2 x Type A
	Serial	2 x RS-232, DB9 connector	2 x RS-232, DB9 connector	2 x RS-232, RJ45 connector	2 x RS-232, RJ45 connector
	PS/2	1	1	1	1

CompactPCI




Category			CPCI			
Model			MIC-3716/3	MIC-3714/3	MIC-3723/3	MIC-3720
Analog Input	General Spec.	Resolution (bit)	16	12	-	-
		Channels	16SE/8 Diff	4SE	-	-
		FIFO (samples)	1024	32768	-	-
		Sampling Rate (S/s)	250 K	30 M	-	-
	Input Ranges	Unipolar Inputs (V)	0~10, 0~5, 0~2.5, 0~1.25	-	-	-
		Bipolar Inputs (V)	±10, 5, 2.5, 1.25, 0.625	±5, 2.5, 1, 0.5	-	-
		Configurable Per-Channel	✓	✓	-	-
Analog Output	Resolution (bit)		16	-	16	12
	Channels		2	-	8	4
	FIFO (sample)		-	-	-	-
	Output Range (V)		0~5, 0~10, ±5, ±10	-	±10, 0~20mA, 4~20mA	0~5, 0~10, ±5, ±10, 0~20mA, 4~20mA
	Output Rate		Static update	-	Static update	Static update
	DMA Transfer		-	-	-	-
Digital I/O	Input Channels		16	-	16 (shared)	-
	Output Channels					
DAQNavi Driver	Windows 10/ 8/ 7		✓	✓	✓	✓
	Linux		✓	✓	-	-
LabVIEW Driver			✓	✓	✓	✓




Category		CPCI			
Model		MIC-3611/3	MIC-3612	MIC-3620/3	MIC-3680/3
Number of Ports		4	4	8	2
Communication Interfaces	RS-232	-	✓	✓	-
	RS-422	✓	✓	-	-
	RS-485	✓	✓	-	-
	CAN	-	-	-	✓
Protection	ESD (VDC)	2,500	-	-	-
	Isolation (VDC)	2,000	-	-	2,500
Cable Connector Type		DB9 Male	DB9 Male	Optional	-





Category			CPCI				
Model			MIC-3753/3	MIC-3756	MIC-3758/3	MIC-3761/3	MIC-3780/3
TTL DI/O	Input Channels		72	-	-	-	8
	Output Channels		(shared)	-	-	-	8
	Output Channel	Sink Current	24mA@0.44V	-	-	-	24mA@0.5V
		Source Current	24mA@3.76V	-	-	-	15mA@2.4V
Isolated DI/O	Input	Channels	-	32 (sink)	64	8 (sink)	-
		Isolation Voltage (VDC)	-	2,500	2,500	3750	-
		Input Range	-	10 ~ 50	5 ~ 25	5 ~ 50	-
	Output	Channels	-	32 (sink)	64	4 x FormA 4 x FormC	-
		Isolation Voltage (VDC)	-	2,500	2,500	2,500	-
		Output Range (VDC)	-	5 ~ 40	5 ~ 40	3A@250VAC 3A@24VDC	-
		Max. Sink Current	-	200mA	90mA		-