

# PCI-7250/7251, LPCI-7250, LPCIe-7250, cPCI-7252

## 8-CH Relay Outputs & 8-CH Isolated DI Cards

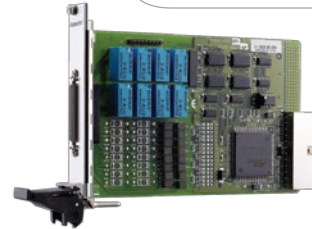
PCI EXPRESS® **PCI** CompactPCI



PCI-7250



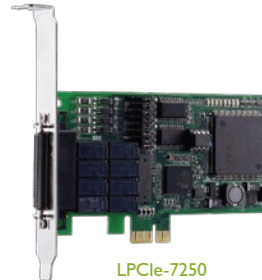
PCI-7250+PCI-7251



cPCI-7252



LPCI-7250



LPCIe-7250

### Features

- Supports a 32-bit 5 V PCI bus (PCI-7250/7251)
- Supports a 32-bit 3.3 V or 5 V PCI bus (LPCI-7250)
- x1 lane PCI Express Interface (LPCIe-7250)
- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-7252)
- 4-CH SPDT & 4-CH SPST relays (PCI-7250)
- 8-CH SPDT & 8-CH SPST relays (PCI-7250 + 1 x PCI-7251)
- 12-CH SPDT & 12-CH SPST relays (PCI-7250 + 2 x PCI-7251)
- 16-CH SPDT & 16-CH SPST relays (PCI-7250 + 3 x PCI-7251)
- 8-CH SPDT (LPCI-7250/LPCIe-7250/cPCI-7252)
- Non-latching relays
- Onboard LED indicators for relay status
- Onboard relay driving circuits
- Relay output status read back
- 8-CH isolated digital inputs (cPCI-7252/PCI-7250/LPCI-7250/LPCIe-7250)
- 16-CH isolated digital inputs (PCI-7250 + 1 x PCI-7251)
- 24-CH isolated digital inputs (PCI-7250 + 2 x PCI-7251)
- 32-CH isolated digital inputs (PCI-7250 + 3 x PCI-7251)
- Onboard low-pass filtering for digital inputs
- Compact, low-profile size PCB (LPCI-7250/LPCIe-7250)

### Introduction

ADLINK's PCI-7250/7251 provide 4-CH SPDT (Form C) & 4-CH SPST (Form A) relay outputs and 8-CH isolated digital inputs. The LPCI/LPCIe-7250 and cPCI-7252 provide 8-CH SPDT (Form C) relay outputs and 8/16-CH isolated digital inputs. The status of each relay output is represented by an onboard LED. When the relay is in SET condition, its corresponding LED will turn ON, and on the contrary, it is OFF. All digital input channels are nonpolarity, optically isolated, and may be set to use RC filter or not. The devices are suitable for collecting digital inputs in noisy environments.

The PCI-7251 is an 8-CH relay outputs and 8-CH isolated DI extension card of the PCI-7250. All the I/O functions of PCI-7251 are the same as those of the PCI-7250. The PCI-7251 has to be connected with PCI-7250 and the bus interface is controlled by the PCI-7250. Up to three PCI-7251 cards can be connected to one PCI-7250, therefore, expanding the PCI-7250's DIO from 8 DIO to maximum 32 DIO.

### 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

### Specifications

#### Relay Output

- Number of channels: 8
- Relay types
  - PCI-7250/7251:
    - Channel 0-3: SPDT (normal open)
    - Channel 4-7: SPST (normal open)
  - LPCI-7250/LPCIe-7250/cPCI-7252
    - Channel 0-7: SPDT (normal open)
- Contact rating
  - PCI-7250/7251 & cPCI-7252
    - AC: 120 V @ 0.5 A
    - DC: 24 V @ 1 A
  - LPCI-7250/LPCIe-7250
    - DC: 30 V @ 2 A
- Breakdown voltage: 1000 Vrms
- Contact resistance: 100 m
- Relay ON/OFF time
  - Operate time: 8 ms
  - Release time: 8 ms
- LED indicators: onboard LEDs for relay status
- Expected life
  - PCI-7250/7251 & cPCI-7252
    - > 5x10<sup>5</sup> operations @ 1 A, 24 Vdc
    - > 2x10<sup>5</sup> operations @ 0.5 A, 120 VAC

- LPCI-7250/LPCle-7250:
  - > 10<sup>5</sup> operations @ 2 A, 30 Vdc
  - > 5x10<sup>5</sup> operations @ 1 A, 30 Vdc

■ Data transfers: programmed I/O

**Isolated Digital Input**

- Number of channels: 8
- Maximum input range: 24 V, non-polarity
- Digital logic levels
  - 0-24 V, non-polarity
  - Input high voltage:
    - 5-24 V (PCI/LPCI/LPCle-7250, PCI-7251)
    - 3-24 V (cPCI-7252)
  - Input low voltage:
    - 0-1.5 V (PCI/LPCI/LPCle-7250, PCI-7251)
    - 0-1 V (cPCI-7252)
- Input resistance: 2.2 kΩ @ 0.33 W (PCI/LPCI/LPCle-7250, PCI-7251) 1.2 kΩ @ 0.5 W (cPCI-7252)
- Isolation voltage: 5000 V<sub>RMS</sub>
- Data transfers: programmed I/O

**General Specifications**

- I/O connector
  - PCI-7250/7251
    - 37-pin D-sub female
  - LPCI-7250/LPCle-7250/cPCI-7252
    - 50-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     | Power Consumption                 |
|------------|-----------------------------------|
| PCI-7250   | +5 V @ 140 mA typical             |
| PCI-7251   | +5 V @ 125 mA typical             |
| LPCI-7250  | +5 V @ 200 mA typical             |
| LPCle-7250 | +3.3 V @ 280 mA<br>+12 V @ 180 mA |

- Dimensions (not including connectors)
  - 162 mm x 107 mm (PCI-7250)
  - 141 mm x 102 mm (PCI-7251)
  - 120 mm x 65 mm (LPCI-7250)
  - 120 mm x 69 mm (LPCle-7250)
  - 160 mm x 100 mm (cPCI-7252)

**Terminal Boards & Cables**

**PCI-7250/7251:**

■ **DIN-37D-01**

Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included.)

■ **ACLD-9137-01**

General-Purpose Terminal Board with One 37-pin D-sub Male Connector

■ **ACL-10137-1MM**

37-pin D-sub male/male cable, 1 M

**LPCI-7250/LPCle-7250/cPCI-7252:**

■ **DIN-50S-01**

Terminal Board with One 50-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included.)

■ **ACL-10250-1**

50-pin SCSI-II cable (mating with AMP-787082-5), 1 M

\* For more information on mating cables, please refer to P2-61/62.

**Ordering Information**

■ **PCI-7250**

8-CH Relay Outputs & 8-CH Isolated DI Card

■ **PCI-7251**

8-CH Relay Outputs & 8-CH Isolated DI Extension Card for PCI-7250

■ **LPCI-7250**

8-CH Relay Outputs & 8-CH Isolated DI Low-Profile PCI Card

■ **LPCle-7250**

8-CH Relay Outputs & 8-CH Isolated DI Low-Profile PCI Express Card

■ **cPCI-7252**

8-CH Relay Output & 16-CH Isolated DI Module

**Pin Assignment**

**PCI-7250**

|       |    |    |       |
|-------|----|----|-------|
| NO0   | 1  | 20 | NO3   |
| COM0  | 2  | 21 | COM3  |
| NC0   | 3  | 22 | NC3   |
| NO1   | 4  | 23 | NO4   |
| COM1  | 5  | 24 | COM4  |
| NC1   | 6  | 25 | NO5   |
| NO2   | 7  | 26 | COM5  |
| COM2  | 8  | 27 | NO6   |
| NC2   | 9  | 28 | COM6  |
| NO7   | 10 | 29 | N/C   |
| COM7  | 11 | 30 | DI0_L |
| DI0_H | 12 | 31 | DI1_L |
| DI1_H | 13 | 32 | DI2_L |
| DI2_H | 14 | 33 | DI3_L |
| DI3_H | 15 | 34 | DI4_L |
| DI4_H | 16 | 35 | DI5_L |
| DI5_H | 17 | 36 | DI6_L |
| DI6_H | 18 | 37 | DI7_L |
| DI7_H | 19 |    |       |

**LPCI-7250/LPCle-7250**

|        |    |    |        |
|--------|----|----|--------|
| NO0    | 1  | 26 | NO4    |
| COM0   | 2  | 27 | COM4   |
| NC0    | 3  | 28 | NC4    |
| NO1    | 4  | 29 | NO5    |
| COM1   | 5  | 30 | COM5   |
| NC1    | 6  | 31 | NC5    |
| NO2    | 7  | 32 | NO6    |
| COM2   | 8  | 33 | COM6   |
| NC2    | 9  | 34 | NC6    |
| NO3    | 10 | 35 | NO7    |
| COM3   | 11 | 36 | COM7   |
| NC3    | 12 | 37 | NC7    |
| N/C    | 13 | 38 | N/C    |
| N/C    | 14 | 39 | N/C    |
| N/C    | 15 | 40 | N/C    |
| N/C    | 16 | 41 | N/C    |
| N/C    | 17 | 42 | N/C    |
| IDI_0H | 18 | 43 | IDI_0L |
| IDI_1H | 19 | 44 | IDI_1L |
| IDI_2H | 20 | 45 | IDI_2L |
| IDI_3H | 21 | 46 | IDI_3L |
| IDI_4H | 22 | 47 | IDI_4L |
| IDI_5H | 23 | 48 | IDI_5L |
| IDI_6H | 24 | 49 | IDI_6L |
| IDI_7H | 25 | 50 | IDI_7L |

**cPCI-7252**

|      |    |    |      |
|------|----|----|------|
| IGND | 1  | 26 | IGND |
| DI8  | 2  | 27 | DI12 |
| DI9  | 3  | 28 | DI13 |
| DI10 | 4  | 29 | DI14 |
| DI11 | 5  | 30 | DI15 |
| DI0L | 6  | 31 | DI4H |
| DI0H | 7  | 32 | DI4L |
| DI1L | 8  | 33 | DI5H |
| DI1H | 9  | 34 | DI5L |
| DI2L | 10 | 35 | DI6H |
| DI2H | 11 | 36 | DI6L |
| DI3L | 12 | 37 | DI7H |
| DI3H | 13 | 38 | DI7L |
| NO0  | 14 | 39 | NO5  |
| NO1  | 15 | 40 | NO4  |
| COM0 | 16 | 41 | COM5 |
| COM1 | 17 | 42 | COM4 |
| NC0  | 18 | 43 | NC5  |
| NC1  | 19 | 44 | NC4  |
| NO2  | 20 | 45 | NO7  |
| NO3  | 21 | 46 | NO6  |
| COM2 | 22 | 47 | COM7 |
| COM3 | 23 | 48 | COM6 |
| NC2  | 24 | 49 | NC7  |
| NC3  | 25 | 50 | NC6  |