iDAQ-817
iDAQ-821

8-ch, 16-bit, 200kS/s, Analog Input iDAQ Module

4-ch, 16-bit, 10kS/s/ch, Analog Output iDAQ Module

iDAQ-817

Specifications

Analog Input

- **Channels** 8 differential
- **Resolution** 16 bits
- **ADC type** Successive approximation (SAR)
- **Input range** ±10 V or ±20 mA, each channel can be configured independently by software
- **Input common-mode voltage range** ±275 V max.
- **Input coupling** DC
- **Input impedance** Differential, voltage meas. 800 kΩ; Common-mode, voltage meas. 200 kΩ; Current measurement 500 Ω
- **Isolation protection** 600 VRMS
- **Operation mode** Instant or buffered, software configurable
- **Sample rate** (200 / n) kHz max., where n is the number of enabled channels, software configurable
- **Internal data buffer (FIFO) size** 512 samples
- **Absolute accuracy**

Meas. Mode	Voltage	Current
Offset Error (max.)	±1 mV	±20 μA
Gain Error (max.)	±0.01% of FSR*	±0.1% of FSR*

- **Temperature drift** Offset drift 25 ppm/°C; Gain drift 15 ppm/°C
- **Bandwidth (-3dB)** 78 kHz
- **DC performance** Idle channel noise 0.34 mVRMS /0.7ARMS; Effective resolution 15.8 bits
- **AC performance** Signal-to-noise ratio (SNR) 86 dB; Total harmonic distortion (THD) -98 dB; Total harmonic distortion plus noise (THD+N) 86 dB; Effective number of bits (ENOB) 14.0 bits; Spurious-free dynamic range (SFDR) 103 dB; Crosstalk -85 dB

General

- **Power consumption from chassis 1W typ./1.25W max.**
- **Dimensions** 100 x 80 x 25 mm (3.94 x 3.15 x 0.98 in.)
- **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** 5% to 95% RH, non-condensing
- **Vibration** 5Grms
- **Shock** 30G
- **Certification** EMC: CE, FCC; Safety: CB, UL

Ordering Information

- **iDAQ-817-AE** 8-ch, 16-bit, 200 kS/s, AI iDAQ module

*FSR: full scale range

iDAQ-821

Specifications

Analog Input

- **Channels** 4
- **Resolution** 16 bits
- **Output range** 0~5 V, 0~10 V, ±5 V, ±10 V, 0~20mA, 4~20mA, software selectable per channel
- **Output coupling** DC
- **Output slew rate** 1 V/μs
- **Output load** Voltage output 1 kΩ min.; Current output 520 Ω max.
- **Output impedance** Voltage output 0.06 Ω typ.; Current output 100 MΩ typ.
- **Isolation protection** 600 VRMS
- **Power-on output state** 0 V
- **Operation mode** Static or buffered, software configurable
- **Update rate** 10 kHz max. per channel, software configurable
- **Internal data buffer (FIFO) size** 512 samples
- **Absolute accuracy**

Meas. Mode	Voltage	Current
Offset Error (max.)	±1 mV	±20 μA
Gain Error (max.)	±0.01% of FSR*	±0.1% of FSR*

- **Temperature drift** Offset drift 25 ppm/°C; Gain drift 15 ppm/°C
- **Bandwidth (-3dB)** 78 kHz
- **DC performance** Idle channel noise 0.34 mVRMS /0.7ARMS; Idle channel noise 0.2 mVRMS @ bandwidth of 100 kHz; Effective resolution 16 bits

General

- **Power consumption from chassis 0.675W typ./2.9W max.**
- **Dimensions** 100 x 80 x 25 mm (3.94 x 3.15 x 0.98 in.)
- **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** 5% to 95% RH, non-condensing
- **Vibration** 5Grms
- **Shock** 30G
- **Certification** EMC: CE, FCC; Safety: CB, UL

Ordering Information

- **iDAQ-821-AE** 4-ch, 16-bit, 10 kS/s/ch AO iDAQ module