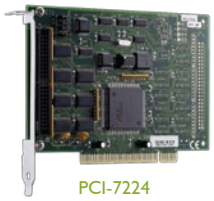
PCI-7296/7248/7224, PCIe-7296/7248

96/48/24-CH Opto-22 Compatible DIO Cards


PCI-7224


PCI-7296


PCI-7248


PCIe-7296


PCIe-7248

Introduction

ADLINK's PCI-7296/7248/7224 and PCIe-7248/7296 are high-density parallel digital I/O boards with 96/48/24 I/O channels. The header connectors are fully compatible with industry Opto-22 standard. Thus, PCI-7296/7248/7224 and PCIe-7248/7296 can utilize the Opto-22 external devices. The PCI-7296/7248/7224 and PCIe-7248/7296 devices emulate mode 0 of the industry standard 8255 programmable peripheral interface (PPI) chips. The PCI-7296/7248/7224 and PCIe-7248/7296 provides 4/2/1 PPI chips respectively. Each PPI offers three 8-bit ports: Port A, Port B and Port C. The Port C is divided into 2 nibble-wide (4-bit) ports. The PCI-7296/7248/7224 and PCIe-7248/7296 devices have programmable timer/counters. One 16-bit counter is available for event counting, while the other 32-bit timer is available for timed interrupt generation.

The PCI-7296/7248/7224 and PCIe-7248/7296 devices provide multiple programmable interrupt sources from DIO channels, as well as the output of the timer.

Features

- **Supports a 32-bit 5 V PCI bus (PCI-7224/7248/7296)**
- **x1 PCI Express® interface (PCIe-7248/7296)**
- **96-CH digital TTL/DTL inputs/outputs (PCI/PCIe-7296)**
- **48-CH digital TTL/DTL inputs/outputs (PCI/PCIe-7248)**
- **24-CH digital TTL/DTL inputs/outputs (PCI-7224)**
- **Emulates 4/2/1 industry standard 8255 PPI (mode 0)**
- **Direct interface with OPTO-22 compatible I/O modules**
- **Output status read back**
- **Onboard 8254 timer/counter chip**
- **One 32-bit timer for timed interrupt generation**
- **One 16-bit event counter to generate event interrupt**
- **Programmable interrupt sources**
- **+12 V and +5 V power available on OPTO-22 connectors**
- **Onboard resettable fuses for power output protection**
- **Compact, half-size PCB**
- Operating Systems
  - Windows Vista/XP/2000/2003
  - 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

Digital I/O

- Number of channels
  - 96 inputs/outputs (PCI/PCIe-7296)
  - 48 inputs/outputs (PCI/PCIe-7248)
  - 24 inputs/outputs (PCI-7224)
- Compatibility: 5 V/TTL
- Digital logic levels
  - Input high voltage: 2-5.25 V
  - Input low voltage: 0-0.8 V
  - Output high voltage: 2.4 V minimum
  - Output low voltage: 0.5 V maximum
- Output driving capacity
  - Source current: 2.6 mA for port A & B, and 15 mA for port C.
  - Sink current: 24 mA
- Data transfers: programmed I/O

General Specifications

- I/O connector
  - 50-pin ribbon male x 1 (PCI-7224)
  - 50-pin ribbon male x 2 (PCI/PCIe-7248)
  - 50-pin ribbon male x 4 (PCI/PCIe-7296)
- 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-7296	860 mA @ 5 VDC Typical
PCI-7248	500 mA @ 5 VDC Typical
PCI-7224	330 mA @ 5 VDC Typical
PCIe-7248	350 mA @ 12 VDC Typical
	280 mA @ 3.3 VDC Typical
PCIe-7296	590 mA @ 12 VDC Typical
	280 mA @ 3.3 VDC Typical

- Dimensions (not including connectors)
  - 148 mm x 102 mm (PCI-7248 and PCI-7224)
  - 166 mm x 102 mm (PCI-7296)
  - 168 mm x 112 mm (PCIe-7248/7296)

Terminal Boards

- TB-24R-01*
  Terminal Board with 24-CH Relay Outputs
- TB-24P-01*
  Terminal Board with 24-CH Isolated Digital Inputs
- TB-16P8R-01*
  Terminal Board with 16-CH Isolated DI & 8-CH Relay Outputs
- DIN-24R-01*
  Terminal Board with 24-CH Relay Outputs
- DIN-24P-01*
  Terminal Board with 24-CH Isolated Digital Inputs and DIN-Rail Mounting

Ordering Information

- **PCI-7296**
  96-CH Opto-22 Compatible DIO Card
- **PCI-7248**
  48-CH Opto-22 Compatible DIO Card
- **PCI-7224**
  24-CH Opto-22 Compatible DIO Card
- **PCIe-7248**
  48-CH Opto-22 Compliant PCIe DIO Card
- **PCIe-7296**
  96-CH Opto-22 Compliant PCIe DIO Card

Note:
The PCI-7224 is the 24-CH version of the PCI-7248. The software drivers of the PCI-7224 are exactly the same as those of the PCI-7248

Pin Assignment

PCI-7224/7248/7296 & PCIe-7248/7296

PnC7	1	2	+12Vout/GND (User Selection)
PnC6	3	4	+12Vout/GND (User Selection)
PnC5	5	6	GND
PnC4	7	8	GND
PnC3	9	10	GND
PnC2	11	12	GND
PnC1	13	14	GND
PnC0	15	16	GND
PnB7	17	18	GND
PnB6	19	20	GND
PnB5	21	22	GND
PnB4	23	24	GND
PnB3	25	26	GND
PnB2	27	28	GND
PnB1	29	30	GND
PnB0	31	32	GND
PnA7	33	34	GND
PnA6	35	36	GND
PnA5	37	38	GND
PnA4	39	40	GND
PnA3	41	42	GND
PnA2	43	44	GND
PnA1	45	46	GND
PnA0	47	48	GND
+5Vout	49	50	GND

*** Cables are not included. For more information about mating cables, please refer to P2-61/62.**

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