# iDAQ-801

# 4-ch, 24-bit, 256kS/s/ch, DSA iDAQ Module



#### **Features**

- 4-ch simultaneous sampling up to 256kS/s
- 24-bit resolution
- Direct IEPE supply
- · Anti-aliasing filter equipped
- High gain up to ±187.5mV input range

## **Specifications**

#### **Analog Input**

• Channels 4, Differential or pseudo-differential (50  $\Omega$  between negative input terminal and chassis ground)

Resolution
 24 bits

Input range
 ±12 V, ±6 V, ±3 V, ±1.5 V, ±0.75 V,
 ±0.375 V, or ±0.1875 V, software

selectable per channel

Maximum input voltage ±12 V
 Input common-mode voltage range ±12 V

Input common-mode voltage range
 Over-voltage protection
 ±25 V

Input coupling AC or DC, software configurable

per channel

configurable

#### Integrated electronic piezoelectric excitation (IEPE) (1)

Current 0 mA or 2 mA, software configurable per channel
 Accuracy ±5% max.

• Compliance 22 V min.

Fault detection threshold <1.5 V (short) and >22.5 V (open),
Status report Software polling

#### **Analog low-pass filter**

• Filter type 4-th order, linear phase

■ -3 dB bandwidth 1 MHz

Digital low-pass filter
 Filter type: Wideband

-3 dB bandwidth: 0.433 x sample

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#### Absolute accuracy (2)

 $\begin{tabular}{llll} & \textbf{auto-calibration temperature} & \pm 0.01\% & \text{of full-scale range max.} \\ & \textbf{Over full operating temperature range} & \pm 0.05\% & \text{of full-scale range max.} \\ \end{tabular}$ 

Common-mode rejection ratio (CMRR) TBD dB

#### **DC** performance

Idle channel noise
 Effective resolution
 TBD mVRMS
 TBD bits

#### **AC** performance

Signal-to-noise ratio (SNR)
 Total harmonic distortion (THD)
 Total harmonic distortion plus
 109.4 dB

noise (THD+N)

Spurious-free dynamic range 117.49 dB (SFDR)

Crosstalk -104.06 dB

#### **Buffered acquisition**

• Enabled channel combination Each channel can be enabled/disabled

independently by software

■ Sample rate (256 / 2n) kHz, where n = 0 ~ 8, for all channels, simultaneous sampling, software

configurable

Internal data buffer (FIFO) size 512 samples

#### **Power Requirement**

Power Input
 5 V<sub>DC</sub> through iDAQ chassis

Power Consumption TBI

#### Mechanical

• **Module dimensions** 100 x 80 x 25 mm (3.94 x 3.15 x 0.98 in)

Weight

#### **Environment**

Operating temperature
Storage temperature
Operating humidity
Storage humidity

-20 °C to 60 °C (-4 °F to 140 °F)
-40 °C to 70 °C (-40 °F to 158 °F)
10% to 90% RH, non-condensing
5% to 95% RH, non-condensing

Vibration 5Grms Shock 30G

Indoor use only

#### Certification

EMCSafetyCE, FCCCB, UL

## **Ordering Information**

■ **iDAQ-801-AE** 4-ch, 24-bit, 256kS/s/ch, DSA iDAQ Module

#### **Optional Accessories**

PCL-1010B-1E
 BNC Coax Cable, 1m

(1) Input coupling must be AC and input configuration must be pseudo-differential when IEPE is enabled.

(2) Operating temperature within ±5°C of last