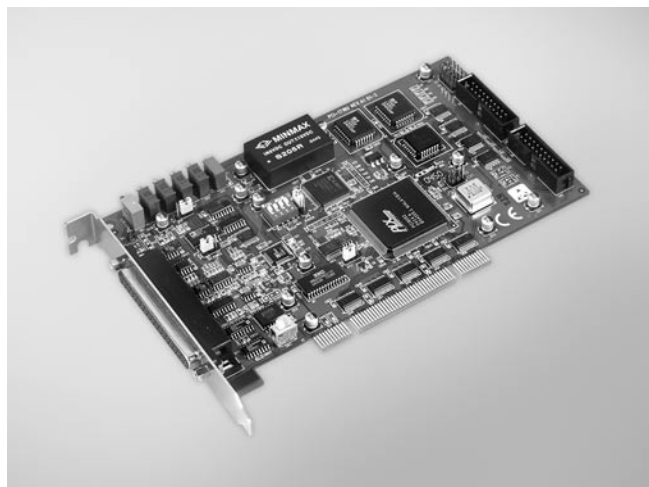


# PCI-1718HDU

## 100 kS/s, 12-bit, 16-ch Universal PCI Multifunction Card



### Features

- ISA-Compatible with PCL-818HD
- 16-ch single-ended or 8-ch differential analog input
- 12-bit A/D converter, with up to 100 kHz sampling rate
- Programmable gain
- Automatic channel/gain scanning
- Onboard FIFO memory (1,024 samples)
- One 12-bit analog output channel
- 16-ch digital input and 16-ch digital output
- Universal PCI bus (support 3.3 V or 5 V PCI bus signal)
- BoardID™ switch

### Introduction

The PCI-1718HDU and the PCL-818H series are 100 kS/s multifunction data acquisition cards that offer the five most desired measurement and control functions: 12-bit A/D conversion, 12-bit D/A conversion, digital input, digital output, and counter/timer. With 3-way compatibility, migration is possible from ISA bus to PCI bus.

### Specifications

#### Analog Input

- **Channels** 16 single-ended/8 differential (software programmable)
- **Resolution** 12 bits
- **Max. Sampling Rate** 100 kS/s
- **FIFO Size** 1,024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 100 M $\Omega$
- **Sampling Modes** Software, onboard or external programmable pacer
- **Input Range**

PCI-1718HDU	Unipolar	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
	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

#### Analog Output

- **Channels** 1
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

Internal Reference	Unipolar	0 ~ 5, 0 ~ 10
External Reference		0 ~ x V @ x V (-10 $\leq$ x $\leq$ 10)

- **Slew Rate** 10 V/ $\mu$ s
- **Driving Capability** 10 mA
- **Output Impedance** 0.1  $\Omega$  max.
- **Operation Mode** Software polling
- **Accuracy** INLE:  $\pm 1$ LSB

#### Digital Input

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max., Logic 1: 2 V min.

#### Digital Output

- **Channels** 16
- **Compatibility** 5 V/TTL
- **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

#### Counter/Timer

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

#### General

- **Bus Type** Universal PCI 2.2
- **I/O Connector** 1 x DB37 female connector  
2 x 20-pin box header
- **Dimensions** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: +5 V @ 850 mA  
Max.: +5 V @ 1 A
- **Operating Temperature** 0 ~ 60  $^{\circ}$ C (32 ~ 140  $^{\circ}$ F)
- **Storage Temperature** -20 ~ 70  $^{\circ}$ C (-4 ~ 158  $^{\circ}$ F)
- **Operating Humidity** 5 ~ 85% RH non-condensing (refer to IEC 68-1, -2, -3)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-1, -2, -3)
- **Certifications** CE

## Ordering Information

- **PCI-1718HDU** 100 kS/s, 12-bit, 16-ch Univ. PCI Multi. Card
- **PCL-10120-1** 20-pin Flat Cable, 1 m
- **PCL-10120-2** 20-pin Flat Cable, 2 m
- **PCL-10137-1** DB37 Cable, 1 m
- **PCL-10137-2** DB37 Cable, 2 m
- **PCL-10137-3** DB37 Cable, 3 m
- **PCLD-8115** Wiring Board w/ CJC Circuit & One DB37 Cable
- **PCLD-880** Wiring Board w/ Two 20-pin Flat Cables & Adapter

## Pin Assignments

A/D S0	1	20	A/D S8
A/D S1	2	21	A/D S9
A/D S2	3	22	A/D S10
A/D S3	4	23	A/D S11
A/D S4	5	24	A/D S12
A/D S5	6	25	A/D S13
A/D S6	7	26	A/D S14
A/D S7	8	27	A/D S15
A.GND	9	28	A.GND
A.GND	10	29	A.GND
V.REF	11	30	DA0.OUT
S0*	12	31	DA0.VREF
+12 V	13	32	S1*
S2*	14	33	S3*
D.GND	15	34	D.GND
NC	16	35	EXT.TRIG
Counter 0 CLK	17	36	Counter 0 GATE
Counter 0 OUT	18	37	PACER
+5V	19		

CN1				CN2			
D/O 0	1	2	D/O 1	D/I 0	1	2	D/I 1
D/O 2	3	4	D/O 3	D/I 2	3	4	D/I 3
D/O 4	5	6	D/O 5	D/I 4	5	6	D/I 5
D/O 6	7	8	D/O 7	D/I 6	7	8	D/I 7
D/O 8	9	10	D/O 9	D/I 8	9	10	D/I 9
D/O 10	11	12	D/O 11	D/I 10	11	12	D/I 11
D/O 12	13	14	D/O 13	D/I 12	13	14	D/I 13
D/O 14	15	16	D/O 15	D/I 14	15	16	D/I 15
D.GND	17	18	D.GND	D.GND	17	18	D.GND
+5 V	19	20	+12 V	+5 V	19	20	+12 V