USB-1608 Temperature DAQ Module

(8 - 256 channels, Thermocouple, Thermal resistance)

Key Features

- Support acquisition of multiple thermocouple and thermal resistance

- 8 channels per unit, support extended to 256 channels

- 1S/0.1S high-speed sampling

- High precision input measurement (Thermocouple 0.05%rdg+0.5°C, Thermal resistance 0.05%rdg+0.3°C)

- Perfect isolation protection, safer data acquisition

- Small and portable, safe and reliable, easy to install

- Using ARM microprocessor, can realize multi-channel signal acquisition, recording, display and alarm at the same time

Overview

Toprie USB-1608 Multi-channel Temperature Data Acquisition Module can connect a variety of temperature probe sensors. Used in conjunction with computer host computer software, it can realize the functions of display, recording, monitoring, curve display, list generation and other functions of different on-site temperatures.

The USB-1608 module is mainly used in electronic testing, biopharmaceuticals, food processing, heat treatment and other fields. It adopts industrial-grade RS485 and USB-TYPE-C interface, compact and portable, easy to install and use.

Technical Specifications

Model	USB-1608
Input Signals	Thermocouple: K, R, B, N, E, T, J, S, WRE5-26, WRE3-25 Thermal resistance: pt1000, pt100, cu50
Number of Channels	8 - 256
Sampling	1S or optional 0.1S

Shenzhen Toprie Electronics Co., Ltd.

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Isolation Voltage from Power Supply	3000V DC
Fault and Overvoltage Protection	Maximum withstand voltage ±15V
Input Resistance	> 2M (voltage type signal) < 50Ω (current type signal)
Isolation Voltage between Channels	400V/AC/DC
Temperature Drift	±25PPM/°C
Year Drift	±100PPM/Y
Electrostatic Protection	2000V
Communication Parameter	Baud rate 9600bps/115200bps, data bit 8, check bit N (none), stop bit 1
Power Supply	DC +8V to +28VDC (terminals), +5V (USB)
Power Protection	Power reverse protection, wrong connection protection
Power Consumption	0.3W
Operation Environment	-30°C to +80°C, 0 - 100% RH (non-condensing)
Dimension	117.6 × 76.5 × 25.7 mm
Protection Level	IP40 & Fire-proof level UL94

Measurement Range

Type	Range	Accuracy	Resolution	MODBUS Protocol (effective data bit)
K	-60°C to +1372°C	±(0.05% rdg. +0.5°C)	+1000.0 1digit	1%
J	-200°C to +1200°C	±(0.05% rdg. +0.5°C) ≤0°C ±(0.15% rdg. +0.5°C)	+1000.0 1digit	1%
E	-100°C to +1000°C	±(0.05% rdg. +0.5°C) ≤0°C ±(0.15% rdg. +0.5°C)	+0999.0 1digit	1%

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T	-200°C to +400°C	±(0.05% rdg. +0.5°C) ≤-30°C ±(0.15% rdg. +0.5°C)	+0300.0 1digit	1%
N	-200°C to +1300°C	±(0.05% rdg. +0.7°C) ≤0°C ±(0.3% rdg. +0.7°C)	+0300.0 1digit	1%
w	0°C to +1500°C	±(0.05%of rdg ±1.0°C)	+1000.0 1digit	1%
	+1500°C to +2315°C	±(0.05%of rdg ±1.5°C)		1%
R	+400°C to +800°C	±(0.2% rdg. +2.0°C)	+1000.0 1digit	1%
	+800°C to +1768°C	±(0.05%of rdg ±1.0°C)		1%
S	+800°C to +1768°C	±(0.05% rdg. +1.0°C)	+1000.0 1digit	1%
	+400°C to +800°C	±(0.2% rdg. +2.0°C)		1%
B	+800°C to +1820°C	±(0.05% rdg. +1.0°C)	+1000.0 1digit	1%
	+400°C to +800°C	±(0.2% rdg. +2.5°C)		1%
pt100	-200°C to +660°C	±(0.05% rdg. +0.3°C)	+0300.0 1digit	1%
pt1000	-200°C to +300°C	±(0.05% rdg. +0.2°C)	+0100.0 1digit	1%

Note:

➢ Warm-up time: more than 30 minutes. Thermocouple measurement includes cold junction compensation accuracy.

➢ Standard operating state: temperature 25±3°C, humidity 55±10%RH.

➢ Environmental adaptability, the operation temperature is -20°C to +50°C.

➢ The operation humidity is 0 to 90%RH (no condensation).

Product Wiring
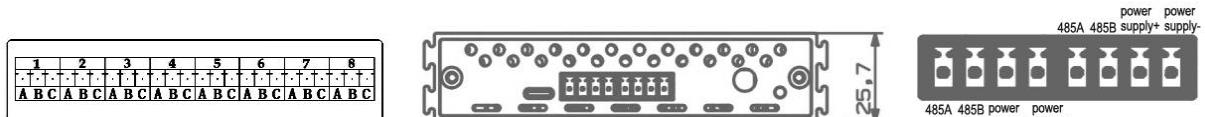
Input Port:

(1) 1-8 represents 8 channels. A, B, C represent the 3 terminals of a channel.

(2) Thermocouple signal input: pin A is connected to signal input +, pin B is connected to signal input -.

(3) PT100, PT1000 the same color wire is connected to B and C, and the separate color wire is connected to A.

Output Port:

(1) Type-C

(2) 485A to 485+

(3) 485B to 485-

(4) Power supply + - to '+ -' pole

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Physical Dimensions
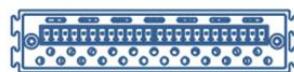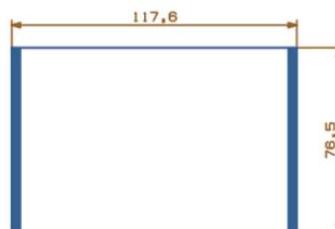
Applications
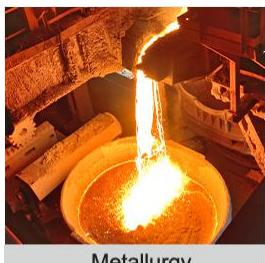
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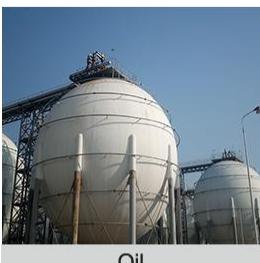
Oil

Building

Papermaking

Food
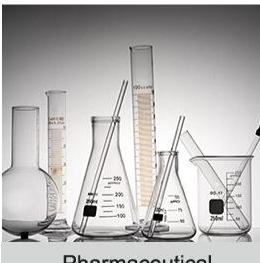
Pharmaceutical

Chemical

Industry

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