

### 5-port USB 2.0 Hub



#### **Features**

- 5 downstream USB 2.0 port (Type A)
- Compatible with USB 2.0/1.1/1.0
- 480Mbit/s high-speed data transfer
- LED indicators
- Suitable for DIN-rail mounting
- Lockable USB cable for rigid connection

# Introduction

USB-4622 is a USB 2.0 hub capable of connecting at most 5 USB salve modules. It supports the USB 2.0 high-speed mode that can achieve 480Mbps data transmitting rate, realizing the USB-4700 series' high performance for heavy-loaded applications. The Advantech's unique lockable cable design secures the slave module connections, preventing the cable from being unplugged accidently.

# **Specifications**

•	Ports	Upstream x 1 (TypeB)/Downstream x 5(TypeA)
•	Compatibility	Universal Serial Bus Specification Rev. 2.0/1.1/1.0
		Advanced Configuration and Power Interface (ACPI),
		OnNow and USB power management requirements
•	Transfer Speed	480 Mbit/s (High Speed Mode)
		12 Mbit/s (Full-speed Mode)
		1.5 Mbit/s (low-speed mode)
•	Supply Current	500 mA max. per channel
G	eneral	
•	Housing	Plastic (ABS+PC)
•	Dimensions	132 x 80 x 32 mm (L x W x H)
•	Power Consumption	+5 V @ 2.5A max.
•	<b>Operating Temperature</b>	0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
•	Storing Temperature	-20 ~ 70° C (-4 ~ 158° F)
•	Storing Humidity	5 ~ 95% RH non-condensing (refer to IEC 68-2-3)

# **Ordering Information**

USB-4622

5-port USB 2.0 Hub (Power adapter included)

# **Advantech USB Data Acquisition Series**



# Introduction

USB data acquisition products are becoming very popular in the field. Many customers in Asia have utilized our plug-in data acquisition, motion control and communication cards to develop machines, and then distribute them to China, Thailand, Vietnam ... and so forth. So far the machine builders needed to bring many tools & spare parts to the end-customer for after service work

Now we offer a better solution, Engineers can just use a Notebook and a USB data acquisition module to do the job. Because all the specifications are the same, engineers can directly evaluate the program and troubleshoot on their notebooks.

Besides, the embedded controller is well proved by several industrial applications, and now can provide faster fanless low-power CPU with USB 2.0 interface. The idea is coming to separate computing platform and data acquisition interface into two parts.

The technology of computing platform is always changing. People can enjoy high-stability and high-performance computing platform by leverage those latest embedded technology, also to save the maintenance cost and system upgrade effort.

On the other hand, the data acquisition and control interface technology is not changing frequently. Most of the time those interface will comes together with cable and terminal board, engineer intend to keep the same configuration to provide the stable and reliable data acquisition and control system. That means its life cycle is longer than computing platform, and engineer can reduce the effort by maintain two parts separately.

The transmission rate of USB 2.0 is 480Mb/s, which can provide the same performance as general purpose PCI-bus data acquisition and control cards. With Advantech's innovative designed on the screw-type USB connection cable, the Advantech USB-based data acquisition and control modules are the next generation solution for industrial test and measurement applications.

# Portable, Easy to Install & Use

#### The Key Benefits of USB DAQ Modules Are:

Plug & Play

- Advantech USB data acquisition series features the plug & play function that users can install/setup the devices and ready to go within seconds.

Single Cable Connection with PC

- The USB series connects to the user's host system via a shielded USB cable and are powered through this cable, which saves users from the annoying wiring and extra accessory costs

#### Best Mate for Notebook

- The bus-powered design and compact size make Advantech USB data acquisition series the best mate for the notebook.

#### Features

- USB 2.0 Hub and data acquisition & control modules
- Full family extend compatible with PCI-bus data acquisition & control cards
- Versatile mounting methods wall, panel, DIN-rail, and VESA .
- · Palm sized and bus-powered
- Wiring terminal on modules
- Ready-to-Use software & drivers

#### 480 Mb/s Transmission Rates

- High speed data transmission realizes the high-performance and high-accuracy on the USB dada acquisition.

#### **Design Concepts**

#### Efficient

- Advantech USB data acquisition series needs no external power source and can get rig of the power cord and adapters, give users the most convenience on the field side applications.

#### Portable

- The palm-sized and light-weight USB data acquisition series is suitable for hand carry when you travel to exhibitions or business shows.

#### Fast

- 480Mbps data transmission rate is 20000 times faster than traditional RS-485 based I/O, make the USB series possible to achieve heavy-loaded tasks.

#### Integrated

- All the analog input, analog out, digital input, and digital output functions are integrated into the USB series. Users can get multiple functions by getting only module on hand.

#### Convenient

- The built-in wiring terminals facilitate the operations without using any wiring cables or terminal boards.



Efficient











Integrated Convenient

#### **Extending Benefits to PCI Card Users**

Our concept is to keep same specification as our existed PCI-bus data acquisition cards

- Same specifications and drivers as PCI cards
- For R&D, easy to develop and diagnose the system -The same H/W and S/W between development and run-time -Save time and effort on simulation and troubleshooting

USB Module	PCI Card	Functions
USB-4711	PCI-1711	100kS/s, 12-bit multifunction
USB-4716	PCI-1716	200kS/s, 16-bit multifunction
USB-4750	PCI-1750	32-ch Isolated Digital IO
USB-4751	PCI-1751	48-ch TTL Digital IO
USB-4761	PCI-1761	8-ch Relay and 8-ch Isolated DI
USB-4671	PCI-1671	GPIB device

\*Note: For more detailed specifications, please refer to the respective product pages.

# **Selection Guide**

Category				Analog Input		
Bus	•		USB USB		USB	USB
Model			USB-4711	USB-4711A	USB-4716	USB-4718
		Resolution	12 bits	12 bits	16 bits	16 bits
	General Spec.	Channels	16 SE	16 S.E./ 8 Diff.	16 SE/8 Diff	8 Diff
		Onboard FIFO	1024 samples	1024 samples	1024 samples	10 S/s
		Sampling Rate	100 kS/s	150 kS/s	200 kS/s	10 S/s
+-		Auto Channel Scanning	V	V	V	
ndu		Unipolar Inputs (V)	-	-	-	J,K,T,E,R,S,B types
Analog li	Input Ranges	Bipolar Inputs (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 0 ~ 10 V, 0 ~ 5 V, 0 ~ 2.5 V, 0 ~ 1.25 V	-
		Configurable Per-Channel	V	V	V	V
	Trigger Mode	Pacer/Software/ External Pulse	V	V	V	Software
	Data Transfer Mode	Software	٧	V	V	V
	Data transfer moue	DMA	-	-	-	-
		Resolution	12 bits	12 bits	16 bits	-
Analog Output		Number of Channels	2	2	2	-
		Output Range (V)	0~5, 0~10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	-
		Throughput	Static update	Static update	Static update	-
Dinital	1/0	Input Channels	8	8	8	8 (Isolated)
Digital	/0	Output Channels	8	8	8	8 (Isolated)
		Channels	1	1	1	-
Timer/C	ounter	Resolution	16 bits	16 bits	16 bits	-
		Time Base	1 kHz	1 kHz	1 kHz	-
Isolatio	n Voltage		-	-	-	2,500 V <sub>DC</sub>
Auto Ca	libration		V	V	V	V
BoardID	Switch		Software	Software	Software	Software
Dimensions (mm)			132 x 80 x 32	132 x 80 x 32	132 x 80 x 32	132 x 80 x 32
Connector			Onboard screw terminal	Onboard screw terminal	Onboard screw terminal	Onboard screw terminal
Windows 2000/XP DLL Driver			V	V	V	٧
Windows 2000/XP Test Utility			V	V	V	۷
VC++, VB & Delphi Examples			V	V	V	٧
Advantech ActiveDAQ/ActiveDAQ Pro			V	V	V	V
Labview I/O Drivers (Ver. 6i and 7.0)			V	V	V	V
Page			13-8	13-8	13-9	13-10

Catagory			Non-Isolated DI/O		Isolated DI/O	
Bus			USB	USB	USB	USB
Model			USB-4751	USB-4751L	USB-4750	USB-4761
	Input Channels		- 48	24	-	-
	Output Channels				-	-
	Quitaut Channel	Sink Current	0.4 V @ 8 mA	0.4 V @ 8 mA	-	-
	Output Channel	Source Current	2.4 V @ 4 mA	2.4 V @ 4 mA	-	-
	Input	Channels	-	-	16	8
		Isolation Voltage	-	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>
		Input Range	-	-	5 ~ 50 V <sub>DC</sub>	5 ~ 30 V <sub>DC</sub>
0/IA hatelaal		Channels	-	-	16	8 x Form C
		Isolation Voltage	-	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>
	Output	Output Range	-	-	5 ~ 40 V <sub>DC</sub>	-
		Max. Sink Current	-	-	100 mA max. per channel	30 V <sub>DC</sub> @ 1A, 240 VAX @ 0.25 A
		Channels	3	3	1	-
Timer/Counter		Resolution	16 bits	16 bits	32 bits	-
		Time Base	10 MHz	10 MHz	1 MHz	-
Advanced Function	Output Status Read	Back	V	V	V	V
Dimensions			132 x 80 x 32	132 x 80 x 32	132 x 80 x 32	132 x 80 x 32
Connectors			2 x opto-22 compatiable box header	1 x opto-22 compatiable box header	Ob board screw terminal	Ob board screw terminal
Windows 2000/XP D	LL Driver		V	V	V	V
Windows 2000/XP T	est Utility		V	V	V	V
VC++, VB & Delphi	Examples		V	V	٧	V
Advantech ActiveDA	Q/ActiveDAQ Pro		V	V	V	V
Labview I/O Drivers	(Ver. 6 AND 7.0)		V	V	V	V
Mathworks Matlab & x 2.5.1	& Simulink Data Acq	uisition Tool Box	-	-	-	-
KW Win32 Driver			-	-	-	-
Page			13-12	13-12	13-11	13-13

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13-5