

# PCI-7432/7433/7434, cPCI-7432/7433/7434

## 64-CH Isolated Digital I/O Cards



cPCI-7432



cPCI-7433



cPCI-7434

### Features

- Supports a 32-bit 5 V PCI bus (PCI-7432/7433/7434)
- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-7432/7433/7434)
- 32-CH isolated digital inputs & 32-CH isolated digital outputs (PCI-7432/7432HIR, cPCI-7432/7432R/7432RP)
- 64-CH isolated digital inputs (PCI-7433/7433HIR, cPCI-7433/7433R)
- 64-CH isolated digital outputs (PCI-7434, cPCI-7434/7434R/7434P/7434RP)
- Isolation Voltage:
  - 2500 VRMS: PCI-7432/7433/7434, cPCI-7432R/7432RP/7433R
  - 5000 VRMS: cPCI-7432/7433/7434/7434R/7434P/7434RP
- Sink current up to 500 mA on single isolated output
- Isolated input voltage up to 24 V (PCI-7432/7433, cPCI-7432/7432R/7432RP/7433/7433R)
- Isolated input voltage up to 50 V (PCI-7432HIR/7433HIR)
- Two external interrupt sources (PCI-7432/7432HIR/7433/7433HIR, cPCI-7432/7432R/7432RP/7433/7433R)
- Operating Systems
  - Windows 7/Vista/XP/2000/2003
  - Linux
- Recommended Software
  - AD-Logger
  - VB.NET/VC.NET/VB/VC++/BCB/Delphi
  - DAQBench
- Driver Support
  - DAQPilot for Windows
  - DAQPilot for LabVIEW™
  - DAQ-MTLB for MATLAB®
  - PCIS-DASK for Windows
  - PCIS-DASK/X for Linux

### Introduction

ADLINK's cPCI/PCI-743X series cards are 64-CH high-density digital input and/or output cards that provide a robust 2,500 V isolation protection and are suitable for most industrial applications. The wide input range of the cPCI/PCI-7432 and cPCI/PCI-7433 makes it easy to sense the status of external devices. There are several options for PCI-743X series, such as normal version with input range from 0 to 24 V, as well as HIR version with high input range from 0 to 50 V. The PCI-7433ALC is specifically designed for AC power test system.

The cPCI/PCI-7432 and cPCI/PCI-7434 feature a wide output range from 5 to 35 V, suitable for relay driving and industrial automation applications. The cPCI/PCI-7432 and cPCI/PCI-7433 also provide two interrupt sources on digital input channels, which are easily configurable.

### Specifications

#### Isolated Digital Input

- Number of channels
  - 32 (PCI-7432/7432HIR, cPCI-7432/7432R/7432RP)
  - 64 (PCI-7433/7433HIR, cPCI-7433/7433R)
- Maximum input range (Non-polarity)
  - 24 V, non-polarity (PCI-7432/7433, cPCI-7432/7432R/7432RP/7433/7433R)
- Digital logic levels: 0 V to 24 V, non-polarity
  - Input high voltage: 5 V to 24 V
  - Input low voltage: 0 V to 1.5 V
- Input resistance
  - 2.4 kΩ @ 0.5 W (PCI-7432, cPCI-7432/7432R/7432RP, cPCI-7433/7433R)
  - 2.4 kΩ @ 1 W (PCI-7433)
  - 4.7 kΩ @ 0.5 W (PCI-7432HIR)
  - 4.7 kΩ @ 1 W (PCI-7433HIR)
- Isolation voltage: 2500 VRMS: PCI-7432/7432HIR/7433/7433HIR, cPCI-7432R/7432RP/7433R  
5000 VRMS: cPCI-7432/7433
- Interrupt sources: digital input channel 0 & 1
- Data transfers: programmed I/O

#### Isolated Digital Output

- Number of channels
  - 32 (PCI-7432/7432HIR, cPCI-7432/7432R/7432RP)
  - 64 (PCI-7434, cPCI-7434/7434R/7434P/7434RP)
- Output type: open collector Darlington transistor
- Sink current (PCI-7432/7432HIR/7434, cPCI-7432/7432R/7434/7434R)
  - 500 mA for single channel @ 100% duty cycle
  - 500 mA for all channels @ 20% duty cycle

- Source current (cPCI-7432RP/7434P/7434RP)
  - 500 mA for single channel @ 100% duty cycle
  - 260 mA for all channels @ 10% duty
- Power dissipation: Max. 2.25 W per chip (8 DO channels) (PCI-7432/7432HIR/7434, cPCI-7432/7432R/7434/7434R)  
Max. 1.47 W per chip (8 DO channels) (cPCI-7432RP/7434P/7434RP)
- Supply voltage: 5-35 V
- Isolation voltage: 2500 VRMS
- Data transfers: programmed I/O

#### General Specifications

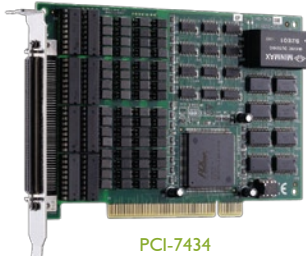
- I/O connector: 100-pin SCSI-II female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

Device	+5 V
PCI-7432/7432HIR, cPCI-7432/7432R/7432RP	530 mA typical
PCI-7433/7433HIR, cPCI-7433/7433R	500 mA typical
PCI-7434, cPCI-7434/7434R/7434P/7434RP	560 mA typical

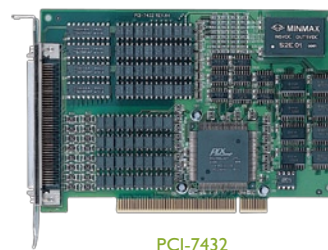
- Dimensions (not including connectors)
  - 156 mm x 106 mm (PCI-7432 & PCI-7432HIR)
  - 175 mm x 107 mm (PCI-7433, PCI-7433HIR)
  - 156 mm x 106 mm (PCI-7434)
  - 156 mm x 106 mm (PCI-7434)
  - 160 mm x 100 mm (cPCI-7432/7433/7434)



PCI-7433



PCI-7434



PCI-7432

### Terminal Boards & Cables

**DIN-100S-01**

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included.)

**ACL-102100-1**

100-pin SCSI-II cable (mating with AMP-787082-9), 1 M

\* For more information on mating cables, please refer to P2-59/60.

**Note:**

Legacy DIN-502S can be replaced by two DIN-50S-01 and ACL-10252-1 (100-Pin to two 50-Pin Cable, 1 M)

### Ordering Information

**PCI-7432**

32-CH Isolated DI & 32-CH Isolated DO Card

**PCI-7432HIR**

32-CH Isolated DI & 32-CH Isolated DO Card with High Input Range

**PCI-7433**

64-CH Isolated DI Card

**PCI-7433HIR**

64-CH Isolated DI Card with High Input Range

**PCI-7434**

64-CH Isolated DO Card

**cPCI-7432R**

32-CH Isolated DI & 32-CH Isolated DO Card with Rear I/O

**cPCI-7432RP**

cPCI-7432 with Rear I/O & Source Current Transistor

**cPCI-7433**

64-CH Isolated DI Card

**cPCI-7433R**

64-CH Isolated DI Card with Rear I/O

**cPCI-7434**

64-CH Isolated DO Card

**cPCI-7434R**

64-CH Isolated DO Card with Rear I/O

**cPCI-7434P**

64-CH Isolated DO Card with Source Current Transistor

**cPCI-7434RP**

cPCI-7434 with Rear I/O & Source Current Transistor

### Pin Assignment

**PCI-7432/7432HIR, cPCI-7432/7432R**

IDI_0	1	51	IDI_8	51
IDI_1	2	52	IDI_9	52
IDI_2	3	53	IDI_10	53
IDI_3	4	54	IDI_11	54
IDI_4	5	55	IDI_12	55
IDI_5	6	56	IDI_13	56
IDI_6	7	57	IDI_14	57
IDI_7	8	58	IDI_15	58
COM1	9	59	COM2	59
COM1	10	60	COM2	60
COM1	11	61	COM2	61
COM1	12	62	COM2	62
IDL_16	13	63	IDL_24	63
IDL_17	14	64	IDL_25	64
IDL_18	15	65	IDL_26	65
IDL_19	16	66	IDL_27	66
IDL_20	17	67	IDL_28	67
IDL_21	18	68	IDL_29	68
IDL_22	19	69	IDL_30	69
IDL_23	20	70	IDL_31	70
COM3	21	71	COM4	71
COM3	22	72	COM4	72
COM3	23	73	COM4	73
COM3	24	74	COM4	74
N/C	25	75	N/C	75
IDO_0	26	76	IDO_8	76
IDO_1	27	77	IDO_9	77
IDO_2	28	78	IDO_10	78
IDO_3	29	79	IDO_11	79
IDO_4	30	80	IDO_12	80
IDO_5	31	81	IDO_13	81
IDO_6	32	82	IDO_14	82
IDO_7	33	83	IDO_15	83
VDD1	34	84	VDD2	84
IGND	35	85	IGND	85
IGND	36	86	IGND	86
IGND	37	87	IGND	87
IDO_16	38	88	IDO_24	88
IDO_17	39	89	IDO_25	89
IDO_18	40	90	IDO_26	90
IDO_19	41	91	IDO_27	91
IDO_20	42	92	IDO_28	92
IDO_21	43	93	IDO_29	93
IDO_22	44	94	IDO_30	94
IDO_23	45	95	IDO_31	95
VDD3	46	96	VDD4	96
IGND	47	97	IGND	97
IGND	48	98	IGND	98
IGND	49	99	IGND	99
+5Vout	50	100	+5Vout	100

**PCI-7433/7433HIR, cPCI-7433/7433R**

IDI_0	1	51	IDI_8	51
IDI_1	2	52	IDI_9	52
IDI_2	3	53	IDI_10	53
IDI_3	4	54	IDI_11	54
IDI_4	5	55	IDI_12	55
IDI_5	6	56	IDI_13	56
IDI_6	7	57	IDI_14	57
IDI_7	8	58	IDI_15	58
COM1	9	59	COM2	59
COM1	10	60	COM2	60
COM1	11	61	COM2	61
COM1	12	62	COM2	62
IDL_16	13	63	IDL_24	63
IDL_17	14	64	IDL_25	64
IDL_18	15	65	IDL_26	65
IDL_19	16	66	IDL_27	66
IDL_20	17	67	IDL_28	67
IDL_21	18	68	IDL_29	68
IDL_22	19	69	IDL_30	69
IDL_23	20	70	IDL_31	70
COM3	21	71	COM4	71
COM3	22	72	COM4	72
COM3	23	73	COM4	73
COM3	24	74	COM4	74
N/C	25	75	N/C	75
IDI_32	26	76	IDI_40	76
IDI_33	27	77	IDI_41	77
IDI_34	28	78	IDI_42	78
IDI_35	29	79	IDI_43	79
IDI_36	30	80	IDI_44	80
IDI_37	31	81	IDI_45	81
IDI_38	32	82	IDI_46	82
IDI_39	33	83	IDI_47	83
COM5	34	84	COM6	84
COM5	35	85	COM6	85
COM5	36	86	COM6	86
COM5	37	87	COM6	87
IDI_48	38	88	IDI_56	88
IDI_49	39	89	IDI_57	89
IDI_50	40	90	IDI_58	90
IDI_51	41	91	IDI_59	91
IDI_52	42	92	IDI_60	92
IDI_53	43	93	IDI_61	93
IDI_54	44	94	IDI_62	94
IDI_55	45	95	IDI_63	95
COM7	46	96	COM8	96
COM7	47	97	COM8	97
COM7	48	98	COM8	98
COM7	49	99	COM8	99
N/C	50	100	N/C	100

**PCI-7434, cPCI-7434/7434R**

IDO_0	1	51	IDO_8	51
IDO_1	2	52	IDO_9	52
IDO_2	3	53	IDO_10	53
IDO_3	4	54	IDO_11	54
IDO_4	5	55	IDO_12	55
IDO_5	6	56	IDO_13	56
IDO_6	7	57	IDO_14	57
IDO_7	8	58	IDO_15	58
VDD1	9	59	VDD2	59
IGND	10	60	IGND	60
IGND	11	61	IGND	61
IGND	12	62	IGND	62
IDO_16	13	63	IDO_24	63
IDO_17	14	64	IDO_25	64
IDO_18	15	65	IDO_26	65
IDO_19	16	66	IDO_27	66
IDO_20	17	67	IDO_28	67
IDO_21	18	68	IDO_29	68
IDO_22	19	69	IDO_30	69
IDO_23	20	70	IDO_31	70
VDD3	21	71	VDD4	71
IGND	22	72	IGND	72
IGND	23	73	IGND	73
IGND	24	74	IGND	74
N/C	25	75	N/C	75
IDO_32	26	76	IDO_40	76
IDO_33	27	77	IDO_41	77
IDO_34	28	78	IDO_42	78
IDO_35	29	79	IDO_43	79
IDO_36	30	80	IDO_44	80
IDO_37	31	81	IDO_45	81
IDO_38	32	82	IDO_46	82
IDO_39	33	83	IDO_47	83
VDD5	34	84	VDD6	84
IGND	35	85	IGND	85
IGND	36	86	IGND	86
IGND	37	87	IGND	87
IDO_48	38	88	IDO_56	88
IDO_49	39	89	IDO_57	89
IDO_50	40	90	IDO_58	90
IDO_51	41	91	IDO_59	91
IDO_52	42	92	IDO_60	92
IDO_53	43	93	IDO_61	93
IDO_54	44	94	IDO_62	94
IDO_55	45	95	IDO_63	95
VDD7	46	96	VDD8	96
IGND	47	97	IGND	97
IGND	48	98	IGND	98
IGND	49	99	IGND	99
+5Vout	50	100	+5Vout	100