iDAQ-868

16-ch, 24-bit Thermocouple Input iDAQ Module

Features

- Hot-swappable in iDAQ system
- 16-channel thermocouple sampling
- 24-bit resolution
- 50/60Hz rejection filter available
- Wide range of thermocouples supported
- Isolation protection up to 600VRMS

Specifications

Thermocouple Input

- **Channels** — 16
- **ADC Resolution** — 24 bits
- **Acquisition Method** — Scanning
- **Supported thermocouple type, measurement range and accuracy**

Thermocouple Type	Measurement Range	Accuracy
Type J	0°C to 760°C	
Type K	0°C to 1,370°C	
Type E	0°C to 1,000°C	
Type R	500°C to 1,750°C	
Type S	500°C to 1,750°C	±0.1% of full-scale range max.
Type N	-200°C to 1,300°C	
Type B	500°C to 1,800°C	
Type T	-100°C to 400°C	

- **Over-voltage protection** — ±30 V
- **Isolation protection** — 600 VRMS
- **Conversion time** — High Resolution Mode: 57 ms per channel, 912 ms total for all channels
  High Speed Mode: 830 µs per channel, 13.3 ms total for all channels
- **Bandwidth (-3 dB)** — High Resolution Mode: 13.2 Hz
  High-speed mode : 718 Hz
- **50/60 Hz filter** — Yes (High resolution mode only)
- **Acquisition type** — Instant or buffered, software configurable

Buffered Acquisition

- **Enabled channel combination** — Each channel can be enabled/disabled independently by software
- **Sample rate** — 20 kS/s max., for all channels[1], software configurable
- **Internal data buffer (FIFO) size** — 512 samples

Power Requirement

- **Power consumption from chassis** — 0.85 W Typ./1 W Max.

Mechanical

- **Module dimensions** — 100 x 80 x 25 mm (3.94 x 3.15 x 0.98 in.)
- **Weight** — 175 g
- **Connector Type** — 2x 20-pin plug-in terminals

Environment

- **Operating temperature** — -20 °C to 60 °C (-4 °F to 140 °F)
- **Storage temperature** — -40 °C to 70 °C (-40 °F to 158 °F)
- **Operating humidity** — 10% to 90% RH, non-condensing
- **Storage humidity** — Up to 95% RH, non-condensing
- **Random Vibration** — 5Grms, random, 5~500Hz, 1hr/axis
- **Shock** — 30G, half sine, 11ms

Certification

- **EMC** — CE, FCC

Ordering Information

- **IDAQ-868-A** — 16-ch Thermocouple Input iDAQ Module

iDAQ Base Units[2]

- **IDAQ-934-AE** — 4-slot USB3.0 iDAQ Base Unit
- **IDAQ-938-A** — 8-slot USB3.0 iDAQ Base Unit
- **IDAQ-964-AE** — 4-slot iDAQ Base Unit for AMAX-5000 Controller

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[1] When using higher sampling rate (e.g. synchronous sampling with other iDAQ modules under higher sampling rate), duplicated data would be returned.
[2] The iDAQ modules should be used along with the base units. For detail of each base unit, please refer to individual datasheet.