USB-4711
USB-4711A

100 kS/s, 12-bit Multifunction USB Module

150 kS/s, 12-bit Multifunction USB Module

Features

- Supports USB 2.0
- Portable
- Bus-powered
- 16 analog input channels
- 12-bit resolution AI
- Sampling rate up to 150 kS/s
- 8 DI/8 DO, 2 AO and one 32-bit event counter
- Wiring terminal on modules
- Suitable for DIN-rail mounting
- Lockable USB cable for rigid connection

Introduction

The USB-4700 series consists of true Plug & Play data acquisition modules. No more opening up your computer chassis to install boards. 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-4711 is the perfect way to add measurement and control capability to any USB capable computer. The USB-4711 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

Analog Input

- **Channels** — USB-4711: 16 Single-ended
USB-4711A: 16 Single-ended/8 Differential (SW selectable)
- **Resolution** — 12 bits
- **Max. Sampling Rate*** — USB-4711: 100k S/s max.
USB-4711A: 150k S/s max.
- **FIFO Size** — 1024 samples
- **Overvoltage Protection** — 30 Vp-p
- **Input Impedance** — USB-4711: 2 MΩ
USB-4716: 1 GΩ
- **Sampling Modes** — Software, onboard programmable pacer, or external
- **Input Range** — **(V, software programmable)**

Bipolar	± 10	± 5	± 2.5	± 1.25	± 0.625
Accuracy (% of FSR ±1LSB)	0.1	0.1	0.2	0.2	0.4

***Note:**
The sampling rate and throughput depends on the computer hardware architecture and software environment. The rates may vary due to programming language, code efficiency, CPU utilization and so on.

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** — USB-4711: 0.7 V/μs
USB-4711A: 0.15 V/μs
- **Driving Capability** — USB-4711: 3 mA @ 10 V
USB-4711A: 2 mA @ 10 V
- **Output Impedance** — 0.5 Ω
- **Operation Mode** — Single output
- **Accuracy** — Relative: ±1 LSB
Differential Non-linearity: ±1 LSB

Digital Inputs

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

Digital Outputs

- **Channels** — 8
- **Compatibility** — 3.3 V/TTL
- **Output Voltage** — Logic 0: 0.8 V max.@ 4 mA (sink)
Logic 1: 2.0 V min.@ 4 mA (source)

Event Counter

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

General

- **Bus Type** — USB 2.0
- **I/O Connector** — On board screw terminal
- **Dimensions (L x W x H)** — 132 x 80 x 32 mm
- **Power Consumption** — Typical: +5 V @ 340 mA
Max: +5 V @ 440 mA
- **Operating Temperature** — 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-4711** — 100 kS/s, 12-bit Multifunction USB Module, one 1.8 m USB 2.0 cable included
- **USB-4711A** — 150 kS/s, 12-bit Multifunction USB Module, one 1.8 m USB 2.0 cable included