

PCI-7296/7248/7224

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



PCI-7296



PCI-7248

Introduction

ADLINK's PCI-7296/7248/7224 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-7296/48/24 can utilize the Opto-22 external devices. The PCI-7296/7248/7224 devices emulate mode 0 of the industry standard 8255 programmable peripheral interface (PPI) chips. The PCI-7296/7248/7224 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 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 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
- 96-CH digital TTL/DTL inputs/outputs (PCI-7296)
- 48-CH digital TTL/DTL inputs/outputs (PCI-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 Windows
 - 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-7296)
 - 48 inputs/outputs (PCI-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-7248)
 - 50-pin ribbon male x 4 (PCI-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	+5 V
PCI-7296	860 mA typical
PCI-7248	500 mA typical
PCI-7224	330 mA typical

- Dimensions (not including connectors)
 - 148 mm x 102 mm (PCI-7248 and PCI-7224)
 - 166 mm x 102 mm (PCI-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

* Cables are not included. For information on mating cables, refer to Section 12 (Accessory) on page 12-5 and 12-6

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

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

IGND	1	26	+12Vout/GND (User Selected)
DI8	2	27	+12Vout/GND (User Selected)
DI9	3	28	GND
DI10	4	29	GND
DI11	5	30	GND
DI0	6	31	GND
DI0H	7	32	GND
DI1L	8	33	GND
DI1H	9	34	GND
DI2L	10	35	GND
DI2H	11	36	GND
DI3L	12	37	GND
DI3H	13	38	GND
NO0	14	39	GND
NO1	15	40	GND
COM0	16	41	GND
COM1	17	42	GND
NC0	18	43	GND
NC1	19	44	GND
NO2	20	45	GND
NO3	21	46	GND
COM2	22	47	GND
COM3	23	48	GND
NC2	24	49	GND
NC3	25	50	GND