

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 x Thermocouple input channels
- 2,500 V_{DC} isolation
- Supports 4 ~ 20 mA current input
- Detachable screw terminal on modules
- 8-ch isolated digital input and 8-ch isolated digital output
- 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-4718 offers 8 thermocouple inputs with 16-bit resolution and up to 0.1% input range accuracy. With its compact and portable design, USB-4718 is ideal for field-based applications. Additionally, the module's input channels can be individually configured to enable handling of multiple sensor types.

Specifications

Analog Input

- **Accuracy** $\pm 0.1\%$ for voltage input
- **Bandwidth** 13.1 Hz @ 50 Hz, 15.72 Hz @ 60 Hz
- **Channels** 8 differential
- **Independent Channel Configuration** Yes
- **CMR @ 50/60 Hz** 92 dB min.
- **Resolution** 16 bits
- **Input Impedance** 1.8 M Ω
- **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: Because of the hardware design, the sampling rate for each channel is fixed at 10/8 = 1.25 S/s per channel regardless of the number of channels used.

- **Span Drift** ± 25 ppm/ $^{\circ}$ C
- **T/C Type and Temperature Ranges**

J	0 ~ 760 $^{\circ}$ C	R	500 ~ 1750 $^{\circ}$ C
K	0 ~ 1370 $^{\circ}$ C	S	500 ~ 1750 $^{\circ}$ C
T	-100 ~ 400 $^{\circ}$ C	B	500 ~ 1800 $^{\circ}$ C
E	0 ~ 1000 $^{\circ}$ C		

- **TVS/ESD Protection** Built in
- **Zero Drift** ± 0.3 μ V/ $^{\circ}$ C

Isolated Digital Input

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

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 μ s

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** 100 mA @ 5 V
- **Watchdog Timer** 1.6 sec. (system)
- **Operating Temperature** 0 ~ 60 $^{\circ}$ C (32 ~ 140 $^{\circ}$ F)
- **Storage Temperature** -20 ~ 70 $^{\circ}$ C (-4 ~ 158 $^{\circ}$ F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

Ordering Information

- **USB-4718-AE** 8-ch thermocouple input USB module

Accessories

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