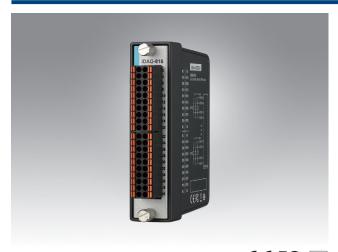
iDAQ-815

8-ch RTD Input iDAQ Module



Features

- Hot-swappable in iDAQ system
- 8-ch simultaneous RTD sampling
- 24-bit resolution
- Multiple supported RTD types and connection types
- Isolation protection up to 600VRMS

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Specifications

Analog Input

Channels Resolution 24 bits Supported RTD type and range

RTD	Temperature Range
Pt100 (α= 0.00385)	-200 °C to 850 °C
Pt100 (α= 0.00392)	-200 °C to 630 °C
Pt1000 (α= 0.00385)	-200 °C to 550 °C
NiFe604 (α= 0.00518)	-100 °C to 200 °C
Balco500 (α= 0.00518)	-40 °C to 150 °C

 Maximum input voltage ±20 V Over-voltage protection ±30 V 600 VRMS Isolation protection

High-resolution mode or high-speed mode, software Conversion mode

configured automatically according to the sampling

Conversion time

110 ms per channel, 880 ms total for all channels High-resolution mode High-speed mode 1.5 ms per channel, 12 ms total for all channels

 Bandwidth (-3 dB) High-resolution mode High-speed mode 574 Hz

 Acquisition type Instant or buffered, software configurabl

Buffered Acquisition

 Enabled channel combination

Each channel can be enabled/disabled independently

by software

Sample rate 200 kS/s max., for all channels(2), simultaneous sampling, software configurable

 Internal data buffer 512 samples (FIFO) size

Absolute accuracy

Voltage input

Operating temperature within ±5°C of last

Auto-calibration temperature ±0.01% of full-scale range max. $\pm 0.05\%$ of full-scale range max. Over full operating temperature range

Current input

Operating temperature within ±5°C of last

Auto-calibration temperature ±0.1% of full-scale range max. Over full operating temperature range ±0.5% of full-scale range max.

DC Performance (2)

 Idle channel noise 336 uVrms ENOB 16 bits

AC Performance (3)

SNR 89.21 dB THD -103.93 dB THD+N -89.06 dB **SFDR** 101.99 dB **Dynamic Range** 95.78 dB Crosstalk -100.88 dB

Analog Trigger

Channel 2 (start and stop)

One of the analog input channels, software configurable Source Threshold level Full scale of analog input range, software configurable Hysteresis 1/256 of analog input range, software configurable Rising edge or falling edge, software configurable **Polarity**

Power Requirement

Power consumption 650 mW typ./ 900 mW max. from chassis

Mechanical

Module dimensions 100 x 80 x 25 mm (3.94 x 3.15 x 0.98 in.) Weight

Environment

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

Certification

- EMC CE. FCC

Ordering Information

 IDAQ-815-AE 8-ch RTD Input iDAQ Module

(1) The sampling mode would switch automatically according to the setting. The threshold is 10S/s. The module would run high-speed mode when the sampling rate is higher than 10S/s, and high-resolution mode when sampling rate is below 10S/s.

(2) This is not the ADC's sample rate. If time period for configured sample rate is smaller than ADC's conversion time, duplicate results are returned.

(3) For detailed information, please refer to specification in the user manual.