PCI-7442/7443/7444
High-density 128-CH Isolated DIO/DI/DO Card

Features

- Supports universal 32-bit 3.3 V and 5 V PCI bus, Plug-and-Play
- High-density, opto-isolated digital input and/or digital output
  - PCI-7442: 64-CH digital input and 64-CH digital output
  - PCI-7443: 128-CH digital input
  - PCI-7444: 128-CH digital output
- 1250 V$_{RMS}$ isolation voltage
- Programmable Change-of-State (COS) detection for all digital input channels
- Voltage protection of up to 28 V for isolated input
- Dry contact input (PCI-7442 only)
- Up to 300 mA high-output driving capability for all output channels
- 250 mA sink current on isolated output channels
- Digital output status read back function
- Digital output value retained after hot system reset
- Programmable power-up DO initial status
- Programmable safety DO status functions when WDT interruption occurs
- Watchdog timer counter prevents system crashes (PCI-7442/PCI-7444 only)
- 32-CH programmable TTL I/O function
- Board ID feature

- **Operating Systems**
  - Windows Vista/XP/2000/2003
  - Linux

- **Recommended Software**
  - VB.NET/VC.NET/VB/ VC++/BCB/Delphi
  - DAQBench

- **Driver Support**
  - DAQPilot for Windows
  - DAQ-LVIEW PnP for LabVIEW™
  - DAQ-MTLB for MATLAB®
  - PCIS-DASK for Windows
  - PCIS-DASK/X for Linux

PCI-7442

Introduction

Responding to the industry's need for high-density digital input/output modules, the ADLINK PCI-744X DIO card series delivers up to 128 opto-isolated channels for a wide range of demanding PCI-based applications.

The PCI-744X card series comes with 64 (PCI-7442) or 128 (PCI-7443) opto-isolated digital inputs and 64 (PCI-7442) or 128 (PCI-7444) opto-isolated digital outputs. With a 1250 V$_{RMS}$ (excluding cables) channel-to-system isolation protection, these cards are shielded from damage caused by accidental contact with external voltage while promoting simple ground connections. All input channels are identical non-polarity with each line isolated and suited to collect digital inputs even at high-noise environments. Featuring a Change-of-State (COS) interrupt function, the PCI-7442/PCI-7443 instantly generates an interrupt request to the PCI controller when it detects a sharp change in the logical state of any of its digital inputs.

Promoting easy identification in systems with multiple DIO cards installed, the cards are equipped with a board ID design that enables fast and convenient card detection and troubleshooting.

Specifications

Isolated Digital Input
- Number of channels
  - 64 (PCI-7442)
  - 128 (PCI-7443)
- Maximum input range: 28 V, non-polarity
- Digital logic levels: 0 V ~ 28 V, non-polarity
  - Input high voltage: 5 V ~ 28 V
  - Input low voltage: 0 V ~ 1.5 V
- Input resistance: 4.7 kΩ @ 0.5 W
- ESD protection CKT switch (Forward)
- Isolation voltage: 1250 V$_{RMS}$ channel-to-system
- Interrupt sources: 64/128-channel Change-of-State (COS)
- Data transfer: programmed I/O

Isolated Digital Output
- Number of channels: 64
  - 64 (PCI-7442)
  - 128 (PCI-7444)
- Output type: open drain Power MOSFET driver
- Output range: 5 V ~ 40 V
- Sink current: 250 mA for all channel @ 100% duty (300 mA max.)
- Isolation voltage: 1250 V$_{RMS}$ channel-to-system
- Data transfer: programmed I/O

Isolation +5 V Power Supply (PCI-7442/7444 only)
- Output Voltage: +5 V
- Output Current: 100 mA max. (@ 40˚C)

Safety Functions (PCI-7442/7444 only)
- Programmable power-up DO status
- Watchdog timer
  - Base clock available: 10 MHz, fixed
  - Counter width: 32-bit

General Specifications
- I/O connector: 68-pin Dual port VHDCI female
- Operating temperature: 0 to 60˚C
- Storage temperature: -20 to 80˚C
- Relative humidity: 5 to 95%, non-condensing
- Power requirements

Device	+5 V
PCI-7442	800 mA typical
PCI-7443	N/A
PCI-7444	N/A

- Dimension: 175 mm x 107 mm

Termination Boards

- **DIN-68S-01**
  Termination Board with a 68-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 12.)

Cable

- **ACL-10568D**
  Dual-68-Pin Head to Two 68-Pin SCSI-VHDCI Cable
- **ACL-10568F**
  68-Pin SCSI-VHDCI Flat Cable

Ordering Information

- **PCI-7442**
  64-CH Isolated DI and 64-CH Isolated DO card
- **PCI-7443**
  128-CH Isolated DI card
- **PCI-7444**
  128-CH Isolated DO card