USB-4702
10 kS/s, 12-bit, 8-ch Multifunction USB Module

USB-4704
48 kS/s, 14-bit, 8-ch Multifunction USB Module

USB-4704   USB-4702

CE FCC RoHS COMPLIANT 2002/95/EC
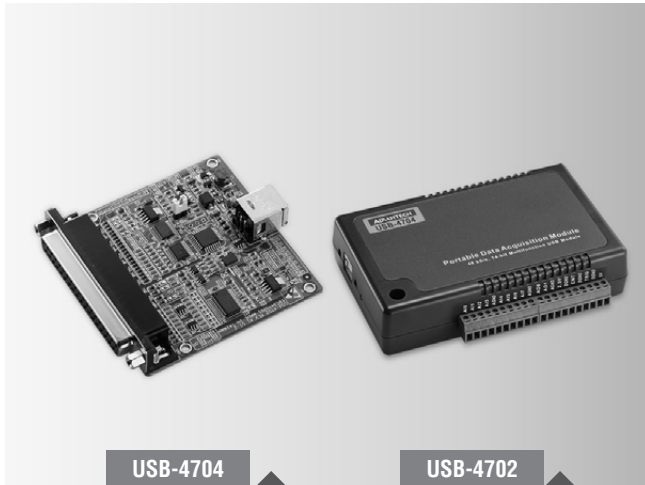
Features

- Supports USB 2.0
- Portable
- Bus-powered
- 8 x 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

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 (refer to IEC 68-2-3)

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

All product specifications are subject to change without notice   Last updated : 28-Aug-2013