

# 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)
- 64-CH isolated digital inputs (PCI-7433/7433HIR, cPCI-7433)
- 64-CH isolated digital outputs (PCI-7434, cPCI-7434/7434P)
- Isolation Voltage:
  - 2500 V<sub>RMS</sub>: PCI-7432/7433/7434
  - 5000 V<sub>RMS</sub>: cPCI-7432/7433/7434/7434P
- Sink current up to 500 mA on single isolated output
- Isolated input voltage up to 24 V (PCI-7432/7433, cPCI-7432/7433)
- Isolated input voltage up to 50 V (PCI-7432HIR/7433HIR)
- Two external interrupt sources (PCI-7432/7432HIR/7433/7433HIR, cPCI-7432/7432RP/7433)
- Operating Systems
  - Windows 7/Vista/XP/2000/2003 Server
  - Linux
- Recommended Software
  - AD-Logger
  - VB.NET/VC.NET/VB/VC++/BCB/Delphi
  - DAQBench
- Driver Support
  - 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)
  - 64 (PCI-7433/7433HIR, cPCI-7433)
- Maximum input range (Non-polarity)
  - 24 V, non-polarity (PCI-7432/7433, cPCI-7432/7433)
- 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 k $\Omega$  @ 0.5 W (PCI-7432, cPCI-7432, cPCI-7433)
  - 2.4 k $\Omega$  @ 1 W (PCI-7433)
  - 4.7 k $\Omega$  @ 0.5 W (PCI-7432HIR)
  - 4.7 k $\Omega$  @ 1 W (PCI-7433HIR)
- Isolation voltage: 2500 V<sub>RMS</sub>: PCI-7432/7432HIR/7433/7433HIR  
5000 V<sub>RMS</sub>: 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)
  - 64 (PCI-7434, cPCI-7434)
- Output type: open collector Darlington transistor
- Sink current (PCI-7432/7432HIR/7434, cPCI-7434)
  - 500 mA for single channel @ 100% duty cycle
  - 500 mA for all channels @ 20% duty cycle
- Source current (cPCI-7434P)
  - 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-7432/7434)  
Max. 1.47 W per chip (8 DO channels) (cPCI-7434P)
- Supply voltage: 5-35 V
- Isolation voltage: 2500 V<sub>RMS</sub>
- Data transfers: programmed I/O

#### General Specifications

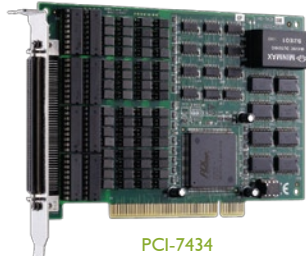
- I/O connector: 100-pin SCSI-II female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

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

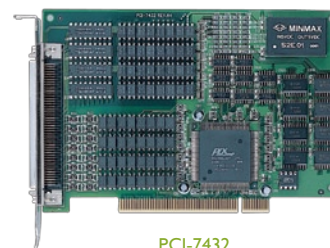
- Dimensions (not including connectors)
  - 156 mm x 106 mm (PCI-7432 & PCI-7432HIR)
  - 175 mm x 107 mm (PCI-7433, PCI-7433HIR)
  - 156 mm x 106 mm (PCI-7434)
  - 156 mm x 106 mm (PCI-7434P)
  - 160 mm x 100 mm (cPCI-7432/7433/7434)



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 P2-61/62.

### 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-7433

64-CH Isolated DI Card

### cPCI-7434

64-CH Isolated DO Card

### cPCI-7434P

64-CH Isolated DO Card with Source Current Transistor

## Pin Assignment

### PCI-7432/7432HIR, cPCI-7432

|        |    |     |        |
|--------|----|-----|--------|
| IDI_0  | 1  | 51  | IDI_8  |
| IDI_1  | 2  | 52  | IDI_9  |
| IDI_2  | 3  | 53  | IDI_10 |
| IDI_3  | 4  | 54  | IDI_11 |
| IDI_4  | 5  | 55  | IDI_12 |
| IDI_5  | 6  | 56  | IDI_13 |
| IDI_6  | 7  | 57  | IDI_14 |
| IDI_7  | 8  | 58  | IDI_15 |
| COM1   | 9  | 59  | COM2   |
| COM1   | 10 | 60  | COM2   |
| COM1   | 11 | 61  | COM2   |
| COM1   | 12 | 62  | COM2   |
| IDI_16 | 13 | 63  | IDI_24 |
| IDI_17 | 14 | 64  | IDI_25 |
| IDI_18 | 15 | 65  | IDI_26 |
| IDI_19 | 16 | 66  | IDI_27 |
| IDI_20 | 17 | 67  | IDI_28 |
| IDI_21 | 18 | 68  | IDI_29 |
| IDI_22 | 19 | 69  | IDI_30 |
| IDI_23 | 20 | 70  | IDI_31 |
| COM3   | 21 | 71  | COM4   |
| COM3   | 22 | 72  | COM4   |
| COM3   | 23 | 73  | COM4   |
| COM3   | 24 | 74  | COM4   |
| N/C    | 25 | 75  | N/C    |
| IDO_0  | 26 | 76  | IDO_8  |
| IDO_1  | 27 | 77  | IDO_9  |
| IDO_2  | 28 | 78  | IDO_10 |
| IDO_3  | 29 | 79  | IDO_11 |
| IDO_4  | 30 | 80  | IDO_12 |
| IDO_5  | 31 | 81  | IDO_13 |
| IDO_6  | 32 | 82  | IDO_14 |
| IDO_7  | 33 | 83  | IDO_15 |
| VDD1   | 34 | 84  | VDD2   |
| IGND   | 35 | 85  | IGND   |
| IGND   | 36 | 86  | IGND   |
| IGND   | 37 | 87  | IGND   |
| IDO_16 | 38 | 88  | IDO_24 |
| IDO_17 | 39 | 89  | IDO_25 |
| IDO_18 | 40 | 90  | IDO_26 |
| IDO_19 | 41 | 91  | IDO_27 |
| IDO_20 | 42 | 92  | IDO_28 |
| IDO_21 | 43 | 93  | IDO_29 |
| IDO_22 | 44 | 94  | IDO_30 |
| IDO_23 | 45 | 95  | IDO_31 |
| VDD3   | 46 | 96  | VDD4   |
| IGND   | 47 | 97  | IGND   |
| IGND   | 48 | 98  | IGND   |
| IGND   | 49 | 99  | IGND   |
| +5Vout | 50 | 100 | +5Vout |

### PCI-7433/7433HIR, cPCI-7433

|        |    |     |        |
|--------|----|-----|--------|
| IDI_0  | 1  | 51  | IDI_8  |
| IDI_1  | 2  | 52  | IDI_9  |
| IDI_2  | 3  | 53  | IDI_10 |
| IDI_3  | 4  | 54  | IDI_11 |
| IDI_4  | 5  | 55  | IDI_12 |
| IDI_5  | 6  | 56  | IDI_13 |
| IDI_6  | 7  | 57  | IDI_14 |
| IDI_7  | 8  | 58  | IDI_15 |
| COM1   | 9  | 59  | COM2   |
| COM1   | 10 | 60  | COM2   |
| COM1   | 11 | 61  | COM2   |
| COM1   | 12 | 62  | COM2   |
| IDI_16 | 13 | 63  | IDI_24 |
| IDI_17 | 14 | 64  | IDI_25 |
| IDI_18 | 15 | 65  | IDI_26 |
| IDI_19 | 16 | 66  | IDI_27 |
| IDI_20 | 17 | 67  | IDI_28 |
| IDI_21 | 18 | 68  | IDI_29 |
| IDI_22 | 19 | 69  | IDI_30 |
| IDI_23 | 20 | 70  | IDI_31 |
| COM3   | 21 | 71  | COM4   |
| COM3   | 22 | 72  | COM4   |
| COM3   | 23 | 73  | COM4   |
| COM3   | 24 | 74  | COM4   |
| N/C    | 25 | 75  | N/C    |
| IDI_32 | 26 | 76  | IDI_40 |
| IDI_33 | 27 | 77  | IDI_41 |
| IDI_34 | 28 | 78  | IDI_42 |
| IDI_35 | 29 | 79  | IDI_43 |
| IDI_36 | 30 | 80  | IDI_44 |
| IDI_37 | 31 | 81  | IDI_45 |
| IDI_38 | 32 | 82  | IDI_46 |
| IDI_39 | 33 | 83  | IDI_47 |
| COM5   | 34 | 84  | COM6   |
| COM5   | 35 | 85  | COM6   |
| COM5   | 36 | 86  | COM6   |
| COM5   | 37 | 87  | COM6   |
| IDI_48 | 38 | 88  | IDI_56 |
| IDI_49 | 39 | 89  | IDI_57 |
| IDI_50 | 40 | 90  | IDI_58 |
| IDI_51 | 41 | 91  | IDI_59 |
| IDI_52 | 42 | 92  | IDI_60 |
| IDI_53 | 43 | 93  | IDI_61 |
| IDI_54 | 44 | 94  | IDI_62 |
| IDI_55 | 45 | 95  | IDI_63 |
| COM7   | 46 | 96  | COM8   |
| COM7   | 47 | 97  | COM8   |
| COM7   | 48 | 98  | COM8   |
| COM7   | 49 | 99  | COM8   |
| N/C    | 50 | 100 | N/C    |

### PCI-7434, cPCI-7434

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