USB-4716

200 kS/s, 16-Bit, 16-Ch Multifunction **DAO USB Module**



Features

- Supports USB 3.0 SuperSpeed
- Portable
- Bus powered
- 16 x Analog input channels
- 16-bit resolution analog input
- Up to 200 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

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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-4716 offers 16 single-ended/8 differential analog inputs with 16-bit resolution, up to 200 kS/s throughput, 16 digital I/Os, 1 user counter, and 2 16-bit analog outputs. Additionally, because USB-4716 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

| 16 Single ended/ 8 differential |
|---------------------------------|
| (software programmable) |
| |

- Resolution 16 bits
- Max. Sampling Rate 200 kS/s

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 200k/4 = 50 kS/s per channel 1,024 samples

- FIFO Size
- Overvoltage Protection 30 Vp-p
- Input Impedance $1 \, \text{G} \Omega$
- Sampling Modes Software, onboard programmable pacer, or external

Input Range and 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)* | 0.015 | 0.03 | 0.03 | 0.05 | 0.1 |

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

Analog Output

Accuracy

| Analog output | | |
|---|--|----------------|
| Channels Resolution Output Rate Output Range | 2 16 bits Static update (V, software pr | ogrammable) |
| Internal Reference | Unipolar | 0 ~ 5 , 0 ~ 10 |
| | Bipolar | ±5, ±10 |
| Slew Rate Driving Capability Output Impedance Operation Mode | | |

Relative: ±1 LSB

Digital Input

- Channels Compatibility Input Voltage

8 3.3 V/5 V/TTL 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 3.3V/TTL Compatibility Max. Input Frequency 1 kHz

General

| • | Bus Type | USB 3.0 |
|---|---------------|---------|
| | 1/O Connector | Onhoard |

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

Ordering Information

- USB-4716-BE
- 200 kS/s. 16-bit. 16-ch multifunction DAQ USB module
- Accessories
- 1960004544 1960005788
- Wall mount bracket VESA mount bracket

AD\ANTECH Industrial I/O

All product specifications are subject to change without notice.