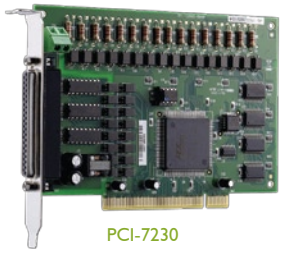
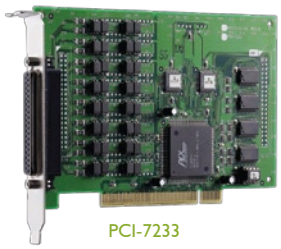
PCI-7230/7233/7234, LPCI/LPCIe/cPCI-7230

32-CH Isolated DIO Cards


PCI-7230


PCI-7233


LPCI-7230


LPCIe-7230


cPCI-7230

Features

- **Supports a 32-bit 5 V PCI bus (PCI-7230/7233/7234/7234P)**
- **Supports a 32-bit 3.3 V or 5 V PCI bus (LPCI-7230)**
- **x1 lane PCI Express Interface (LPCIe-7230)**
- **3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-7230)**
- **16-CH isolated digital inputs & 16-CH isolated digital outputs (PCI-7230/LPCI-7230/LPCIe-7230/cPCI-7230)**
- **32-CH isolated digital inputs (PCI-7233)**
- **32-CH isolated digital outputs (PCI-7234/7234P)**
- **5000 V_{RMS} optical isolation (PCI-7230 & PCI-7233/cPCI-7230)**
- **2500 V_{RMS} optical isolation (PCI-7234/7234P/LPCI-7230/LPCIe-7230)**
- **Sink current up to 500 mA on single isolated output**
- **Two external interrupt sources (PCI-7230/LPCI-7230/LPCIe-7230/cPCI-7230)**
- **Change-of-state interrupt sources (PCI-7233)**
- **Compact, low-profile PCI/PCI Express® size PCB (LPCI-7230/LPCIe-7230)**

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 PCI/LPCI/LPCIe/cPCI-723X series are 32-CH isolated input and/or output cards which provide a 2,500 V optical isolation protection. The wide input range of the PCI/cPCI/LPCI/LPCIe-7230 and PCI-7233 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/cPCI/LPCI/LPCIe-7230 and PCI-7234 devices also feature a wide output range from 5 to 35 V, which is suitable for relay driving and industrial automation applications. The PCI-7234P provides current-source output capability. The PCI/cPCI/LPCI/LPCIe-7230 and PCI-7233 also provide two interrupt sources on digital input channels. The PCI-7233 also features a change-of-state (COS) function that generates an interrupt when any digital input changes its state.

Specifications

Isolated Digital Input

- Number of channels
  - 16 (PCI-7230/LPCI-7230/LPCIe-7230/cPCI-7230)
  - 32 (PCI-7233)
- Maximum input range
  - 24 V, non-polarity
  - PCI-7230/PCI-7233/LPCI-7230/LPCIe-7230
- 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 k @ 0.5 W
- Isolation voltage
  - 2500 V_{RMS} (LPCI-7230/LPCIe-7230)
  - 5000 V_{RMS} (PCI-7230/PCI-7233/cPCI-7230)
- Interrupt sources
  - Digital input channel 0 and 1 (PCI-7230/LPCI-7230/LPCI-7230/cPCI-7230)
  - Change-of-state (PCI-7233)
- Data transfers: programmed I/O

Isolated Digital Output

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

General Specifications

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

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- 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-7230	+5 V @ 150 mA typical (needs external DC power)
PCI-7233	+5 V @ 300 mA typical
PCI-7234	+5 V @ 180 mA typical (with internal DC-DC power)
PCI-7234P	+5 V @ 150 mA typical
LPCI-7230	+3.3 V @ 279 mA
LPCIe-7230	+12 V @ 133 mA
cPCI-7230	+5 V @ 270 mA typical

- Dimensions (not including connectors)
  - 153 mm X 107 mm (PCI-7230)
  - 158 mm X 107 mm (PCI-7233)
  - 175 mm X 107 mm (PCI-7234 & PCI-7234P)
  - 120 mm X 65 mm (LPCI-7230)
  - 119.9 mm(L) x 68.9 mm(H) (LPCIe-7230)
  - 160 mm x 100 mm (cPCI-7230)

Terminal Boards & Cables

PCI-7230/7233/7234/7234P:

- 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-7230/LPCIe-7230/cPCI-7230:

- 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-7230**
  16-CH Isolated DI & 16-CH Isolated DO Card
- **PCI-7233**
  32-CH Isolated DI Card with inversed input logic
- **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
- **LPCIe-7230**
  16-CH Isolated DI & 16-CH Isolated DO Low-Profile PCI Express® Card
- **cPCI-7230**
  16-CH Isolated DI & 16-CH Isolated DO Module

Pin Assignment

PCI-7230

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

PCI-7233

IDI_0	1	20	IDI_1
IDI_2	2	21	IDI_3
IDI_4	3	22	IDI_5
IDI_6	4	23	IDI_7
IGND	5	24	IDI_8
IDI_9	6	25	IDI_10
IDI_11	7	26	IDI_12
IDI_13	8	27	IDI_14
IDI_15	9	28	IGND
IDI_16	10	29	IDI_17
IDI_18	11	30	IDI_19
IDI_20	12	31	IDI_21
IDI_22	13	32	IDI_23
IGND	14	33	IDI_24
IDI_25	15	34	IDI_26
IDI_27	16	35	IDI_28
IDI_29	17	36	IDI_30
IDI_31	18	37	IGND
IGND	19		

LPCI-7230/LPCIe-7230

VDD	1	26	VDD
EICOM	2	27	+5V
EICOM	3	28	EICOM
EICOM	4	29	EICOM
IDO_7	5	30	IDO_14
IDO_6	6	31	IDO_15
IDO_5	7	32	IDO_12
IDO_4	8	33	IDO_13
IDO_3	9	34	IDO_10
IDO_2	10	35	IDO_11
IDO_1	11	36	IDO_8
IDO_0	12	37	IDO_9
IDI_3H	13	38	IDI_7H
IDI_3L	14	39	IDI_7L
IDI_2H	15	40	IDI_6H
IDI_2L	16	41	IDI_6L
IDI_1H	17	42	IDI_5H
IDI_1L	18	43	IDI_5L
IDI_0H	19	44	IDI_4H
IDI_0L	20	45	IDI_4L
IDI_11	21	46	IDI_15
IDI_10	22	47	IDI_14
IDI_9	23	48	IDI_13
IDI_8	24	49	IDI_12
EOGND	25	50	EOGND

PCI-7234

IDO_0	1	20	IDO_1
IDO_2	2	21	IDO_3
IDO_4	3	22	IDO_5
IDO_6	4	23	IDO_7
IGND	5	24	IDO_8
IDO_9	6	25	IDO_10
IDO_11	7	26	IDO_12
IDO_13	8	27	IDO_14
IDO_15	9	28	IGND
IDO_16	10	29	IDO_17
IDO_18	11	30	IDO_19
IDO_20	12	31	IDO_21
IDO_22	13	32	IDO_23
IGND	14	33	IDO_24
IDO_25	15	34	IDO_26
IDO_27	16	35	IDO_28
IDO_29	17	36	IDO_30
IDO_31	18	37	IGND
VDD	19		

PCI-7234P

IDO_0	1	20	IDO_1
IDO_2	2	21	IDO_3
IDO_4	3	22	IDO_5
IDO_6	4	23	IDO_7
VDD	5	24	IDO_8
IDO_9	6	25	IDO_10
IDO_11	7	26	IDO_12
IDO_13	8	27	IDO_14
IDO_15	9	28	VDD
IDO_16	10	29	IDO_17
IDO_18	11	30	IDO_19
IDO_20	12	31	IDO_21
IDO_22	13	32	IDO_23
VDD	14	33	IDO_24
IDO_25	15	34	IDO_26
IDO_27	16	35	IDO_28
IDO_29	17	36	IDO_30
IDO_31	18	37	VDD
IGND	19		

cPCI-7230

VDD	1	26	VDD
EOGND	2	27	EOGND
EOGND	3	28	EOGND
EOGND	4	29	EOGND
IDO_7	5	30	IDO_14
IDO_6	6	31	IDO_15
IDO_5	7	32	IDO_12
IDO_4	8	33	IDO_13
IDO_3	9	34	IDO_10
IDO_2	10	35	IDO_11
IDO_1	11	36	IDO_8
IDO_0	12	37	IDO_9
IDI_3H	13	38	IDI_7L
IDI_3L	14	39	IDI_7H
IDI_2H	15	40	IDI_6L
IDI_2L	16	41	IDI_6H
IDI_1H	17	42	IDI_5L
IDI_1L	18	43	IDI_5H
IDI_0H	19	44	IDI_4L
IDI_0L	20	45	IDI_4H
IDI_11	21	46	IDI_15
IDI_10	22	47	IDI_14
IDI_9	23	48	IDI_13
IDI_8	24	49	IDI_12
EICOM	25	50	EICOM

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