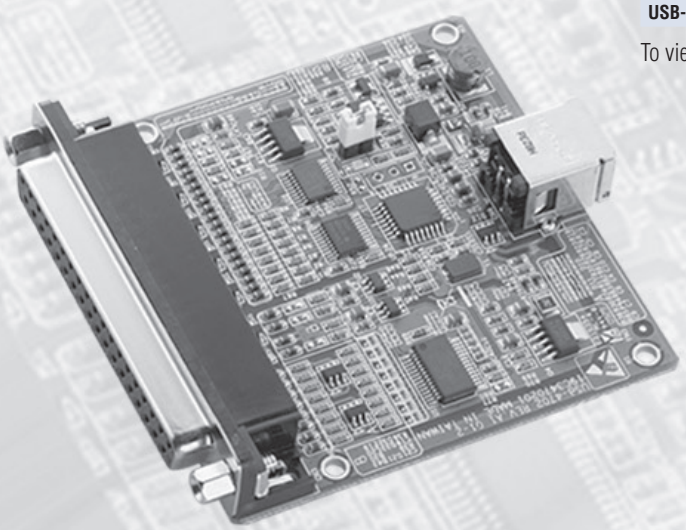
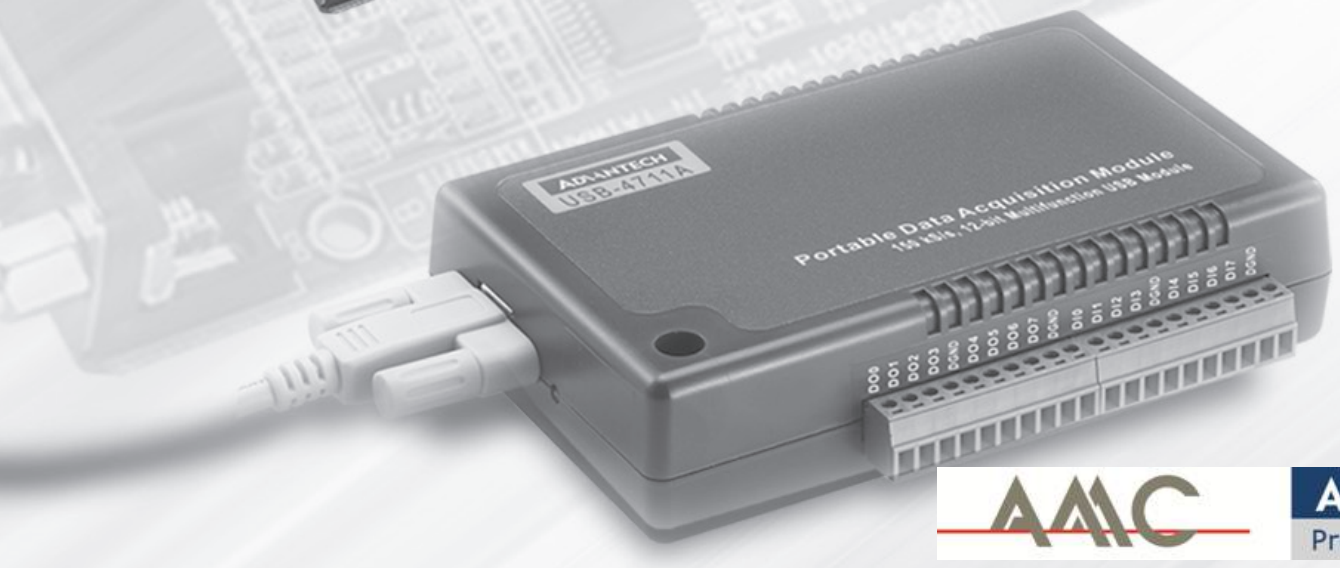
# 21

# Industrial USB I/O Modules


| | | |
|---|---|---|
| **USB Data Acquisition (DAQ) Series Overview** | | *21-2* |
| **USB I/O Module Selection Guide** | | *21-4* |
| **USB Hubs** | | |
| **USB-4620**<br>**USB-4622** | 5-port Full-speed Isolated USB 2.0 Hub<br>5-port High-speed USB 2.0 Hub | *21-6* |
| **USB DAQ Modules** | | |
| **USB-4702**<br>**USB-4704** | 10 kS/s, 12-bit, 8-ch Multifunction DAQ USB Module<br>48 kS/s, 14-bit, 8-ch Multifunction DAQ USB Module | *21-7* |
| **USB-4711A** | 150 kS/s, 12-bit, 16-ch Multifunction DAQ USB Module | *21-8* |
| **USB-4716** | 200 kS/s, 16-bit, 16-ch Multifunction DAQ USB Module | *21-9* |
| **USB-4718** | 8-ch Thermocouple Input USB Module with 8-ch Isolated Digital Input | *21-10* |
| **USB-4750** | 32-ch Isolated Digital I/O USB Module | *21-11* |
| **USB-4751**<br>**USB-4751L** | 48-ch Digital I/O USB Module<br>24-ch Digital I/O USB Module | *21-12* |
| **USB-4761** | 8-ch Relay and 8-ch Isolated Digital Input USB Module | *21-13* |
| **USB GPIB Modules** | | |
| **USB-4671** | GPIB USB Module | *21-14* |


To view all of Advantech's Industrial USB I/O Modules, please visit www.advantech.com/products.







Vertrieb durch AMC

**AMC – Analytik & Messtechnik GmbH Chemnitz**

Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de


AMC

ADVANTECH Premier Partner

# USB Data Acquisition (DAQ) Series Overview

## 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
- Detachable screw terminal on modules
- Ready-to-Use software and drivers

## 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 beyond. So far the machine builders needed to bring many tools and 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 interfaces come together with cable and terminal board, engineers 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 engineers can reduce the effort by maintain two parts separately.

The transmission rate of USB 2.0 is 480 Mb/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 Companion for Notebook**
  The bus-powered design and compact size make Advantech USB data acquisition series the best mate for the notebook.
- **480 Mb/s Transmission Rates**
  High speed data transmission realizes the high-performance and high-accuracy on the USB data acquisition.

### Design Concepts

- **Efficient**
  Advantech USB data acquisition series needs no external power source and can get rid 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.
- **Speedy**
  480Mbps data transmission rate is 20,000 times faster than traditional RS-485 based I/O, making the USB series possible to achieve heavy-loaded tasks.
- **Integrated**
  All the analog input, analog output, 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 Portable Speedy Integrated Convenient

### Extending Benefits to PCI Card Users

Our concept is to keep the same specification as our existed PCI data acquisition cards.

- The 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-4716 | PCI-1716 | 200 kS/s, 16-bit Multifunction |
| USB-4750 | PCI-1750 | 32-ch Isolated Digital I/O |
| USB-4751 | PCI-1751 | 48-ch Digital I/O |
| USB-4761 | PCI-1761 | 8-ch Relay and 8-ch Isolated Digital Input |
| USB-4671 | PCI-1671UP | GPIB Device |

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

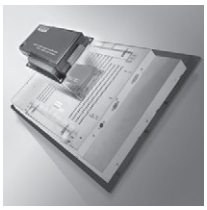
## Mounting Scheme of USB DAQ Modules

Advantech provides versatile mounting methods to fit the demand in the field.

- **DIN-rail Mount**
  Advantech's USB DAQ modules come with a bracket that facilitates the DIN-rail mounting onto some streamlined system with Industry standards.
- **Wall/Panel Mount**
  The wallmount kit can help users hang their modules on the wall or other flat surfaces.
- **VESA Mount**
  The VESA bracket can mount the USB data acquisition module to the VESA-ready appliances, such as Advantech's touch panel computers (TPC series) and the flat panel monitors (FPM series).

DIN-rail Mount

Wall/Panel Mount



VESA Mount

## Lockable USB Connector*

The standard USB cable is designed for easy plug and remove, but it's not suitable in industrial application. However the USB 2.0 is one of the high-speed and high-reliable extension interface, Advantech invests R&D effort to provide screw-type USB connection cable. With this innovative cable, the USB-based data acquisition module can be connected firmly.

* Note: USB-4702 and USB-4704 do not support this feature.

**Robust & Anti-vibration (P/N: USB-LOCKCABLE-AE)**

Advantech also provides another innovated accessory for making the other end of USB cable can be connected to UNO and TPC's USB port firmly. We provide the complete embedded data acquisition and control solution.

**Lockable Casing for Type A USB Connector**

## Software Support for the USB DAQ Series

Advantech provides several software solutions for USB-based data acquisition and control modules.

- **DAQNavi Driver**
  DAQNavi is Advantech latest next-generation driver package which delivers higher performance, compatibility and reliability by brand new driver and SDK architecture. Programmers can find all necessary software components including easy-to-use utility, component-based libraries, example codes, and documentation (include manual and tutorial video) to efficiently complete their development. DAQNavi supports many popular operating systems (OS) such as Windows 8, Windows 7, Windows XP, Windows Server, Linux and Windows CE. It also supports many different programming languages and environments, such as C/C++, VB, Delphi, BCB, LabVIEW, C#, VB .NET, Java and Qt.
- **Advantech Data Logger**
  Advantech Data Logger is a ready-to-use application program that engineers can use it to acquire data from Advantech data acquisition devices like USB modules without programming. User can manage several acquisition tasks with an intuitive configuration wizard for related parameters setting. Acquired data can be displayed with zoom observation in real-time monitoring as well as saved to local disk. The stored data can be recalled and display after acquisition has been completed.
- **LabVIEW Support**
  Advantech supports graphical programming language LabVIEW with specific drivers in the form of Express VI and Polymorphic VIs. DAQNavi Express VI can help to build a LabVIEW data acquisition application in short time, by an interactive DAQNavi wizard to perform corresponding configuration. DAQNavi Polymorphic VIs deliver more flexibility and advance functionality for advance LabVIEW data acquisition programming.

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB I/O Module Selection Guide

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

| Category | | | Multifunction | | | | Analog Input |
|---|---|---|---|---|---|---|---|
| Bus | | | USB | | | | |
| Model | | | USB-4702 | USB-4704 | USB-4711A | USB-4716 | USB-4718 |
| Analog Input | General Spec. | Resolution | 12 bits | 14 bits | 12 bits | 16 bits | 16 bits |
| | | Channels | 8 S.E./4 Diff. | 8 S.E./4 Diff. | 16 S.E./8 Diff. | 16 S.E./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 (shared) |
| | Input Ranges | Unipolar Inputs (V) | - | - | - | 0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 | J,K,T,E,R,S,B types |
| | | Bipolar Inputs (V) | S.E.: ± 10 Diff.: ±1, ±1.25, ± 2, ± 2.5, ±4, ±5, ±10, ±20 | S.E.: ± 10 Diff.: ±1, ±1.25, ± 2, ± 2.5, ±4, ±5, ±10, ±20 | ±10, ±5, ±2.5, ±1.25, ±0.625 | ±10, ±5, ±2.5, ±1.25, ±0.625 | - |
| | | Configurable Per-Channel | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Trigger Modes | Pacer/Software/ External Pulse | ✓ | ✓ | ✓ | ✓ | Software |
| | Data Transfer Modes | Software | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | DMA | - | - | - | - | - |
| Analog Output | Resolution | | 12 bits | 12 bits | 12 bits | 16 bits | - |
| | Channels | | 2 | 2 | 2 | 2 | - |
| | Output Range (V) | | 0~5 | 0~5 | 0 ~ 5, 0 ~ 10, ±5, ±10 | 0 ~ 5, 0 ~ 10, ±5, ±10 | - |
| | 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 bits | 32 bits | 32 bits | 32 bits | - |
| | Max. Input Frequency | | 5 MHz | 5 MHz | 1 kHz | 1 kHz | - |
| Isolation Voltage | | | - | - | - | - | 2,500 $V_{DC}$ |
| BoardID Switch | | | Software | Software | Software | Software | Software |
| Dimensions (mm) | | | 70 x 70 | 132 x 80 x 32 | 132 x 80 x 32 | 132 x 80 x 32 | 132 x 80 x 32 |
| Connector | | | 1 x DB37 | Onboard screw terminal | Onboard screw terminal | Onboard screw terminal | Onboard screw terminal |
| Legacy Driver | Windows XP/2000 | | ✓ | ✓ | ✓ | ✓ | ✓ |
| | WinCE | | - | - | ✓ | ✓ | ✓ |
| | Linux | | - | - | ✓ | ✓ | ✓ |
| DAQNavi Driver | Windows 8/7/Vista/XP/2000 | | ✓ | ✓ | ✓ | ✓ | ✓ |
| | WinCE | | - | - | - | - | - |
| | Linux | | ✓ | ✓ | - | - | ✓ |
| LabVIEW Driver | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Page | | | 21-7 | 21-7 | 21-8 | 21-9 | 21-10 |



Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

| Catagory | | | Non-Isolated Digital I/O | | Isolated Digital I/O | |
|---|---|---|---|---|---|---|
| Bus | | | USB | | | |
| Model | | | USB-4751 | USB-4751L | USB-4750 | USB-4761 |
| TTL DI/O | Input | Channels | 48 | 24 | - | - |
| | Output | Channels | | | - | - |
| | | Sink Current | 12 mA | 12 mA | - | - |
| | | Source Current | 12 mA | 12 mA | - | - |
| Isolated DI/O | Input | Channels | - | - | 16 | 8 |
| | | Isolation Voltage | - | - | 2,500 $V_{DC}$ | 2,500 $V_{DC}$ |
| | | Input Range | - | - | 5 ~ 60 $V_{DC}$ | 5 ~ 30 $V_{DC}$ |
| | Output | Channels | - | - | 16 | 8 x Form C |
| | | Isolation Voltage | - | - | 2,500 $V_{DC}$ | 2,500 $V_{DC}$ |
| | | Output Range | - | - | 5 ~ 40 $V_{DC}$ | - |
| | | Max. Sink Current | - | - | 100 mA max. per channel | 0.25 A @ 250 $V_{AC}$, 2 A @ 30 $V_{DC}$ |
| Timer/Counter | Channels | | 2 | 2 | 2 | - |
| | Resolution | | 32 bits | 32 bits | 32 bits | - |
| | Max. Input Frequency | | 8 MHz | 8 MHz | 8 MHz | - |
| Advanced Function | Output Status Read Back | | ✓ | ✓ | ✓ | ✓ |
| Isolation Voltage | | | - | - | 2,500 $V_{DC}$ | 2,500 $V_{DC}$ |
| BoardID Switch | | | Software | | | |
| Dimensions (mm) | | | 132 x 80 x 32 | 132 x 80 x 32 | 132 x 80 x 32 | 132 x 80 x 32 |
| Connector | | | 2 x opto-22 compatiable box header | 1 x opto-22 compatiable box header | Onboard screw terminal | Onboard screw terminal |
| Legacy Driver | Windows XP/2000 | | ✓ | ✓ | ✓ | ✓ |
| | WinCE | | ✓ | ✓ | ✓ | ✓ |
| | Linux | | ✓ | ✓ | ✓ | ✓ |
| DAQNavi Driver | Windows 8/7/Vista/XP/2000 | | ✓ | ✓ | ✓ | ✓ |
| | WinCE | | - | - | - | - |
| | Linux | | ✓ | - | - | ✓ |
| LabVIEW Driver | | | ✓ | ✓ | ✓ | ✓ |
| Page | | | 21-12 | 21-12 | 21-11 | 21-13 |

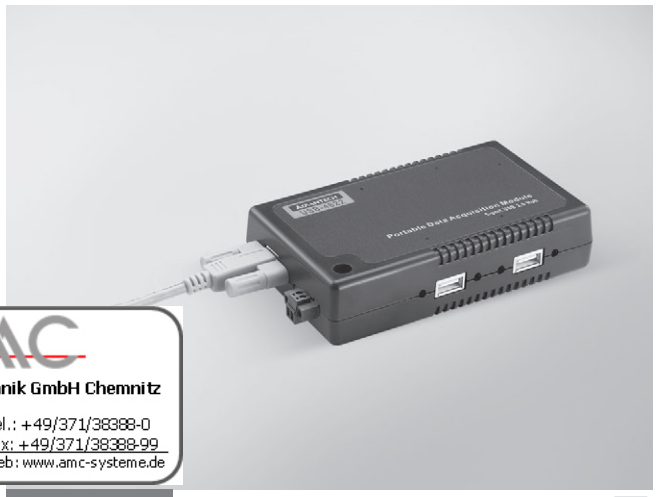
Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4620
# USB-4622

## 5-port Full-speed Isolated USB 2.0 Hub

## 5-port High-speed USB 2.0 Hub

USB-4620



USB-4622

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Features

- 5 downstream USB 2.0 ports
- Compatible with USB 2.0 Full-speed
- 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*)

## Specifications

### Connectivity

- **Ports** Upstream x 1 (Type B) Downstream x 5 (Type A)
- **Compatibility** USB 2.0 Full-speed
- **Transfer Speed** 12 Mbps
- **Supply Current** 500 mA max. per channel

### General

- **Housing** Plastic (ABS+PC)
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **DC Input** 10 ~ 30 $V_{DC}$
- **Power Consumption** 24 V @ 36 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

### Protection

- **Isolation Protection** 3,000 $V_{DC}$

## Ordering Information

- **USB-4620-AE** 5-port Full-speed Isolated USB 2.0 Hub

### Accessories

- **PWR-242-AE** DIN-rail Power Supply
- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket
- **USB-LOCKCABLE-AE** 1.8 M Lockable USB 2.0 Cable with Screw Kit

## Features

- 5 downstream USB 2.0 ports
- Compatible with USB 2.0 High-speed, USB 2.0 Full-speed, USB 1.0
- 480 Mbps high-speed data transfer
- LED indicator
- Suitable for DIN-rail mounting
- One lockable USB cable included
- 10 ~ 30 $V_{DC}$ power input (power adapter not included*)

## Specifications

### Connectivity

- **Ports** Upstream x 1 (Type B) Downstream x 5 (Type A)
- **Compatibility** USB 2.0 High-speed, USB 2.0 Full-speed, USB 1.0
- **Transfer Speed** 480 Mbps/12 Mbps/1.5 Mbps
- **Supply Current** 500 mA max. per channel

### General

- **Housing** Plastic (ABS+PC)
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **DC Input** 10 ~ 30 $V_{DC}$
- **Power Consumption** 24 V @ 36 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- **USB-4622-BE** 5-port High-speed USB 2.0 Hub

### Accessories

- **PWR-242-AE** DIN-rail Power Supply
- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket
- **USB-LOCKCABLE-AE** 1.8 M Lockable USB 2.0 Cable with Screw Kit

ADVANTECH Premier Partner



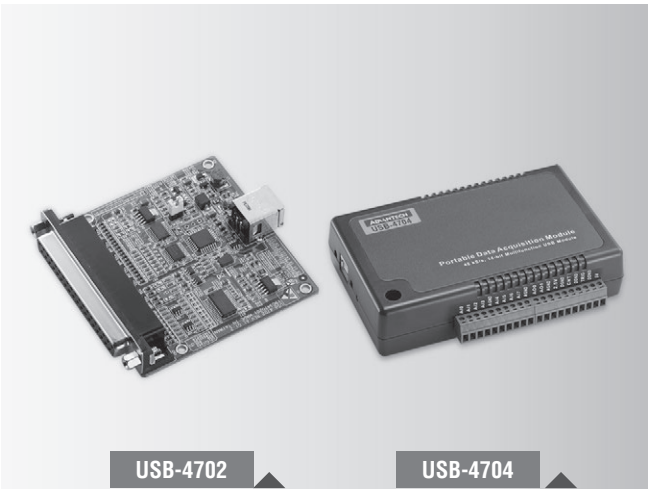
Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4702
# USB-4704

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

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






CE FCC RoHS

## Features

- Supports USB 2.0
- Portable
- Bus-powered
- 8 analog input channels
- 12-bit (USB-4702), 14-bit (USB-4704) resolution AI
- Sampling rates up to 10 kS/s (USB-4702), 48 kS/s (USB-4704)
- 8-ch DI/8-ch DO, 2-ch AO and one 32-bit counter

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Introduction

USB-4702/4704 are low-cost USB data acquisition modules. You no longer need to open the chassis to install DAQ modules. Just plug in the module, then get the data. It's easy and efficient. Reliable and rugged enough for industrial applications, yet inexpensive enough for home projects, USB-4702/4704 are the perfect way to add measurement and control capability to any USB capable computer. It obtains all required power from the USB port, so no external power connection is ever required. With the features of USB-4702/4704, they are your most cost effective choice of lab or production line test & measurement tool.

## Specifications

### Analog Input

- **Channels** 8 single-ended/4 differential (software programmable)
- **Resolution** USB-4702: Single-ended: 11 bits
  Differential: 12 bits
  SUB-4704: Single-ended: 13 bits
  Differential: 14 bits
- **Max. Sampling Rate** USB-4702: 10 kS/s max.
  USB-4704: 48 kS/s max.

Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels of USB-4702 are used, the sampling rate is 10k/4 = 2.5 kS/s per channel.

- **FIFO Size** 512 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 127 kΩ
- **Sampling Modes** Software, onboard programmable pacer, and external
- **Input Range (V, software programmable) & Absolute Accuracy**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Single Ended** | | ±10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Differential** | | N/A | ±1 | ±1.25 | ±2 | ±2.5 | ±4 | ±5 | ±10 | ±20 |
| **Absolute Accuracy (% of FSR)*** | **USB-4702** | 0.2 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| | **USB-4704** | 0.15 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.15 | 0.15 |

*: ±1 LSB is added as the derivative for absolute accuracy

### Analog Output

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable) 0~5
- **Slew Rate** 0.7 V/μs
- **Driving Capability** 5 mA
- **Output Impedance** 51 Ω
- **Operation Mode** Single output
- **Accuracy** Relative: ±12 LSB
  Differential non-linearity: ±5 LSB

### Digital Input

- **Channels** 8
- **Compatibility** 3.3 V/5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.

### Digital Output

- **Channels** 8
- **Compatibility** 3.3 V/TTL
- **Output Voltage** Logic 0: 0.4 V max.@ 4 mA (sink)
  Logic 1: 3.5 V min.@ 4 mA (source)

### Counter

- **Channels** 1
- **Resolution** 32 bits
- **Compatibility** 3.3 V/TTL
- **Max. Input Frequency** 5 MHz

### General

- **Bus Type** USB 2.0
- **I/O Connector** USB-4702: 1 x DB37 female connector
  USB-4704: Onboard screw terminal
- **Dimensions (L x W)** USB-4702: 70 x 70 mm (2.76" x 2.76")
  USB-4704: 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 100 mA
  Max.: 5 V @ 500 mA
- **Operating Temperature** 0 ~ 55°C (32 ~ 131°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- **USB-4702-AE** 10 kS/s, 12-bit, 8-ch Multi. USB Module
- **USB-4704-AE** 48 kS/s, 14-bit, 8-ch Multi. USB Module

### Accessories

- **PCL-10137-1E** DB37 Cable, 1m
- **PCL-10137-2E** DB37 Cable, 2m
- **PCL-10137-3E** DB37 Cable, 3m
- **ADAM-3937-BE** DB37 DIN-rail Wiring Board
- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

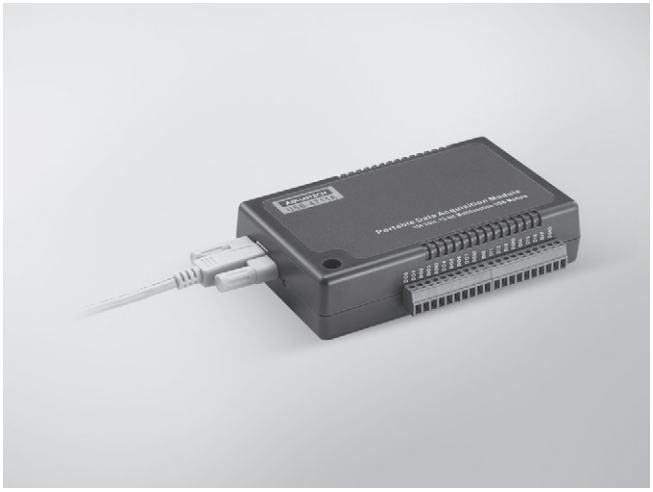
AMC

ADVANTECH Premier Partner

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4711A

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



CE FCC RoHS

## Features

- Supports USB 2.0
- Portable
- Bus-powered
- 16 analog input channels
- 12-bit resolution AI
- Sampling rate up to 150 kS/s
- 8-ch DI/8-ch DO, 2-ch AO and one 32-bit counter
- Detachable screw terminal on modules
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Introduction

The USB-4700 series consists of true plug & play data acquisition modules. You no longer need to open the chassis to install DAQ modules. Just plug in the module, then get the data. It's easy and efficient. Reliable and rugged enough for industrial applications, yet inexpensive enough for home projects, the USB-4700 series module is the perfect way to add measurement and control capability to any USB capable computer. The USB-4700 series is fully plug & play and with onboard terminal block for easy usage. It obtains all required power from the USB port, so no external power connection is ever required. USB-4711A is a multifunction module, with 16-ch Analog Input, 2-ch Analog Output, 16-ch Digital I/O and counter channel which is able to output a constant frequency square wave. With the features of USB-4700 series; USB-4711A is your most cost effective choice of lab or production line test & measurement tool.

## Specifications

### Analog Input

- **Channels** 16 single-ended/8 differential (software programmable)
- **Resolution** 12 bits
- **Max. Sampling Rate** 150 kS/s max.

Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels are used, the sampling rate is 150k/4 = 37.5 kS/s per channel.

- **FIFO Size** 1,024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software, onboard programmable pacer, and external
- **Input Range (V, software programmable) & Absolute Accuracy**

| Bipolar | ± 10 | ± 5 | ± 2.5 | ± 1.25 | ± 0.625 |
|---|---|---|---|---|---|
| Absolute Accuracy (% of FSR)* | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 |

*: ±1 LSB is added as the derivative for absolute accuracy

### Analog Output

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

| Internal Reference | Unipolar | 0 ~ 5, 0 ~ 10 |
|---|---|---|
| | Bipolar | ±5, ±10 |

- **Slew Rate** 0.125 (manual)
- **Driving Capability** 5 mA (manual)
- **Output Impedance** 0.1 Ω (manual)
- **Operation Mode** Single output
- **Accuracy** Relative: ±1 LSB
  Differential non-linearity: ±1 LSB

### Digital Input

- **Channels** 8
- **Compatibility** 3.3 V/5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.

### Digital Output

- **Channels** 8
- **Compatibility** 3.3 V/TTL
- **Output Voltage** Logic 0: 0.8 V max.@ 6 mA (manual)
  Logic 1: 2.0 V min.@ 6 mA (manual)

### Event Counter

- **Channels** 1
- **Compatibility** 3.3 V/TTL
- **Max. Input Frequency** 1 kHz

### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 360 mA (manual)
  Max.: 5 V @ 450 mA (manual)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- **USB-4711A-AE** 150 kS/s, 12-bit, 16-ch Multi. USB Module

### Accessories

- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

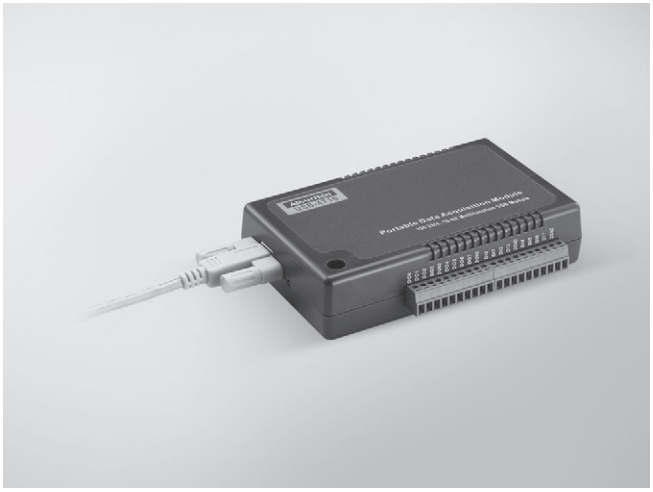


Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4716

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





CE FCC RoHS

## Features

- Supports USB 2.0
- Portable
- Bus-powered
- 16 analog input channels
- 16-bit resolution AI
- Sampling rate up to 200 kS/s
- 8-ch DI/8-ch DO, 2-ch AO and one 32-bit counter
- Detachable screw terminal on modules
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Introduction

The USB-4700 series consists of true plug & play data acquisition devices. No more opening up your computer chassis to install boards just plug in the module, then get the data. It's easy and efficient. USB-4716 offers 16 single-ended/ 8 differential inputs with 16-bit resolution, up to 200 kS/s throughput, 16 digital I/O lines and 1 user counter, plus two 16-bit analog outputs. The high performance makes USB-4716 your best choice for test & measurement applications in the production line or in the lab.

Reliable and rugged enough for industrial applications, yet inexpensive enough for home projects, the USB-4716 is the perfect way to add measurement and control capability to any USB capable computer. The USB-4700 series is fully plug & play and easy to use. It obtains all required power from the USB port, so no external power connection is ever required.

## Specifications

### Analog Input

- **Channels** 16 single-ended/ 8 differential (software programmable)
- **Resolution** 16 bits
- **Max. Sampling Rate** 200 kS/s (for USB 2.0)

Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels are used, the sampling rate is 200k/4 = 50 kS/s per channel.

- **FIFO Size** 1,024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software, onboard programmable pacer, or external
- **Input Range (V, software programmable) & Absolute Accuracy**

| | | | | | |
|---|---|---|---|---|---|
| **Single Ended** | N/A | 0 ~ 10 | 0 ~ 5 | 0 ~ 2.5 | 0 ~ 1.25 |
| **Differential** | ±10 | ±5 | ±2.5 | ±1.25 | ±0.625 |
| **Absolute Accuracy (% of FSR)*** | 0.05 | 0.03 | 0.03 | 0.05 | 0.1 |

*: ±1 LSB is added as the derivative for absolute accuracy

### Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

| | | |
|---|---|---|
| **Internal Reference** | **Unipolar** | 0 ~ 5 , 0 ~ 10 |
| | **Bipolar** | ±5, ±10 |

- **Slew Rate** 0.125 V/μs (manual)
- **Driving Capability** 5 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Single output
- **Accuracy** Relative: ±1 LSB

### Digital Input

- **Channels** 8
- **Compatibility** 3.3 V/5 V/TTL
- **Input Voltage** Logic 0: 1.0 V max.
  Logic 1: 2.0 V min.

### Digital Output

- **Channels** 8
- **Compatibility** 3.3 V/TTL
- **Output Voltage** Logic 0: 0.4 V max.
  Logic 1: 2.4 V min.
- **Output Capability** Sink: 6 mA (sink)
  Source: 6 mA (source)

### Event Counter

- **Channels** 1
- **Compatibility** 3.3V/TTL
- **Max. Input Frequency** 1 kHz

### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 360 mA
  Max.: 5 V @ 450 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 158°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Operating Humidity** 5 ~ 85% RH non-condensing
- **Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- **USB-4716-AE** 200 kS/s, 16-bit, 16-ch Multi. USB Module

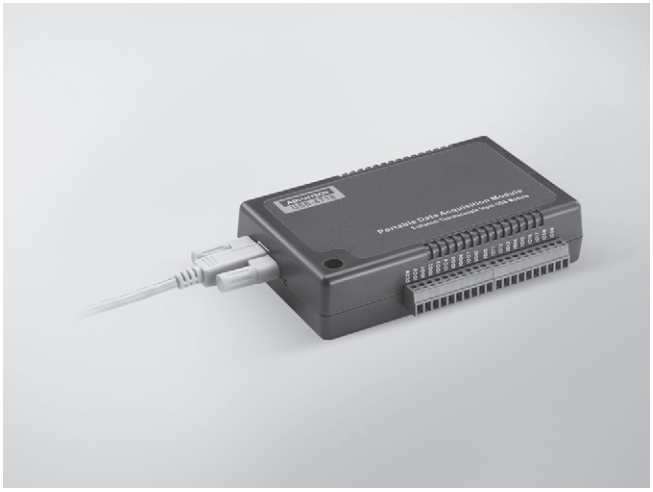
### Accessories

- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4718

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



## Features

- Supports USB 2.0
- Supports voltage, current, and thermocouple inputs
- Bus-powered
- 8 thermocouple input channels
- 2,500 $V_{DC}$ isolation
- Supports 4 ~ 20 mA current input
- Detachable screw terminal on modules
- 8-ch isolated DI and 8-ch isolated DO
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Introduction

The USB-4700 series consists of true plug & play data acquisition devices. No more opening up your computer chassis to install boards just plug in the module, then get the data. It's easy and efficient. USB-4718 offers 8 thermocouple inputs with 16-bit resolution, up to 0.1% input range accuracy. Portable design makes the USB-4718 suitable for field research. Also, the input channels can be set separately making handling multiple type of sensors with just one USB-4718 module possible.

Reliable and rugged enough for industrial applications, yet inexpensive enough for home projects, the USB-4718 is the perfect way to add measurement and control capability to any USB capable computer. The USB-4700 series is fully plug and play and easy to use. It obtains all required power from the USB port, so no external power connection is ever required.

## Specifications

### Analog Input

- **Accuracy** ±0.1% for voltage input
- **Bandwidth** 13.1 Hz @ 50 Hz, 15.72 Hz @ 60 Hz
- **Channels** 8 differential
- **Ch. Independent Conf.** Yes
- **CMR @ 50/60 Hz** 92 dB min.
- **Resolution** 16 bits
- **Input Impedance** 1.8 MΩ
- **Input Range** 0 ~ 15 mV, 0 ~ 50 mV, 0 ~ 100 mV, 0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V, 0 ~ 20 mA, 4 ~ 20 mA
- **Input Types** Thermocouple, mV, V, mA
- **Sampling Rate** 10 S/s (shared for all channels)

Note: The sampling rate for each channel is fixed due to the hardware design. It is 10/8 = 1.25 S/s per channel no matter how many channels you use.

- **Span Drift** ±25 ppm/°C
- **T/C Type and Temperature Ranges**

| | | | |
|---|---|---|---|
| **J** | 0 ~ 760°C | **R** | 500 ~ 1750°C |
| **K** | 0 ~ 1370°C | **S** | 500 ~ 1750°C |
| **T** | -100 ~ 400°C | **B** | 500 ~ 1800°C |
| **E** | 0 ~ 1000°C | | |

- **TVS/ESD Protection** Built-in
- **Zero Drift** ±0.3 μV/°C

### Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 3 V max. (manual) Logic 1: 5 V min. (30 V max.)
- **Isolation Protection** 2,500 $V_{DC}$
- **Opto-isolator Response** 25 μs

### Isolated Digital Output

- **Channels** 8
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 $V_{DC}$
- **Output Voltage** 5 ~ 30 $V_{DC}$, 1.1 A max./ total
- **Sink Current** 200 mA max./channel
- **Opto-isolator Response** 25 μs

### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (Lx W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** 100 mA @ 5 V
- **Watchdog Timer** 1.6 sec. (system)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- **USB-4718-AE** 8-ch Thermocouple Input USB Module

### Accessories

- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

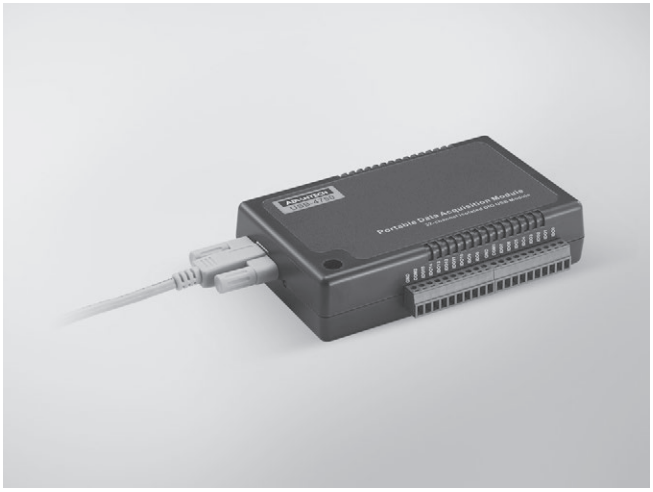


Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4750

## 32-ch Isolated Digital I/O USB Module





CE FCC RoHS

## Features

- Compatible with USB 1.1/2.0
- Bus-powered
- 16 isolated DI and 16 isolated DO channels
- High voltage isolation on all channels (2,500 $V_{DC}$)
- High sink current on isolated output channels (100 mA/Channels)
- Supports 5 ~ 60 $V_{DC}$ isolated input channels
- Interrupt handling capability
- Timer/counter capability
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

## Introduction

The USB-4700 series consists of true plug & play data acquisition devices. No more opening up your computer chassis to install boards-just plug in the module, then get the data.

It's easy and efficient. USB-4750 is a 32-channel isolated digital I/O module. With isolation protection of 2,500 $V_{DC}$, and dry contact support, USB-4750 is ideal for industrial applications where high-voltage protection is required. Each I/O channel of the USB-4750 corresponds to a bit in an I/O port. This makes USB-4750 very easy to program. This module also offers a counter or timer and one digital input interrupt lines to a PC. So users can then easily do configurations by software.

Reliable and rugged enough for industrial applications, yet inexpensive enough for home projects, the USB-4750 is the perfect way to add measurement and control capability to any USB capable computer. The USB-4750 is fully USB plug & play and easy to use. It obtains all required power from the USB port, so no external power connection is ever required.

## Specifications

### Isolated Digital Input

- **Channels** 16
- **Input Voltage** Logic 0: 5 V max. (manual)
  Logic 1: 5 V min. (60 V max.) or dry contact
- **Interrupt Capable Ch.** 2
- **Isolation Protection** 2,500 $V_{DC}$

### Isolated Digital Output

- **Channels** 16
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 $V_{DC}$
- **Output Voltage** 5 ~ 40 $V_{DC}$
- **Sink Current** 100 mA max. per channel
  Total 1.1 A max.

### Isolated Counter

- **Channels** 2
- **Resolution** 32-bit
- **Max. Input Frequency** 8 MHz (manual)
- **Isolation Protection** 2,500 $V_{DC}$

### General

- **Bus Type** USB 1.1/2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 200 mA
  Max.: 5 V @ 350 mA (manual)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

## Ordering Information

- **USB-4750-AE** 32-ch Isolated Digital I/O USB Module

### Accessories

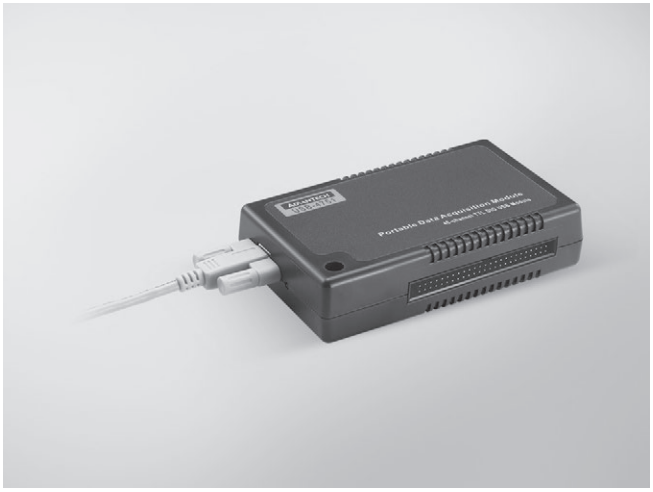
- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4751
# USB-4751L

## 48-ch Digital I/O USB Module

## 24-ch Digital I/O USB Module



## Features

- Compatible with USB 1.1/2.0
- Portable
- Bus-powered
- 48/24 TTL digital I/O lines
- Emulates mode 0 of 8255 PPI
- Buffered circuits for higher driving capacity than the 8255
- Interrupt handling capability
- Timer/Counter interrupt capability
- Supports both dry and wet contact
- 50-pin Opto-22 compatible box header
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

## Introduction

The USB-4700 series consists of true plug & play data acquisition devices. No more opening up your computer chassis to install boards just plug in the module, then get the data. It's easy and efficient. USB-4751/4751L is a 48/24-bit digital I/O module with USB interface. Its 48/24 bits are divided into six/three 8-bit I/O ports and users can configure each port as input or output via software. USB-4751/USB-4751L also provides one event counter and three 16-bit timers, which can be cascaded to become a 32-bit timer.

## Specifications

### Digital Input

- **Channels** USB-4751: 48 (shared with output)
  USB-4751L: 24 (shared with output)
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2 V min.

### Digital Output

- **Channels** USB-4751: 48 (shared with input)
  USB-4751L: 24 (shared with input)
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.5 V max.
  Logic 1: 3.8 V min.
- **Output Capability** Sink: 12 mA @ 0.5 V
  Source: 12 mA @ 3.8 V for single channels
  5 mA @ 3.8 V for all channels in high status

### Counter/Timer

- **Channels** 2
- **Resolution** 32-bit
- **Max. Input Frequency** 8 MHz (manual)

### General

- **Bus Type** USB 1.1/2.0
- **I/O Connector** 50-pin box headers, pin assignments are fully compatible with Opto-22 I/O module racks
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 200 mA
  Max.: 5 V @ 500 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

## Ordering Information

- **USB-4751-AE** 48-ch Digital I/O USB Module
- **USB-4751L-AE** 24-ch Digital I/O USB Module

### Accessories

- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket
- **PCL-10150-1.2E** 50-pin Flat Cable, 1.2 m
- **ADAM-3950-AE** 50-pin DIN-rail Flat Cable Wiring Board
- **PCLD-782B-AE** 24-ch IDI Board w/ 20-pin & 50-pin Flat Cables
- **PCLD-785B-AE** 24-ch Relay Board w/ 20- pin & 50-pin Flat Cables

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

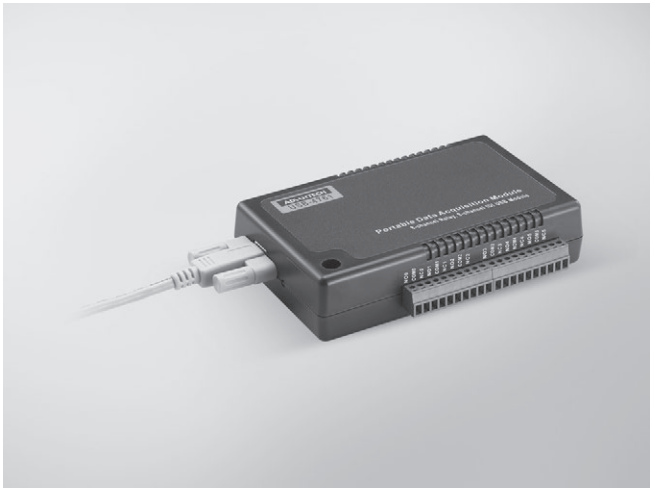


Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4761

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





CE FCC RoHS

## Features

- Compatible with USB 1.1/2.0
- Portable
- Bus-powered
- 8 relay output channels and 8 isolated digital input channels
- LED indicators to show activated relays
- 8 Form C type relay output channels
- High-voltage isolation on input channels (2,500 $V_{DC}$)
- High ESD protection (2,000 $V_{DC}$)
- Wide input range (5 ~ 30 $V_{DC}$)
- Interrupt handling capability
- Detachable screw terminal on modules
- Suitable for DIN-rail mounting
- One lockable USB cable for secure connection included

## Introduction

The USB-4761 is a relay actuator and isolated digital input module with USB interface. It provides 8 optically-isolated digital inputs with isolation protection of 2,500 $V_{DC}$ for collecting digital signals in noisy environments and 8 relay actuators for serving as on/off control devices or small power switches. For easy monitoring, each relay is equipped with one green LED to show its on/off status.

### Rugged Protection

The USB-4761's digital input channels feature a rugged isolation protection for industrial, lab and machinery automation applications. They durably withstand voltages up to 2,500 $V_{DC}$, protecting your host system from any incidental harms. If connected to an external input source with surge-protection, the USB-4761 can offer up to a maximum of 2,000 $V_{DC}$ ESD (Electrostatic Discharge) protection.

## Specifications

### Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 2 V max.<br>Logic 1: 5 V min. (30 V max.)
- **Isolation Protection** 2,500 $V_{DC}$
- **Opto-Isolator Response** 25 µs

### Relay Output

- **Contact Rating** 0.25 A @ 250 $V_{AC}$, 2 A @ 30 $V_{DC}$
- **Max. Switching Power** 62.5 VA, 60 W
- **Max. Switching Voltage** 250 $V_{AC}$, 220 $V_{DC}$
- **Max. Switching Current** 5 A
- **Min. Switching Voltage** 100 µV
- **Operate/Release Time** typ. 3 / 2 ms, max. 5 / 4 ms
- **Resistance** Contact: 50 mΩ max. @ 10 mA/20 mV<br>Insulation: 1 GΩ min. @ 500 $V_{DC}$
- **Life Expectancy (Electrical)** 5 x $10^7$ cycles typ. @ 10 mA/12 V<br>2 x $10^5$ cycles typ. @ 2000 mA/30 V

### General

- **Bus Type** USB 1.1/2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 60 mA<br>Max.: 5 V @ 400 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95 % RH, non-condensing

## Ordering Information

- **USB-4761-AE** 8-ch Relay/Isolated Digital Input USB Module

### Accessories

- **1960004544** Wallmount Bracket
- **1960005788** VESA Mount Bracket

Vertrieb durch AMC
AMC – Analytik & Messtechnik GmbH Chemnitz
Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

# USB-4671

## GPIB USB Module

CE FCC

## Features

- Supports USB 2.0
- Convenient portable design
- Bus-powered
- Complete IEEE 488.1 & 488.2 compatibility
- Full driver, library, and example support, including; Visual C++®, Visual C#®, Visual Basic®, Visual Basic .NET®, Delphi®, and LabView
- Provides powerful and easy-to-use configuration utility
- No GPIB cable required for instrument connection
- Plug & Play installation and configuration

## Introduction

USB-4671 is a high-performance USB Module with a GPIB interface. The module is fully compatible with IEEE 488.1 and 488.2 standards with USB 2.0 bus specification. With two driver control modes: controller mode and slave mode; USB-4671 can perform basic IEEE 488 talker, listener and controller functions required by IEEE 488.2. You can also connect up to 15 GPIB instruments. Therefore, USB-4671 is especially suitable for instrument measurements and control.

Furthermore, USB-4671 also offers powerful testing features and a configuration utility that allows users to easily access and control instruments. USB-4671 offers a comprehensive supplementary controller driver database and provides standard IEEE-488 commands to help users develop applications. Users can use an interactive GPIB window interface to control devices directly without any need of programming.

## Specifications

### GPIB

- **Compatibility** IEEE 488.1 & IEEE 488.2
- **GPIB Transfer Rate** 1.8 MB/s
- **OS Support** Windows 2000/XP/Vista and Win 7
- **Library Support** Visual C++, Visual C#, Visual Basic, Visual Basic .NET, Delphi, LabView
- **Max. GPIB Connections** 15

### General

- **Bus Type** USB 2.0
- **I/O Connector** 1 x 24-pin IEEE 488
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Operating Humidity** 10 ~ 90% RH, non-condensing
- **Dimensions (L x W x H)** 107 x 66 x 26 mm (4.21" x 2.6" x 1.02")

## Ordering Information

- **USB-4671-A** GPIB USB Module

### Accessories

- **PCL-10488-2** IEEE-488 Cable, 2 m

Vertrieb durch AMC

AMC – Analytik & Messtechnik GmbH Chemnitz

Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0
09120 Chemnitz Fax: +49/371/38388-99
E-Mail: info@amc-systeme.de Web: www.amc-systeme.de



Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.