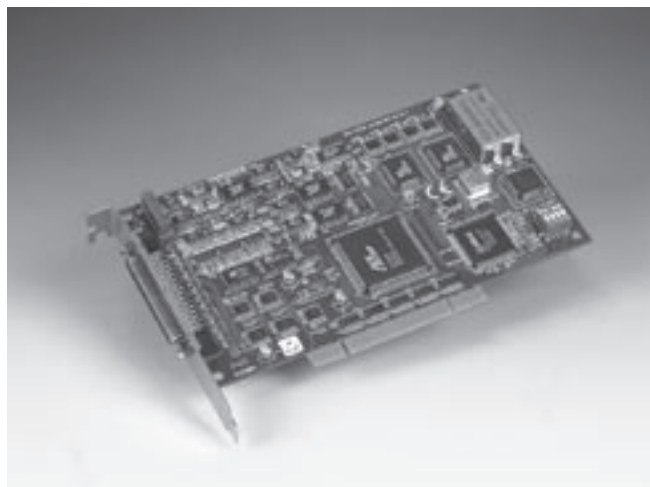


PCI-1741U

16-bit, 200 kS/s Low-Cost
Multifunction Card w/AO



Features

- 16 single-ended, 8 differential or a combination of analog inputs
- 16-bit A/D converter, with up to 200 kHz sampling rate
- Onboard FIFO memory (1024 samples)
- Auto calibration
- Universal PCI bus (support 3.3 V or 5 V PCI bus signal)
- Onboard programmable counter
- BoardID™ switch

Introduction

PCI-1741U is a powerful high-resolution multifunction DAS card for the PCI bus. Its sampling rate is up to 200 kS/s and the 16-bit resolution makes it suitable for most data acquisition applications. PCI-1741U provides 16 single-ended or 8 differential analog input channels, one 16-bit D/A output channel, 16 digital input/output channels, and one 10 MHz 16-bit counter channel.

Specifications

Analog Input

- **Channels** 16 single-ended/8 differential (SW programmable)
- **Resolution** 16 bits
- **Max. Sampling Rate** 200 kS/s
- **FIFO Size** 1024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 100 M Ω /10pF (Off); 100 M Ω /100pF (On)
- **Sampling Mode** Software, onboard programmable pacer or external
- **Input Range*** (V, software programmable)

Unipolar	N/A	0~10	0~5	0~2.5	0~1.25
Bipolar	± 10	± 5	± 2.5	± 1.25	± 0.625
Accuracy (% of FSR ± 1LSB)	0.03	0.02	0.02	0.03	0.04

* Note: All channels should be set to the same range

Analog Output

- **Channels** 1
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

Internal Reference	Bipolar	$\pm 5, \pm 10$
	Unipolar	0 ~ 5, 0 ~ 10
External Reference		0 ~ +xV @ +xV (-10 \leq x \leq 10)
		-x ~ +xV @ +xV (-10 \leq x \leq 10)

- **Slew Rate** 20 V/ μ s
- **Driving Capability** ± 20 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Software polling
- **Accuracy** INLE: ± 1 LSB

Digital Input

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
Logic 1: 2.0 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: 24 mA @ 0.8 V
Source: -15 mA @ 2.0 V

Counter/Timer

- **Channels** 1
- **Compatibility** 5 V/TTL
- **Resolution** 16 bits
- **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 Type** SCSI-68P female x 1
- **Dimensions** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: +5 V @ 850 mA, +12 V @ 600 mA
Max.: +5 V @ 1 A, +12 V @ 700 mA
- **Operating Temperature** 0 ~ 60° C (32 ~ 158° F) (refer to IEC 68-2-1, 2)
- **Storing Temperature** -20 ~ 70° C (-4 ~ 185° F)
- **Storing Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Certifications** CE

Ordering Information

- **PCI-1741U** 200k S/s, 16-bit high-resolution multifunction card
- **PCI-1741S** PCI-1741U with PCLD-8710 and PCL-10168 cable
- **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
- **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

Pin Assignments

AIO	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
AOO_REF	59	25	NC
AOO_OUT	58	24	NC
AOGND	57	23	NC
DIO	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