

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

32-CH Isolated DIO Cards

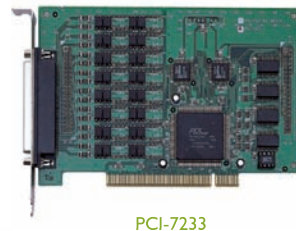
PCI EXPRESS® **PCI** *CompactPCI*



PCI-7230



PCI-7234/7234P



PCI-7233



LPCI-7230



LPCle-7230



cPCI-7230

Features

- Support a 32-bit 5 V PCI bus (PCI-7230/7233/7234/7234P)
- Support a 32-bit 3.3 V or 5 V PCI bus (LPCI-7230)
- x1 lane PCI Express Interface (LPCle-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/LPCle-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/LPCle-7230)
- Sink current up to 500 mA on each isolated output
- Two external interrupt sources (PCI-7230/LPCI-7230/LPCle-7230/cPCI-7230)
- Change-of-state interrupt sources (PCI-7233)
- Compact, low-profile PCI/PCI Express® size PCB (LPCI-7230/LPCle-7230)

Operating Systems

- Windows Vista/XP/2000/2003
- Linux
- Windows CE (call for availability)

Recommended Software

- AD-Logger
- VB.NET/VC.NET/VB/VC++/BCB/Delphi
- DAQBench

Driver Support

- DAQPilot for Windows
- DAQPilot for LabVIEW™
- DAQ-MTLB for MATLAB®
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux

Introduction

ADLINK's PCI/LPCI/LPCle/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/LPCle-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/LPCle-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/LPCle-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/LPCle-7230/cPCI-7230)
 - 32 (PCI-7233)
- Maximum input range
 - 24 V, non-polarity
 - PCI-7230/PCI-7233/LPCI-7230/LPCle-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/LPCle-7230)
 - 5000 V_{RMS} (PCI-7230/PCI-7233/cPCI-7230)
- Interrupt sources
 - Digital input channel 0 and 1 (PCI-7230/LPCI-7230/LPCle-7230/cPCI-7230)
 - Change-of-state (PCI-7233)
- Data transfers: programmed I/O

Isolated Digital Output

- Number of channels
 - 16 (PCI-7230/LPCI-7230/LPCle-7230/cPCI-7230)
 - 32 (PCI-7234)
- Output type: Darlington transistor

- Sink current
 - 500 mA for one channel @ 100% duty (PCI-7230/LPCI-7230/LPCle-7230)
 - 370 mA for all channels @ 10% duty (PCI-7230/LPCI-7230/LPCle-7230)
 - 130 mA for all channels @ 50% duty (PCI-7230/LPCI-7230/LPCle-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 channels @ 10% duty cycle (PCI-7234P)
- Power dissipation
 - Max. 1.47 W per chip (8 DO channels) (PCI-7230/PCI-7234P/LPCI-7230/LPCle-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
 - 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-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	+5V @ 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

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. For information on mating cables, refer to Section 12, Accessories.)

■ ACLD-9137-01

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

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. For information on mating cables, refer to Section 12, Accessories.)

Ordering Information

■ PCI-7230

16-CH Isolated DI & 16-CH Isolated DO Card

■ PCI-7233

32-CH 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

■ 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			PCI-7233			LPCI-7230/LPCIe-7230		
IDI_0	1	20	IDI_1	1	20	VDD	1	26
IDI_2	2	21	IDI_3	2	21	EICOM	2	27
IDI_4	3	22	IDI_5	3	22	EICOM	3	28
IDI_6	4	23	IDI_7	4	23	EICOM	4	29
IDI_8	5	24	IDI_8	5	24	IDO_7	5	30
IDI_10	6	25	IDI_9	6	25	IDO_6	6	31
IDI_12	7	26	IDI_10	7	26	IDO_5	7	32
IDI_14	8	27	IDI_11	8	27	IDO_4	8	33
EICOM	9	28	IDI_12	9	28	IDO_3	9	34
EOGND	10	29	IGND	10	29	IDO_2	10	35
IDO_0	11	30	IDI_13	11	30	IDO_1	11	36
IDO_2	12	31	IDI_14	12	31	IDO_0	12	37
IDO_4	13	32	IDI_15	13	32	IDI_3H	13	38
IDO_6	14	33	IDI_16	14	33	IDI_3L	14	39
IDO_8	15	34	IGND	15	34	IDI_2H	15	40
IDO_10	16	35	IDI_17	16	35	IDI_2L	16	41
IDO_12	17	36	IDI_18	17	36	IDI_1H	17	42
IDO_14	18	37	IDI_19	18	37	IDI_1L	18	43
VDD	19		IGND	19		IDI_0H	19	44
						IDI_0L	20	45
						IDI_11	21	46
						IDI_10	22	47
						IDI_9	23	48
						IDI_8	24	49
						EOGND	25	50

PCI-7234			PCI-7234P		
IDO_0	1	20	IDO_1	1	20
IDO_2	2	21	IDO_3	2	21
IDO_4	3	22	IDO_5	3	22
IDO_6	4	23	IDO_7	4	23
IGND	5	24	IDO_8	5	24
IDO_9	6	25	IDO_9	6	25
IDO_11	7	26	IDO_10	7	26
IDO_13	8	27	IDO_12	8	27
IDO_15	9	28	IDO_14	9	28
IDO_16	10	29	VDD	10	29
IDO_18	11	30	IDO_17	11	30
IDO_20	12	31	IDO_18	12	31
IDO_22	13	32	IDO_19	13	32
IGND	14	33	IDO_20	14	33
IDO_25	15	34	IDO_21	15	34
IDO_27	16	35	IDO_22	16	35
IDO_29	17	36	IDO_23	17	36
IDO_31	18	37	IDO_24	18	37
VDD	19		IGND	19	

cPCI-7230		
VDD	1	26
EOGND	2	27
EOGND	3	28
EOGND	4	29
IDO_7	5	30
IDO_6	6	31
IDO_5	7	32
IDO_4	8	33
IDO_3	9	34
IDO_2	10	35
IDO_1	11	36
IDO_0	12	37
IDI_3H	13	38
IDI_3L	14	39
IDI_2H	15	40
IDI_2L	16	41
IDI_1H	17	42
IDI_1L	18	43
IDI_0H	19	44
IDI_0L	20	45
IDI_11	21	46
IDI_10	22	47
IDI_9	23	48
IDI_8	24	49
EICOM	25	50