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<sub>oc</sub> 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**: ±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 MΩ
- **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/°C

### T/C Type and Temperature Ranges

<table>
<thead>
<tr>
<th>Type</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>0 – 760 °C</td>
</tr>
<tr>
<td>K</td>
<td>0 – 130 °C</td>
</tr>
<tr>
<td>T</td>
<td>-100 – 400 °C</td>
</tr>
<tr>
<td>E</td>
<td>0 – 5000 °C</td>
</tr>
</tbody>
</table>

### TVS/ESD Protection
- **Built in**

### Zero Drift
- **±0.3 µV/°C**

### Isolated Digital Input
- **Channels**: 8
- **Input Voltage**: Logic 0: 3 V max.
- **Isolation Protection**: 2.500 V<sub>oc</sub>
- **Opto-Isolator Response**: 25 µs

### Isolated Digital Output
- **Channels**: 8
- **Output Type**: Sink (NPN)
- **Isolation Protection**: 2,500 V<sub>oc</sub>
- **Output Voltage**: 5 – 30 V<sub>cc</sub>, 1.1 A max./total
- **Sink Current**: 200 mA max./channel
- **Opto-Isolator Response**: 25 µs

### 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 °C (32 – 140 °F)
- **Storage Temperature**: -20 – 70 °C (-4 – 158 °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

All product specifications are subject to change without notice.