8 Industrial I/O and Video Solutions

Advantech Data Acquisition and Control Solutions

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 and from signal-conditioning to graphical software tools.

Advantech's industrial I/O products are reliable, accurate, affordable, and suitable for many industrial automation applications (e.g., testing and measurement) and laboratory applications (e.g., monitoring, control, machine automation, and product testing).

Signal Sensing

Physical Phenomenon

Signal Conditioning

Signal Conditioners

Advantech's signal conditioners provide sensor and signal conditioning on a per-module basis for various types of sensors or signals.

I/O Wiring Terminal Boards

I/O wiring terminal boards offer convenient and reliable signal wiring for a wide range of Advantech products.

Analog Signal

Data Acquisition

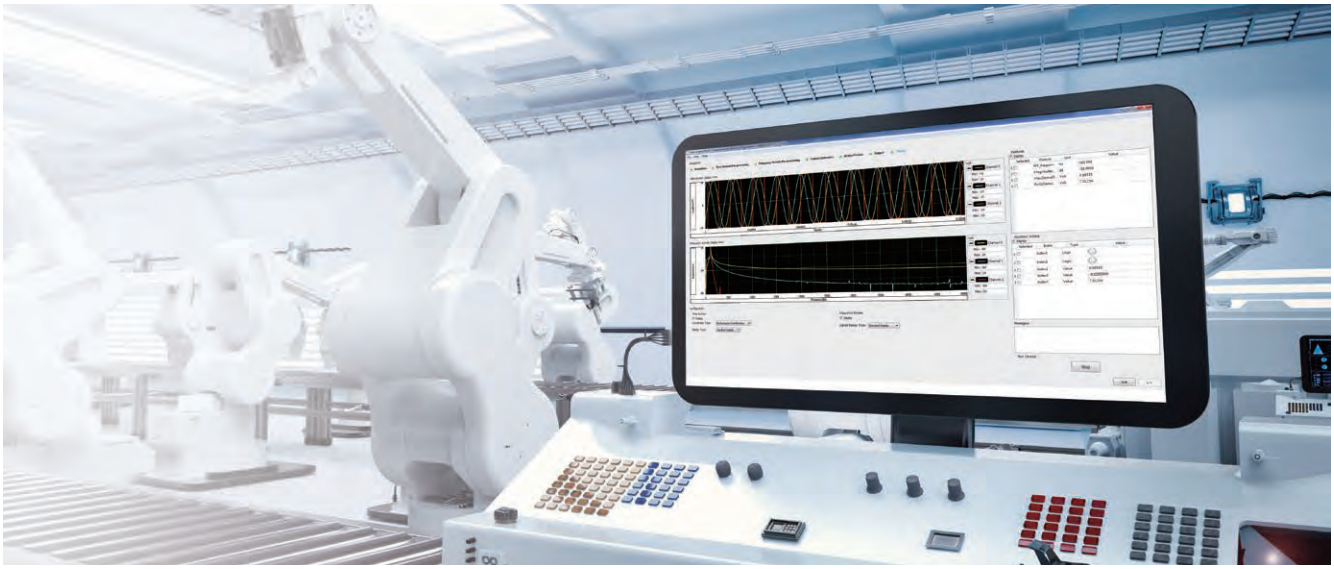
Embedded Computers

MIC-1800 series units are standalone embedded computers with integrated data acquisition modules and signal conditioning to provide digital I/O, analog I/O, and counter functions. The palm-sized design with built-in terminals is suitable for space-limited applications.

SuperSpeed USB 3.0 DIO Modules

SuperSpeed USB 3.0 digital I/O modules can be leveraged for a diverse range of industrial control applications.

Conditioned Signal



and Control

Data Acquisition and Communication Cards

Advantech offers dedicated products for USB, PCI, PCI Express, CompactPCI, PC/104, and PCI-104 interfaces. Thus, regardless of whether the platform is an IPC, embedded PC, desktop computer, or laptop, your project requirements are covered.

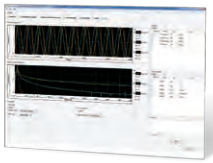
USB Data Acquisition Modules

Advantech's USB data acquisition modules are renowned for their user-friendly design and ability to replace traditional serial and parallel devices by eliminating the need for external power and allowing for hot-swapping.

Conditioned Signal

Software

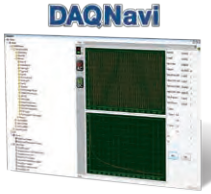
WebAccess/MCM



Machine Condition Monitoring Software

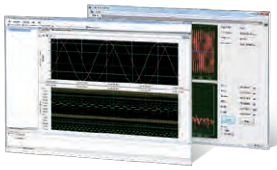
WebAccess/MCM is machine condition monitoring software that provides easy sensor signal acquisition, signal analysis, feature extraction, data management/interpretation, and alert notification.

DAQNavi



Software Development Package

DAQNavi, Advantech's next-generation driver package, delivers higher performance, compatibility, and reliability through a brand new driver and SDK.



Configurable Data Logging / Signal Analysis Software

DataLogger can be leveraged to help engineers perform data logging, recording, and visualization, while SignalMeter includes scope, AC performance, and DC performance functions to assist engineers with signal analysis.

Digital Data

Analog I/O and Multifunction Card Selection Guide

Category			Multifunction & Analog Input						
Sampling / Updating			Multiplexer						
Part Number			PCI-1710U/ 1710UL	PCI-1710HGU	PCI-1711U/ 1711UL	PCI-1712/ 1712L	PCI-1718HDU	PCI-1713U	PCI-1715U
Analog Input	Resolution		12-bit	12-bit	12-bit	12-bit	12-bit	12-bit	12-bit
	Channels		16 SE/8 diff.	16 SE/8 diff.	16 SE	16 SE/8 diff.	16 SE/8 diff.	32 SE/16 diff.	32 SE/16 diff.
	Onboard FIFO		4,096 samples	4,096 samples	1,024 samples	1,024 samples	1,024 samples	4,096 samples	1,024 samples
	Sampling Rate		100 kS/s	100 kS/s	100 kS/s	1 MS/s	100 kS/s	100 kS/s	500 kS/s
	Input Ranges	Unipolar Inputs	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01 V	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V
		Bipolar Inputs	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 1, 0.5, 0.1, 0.05, 0.01, 0.005 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V
		Configurable Per Channel	✓	✓	✓	✓	✓	✓	✓
	Trigger Modes	Pacer/Software/ External Pulse	✓	✓	✓	✓	✓	✓	✓
		Analog Slope	-	-	-	✓	-	-	-
		Advanced Trigger	-	-	-	✓	-	-	-
	Data Transfer Modes	Software	✓	✓	✓	✓	✓	✓	✓
		DMA	-	-	-	Bus mastering	-	-	Bus mastering
Analog Output	Resolution		12-bit	12-bit	12-bit	12-bit	12-bit	-	-
	Channels		2 (PCI-1710U only)	2	2 (PCI-1711U only)	2 (PCI-1712 only)	1	-	-
	Onboard FIFO		-	-	-	32,768 samples	-	-	-
	Output Range		0 ~ 5, 0 ~ 10 V	0 ~ 5, 0 ~ 10 V	0 ~ 5, 0 ~ 10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10 V	-	-
	Output Rate		Static update	Static update	Static update	1 MHz	Static update	-	-
	DMA Transfer		-	-	-	✓	-	-	-
Digital I/O	Input Channels		16	16	16	16 (shared)	16	-	-
	Output Channels		16	16	16		16	-	-
Timer/ Counter	Channels		1	1	1	3	1	-	-
	Resolution		16-bit	16-bit	16-bit	16-bit	16-bit	-	-
	Max. Input Frequency		10 MHz	10 MHz	10 MHz	10 MHz	10 MHz	-	-
Isolation Voltage			-	-	-	-	-	2,500 V_{DC}	2,500 V_{DC}
Auto Calibration			-	-	-	✓	-	-	-
Board ID Switch			✓	✓	✓	-	✓	-	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			68-pin SCSI	68-pin SCSI	68-pin SCSI	68-pin SCSI	DB37	DB37	DB37
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓	✓
	WinCE		✓	-	-	-	-	✓	-
	Linux		✓	✓	✓	✓	✓	✓	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓	✓
	WinCE		✓	-	-	-	-	-	-
	Linux		-	-	✓	-	-	-	✓
LabVIEW Driver			✓	✓	✓	✓	✓	✓	✓

* All channels should be set to the same range.
✓: supported, - : not supported, △ : optional

Category			Multifunction & Analog Input						
Sampling / Updating			Multiplexer					Simultaneous Sampling	
Part Number			PCI-1716/ 1716L	PCI-1718HDU	PCI-1742U	PCI-1741U	PCI-1747U	PCI-1714U/ 1714UL	PCI-1706U
Analog Input	Resolution		16-bit	12-bit	16-bit	16-bit	16-bit	12-bit	16-bit
	Channels		16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.	64 SE/32 diff.	4 SE	8 diff.
	Onboard FIFO		1,024 samples	1,024 samples	1,024 samples	1,024 samples	1,024 samples	32,768/8,192 samples	8,192 samples
	Sampling Rate		250 kS/s	100 kS/s	1 MS/s	200 kS/s	250 kS/s	30/10 MS/s	250 kS/s
	Input Ranges	Unipolar Inputs	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V*	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	-	-
		Bipolar Inputs	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V	±10, 5, 2.5, 1.25, 0.625 V*	±10, 5, 2.5, 1.25, 0.625 V	±5, 2.5, 1, 0.5 V	±10, 5, 2.5, 1.25 V
		Configurable Per Channel	✓	✓	✓	-	✓	✓	✓
	Trigger Modes	Pacer/Software/ External Pulse	✓	✓	✓	✓	Pacer/software	✓	✓
		Analog Slope	-	-	-	-	-	✓	✓
		Advanced Trigger	-	-	-	-	-	✓	✓
	Data Transfer Modes	Software	✓	✓	✓	✓	✓	✓	✓
		DMA	Bus mastering	-	Bus mastering	-	Bus mastering	Bus mastering	✓
Analog Output	Resolution		16-bit	12-bit	16-bit	16-bit	-	-	12-bit
	Channels		2 (PCI-1716 only)	1	2	1	-	-	2
	Onboard FIFO		-	-	-	-	-	-	-
	Output Range		0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	±5, ±10 V	-	-	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20, 0 ~ 24, 4 ~ 20 mA
	Output Rate		Static update	Static update	Static update	Static update	-	-	Static update
	DMA Transfer		-	-	-	-	-	-	-
Digital I/O	Input Channels		16	16	16	16	-	-	16 (shared)
	Output Channels		16	16	16	16	-	-	
Timer/ Counter	Channels		1	1	1	1	-	-	2
	Resolution		16-bit	16-bit	16-bit	16-bit	-	-	32-bit
	Max. Input Frequency		10 MHz	10 MHz	10 MHz	10 MHz	-	-	10 MHz
Isolation Voltage			-	-	-	-	-	-	-
Auto Calibration			✓	-	✓	✓	✓	✓	✓
Board ID Switch			✓	✓	✓	✓	✓	✓	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			68-pin SCSI	DB37	68-pin SCSI	68-pin SCSI	68-pin SCSI	4 x BNC	68-pin SCSI
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	✓	-	-
	Linux		✓	✓	✓	✓	✓	✓	✓
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-	-
	Linux		-	-	-	✓	✓	✓	-
LabVIEW Driver			✓	✓	✓	✓	✓	✓	✓

* All channels should be set to the same range.
✓: supported, - : not supported, △ : optional

Analog I/O and Multifunction Card Selection Guide

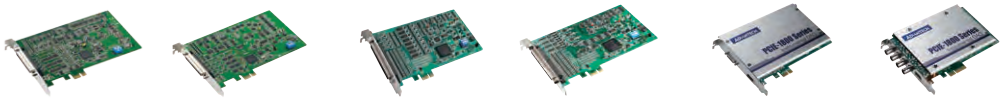




Category			Multifunction & Analog Output				
Sampling / Updating			Static Update				Dynamic Update
Part Number			PCI-1713U	PCI-1727U	PCI-1724U	PCI-1723	PCI-1721
Analog Input	Resolution		12-bit	-	-	-	-
	Channels		32 SE/16 diff.	-	-	-	-
	Onboard FIFO		4,096 samples	-	-	-	-
	Sampling Rate		100 kS/s	-	-	-	-
	Input Ranges	Unipolar Inputs	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	-	-	-	-
		Bipolar Inputs	±10, 5, 2.5, 1.25, 0.625 V	-	-	-	-
		Configurable Per Channel	✓	-	-	-	-
	Trigger Modes	Pacer/ Software/ External Pulse	✓	-	-	-	-
		Analog Slope	-	-	-	-	-
		Advanced Trigger	-	-	-	-	-
	Data Transfer Modes	Software	✓	-		-	-
		DMA	-	-	-	-	-
Analog Output	Resolution		-	14-bit	14-bit	16-bit	16-bit
	Channels		-	12	32	8	4 (waveform output)
	Onboard FIFO		-	-	-	-	1,024 samples
	Output Range		-	±10, 0 ~ 20 mA	±10, 0 ~ 20 mA	±10, 0 ~ 20, 4 ~ 20 mA	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20, 4 ~ 20 mA
	Output Rate		-	Static update	Static update	Static update	10 MHz
	DMA Transfer		-	-	-	-	Bus mastering
Digital I/O	Input Channels		-	16	-	16 (shared)	16 (shared)
	Output Channels		-	16	-		
Timer/ Counter	Channels		-	-	-	-	1
	Resolution		-	-	-	-	16-bit
	Max. Input Frequency		-	-	-	-	10 MHz
Isolation Voltage			2,500 V_{DC}	-	1,500 V_{DC}	-	-
Auto Calibration			-	-	-	✓	✓
Board ID Switch			-	✓	✓	✓	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			DB37	2 x 2-pin DB37	DB62	68-pin SCSI	68-pin SCSI
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓
	WinCE		✓	-	✓	-	-
	Linux		✓	✓	✓	✓	✓
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-
	Linux		-	✓	✓	-	✓
LabVIEW Driver			✓	✓	✓	✓	✓

* 80 kHz on Pentium® 4-based (or higher) systems.
** SS: Single DMA channel, single A/D channel scan.
✓: supported, - : not supported, △ : optional

NEW NEW NEW



Category			Multifunction & Analog Input					
Sampling / Updating			Multiplexer		Simultaneous Sampling			
Part Number			PCIE-1810	PCIE-1816/H	PCIE-1812	PCIE-1813	PCIE-1802/ 1802L	PCIE-1840/ 1840L
Analog Input	Resolution		12-bit	16-bit	16-bit	26-bit	24-bit	16-bit
	Channels		16 SE/8 diff.	16 SE/8 diff.	8 diff.	4 diff.	8 diff./ 4 diff.	4 SE
	Onboard FIFO		4,096 samples	4,096 samples	4,096 samples	4,096 samples	4,096 samples	1 G samples
	Sampling Rate		500 kS/s	500 KSPS/ 1MSPS	250 kS/s	38.4 kS/s	216 kS/s	125/80 MSPS
	Input Ranges	Unipolar Inputs	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	±31.25 mV/V, ±62.5 mV/V, ±125 mV/V, ±250 mV/V, ±500 mV/V, and ±1 V/V (bridge inputs)	-	-
		Bipolar Inputs	±10, ±5, 2.5, 1.25, 0.625 V	±10, ±5, 2.5, 1.25, 0.625 V	±10, ±5, 2.5, 1.25, 0.625 V	±10 V, ±5 V, ±2.5 V, ±1.25 V, ±625 mV, ±312.5 mV	±0.2, ±0.5, ±1, ±2, ±5, ±10 V	0.2, 0.4, 1, 2, 4, 10, 20 Vpp
		Configurable Per Channel	✓	✓	✓	✓	✓	✓
	Trigger Modes	Pacer/ Software/ External Pulse	✓	✓	✓	✓	✓	✓
		Analog Slope	✓	✓	✓	✓	✓	✓
		Advanced Trigger	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop
	Data Transfer Modes	Software	✓	✓	✓	✓	✓	✓
		DMA	Bus mastering	Bus mastering	Bus mastering	Bus mastering	Bus mastering	Bus mastering
Analog Output	Resolution		12-bit	16-bit	16-bit	16-bit	-	-
	Channels		2 (waveform output)	2 (waveform output)	2 (waveform output)	2 (waveform output)	-	-
	Onboard FIFO		4,096 samples	4,096 samples	4,096 samples	4,096 samples	-	-
	Output Range		0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	-	-
	Output Rate		500 kS/s	3 MHz	3 MHz	3 MHz	-	-
	DMA Transfer		Bus mastering	Bus mastering	Bus mastering	Bus mastering	-	-
Digital I/O	Input Channels		24 (shared)	24 (shared)	32 (shared)	32 (shared)	1	-
	Output Channels						2	
Timer/ Counter	Channels		2	2	4 (encoder included)	4 (encoder included)	-	-
	Resolution		32-bit	32-bit	32-bit	32-bit	-	-
	Max. Input Frequency		10 MHz	10 MHz	10 MHz	10 MHz	-	-
Isolation Voltage			-	-	-	-	-	-
Auto Calibration			✓	✓	✓	✓	✓	✓
Board ID Switch			✓	✓	✓	✓	✓	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			68-pin SCSI	68-pin SCSI	100-pin SCSI (female)	100-pin SCSI (female)	1 x 19-pin MINI SCSI (for AI) 1 x HDMI (for Ext. clock and trigger)	4 x BNC (for AI) 1 x HDMI (for Ext. clock and trigger)
Legacy Driver	Windows XP/2000		-	-	-	-	-	-
	WinCE		-	-	-	-	-	-
	Linux		-	-	-	-	-	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	-	-
	WinCE		-	-	-	-	-	-
	Linux		-	-	-	-	-	-
LabVIEW Driver			✓	✓	✓	✓	-	-

* 80 kHz on Pentium® 4-based (or higher) systems.
** SS: Single DMA channel, single A/D channel scan.
✓: supported, - : not supported, △ : optional

Digital I/O and Counter Card Selection Guide






Category			Non-Isolated Digital I/O					
Bus			PCI					
Part Number			PCI-1735U	PCI-1737U	PCI-1739U	PCI-1751	PCI-1753	PCI-1757UP
TTL DI/O	Input Channels		32	24 (shared)	48 (shared)	48 (shared)	96 (shared)	24 (shared)
	Output Channels		32					
	Output Channel	Sink Current	24 mA @ 0.5 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.44 V	24 mA @ 0.5 V
		Source Current	15 mA @ 2.0 V	15 mA @ 2.4 V	15 mA @ 2.4 V	15 mA @ 2.4 V	24 mA @ 3.76 V	24 mA @ 3.7 V
Isolated Digital I/O	Input	Channels	-	-	-	-	-	-
		Isolation Voltage	-	-	-	-	-	-
		Input Range	-	-	-	-	-	-
	Output	Channels	-	-	-	-	-	-
		Isolation Voltage	-	-	-	-	-	-
		Output Range	-	-	-	-	-	-
		Max. Sink Current	-	-	-	-	-	-
Timer/ Counter	Channels		3	-	-	3	-	-
	Resolution		16-bit	-	-	16-bit	-	-
	Max. Input Frequency		10 MHz	-	-	10 MHz	-	-
Advanced Function	Pattern Match		-	-	-	-	✓	-
	Change of State		-	-	-	-	✓	-
	Board ID Switch		✓	✓	✓	✓	✓	✓
	Channel-Freeze Function		-	-	-	-	-	-
	Output Status Read Back		✓	✓	✓	✓	✓	✓
	Dry/Wet Contact*		-	✓	✓	✓	✓	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	120 x 65 mm (4.7" x 2.5")
Connector			5 x 20-pin	1 x 50-pin	2 x 50-pin	68-pin SCSI	100-pin SCSI	1 x DB25
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-
	Linux		✓	✓	✓	✓	✓	✓
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-
	Linux		-	-	-	✓	-	-
LabVIEW Driver			✓	✓	✓	✓	✓	✓

* Simultaneous dry/wet contact within a group is acceptable.

✓: supported, - : not supported, △ : optional

NEW


NEW



Category			Isolated Digital I/O				
Bus			PCI Express				
Part Number			PCIE-1730/1730H	PCIE-1752	PCIE-1754	PCIE-1756/ 1756H	PCIE-1760
TTL DI/O	Input Channels		16	-	-	-	-
	Output Channels		16	-	-	-	-
	Output Channel	Sink Current	24 mA @ 0.5 V	-	-	-	-
		Source Current	15 mA @ 2.4 V	-	-	-	-
Isolated Digital I/O	Input	Channels	16	-	64	32	8
		Isolation Voltage	2,500 V_{DC}	-	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}
		Input Range	10 ~ 30 V_{DC}	-	10 ~ 30 V_{DC}	10 ~ 30 V_{DC}	4.5 ~ 12 V_{DC}
	Output	Channels	16 (sink)	64 (sink)	-	32 (sink)	6 x Form A 2 x Form C
		Isolation Voltage	2,500 V_{DC}	2,500 V_{DC}	-	2,500 V_{DC}	2,500 V_{DC}
		Output Range	5 ~ 40 V_{DC}	5 ~ 40 V_{DC}	-	5 ~ 40 V_{DC}	1 A @ 125 V_{AC} 2 A @ 30 V_{AC}
		Max. Sink Current	500 mA	500 mA	-	500 mA	
Timer/ Counter	Channels		-	-	-	-	8 x UP CTR 2 x PWM
	Resolution		-	-	-	-	16-bit
	Max. Input Frequency		-	-	-	-	500 Hz
Advanced Function	Pattern Match		-	-	-	-	✓
	Change of State		-	-	-	-	✓
	Board ID Switch		✓	✓	✓	✓	✓
	Channel-Freeze Function		✓	✓	-	✓	-
	Output Status Read Back		✓	✓	-	✓	✓
	Dry/Wet Contact*		✓	-	-	-	-
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			1 x DB37 4 x 20-pin	100-pin SCSI	100-pin SCSI	100-pin SCSI	1 x DB37
Legacy Driver	Windows XP/2000		-	-	-	-	-
	WinCE		-	-	-	-	-
	Linux		-	-	-	-	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-
	Linux		-	-	-	-	✓
LabVIEW Driver			✓	✓	✓	✓	✓

* Simultaneous dry/wet contact within a group is acceptable.

✓: supported, - : not supported, △ : optional

Digital I/O and Counter Card Selection Guide





Category			Isolated Digital I/O			Non-Isolated Digital I/O	
Bus			PCI Express				
Part Number			PCIE-1761H	PCIE-1762H	PCIE-1765	PCIE-1751	PCIE-1753
TTL DI/O	Input Channels		-	-	-	48 (shared)	96 (shared)
	Output Channels		-	-	-		
	Output Channel	Sink Current	-	-	-	15 mA @ 0.8 V	15 mA @ 0.8 V
		Source Current	-	-	-	15 mA @ 2.0 V	15 mA @ 2.0 V
Isolated Digital I/O	Input	Channels	8	16	-	-	-
		Isolation Voltage	2,500 V_{DC}	2,500 V_{DC}	-	-	-
		Input Range	4.5 ~ 12 V_{DC}	10 ~ 50 V_{DC}	-	-	-
	Output	Channels	6 x Form A 2 x Form C	16**	12 Form C	-	-
		Isolation Voltage	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	-	-
		Output Range	1 A @ 125 V_{AC}	0.25 A @ 250 V_{AC}	1A @ 125 V_{AC}	-	-
		Max. Sink Current	2 A @ 30 V_{DC}	2 A @ 30 V_{DC}	2A @ 30 V_{DC}	-	-
Timer/ Counter	Channels		8 x CTR 2 x PWM	-	-	3	-
	Resolution		16-bit (2,500 isolation)	-	-	32-bit	-
	Max. Input Frequency		500 Hz for CTR	-	-	10 MHz	-
Advanced Function	Pattern Match		✓	-	-	✓	✓
	Change of State		✓	-	-	✓	✓
	Board ID Switch		✓	✓	-	✓	✓
	Channel-Freeze Function		-	✓	-	-	-
	Output Status Read Back		✓	✓	-	✓	✓
	Dry/Wet Contact*		-	-	-	✓	✓
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")
Connector			1 x DB37	1 x DB62	1 x DB37	68-pin SCSI	68-pin SCSI
Legacy Driver	Windows XP/2000		-	✓	-	-	-
	WinCE		✓	✓	-	-	-
	Linux		-	✓	-	-	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-
	Linux		-	✓	-	-	-
LabVIEW Driver			✓	✓	✓	✓	✓

* Simultaneous dry/wet contact within a group is acceptable.
** Jumper selectable Form A / Form B type relay output
✓: supported, - : not supported, △ : optional

Category			Isolated Digital I/O					
Bus			PCI					
Part Number			PCI-1730U	PCI-1733	PCI-1734	PCI-1750/ 1750SO	PCI-1752U/ 1752USO	PCI-1754
TTL DI/O	Input Channels		16	-	-	-	-	-
	Output Channels		16	-	-	-	-	-
	Output Channel	Sink Current	24 mA @ 0.5 V	-	-	-	-	-
		Source Current	15 mA @ 2.4 V	-	-	-	-	-
Isolated Digital I/O	Input	Channels	16	32	-	16	-	64
		Isolation Voltage	2,500 V_{DC}	2,500 V_{DC}	-	2,500 V_{DC}	-	2,500 V_{DC}
		Input Range	5 ~ 30 V_{DC}	5 ~ 30 V_{DC}	-	5 ~ 50 V_{DC}	-	10 ~ 50 V_{DC}
	Output	Channels	16 (sink)	-	32 (sink)	16 (sink/source)	64 (sink/source)	-
		Isolation Voltage	2,500 V_{DC}	-	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	-
		Output Range	5 ~ 40 V_{DC}	-	5 ~ 40 V_{DC}	5 ~ 40 V_{DC}	5 ~ 40 V_{DC}	-
		Max. Current	300 mA	-	200 mA	200 mA	200 mA	-
Timer/ Counter	Channels		-	-	-	1	-	-
	Resolution		-	-	-	16-bit	-	-
	Max. Input Frequency		-	-	-	1 MHz	-	-
Advanced Function	Pattern Match		-	-	-	-	-	-
	Change of State		-	-	-	-	-	-
	Board ID Switch		✓	✓	✓	-	✓	✓
	Channel-Freeze Function		✓	-	-	-	✓	-
	Output Status Read Back		✓	-	✓	-	✓	-
	Dry/Wet Contact*		✓	✓	-	✓	-	-
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			1 x DB37 4 x 20-pin	1 x DB37	1 x DB37	1 x DB37	100-pin SCSI	100-pin SCSI
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓
	WinCE		✓	-	✓	✓	✓	✓
	Linux		✓	✓	✓	✓	✓	✓
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-
	Linux		✓	-	-	✓	✓	-
LabVIEW Driver			✓	✓	✓	✓	✓	✓

* Simultaneous dry/wet contact within a group is acceptable.

✓: supported, - : not supported, △ : optional

Digital I/O and Counter Card Selection Guide

Category			Isolated Digital I/O						
Bus			PCI						
Part Number			PCI-1756	PCI-1758UDI	PCI-1758UDO	PCI-1758UDIO	PCI-1760U	PCI-1761	PCI-1762
TTL DI/O	Input Channels		-	-	-	-	-	-	-
	Output Channels		-	-	-	-	-	-	-
	Output Channel	Sink Current	-	-	-	-	-	-	-
		Source Current	-	-	-	-	-	-	-
Isolated Digital I/O	Input	Channels	32	128	-	64	8	8	16**
		Isolation Voltage	2,500 V_{DC}	2,500 V_{RMS}	-	2,500 V_{DC}	2,500 V_{DC}	3,750 V_{DC}	2,500 V_{DC}
		Input Range	10 ~ 50 V_{DC}	5 ~ 25 V_{DC}	-	5 ~ 25 V_{DC}	4.5 ~ 12 V_{DC}	5 ~ 50 V_{DC}	10 ~ 50 V_{DC}
	Output	Channels	32 (Sink)	-	128	64	6 x Form A 2 x Form C	4 x Form A 4 x Form C	16
		Isolation Voltage	2,500 V_{DC}	-	2,500 V_{RMS}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}
		Output Range	5 ~ 40 V_{DC}	-	5 ~ 40 V_{DC}	5 ~ 40 V_{DC}	1 A @ 125 V_{AC} 2 A @ 30 V_{DC}	8 A @ 250 V_{AC} 2 A @ 30 V_{DC}	0.25 A @ 250 V_{AC} 2 A @ 30 V_{DC}
		Max. Sink Current	200 mA	-	90 mA	90 mA			
Timer/Counter	Channels		-	-	-	-	8 x CTR 2 x PWM	-	-
	Resolution		-	-	-	-	16-bit (2,500 isolation)	-	-
	Max. Input Frequency		-	-	-	-	500 Hz for CTR	-	-
Advanced Function	Pattern Match		-	-	-	-	✓	-	-
	Change of State		-	-	-	-	✓	-	-
	Board ID Switch		✓	✓	✓	✓	✓	✓	✓
	Channel-Freeze Function		✓	-	-	-	-	-	✓
	Output Status Read Back		✓	-	✓	✓	✓	✓	✓
	Dry/Wet Contact*		-	-	-	-	-	-	-
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")
Connector			100-pin SCSI	Dual 100-pin mini SCSI	Dual 100-pin mini SCSI	Dual 100-pin mini SCSI	1 x DB37	1 x DB37	1 x DB62
Legacy Driver	Windows XP/2000		-	✓	✓	✓	-	✓	✓
	WinCE		✓	✓	✓	✓	✓	✓	✓
	Linux		-	✓	✓	✓	-	✓	✓
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-	-
	Linux		-	✓	✓	✓	-	✓	✓
LabVIEW Driver			✓	✓	✓	✓	✓	✓	✓

* Simultaneous dry/wet contact within a group is acceptable.
** Jumper selectable Form A / Form B type relay output
✓: supported, - : not supported, △ : optional



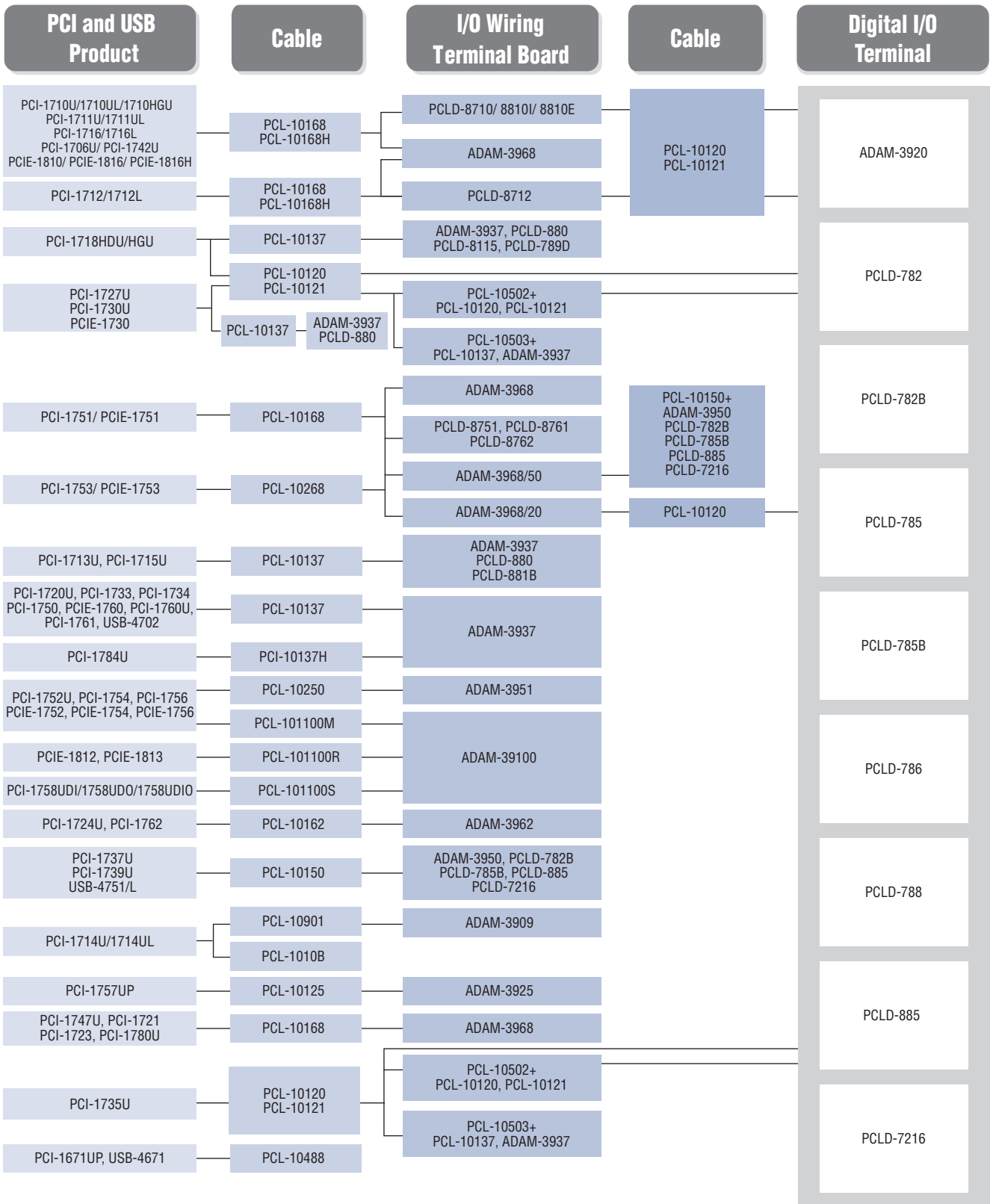



Category			Isolated Digital I/O				Counter	
Bus			PC/104		PCI-104		PCI	PC/104
Part Number			PCM-3725	PCM-3730	PCM-3730I	PCM-3761I	PCI-1780U	PCM-3780
TTL DI/O	Input Channels		8	16	-	-	8	24 (shared)
	Output Channels		8	16	-	-	8	
	Output Channel	Sink Current	-	0.5 V @ 8 mA	-	-	24 mA @ 0.5 V	24 mA @ 0.5 V
		Source Current	-	0.4 mA @ 2.4 V	-	-	15 mA @ 2.4 V	15 mA @ 2.0 V
Isolated Digital I/O	Input	Channels	8	8	16	8	-	-
		Isolation Voltage	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	-	-
		Input Range	10 ~ 50 V_{DC}	5 ~ 24 V_{DC}	5 ~ 30 V_{DC}	5 ~ 30 V_{DC}	-	-
	Output	Channels	8 x Form C	8	16	8 x Form C	-	-
		Isolation Voltage	2,000 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,000 V_{DC}	-	-
		Output Range	0.25A @ 240 V_{DC} 1A @ 30 V_{DC}	5 ~ 40 V_{DC}	5 ~ 30 V_{DC}	0.25 A @ 250 V_{AC} 2 A @ 30 V_{DC}	-	-
		Max. Sink Current		200 mA	300 mA		-	-
Timer/ Counter	Channels		-	-	-	-	8 x CTR	2
	Resolution		-	-	-	-	16-bit	16-bit
	Max. Input Frequency		-	-	-	-	20 MHz	20 MHz
Advanced Function	Pattern Match		-	-	-	-	-	-
	Change of State		-	-	-	-	-	-
	Board ID Switch		-	-	-	✓	✓	-
	Channel-Freeze Function		-	-	-	-	-	-
	Output Status Read Back		-	-	-	✓	-	-
	Dry/Wet Contact*		-	-	-	-	-	-
Dimensions (L x H)			96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	175 x 100 mm (6.9" x 3.9")	96 x 90 mm (3.8" x 3.5")
Connector			1 x 20-pin 1 x 50-pin	3 x 20-pin	2 x 20-pin	1 x 20-pin 1 x 50-pin	68-pin SCSI	1 x 50-pin 1 x 20-pin
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓
	WinCE		✓	✓	✓	✓	-	✓
	Linux		✓	✓	✓	✓	✓	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓	✓	✓
	WinCE		-	-	-	-	-	-
	Linux		-	-	-	✓	-	-
LabVIEW I/O Driver			✓	✓	✓	✓	✓	✓

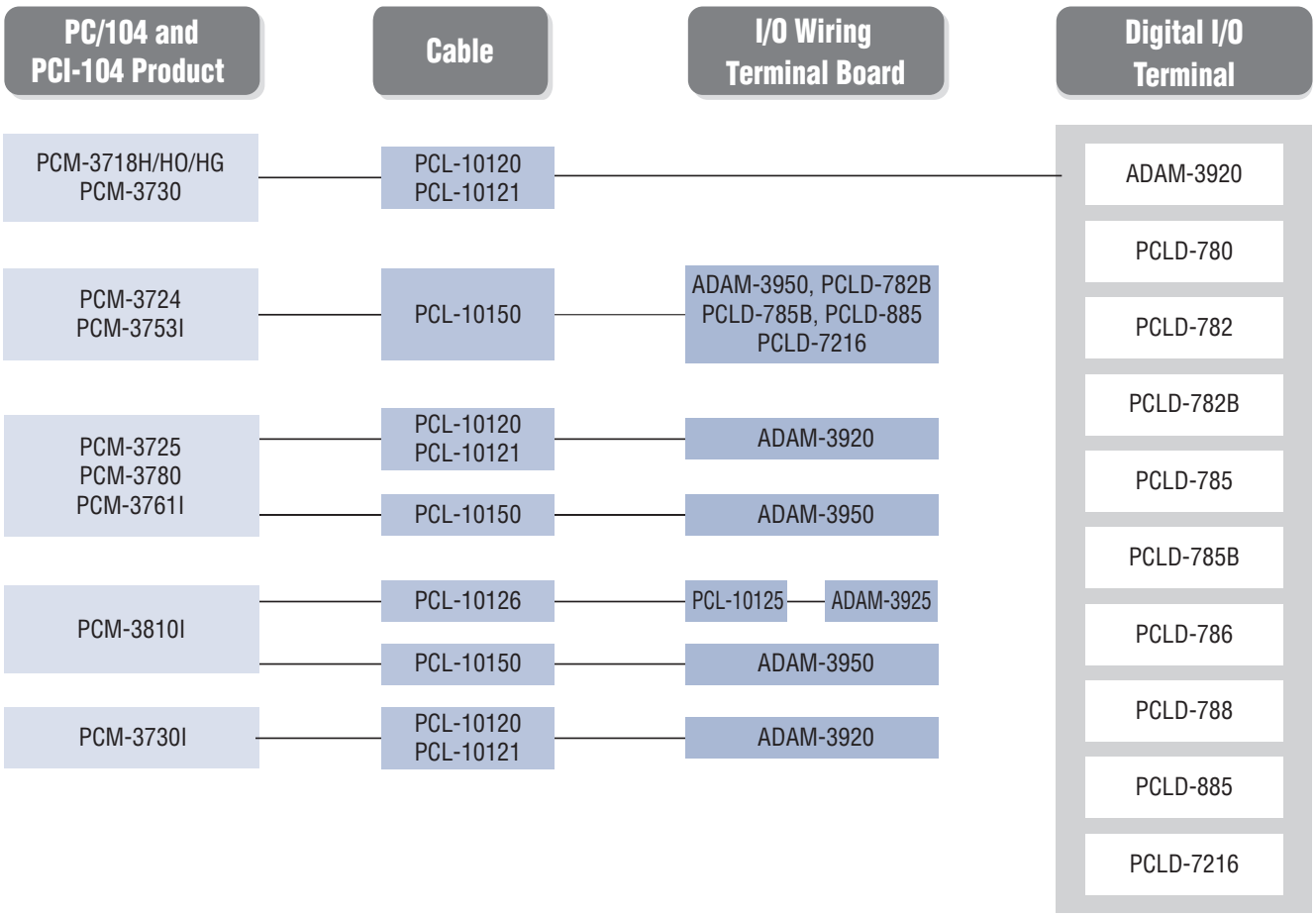
* Simultaneous dry/wet contact within a group is acceptable.
** Jumper-selectable Form A/B-type relay output.
✓: supported, - : not supported, △ : optional

Terminal Board Selection Guide

Recommended Cables, I/O Wiring Terminal Boards, and Isolated Digital I/O Terminals for Connecting to PC/104 and PCI-104 DAQ Products



Recommended Cables, I/O Wiring Terminal Boards, and Isolated Digital I/O Terminals for Connecting to PC/104 and PCI-104 DAQ Products



Cable Accessories

Part Number	Description
PCL-1010B-1E	BNC to BNC wiring cable, 1 m
PCL-101100-1E	100-pin SCSI high-speed cable, 1 m
PCL-101100R-1E	100-pin SCSI shielded cable, 1 m
PCL-101100R-2E	100-pin SCSI shielded cable, 2 m
PCL-101100S-1E	100-pin mini SCSI cable, 1 m
PCL-101100S-2E	100-pin mini SCSI cable, 2 m
PCL-101100S-3E	100-pin mini SCSI cable, 3 m
PCL-101100M-3E	100-pin SCSI shielded cable, 3 m
PCL-10120-0.4E	20-pin flat cable, 0.4 m
PCL-10120-1E	20-pin flat cable, 1 m
PCL-10120-2E	20-pin flat cable, 2 m
PCL-10121-2E	20-pin shielded cable, 2 m
PCL-10125-1E	DB25 cable, 1 m
PCL-10125-3E	DB25 cable, 3 m
PCL-10126-0.2E	26-pin to DB25(f) flat cable, 0.2 m
PCL-10137-1E	DB37 cable, 1 m
PCL-10137-2E	DB37 cable, 2 m
PCL-10137-3E	DB37 cable, 3 m
PCL-10137H-1E	DB37 high-speed cable, 1 m

Part Number	Description
PCL-10137H-3E	DB37 high-speed cable, 3 m
PCL-10141-0.2E	40-pin to DB37(f) flat cable, 0.2 m
PCL-10150-1.2E	50-pin flat cable, 1.2 m
PCL-10162-1E	DB62 cable, 1 m
PCL-10162-3E	DB62 cable, 3 m
PCL-10168-1E	68-pin SCSI shielded cable, 1 m
PCL-10168-2E	68-pin SCSI shielded cable, 2 m
PCL-10168H-1E	68-pin SCSI shielded cable with noise rejection, 1 m
PCL-10168H-2E	68-pin SCSI shielded cable with noise rejection, 2 m
PCL-10250-1E	100-pin SCSI to 2 x 50-pin SCSI cable, 1 m
PCL-10250-2E	100-pin SCSI to 2 x 50-pin SCSI cable, 2 m
PCL-10268-1E	100-pin SCSI to 2 x 68-pin SCSI cable, 1 m
PCL-10268-2E	100-pin SCSI to 2 x 68-pin SCSI cable, 2 m
PCL-10488-2	IEEE-488 cable, 2 m
PCL-10502-AE	Dual 20-pin to PC slot plate extender
PCL-10503-AE	Dual 20-pin to DB37 adapter
PCL-10901-3E	DB9 to PS/2 cable, 3 m

DAQ-Embedded Computer Selection Guide




Category			Multifunction Platform			
CPU			Intel Celeron 1047UE	Intel Core™ i3-3217UE	Intel Celeron 1047UE	Intel Core™ i3-3217UE
Memory			DDR3 4GB			
Part Number			MIC-1810-S4A1E	MIC-1810-S6A1E	MIC-1816-S4A1E	MIC-1816-S6A1E
Analog Input	Resolution		12-bit	12-bit	16-bit	16-bit
	Channels		16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.
	Onboard FIFO		4,096 samples	4,096 samples	4,096 samples	4,096 samples
	Sampling Rate		500 kS/s	500 kS/s	1MSPS	1MSPS
	Input Ranges	Unipolar Inputs	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V
		Bipolar Inputs	±10, ±5, 2.5, 1.25, 0.625 V	±10, ±5, 2.5, 1.25, 0.625 V	±10, ±5, 2.5, 1.25, 0.625 V	±10, ±5, 2.5, 1.25, 0.625 V
		Configurable Per Channel	✓	✓	✓	✓
	Trigger Modes	Pacer/ Software/ External Pulse	✓	✓	✓	✓
		Analog Slope	✓	✓	✓	✓
		Advanced Trigger	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop
	Data Transfer Modes	Software	✓	✓	✓	✓
		DMA	Bus mastering	Bus mastering	Bus mastering	Bus mastering
Analog Output	Resolution		12-bit	12-bit	16-bit	16-bit
	Channels		2 (waveform output)	2 (waveform output)	2 (waveform output)	2 (waveform output)
	Onboard FIFO		4,096 samples	4,096 samples	4,096 samples	4,096 samples
	Output Range		0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V
	Output Rate		500 kHz	500 kHz	3 MHz	3 MHz
	DMA Transfer		Bus mastering	Bus mastering	Bus mastering	Bus mastering
Digital I/O	Input Channels		24 (shared)	24 (shared)	24 (shared)	24 (shared)
	Output Channels					
Timer/ Counter	Channels		2	2	2	2
	Resolution		32-bit	32-bit	32-bit	32-bit
	Max. Input Frequency		10 MHz	10 MHz	10 MHz	10 MHz
Isolation Voltage			-	-	-	-
Auto Calibration			✓	✓	✓	✓
Board ID Switch			✓	✓	✓	✓
Dimensions (L x H)			165 x 130 x 59 mm (6.49" x 5.12" x 2.32")	165 x 130 x 59 mm (6.49" x 5.12" x 2.32")	165 x 130 x 59 mm (6.49" x 5.12" x 2.32")	165 x 130 x 59 mm (6.49" x 5.12" x 2.32")
Legacy Driver	Windows XP/2000		-	-	-	-
	WinCE		-	-	-	-
	Linux		-	-	-	-
DAQNavi Driver	Windows 7/8/10		✓	✓	✓	✓
	WinCE		-	-	-	-
	Linux		-	-	-	-
LabVIEW Driver			✓	✓	✓	✓

* 80 kHz on Pentium® 4-based (or higher) systems.
** SS: Single DMA channel, single A/D channel scan.
✓: supported, - : not supported, △ : optional

Signal Conditioner Selection Guide



Model		ADAM-3011	ADAM-3013	ADAM-3014
Signal Type		Thermocouple	RTD	DC input
Channel		1	1	1
Input Type	Voltage	-	-	±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
	Current	-	-	0 ~ 20, ±20 mA
	Others	J, K, T, E, S, R, B Type	Pt or Ni	-
Output	Voltage	0 ~ 10 V	0 ~ 5, 0 ~ 10 V	0 ~ 10, ±5, ±10 V
	Current	-	0 ~ 20 mA	-




Model		ADAM-3016	ADAM-3017	ADAM-3112	ADAM-3114
Signal Type		Strain Gauge	IEPE input	AC/DC input	Current input
Channel		1	1	1	1
Input Type	Voltage	±10, ±20, ±30, ±100 mV (electrical voltage)	4 ~ 24 V (IEPE sensor with up to 10 mA current source)	AC: 0 ~ 120, 0 ~ 250, 0 ~ 400 V DC: 0 ~ 120, 0 ~ 250, 0 ~ 400 V	-
	Current	-	-	-	AC: 0 ~ 5 A_{rms} DC: 0 ~ 5 A
	Others	-	-	-	-
Output	Voltage	0 ~ 10, ±5, ±10 V	DC Couple: 4~24 V AC Couple: ±11 V	0 ~ 5 V_{DC}	0 ~ 5 V_{DC}
	Current	-	-	-	-

USB Digital I/O Module and USB Hub Selection Guide

Category			USB 3.0 Isolated Digital I/O					
Model			USB-5830-AE	USB-5856-AE	USB-5850-AE	USB-5855-AE	USB-5860-AE	USB-5862-AE
Isolated Digital I/O	Input	Channels	16	32	16	32	8	16
		Input Range	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)
		Isolation Protection	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}	2,500 V_{DC}
	Output	Channels	16	32	-	-	-	-
		Load Voltage	5 ~ 40 V_{DC}	5 ~ 40 V_{DC}	-	-	-	-
		Load Current	350mA/ch (sink) @ 25°C 250mA/ch (sink) @ 60°C	350mA/ch (sink) @ 25°C 250mA/ch (sink) @ 60°C	-	-	-	-
		Isolation Protection	2,500 V_{DC}	2,500 V_{DC}	-	-	-	-
		Opto-Isolator Response Time	100 µs	100 µs	-	-	-	-
Relay Output	PhotoMOS SPST(Form A)	Channels	-	-	8	16	-	-
		Load Voltage	-	-	60V (AC peak or DC)	60V (AC peak or DC)	-	-
		Load Current	-	-	1.2A/ch	1.2A/ch	-	-
		Isolation Protection	-	-	1,500 V_{DC}	1,500 V_{DC}	-	-
		Response Time	-	-	Turn-on: 1 ms (typical) Turn-off: 0.6 ms (typical)	Turn-on: 1 ms (typical) Turn-off: 0.6 ms (typical)	-	-
	Relay Output Form A	Channels	-	-	-	-	8	16
		Contact Rating (resistive)	-	-	-	-	2A @ 250 V_{AC}, 2A @ 30 V_{DC}	2A @ 250 V_{AC}, 2A @ 30 V_{DC}
		Max. Switching Power	-	-	-	-	500 VA, 60 W	500 VA, 60 W
		Max. Switching Voltage	-	-	-	-	270 V_{AC}, 125 V_{DC}	270 V_{AC}, 125 V_{DC}
		Response Time	-	-	-	-	Operating time: 10 ms (max.) Release time: 5 ms (max.)	Operating time: 10 ms (max.) Release time: 5 ms (max.)
Dimensions			120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")	120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")	120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")
Board ID Switch			✓	✓	✓	✓	✓	✓
Operating Temperature			0 ~ 60 °C (32 ~ 140 °F)					
Supported Operating Systems			Windows XP/7/8/10 and Linux					

✓: supported, - : not supported, △ : optional

Category			USB 2.0 Digital I/O			
Model			USB-4750-AE	USB-4751-AE	USB-4751L-AE	USB-4761-AE
DI/O	Input	Channels	16	48 (Shared)	24 (Shared)	8
		Input Range	Logic 0: 2 V max. Logic 1: 5 V min. (60 V max.)	Logic 0: 0.8 V max. Logic 1: 2 V min. (5 V/TTL)	Logic 0: 0.8 V max. Logic 1: 2 V min. (5 V/TTL)	Logic 0: 2 V max. Logic 1: 5 V min. (30 V max.)
		Isolation Protection	2,500 V_{DC}	-	-	2,500 V_{DC}
	Output	Channels	16	48 (Shared)	24 (Shared)	-
		Load Voltage	5 ~ 40 V_{DC}	Logic 0: 0.5 V max. Logic 1: 3.8 V min	Logic 0: 0.5 V max. Logic 1: 3.8 V min	-
		Load Current	200mA/ch (sink)	Sink: 12 mA @ 0.5 V Source: 5 mA @ 3.8 V for all channels in high status	Sink: 12 mA @ 0.5 V Source: 5 mA @ 3.8 V for all channels in high status	-
		Isolation Protection	2,500 V_{DC}	-	-	-
		Opto-Isolator Response Time	100 µs	-	-	-
Relay Output		Channels	-	-	-	8 x Form C
		Contact Rating (resistive)	-	-	-	0.25A@250V_{AC}, 1A@30V_{DC}
		Max. Switching Power	-	-	-	62.5 VA, 60 W
		Max. Switching Voltage	-	-	-	250 V_{AC}, 220 V_{DC}
		Response Time	-	-	-	Operating time: 6 ms (max.) Release time: 4 ms (max.)
Counter		Channels	2	2	2	-
		Isolation Protection	2,500 V_{DC}	-	-	-
		Max. Input Frequency	1 MHz	8 MHz	8 MHz	-
Dimensions			132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
Supported Operating Systems			Windows XP/7/8/10 and Linux			

Category		Industrial USB Hub		
Model		USB-4620-AE	USB-4622-BE	USB-4630-AE
Connectivity	Ports	1 x Upstream (Type B) 5 x Downstream (Type A)	1 x Upstream (Type B) 5 x Downstream (Type A)	1 x Upstream (Type B) 4 x Downstream (Type A)
	Compatibility	USB 2.0 Full Speed	USB 2.0 High Speed	USB 3.0 SuperSpeed
	Transfer Speed	12 Mbps	480 Mbps	5 Gbps shared by all downstream ports
	Supply Current	500 mA max. per port	500 mA max. per port	External power: 900 mA max. per port USB bus power: 700 mA max. shared by all ports
Isolation Protection		3,000 V_{DC}	-	2,500 V_{DC}
General	Dimensions	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")		
	DC Input	10 ~ 30 V_{DC}		
	Operating Temperature	0 ~ 60°C (32 ~ 140°F)	0 ~ 60°C (32 ~ 140°F)	0 ~ 70°C (32 ~ 158°F)

Multifunction DAQ USB Module Selection Guide

Category			USB 2.0 Multifunction				
Part Number			USB-4702-AE	USB-4704-AE	USB-4711A-AE	USB-4716-AE	USB-4718
Analog Input	Resolution		12-bit	14-bit	12-bit	16-bit	16-bit
	Channels		8 SE/4 diff.	8 SE/4 diff.	16 SE/8 diff.	16 SE/8 diff.	8 diff.
	Onboard FIFO		512 samples	512 samples	1,024 samples	1,024 samples	-
	Sampling Rate		10 kS/s	48 kS/s	150 kS/s	200 kS/s	10 S/s
	Input Ranges	Unipolar Inputs	-	-	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 20, 4 ~ 20 mA Thermocouple J, K , T, E, R, S, B 0 ~ 1, 0 ~ 2.5, 0 ~ 0.015, 0 ~ 0.05, 0 ~ 0.1, 0 ~ 0.5 V
		Bipolar Inputs	±20, 10, 5, 4, 2.5, 1.25, 1 V	±20, 10, 5, 4, 2.5, 1.25, 1 V	±10, 5, 2.5, 1.25 V 0.625 V	±10, 5, 2.5, 1.25 V 0.625 V	-
		Configurable Per Channel	✓	✓	✓	✓	✓
	Trigger Modes	Pacer/Software	✓	✓	✓	✓	✓
		External Pulse	✓	✓	✓	✓	✓
	Data Transfer	Software	✓	✓	✓	✓	✓
Analog Output	Resolution		12-bit	12-bit	12-bit	16-bit	-
	Channels		2	2	2	2	-
	Output Range		0 ~ 5 V	0 ~ 5, 0 ~ 10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	-
	Output Rate		Static update	Static update	Static update	Static update	-
Digital I/O	Input Channels		8	8	8	8	8 (isolated)
	Output Channels		8	8	8	8	8 (isolated)
Timer/ Counter	Channels		1	1	1	1	-
	Resolution		32-bit	16-bit	16-bit	16-bit	-
	Max. Input Frequency		5 MHz	10 MHz	1 KHz	1 KHz	-
Auto Calibration			✓	✓	✓	✓	-
Dimensions (L x H)			70 x 70 mm (2.76" x 2.76")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
Connector			DB37	Onboard screw terminal	Onboard screw terminal	Onboard screw terminal	Onboard screw terminal
Supported Operating Systems			Windows XP/7/8/10 and Linux				
LabVIEW Driver			✓	✓	✓	✓	✓

✓: supported, - : not supported, △ : optional

Serial Communication Card Selection Guide

Serial Communication Cards

NEW

Bus		PCI Express								
Part Number		PCI-1602	PCI-1602UP	PCI-1604	PCI-1604L	PCI-1610	PCI-1612	PCI-1620	PCI-1622	PCI-1680U
I/O Ports		2	2	2	2	4	4	8	8	2
Communication Interfaces	RS-232	✓	✓	✓	✓	✓	✓	✓	✓	-
	RS-422	✓	✓	-	-	-	✓	-	✓	-
	RS-485	✓	✓	-	-	-	✓	-	✓	-
	CAN	-	-	-	-	-	-	-	-	✓
Drivers		Windows XP/7/8/10 and Linux								
Protection	ESD	15 kV (air), 8 kV (contact)								8 kV (air), 4 kV (contact)
	Isolation	3,000 V_{DC}	2,500 V_{DC}	3,000 V_{DC}	-	3,000 V_{DC}	3,000 V_{DC}	-	3,000 V_{DC}	1,000 V_{DC}

Bus		PCI Express						
Part Number		PCIE-1602	PCIE-1604	PCIE-1610	PCIE-1612	PCIE-1620	PCIE-1622	PCIE-1680
I/O Ports		2	2	4	4	8	8	2
Communication Interfaces	RS-232	✓	✓	✓	✓	✓	✓	-
	RS-422	✓	-	-	✓	-	✓	-
	RS-485	✓	-	-	✓	-	✓	-
	CAN	-	-	-	-	-	-	✓
Drivers		Windows XP/7/8/10 and Linux						
Protection	ESD	15 kV (air), 8 kV (contact)						
	Isolation	3,000 V_{DC}	3,000 V_{DC}	-	3,000 V_{DC}	-	3,000 V_{DC}	2,500 V_{DC}

✓: supported, - : not supported, △ : optional

Serial Communication Card Selection Guide

PC/104 Communication Modules







Bus		PC/104						
Part Number		PCM-3680	PCM-3660	PCM-3610	PCM-3612	PCM-3614	PCM-3618	PCM-3641
I/O Ports		2	2	2	2	4	8	4
Communication Interfaces	Ethernet	-	✓	-	-	-	-	-
	RS-232	-	-	✓	-	-	-	✓
	RS-422	-	-	✓	✓	✓	✓	-
	RS-485	-	-	✓	✓	✓	✓	-
	CAN	✓	-	-	-	-	-	-
Protection	ESD	8 kV (air), 4 kV (contact)						
	Isolation	2,500 V_{DC}	-	2,500 V_{DC}	-	-	-	-

PCI-104 Communication Modules




Bus		PCI-104	
Part Number		PCM-3680I	PCM-3612I
I/O Ports		2	4
Communication Interfaces	Current Loop	-	-
	RS-232	-	V
	RS-422	-	V
	RS-485	-	V
	CAN	V	-
Protection	ESD	8 kV (air), 4 kV (contact)	15 kV (air), 8 kV (contact)
	Isolation	2,500 V_{DC}	-

Bus	MIOe PCI Express	
Part Number	MIOe-3680-AE	MIOe-3674-AE
Protocol	CAN 2.0 A/B	802.3af (PoE)
Ports	2	4 Gigabit Ethernet MAC and PHY ports
Protection	2,500 V_{DC}	ESD 8 kV, EFT 2 kV

Accessories





Part Number		1700018791	OPT4A	OPT8C	OPT8H	OPT8J
Length		30 cm	30 cm	1 m	1 m	1 m
Communication Interfaces	Connector Type	DB37 Male	DB37 Male	DB62 Male	DB62 Male	DB78
	Qty	1	1	1	1	1
	Connector Type	DB25 Male	DB9 Male	DB25 Male	DB9 Male	DB9 Male
	Qty	4	4	8	8	8
Applications		PCI-1610B, PCI-1610C, PCI-1612B, PCI-1612C, PCIE-1610B, PCIE-1612B, PCIE-1612C	PCI-1610B, PCI-1610C, PCI-1612B, PCI-1612C, PCIE-1610B, PCIE-1612B, PCIE-1612C	PCI-1620A, PCI-1620B, PCIE-1620A, PCIE-1622B	PCI-1620A, PCI-1620B, PCIE-1620A, PCIE-1622B	PCI-1622C, PCIE-1622C

✓: supported, - : not supported, △ : optional

Intelligent Video Solution

Innovative Video Platform with Intelligent Video Analytics

Advantech offers an extensive range of video products, including video capture cards (PCIe, mini PCIe, and M.2) and industrial-grade video processing systems, to meet various market needs. From lecture recording to medical imaging, event broadcasting, live video streaming, and 24-hour surveillance, Advantech's intelligent video platforms are capable of supporting diverse video-related applications. These integrated hardware and software solutions are also pre-installed with intelligent video analysis software and equipped with a powerful software development kit that enables developers to more efficiently implement unique application software, thereby shortening overall development time.

Completed Architecture

Efficient Development

Professional Service

Multiple Applications Supported

Stability Performance

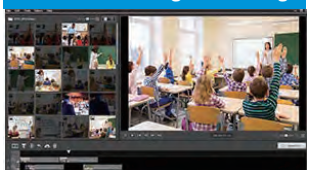
High-Efficiency Video Coding

High Compatibility

Medical Imaging

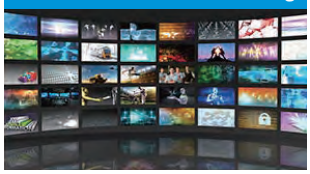
Advantech's video capture cards are designed to deliver precise imaging for medical applications. The inclusion of a powerful software development kit and support for various programming languages allows system integrators to easily develop unique applications.

Video Recording/Streaming



Advantech's video capture cards also support video streaming, specifically multi-stream channel recording and file exporting/merging. This allows hospitals to record and stream video in various formats for medical education and training.

Multi-Platform Broadcasting



Equipped with transcoding and multi-streaming protocols, Advantech's video card solutions can be used to broadcast multimedia content to a wide variety of client devices and facilitate multi-platform streaming operations.

Video Surveillance

Advantech provides a full range of capture card solutions for the video surveillance market. These high-performance cards support diverse video output interfaces to enable flexible support for diverse applications.

DVP Video Capture Card

NEW NEW

Model Name		DVP-7011HE	DVP-7013HE	DVP-7016HE	DVP-7017HE	DVP-7019HE	DVP-7021HE	DVP-7031HE
Video	Compression	SW H.264	SW H.264	S/W H.264	S/W H.264	S/W H.264	S/W H.264	SW H.264
	Channels	1	1	1	1	1	2	4
	Host Interface	PCIe x1 (Gen2)	PCIe x1 (Gen 2)	Mini PCIe x1 (Gen 2)	Mini PCIe x1 (Gen2)	PCIe x1 (Gen1)	PCIe x1 (Gen2)	PCIex4 (Gen2)
	Input Interface	SDI/HDMI/DVI/ VGA/YPbPr/ Composite/ S-Video	HDMI/DVI/ VGA/YPbPr/ Composite/ S-Video	1 x HDMI/DVI/ YPbPr/VGA	1 x SDI	SDI/DVI/ VGA/HDMI/ Composite/ YPbPr/S-video	SDI/DVI/ VGA/HDMI/ Composite/ YPbPr/S-video/ VGA	HDMI
	Max. Display Resolution	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	1920 x 1080 @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 60/50	1920 x 1080 @ 60/50
	Max. Recording Resolution	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	1920 x 1080 @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 60/50	1920 x 1080 @ 60/50
	Max. Display Rate	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Max. Recording Rate	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Video Outputs	-	HDMI/DVI/ YPbPr/ Composite/ S-Video Loop Through	-	1 x SDI (Loop Through)	-	-	-
Audio	Audio Inputs	1 x SDI, 1 x HDMI, 2 x RCA	1 x HDMI / 2 x RCA	1 x HDMI / 2 x RCA	1 x SDI + 2 x RCA	HDMI/SDI/ Audio (L/R)	2 x HDMI / Audio (L/R)	4 x HDMI
	Format	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz
Watchdog		Yes	Yes	No	NO	-	-	Yes
Physical Characteristic	Operating Temperature	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimensions (W x H x D)	107 x 101 mm (4.21" x 3.97")	135 x 69 mm (5.31" x 2.71")	30 x 51 mm (1.18" x 2")	30 x 51 mm (1.18" x 2")	105 x 69 mm (4.13" x 2.71") PCIe Low profile	108 x 85 mm (4.25" x 3.34") PCIe Full Height	168 x 93 mm (6.64" x 3.66")
	Safety	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Operating System	Operating System	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/XPe/ Vista/7/8/8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64-bit

NEW NEW NEW NEW NEW 4K ULTRA HD






Model Name		DVP-7033HE	DVP-7035HE	DVP-7635HE	DVP-7011MHE	DVP-7012MHE	DVP-7011UHE
Video	Compression	SW H.264	S/W H.264	H/W H.264	S/W H.264	S/W H.264	S/W H.264
	Channels	4	4	4	1	1	1
	Host Interface	PCIe x4 (Gen2)	PCIe x4 (Gen2)	PCIe x 4	PCIeM.2	PCIeM.2	PCIe x 4
	Input Interface	3G-SDI/HD-SDI/ SDI	TVI/CVI/AHD/ Composite (CVBS)	TVI/CVI/AHD/ Composite (CVBS)	HDMI/DVI/VGA/ YPbPr	SDI	HDMI 2.0
	Max. Display Resolution	1920 x 1080 @ 60/50	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	4096 x 2160p @ 60/50
	Max. Recording Resolution	1920 x 1080 @ 60/50	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	4096 x 2160p @ 60/50
	Max. Display Rate	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Max. Recording Rate	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Video Outputs	-	-	-	-	SDI x 1 (Loop through)	-
Audio	Audio Inputs	4 x SDI + 2 x 3.5mm Audio	2 x 3.5mm Audio	-	1 x HDMI / Audio (L/R)	1 x SDI / Audio (L/R)	HDMI/SDI/ Audio (L/R)
	Format	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz	Stereo, 16-bit, 32 ~ 48 kHz
Watchdog		Yes	-	Yes	-	-	Yes
Physical Characteristic	Operating Temperature	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimensions (W x H x D)	140 x 101 mm (5.51" x 3.97")	128 x 101mm (5.03" x 3.97") PCIe Full Height	150 x 101 mm (5.9" x 3.97")	22 x 60 mm (0.86" x 2.36") M.2 Type B/M	22 x 60 mm (0.86" x 2.36") M.2 Type B/M	145 x 69 mm (5.7" x 2.71") PCIe Low profile
	Safety	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Operating System	Operating System	Windows XP/ XPe/Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/XPe/ Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/XPe/ Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit	Windows XP/ XPe/Vista/7/Win8/ Win8.1/Win10; Linux 2.6.14 or higher; 32/64-bit