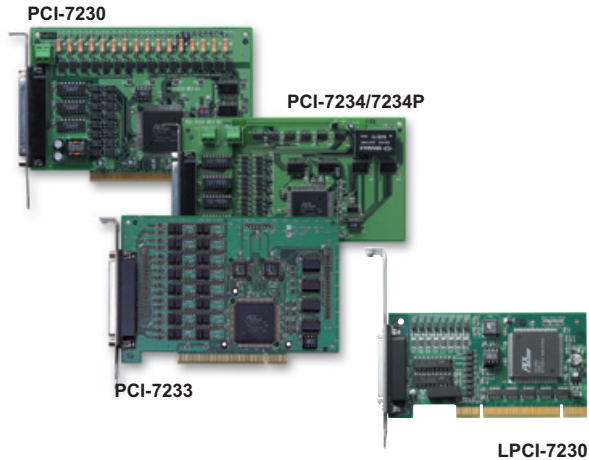


# PCI-7230/7233/7234/7234P, LPCI-7230

## 32-CH Isolated DIO Cards / Low-Profile PCI Card

### Features

- Support a 32-bit 5V PCI bus (PCI-7230/7233/7234/7234P)
  - Support a 32-bit 3.3V or 5V PCI bus (LPCI-7230)
  - 16-CH isolated digital inputs & 16-CH isolated digital outputs (PCI-7230/LPCI-7230)
  - 32-CH isolated digital inputs (PCI-7233)
  - 32-CH isolated digital outputs (PCI-7234/7234P)
  - 32-CH Isolated high speed digital inputs (PCI-7233H)
  - 5000 V<sub>RMS</sub> optical isolation (PCI-7230 & PCI-7233)
  - 2500 V<sub>RMS</sub> optical isolation (PCI-7233H/LPCI-7230/PCI-7234/7234P)
  - Sink current up to 500mA on each isolated output
  - Two external interrupt sources (PCI-7230/LPCI-7230)
  - Change-of-state interrupt sources (PCI-7233 & PCI-7233H)
  - Compact, half size PCB (PCI-7230 & PCI-7233 & PCI-7234/7234P)
  - Compact, low-profile PCI size PCB (LPCI-7230)
- Operating Systems**
    - Windows 98/NT/2000/XP/2003
    - Linux
    - DOS
    - Windows CE (call for availability)
  - Recommended Software**
    - VB/VC++/BCB/Delphi
    - DAQBench
  - Driver Support**
    - DAQ-LVIEW PnP for LabVIEW
    - DAQ-MTLB for MATLAB
    - DAQBOY for Windows
    - PCIS-DASK for Windows
    - PCIS-DASK/X for Linux



### Introduction

ADLINK PCI/LPCI-723x series are 32-CH isolated input and/or output cards. They provide a 2,500 V optical isolation protection. The wide input range of the PCI-7230/7233(H) and LPCI-7230 makes it easy to sense the status of external devices. The non-polarity characteristic is suitable for a wide variety of industry applications. The PCI-7230/7234 and LPCI-7230 devices also feature a wide output range from 5 to 35 V, which is suitable for relay driving and industrial automation applications. PCI-7234P provides current-source output capability.

The PCI-7230/7233(H) and LPCI-7230 also provide two interrupt sources on digital input channels. The PCI-7233(H) devices also feature the change-of-state (COS) interrupt. It means when any of these digital inputs changes its state, an interrupt will be generated for user to handle this external event.

### Specifications

#### Isolated Digital Input

- Number of channels
  - 16 (PCI-7230/LPCI-7230)
  - 32 (PCI-7233 and PCI-7233H)
- Maximum input range
  - 24 V, non-polarity (PCI-7230/LPCI-7230, PCI-7233 and PCI-7233H)
- Digital logic levels
  - 0-24 V, non-polarity
    - Input high voltage: 5-24 V
    - Input low voltage: 0-1.5 V
- Input resistance: 1.2 kΩ @ 0.5 W
- Isolation voltage
  - 2500 V<sub>RMS</sub> (PCI-7233H/LPCI-7230)
  - 5000 V<sub>RMS</sub> (PCI-7230 and PCI-7233)
- Interrupt sources
  - Digital input channel 0 and 1 (PCI-7230/LPCI-7230)
  - Change-of-state (PCI-7233 and PCI-7233H)
- Data transfers: programmed I/O

#### Isolated Digital Output

- Number of channels
  - 16 (PCI-7230/LPCI-7230)
  - 32 (PCI-7234)
- Output type: Darlington transistor
- Sink current
  - 500 mA for one channel @ 100% duty (PCI-7230/LPCI-7230)
  - 370 mA for all channels @ 10% duty (PCI-7230/LPCI-7230)
  - 130 mA for all channels @ 50% duty (PCI-7230/LPCI-7230)
  - 500 mA for one channel @ 100% duty (PCI-7234)
  - 500 mA for all channels @ 20% duty (PCI-7234)
- Source current
  - 500 mA for one channel @100% duty cycle (PCI-7234P)
  - 260 mA for all channel @10% duty cycle (PCI-7234P)
- Power dissipation
  - Max. 1.47 W per chip (8 DO channels) (PCI-7230/LPCI-7230, PCI-7234P)
  - Max. 2.25 W per chip (8 DO channels) (PCI-7234)
- Supply voltage: 5-35 V<sub>DC</sub>
- Isolation voltage: 2500 V<sub>RMS</sub>
- Data transfers: programmed I/O

#### General Specifications

- I/O connector
  - PCI-7230/7233/7234/7234P
    - 37-pin D-sub female
  - LPCI-7230
    - 50-pin SCSI-II female

- Operating temperature: 0 to 60 °C
- Storage temperature: -20 to 80 °C
- Relative humidity: 5 to 95%, noncondensing
- Power requirements

| Device    | +5 V  |
|-----------|---|
| PCI-7230  | 150 mA typical<br>(needs external DC power) |
| PCI-7233  | 300 mA typical                              |
| PCI-7233H | 550 mA typical                              |
| PCI-7234  | 180 mA typical                              |
| PCI-7234P | (with internal DC-DC power)                 |
| LPCI-7230 | 150mA typical                               |

- Dimensions (not including connectors)
  - 153 mm X 107 mm (PCI-7230)
  - 158 mm X 107 mm (PCI-7233 & PCI-7233H)
  - 175 mm X 107 mm (PCI-7234 & PCI-7234P)
  - 120mm x 65mm (LPCI-7230)

### Termination Boards

#### PCI-7230/7233/7234/7234P:

- DIN-37D**  
Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (Including One 1-meter ACL-10137 Cable)

- ACL9-137**  
General-Purpose Termination Board with a 37-pin D-sub Male Connector

#### LPCI-7230:

- DIN-50S**  
Termination Board with a 50-pin SCSI-II Connector and DIN-Rail Mounting (Including One 1-meter ACL-10250 Cable)

### Ordering Information

- PCI-7230**  
16-CH Isolated DI & 16-CH Isolated DO Card
- PCI-7233**  
32-CH Isolated DI Card
- PCI-7233H**  
32-CH High Speed Isolated DI Card
- PCI-7234**  
32-CH Isolated DO Card
- PCI-7234P**  
32-CH Isolated DO Card with Source Current Transistor
- LPCI-7230**  
16-CH Isolated DI & 16-CH Isolated DO Low-Profile PCI Card

### Pin Assignment

| PCI-7230 |    |    | PCI-7233 |    |    |        |
|----------|----|----|----------|----|----|--------|
| IDI_0    | 1  | 20 | IDI_1    | 1  | 20 | IDI_1  |
| IDI_2    | 2  | 21 | IDI_3    | 2  | 21 | IDI_3  |
| IDI_4    | 3  | 22 | IDI_5    | 3  | 22 | IDI_5  |
| IDI_6    | 4  | 23 | IDI_7    | 4  | 23 | IDI_7  |
| IDI_8    | 5  | 24 | IDI_9    | 5  | 24 | IDI_9  |
| IDI_10   | 6  | 25 | IDI_11   | 6  | 25 | IDI_11 |
| IDI_12   | 7  | 26 | IDI_13   | 7  | 26 | IDI_13 |
| IDI_14   | 8  | 27 | IDI_15   | 8  | 27 | IDI_15 |
| EICOM    | 9  | 28 | EICOM    | 9  | 28 | EICOM  |
| EOGND    | 10 | 29 | EOGND    | 10 | 29 | EOGND  |
| IDO_0    | 11 | 30 | IDO_1    | 11 | 30 | IDO_1  |
| IDO_2    | 12 | 31 | IDO_3    | 12 | 31 | IDO_3  |
| IDO_4    | 13 | 32 | IDO_5    | 13 | 32 | IDO_5  |
| IDO_6    | 14 | 33 | IDO_7    | 14 | 33 | IDO_7  |
| IDO_8    | 15 | 34 | IDO_9    | 15 | 34 | IDO_9  |
| IDO_10   | 16 | 35 | IDO_11   | 16 | 35 | IDO_11 |
| IDO_12   | 17 | 36 | IDO_13   | 17 | 36 | IDO_13 |
| IDO_14   | 18 | 37 | IDO_15   | 18 | 37 | IDO_15 |
| VDD      | 19 |    | VDD      | 19 |    | VDD    |

| PCI-7234 |    |    | LPCI-7230 |    |    |        |
|----------|----|----|-----------|----|----|--------|
| IDO_0    | 1  | 20 | IDO_1     | 1  | 26 | VDD    |
| IDO_2    | 2  | 21 | IDO_3     | 2  | 27 | +5V    |
| IDO_4    | 3  | 22 | IDO_5     | 3  | 28 | EICOM  |
| IDO_6    | 4  | 23 | IDO_7     | 4  | 29 | EICOM  |
| IGND     | 5  | 24 | IDO_8     | 5  | 30 | IDO_14 |
| IDO_9    | 6  | 25 | IDO_10    | 6  | 31 | IDO_15 |
| IDO_11   | 7  | 26 | IDO_12    | 7  | 32 | IDO_12 |
| IDO_13   | 8  | 27 | IDO_14    | 8  | 33 | IDO_13 |
| IDO_15   | 9  | 28 | IGND      | 9  | 34 | IDO_10 |
| IDO_16   | 10 | 29 | IDO_17    | 10 | 35 | IDO_11 |
| IDO_18   | 11 | 30 | IDO_19    | 11 | 36 | IDO_8  |
| IDO_20   | 12 | 31 | IDO_21    | 12 | 37 | IDO_9  |
| IDO_22   | 13 | 32 | IDO_23    | 13 | 38 | IDO_7L |
| IGND     | 14 | 33 | IDO_24    | 14 | 39 | IDO_7H |
| IDO_25   | 15 | 34 | IDO_26    | 15 | 40 | IDO_6L |
| IDO_27   | 16 | 35 | IDO_28    | 16 | 41 | IDO_6H |
| IDO_29   | 17 | 36 | IDO_30    | 17 | 42 | IDO_5L |
| IDO_31   | 18 | 37 | IGND      | 18 | 43 | IDO_5H |
| VDD      | 19 |    | VDD       | 19 | 44 | IDO_4L |
|          |    |    |           | 20 | 45 | IDO_4H |
|          |    |    |           | 21 | 46 | IDO_15 |
|          |    |    |           | 22 | 47 | IDO_14 |
|          |    |    |           | 23 | 48 | IDO_13 |
|          |    |    |           | 24 | 49 | IDO_12 |
|          |    |    |           | 25 | 50 | EOGND  |