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

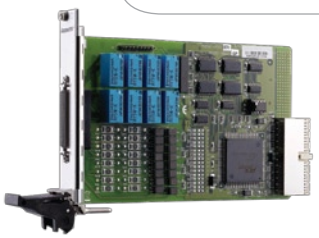
8-CH Relay Outputs & 8-CH Isolated DI Cards



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 V_{RMS}
- 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
    - $>5x10^5$ operations @ 1 A, 24 V_{DC}
    - $>2x10^5$ operations @ 0.5 A, 120 V_{AC}

- LPCI-7250/LPCIe-7250:
  - $>10^5$ operations @ 2 A, 30 VDC
  - $>5x10^5$ 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/LPCIe-7250, PCI-7251)
    3-24 V (cPCI-7252)
  - Input low voltage:
    0-1.5 V (PCI/LPCI/LPCIe-7250, PCI-7251)
    0-1 V (cPCI-7252)
- Input resistance: 2.2 kΩ @ 0.33 W (PCI/LPCI/LPCIe-7250, PCI-7251) 1.2 kΩ @ 0.5 W (cPCI-7252)
- Isolation voltage: 5000 VRMS
- Data transfers: programmed I/O

General Specifications

- I/O connector
  - PCI-7250/7251
    - 37-pin D-sub female
  - LPCI-7250/LPCIe-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
LPCIe-7250	+3.3 V @ 280 mA +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 (LPCIe-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/LPCIe-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
- **LPCIe-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/LPCIe-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

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