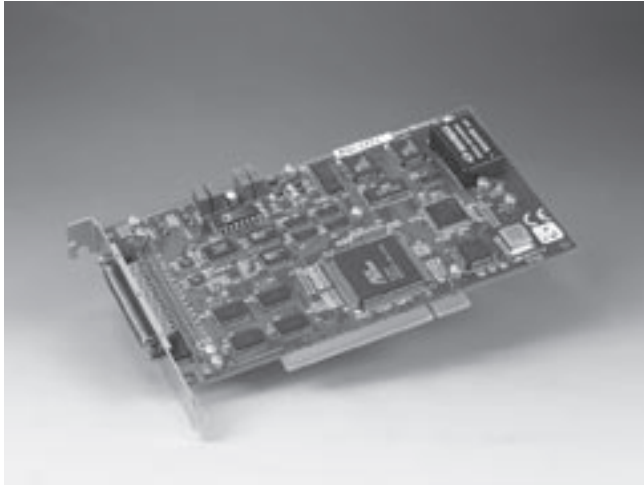


# PCI-1711

# PCI-1711L

**100 kS/s, 12-bit, 16-ch S.E. Input Low-cost Multifunction Card**

**100 kS/s, 12-bit, 16-ch S.E. Input Low-cost Multifunction Card w/o AO function**



## Features

- 16 single-ended analog inputs
- 12-bit A/D converter, with up to 100 kHz sampling rate
- Programmable gain
- Automatic channel/gain scanning
- Onboard FIFO memory (1024 samples)
- Two 12-bit analog output channels (PCI-1711 only)
- 16 digital inputs and 16 digital outputs
- Onboard programmable counter

## Introduction

PCI-1711 and PCI-1711L are powerful, but low-cost multifunction cards for the PCI bus. PCI-1711 comes with 2 analog output channels, while the PCI-1711L doesn't. Thus, PCI-1711L represents a cost saver for those that do not need analog output.

## Specifications

### Analog Input

- **Channels** 16 Single-ended
- **Resolution** 12 bits
- **Max. Sampling Rate\*** 100 kS/s max.
- **FIFO Size** 1024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 2 M $\Omega$ /5 pF
- **Sampling Modes** Software, onboard programmable pacer, or external
- **Input Range** (V, software programmable)

| Bipolar  | $\pm 10$ | $\pm 5$ | $\pm 2.5$ | $\pm 1.25$ | $\pm 0.625$ |
|--|----------|---------|-----------|------------|-------------|
| <b>Accuracy (% of FSR <math>\pm 1</math>LSB)</b> | 0.1      | 0.1     | 0.2       | 0.2        | 0.4         |

#### \*Note:

The sampling rate and throughput depends on the computer hardware architecture and software environment. The rates may vary due to programming language, code efficiency, CPU utilization and so on.

### Analog Output (only for PCI-1711)

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

| Internal Reference        | Unipolar | 0 ~ +5 V, 0 ~ +10 V                      |
|---------------------------|----------|--|
| <b>External Reference</b> |          | 0 ~ +x V @ -x V (-10 $\leq$ x $\leq$ 10) |

- **Slew Rate** 11 V/ $\mu$ s
- **Driving Capability** 3 mA
- **Output Impedance** 0.81  $\Omega$
- **Operation Mode** Software polling
- **Accuracy** INLE:  $\pm 1/2$  LSB  
DNLE:  $\pm 1/2$  LSB

### Digital Inputs

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.

### Digital Outputs

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

### Pacer/Counter

- **Channels** 1
- **Resolution** 16 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Reference Clock** Internal: 10 MHz

### General

- **Bus Type** PCI V2.2
- **I/O Connector** SCSI-68P female x 1
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption**  
PCI-1711: Typical: +5 V @ 850 mA  
Max: +5 V @ 1.0 A  
PCI-1711L: Typical: +5 V @ 700 mA  
Max: +5 V @ 1.0 A
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
- **Storing Temperature** -20 ~ 70° C (-4 ~ 158° F)
- **Storing Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)

## Ordering Information

- **PCI-1711** 100 kS/s, 12-bit multifunction card
- **PCI-1711L** 100 kS/s, 12-bit multifunction card without AO
- **PCLD-8710** SCSI-68 wiring terminal w/CJC, DIN-rail mount
- **PCLD-8710BNC** SCSI-68 wiring terminal w/CJC and BNC connectors, DIN-rail mount
  
- **PCL-10168-1** SCSI-68 shielded cable, 1 m
- **PCL-10168-2** SCSI-68 shielded cable, 2 m
- **ADAM-3968** SCSI-68 wiring terminal, DIN-rail mount

## Pin Assignments

|           |    |    |           |
|-----------|----|----|-----------|
| AI0       | 68 | 34 | AI1       |
| AI2       | 67 | 33 | AI3       |
| AI4       | 66 | 32 | AI5       |
| AI6       | 65 | 31 | AI7       |
| AI8       | 64 | 30 | AI9       |
| AI10      | 63 | 29 | AI11      |
| AI12      | 62 | 28 | AI13      |
| AI14      | 61 | 27 | AI15      |
| AIGND     | 60 | 26 | AIGND     |
| *AO0_REF  | 59 | 25 | AOI_REF*  |
| *AO0_OUT  | 58 | 24 | AOI_OUT*  |
| *AOGND    | 57 | 23 | AOGND*    |
| DI0       | 56 | 22 | DI1       |
| DI2       | 55 | 21 | DI3       |
| DI4       | 54 | 20 | DI5       |
| DI6       | 53 | 19 | DI7       |
| DI8       | 52 | 18 | DI9       |
| DI10      | 51 | 17 | DI11      |
| DI12      | 50 | 16 | DI13      |
| DI14      | 49 | 15 | DI15      |
| DGND      | 48 | 14 | DGND      |
| DO0       | 47 | 13 | DO1       |
| DO2       | 46 | 12 | DO3       |
| DO4       | 45 | 11 | DO5       |
| DO6       | 44 | 10 | DO7       |
| DO8       | 43 | 9  | DO9       |
| DO10      | 42 | 8  | DO11      |
| DO12      | 41 | 7  | DO13      |
| DO14      | 40 | 6  | DO15      |
| DGND      | 39 | 5  | DGND      |
| CNT0_CLK  | 38 | 4  | PACER_OUT |
| CNT0_OUT  | 37 | 3  | TRG_GATE  |
| CNT0_GATE | 36 | 2  | EXT_TRG   |
| +12V      | 35 | 1  | +5V       |

\*: Pins 23~25 and pins 57~59 are not defined for PCI-1711L