

PCI-1712/L

1 MS/s, 12-bit, 16-ch PCI Multifunction DAQ Card



FCC CE RoHS

Specifications

Analog Input

- Channels 16 single-ended/ 8 differential (software programmable)
 - Resolution 12 bits
 - Max. Sampling Rate Multi-channel, single gain: 1 MS/s
Multi-channel, multi gain: 600 kS/s
Multi-channel, multi gain, unipolar/bipolar: 400 kS/s
 - FIFO Size 1,024 samples
- Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels are used, the sampling rate is $600\text{k}/4 = 125\text{ kS/s}$ per channel. (multi gain, without unipolar/bipolar mixed)
- Overvoltage Protection 30 Vp-p
 - Input Impedance 100 M Ω /10 pF (Off), 100 M Ω /100 pF (On)
 - Sampling Modes Software, onboard programmable pacer and external
 - Trigger Modes Pre-trigger, post-trigger, delay-trigger and about-trigger

Input Range (V, software programmable) & Absolute Accuracy

| Unipolar | N/A | 0 ~ 10 | 0 ~ 5 | 0 ~ 2.5 | 0 ~ 1.25 |
|-------------------------------|----------|---------|-----------|------------|-------------|
| Bipolar | ± 10 | ± 5 | ± 2.5 | ± 1.25 | ± 0.625 |
| Absolute Accuracy (% of FSR)* | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 |

* ± 1 LSB is added as the derivative for absolute accuracy

Analog Output (PCI-1712 only)

- Channels 2
- Resolution 12 bits
- Output Rate 1 MS/s max.
- FIFO Size 32,768 samples
- Output Range (Software programmable)

| Internal Reference | Bipolar | $\pm 5\text{ V}, \pm 10\text{ V}$ |
|--------------------|----------|---|
| | Unipolar | 0 ~ 5 V, 0 ~ 10 V |
| External Reference | | 0 ~ +x V @ +x V ($-10 \leq x \leq 10$) -x ~ +x V @ +x V ($-10 \leq x \leq 10$) |

- Slew Rate 20 V/ μ s
- Driving Capability 10 mA
- Output Impedance 0.1 Ω max.
- Operation Mode Static update, waveform generation
- Accuracy INLE: ± 1 LSB
DNLE: ± 1 LSB

Features

- 16 single-ended or 8 differential or a combination of analog inputs
- 12-bit A/D converter, with up to 1 MHz sampling rate
- Programmable gain
- Automatic channel/gain scanning
- Onboard FIFO memory (AI: 1,024 samples AO: 32,768 samples)
- Two 12-bit analog output channels with continuous waveform output function (PCI-1712 only)
- 16-ch digital input or output (programmable)
- Three 16-bit programmable multifunction counter/timers on 10 MHz
- Auto-calibration (AI/AO)
- PCI-Bus mastering data transfer
- Pre-, post-, about- and delay-trigger data acquisition modes for analog input channels
- Flexible triggering and clocking capabilities

Digital I/O

- Channels 16
- Compatibility 5 V/TTL
- Input Voltage Logic 0: 0.8 V max.
Logic 1: 2.0 V min.
- Output Voltage Logic 0: 0.8 V max.
Logic 1: 2.0 V min
- Output Capability Sink: 8.0 mA @ 0.8 V
Source: 0.4 mA @ 2.0 V

Pacer/Counter

- Channels 3
- Resolution 16 bits
- Compatibility 5 V/TTL
- Max. Input Frequency 10 MHz
- Reference Clock Internal: 10 MHz, 1 MHz, 100 kHz, 10 kHz
External Frequency: 10 MHz max.

General

- Bus Type PCI V 2.2
- I/O Connector 1 x 68-pin SCSI female connector
- Dimensions (L x H) 175 x 100 mm (6.9" x 3.9")
- Power Consumption Typical: 5 V @ 850 mA, 12 V @ 600 mA
Max.: 5 V @ 1.0 A, 12 V @ 700 mA
- Operating Temperature 0 ~ 60°C (32 ~ 140°F)
- Storage Temperature -20 ~ 85°C (-4 ~ 185°F)
- Storage Humidity 5 ~ 95% RH non-condensing

Ordering Information

- PCI-1712 1 MS/s, 12-bit High-speed Multifunction PCI Card
- PCI-1712L 1 MS/s, 12-bit High-speed Multi. PCI Card w/o AO

Accessories

- PCLD-8712 DIN-rail Wiring Board for PCI-1712/L
- PCL-10168-1E 68-pin SCSI Shielded Cable, 1 m
- PCL-10168-2E 68-pin SCSI Shielded Cable, 2 m
- ADAM-3968 68-pin DIN-rail SCSI Wiring Board