USB-4711A

150 kS/s, 12-Bit, 16-Ch Multifunction DAQ USB Module

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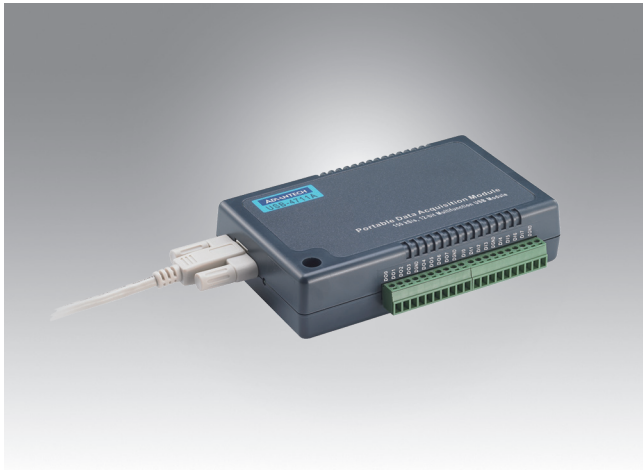
Features

- Supports USB 2.0
- Portable
- Bus powered
- 16 x Analog input channels
- 12-bit resolution analog input
- Up to 150 kS/s sampling rate
- 8-ch Digital input/8-ch digital output, 2-ch analog output, and 1 x 32-bit counter
- Detachable screw terminal on modules
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

Introduction

The USB-4700 series comprises plug-and-play DAQ modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4700 series modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers.

USB-4711A is equipped with an onboard terminal block, 16-ch analog input, 2-ch analog output, 16-ch digital I/O, and a counter channel capable of outputting a constant frequency square wave. Additionally, because USB-4711A draws power from the computer via the USB port, no external power connection is required, making this module a most cost-effective solution for diverse testing and measurement applications.

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 of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be 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 and 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 V/us
- **Driving Capability**   5 mA
- **Output Impedance**   0.1 Ω
- **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: 0.4 V max.@ 6 mA
Logic 1: 2.6 V min.@ 6 mA

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
Max.: 5 V @ 450 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-4711A-AE**   150 kS/s, 12-bit, 16-ch multifunction DAQ USB module

Accessories

- **1960004544**   Wall mount bracket
- **1960005788**   VESA mount bracket

ADVANTECH   **Industrial I/O**

All product specifications are subject to change without notice.   Last updated: 27-Jun-2018