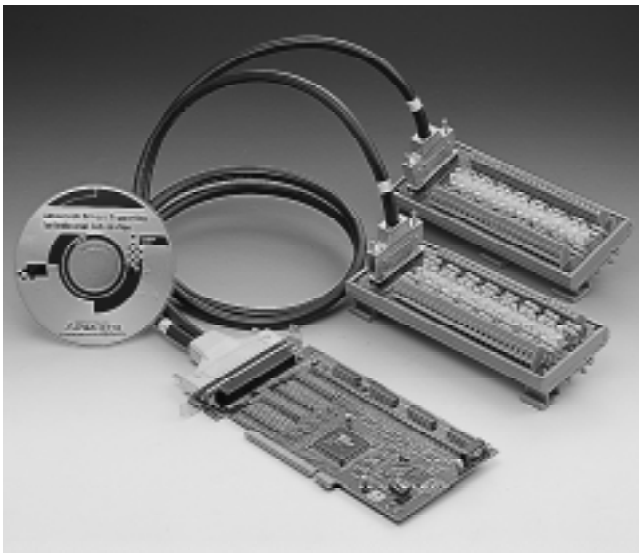
PCI-1756

64-channel Isolated Digital I/O Card



Features

- 32 isolated digital output channels
- 32 isolated digital input channels
- High-voltage isolation on I/O channels (2,500 V_{DC})
- Wide input range (10 ~ 50 V_{DC})
- Wide output range (5 ~ 40 V_{DC})
- High-sink current on isolated output channels (200 mA max./channel)
- High over-voltage protection (70 V_{DC}) for input channels
- Board ID
- Output status read-back for output channels
- Keeps digital output values when hot system reset
- Channel-Freeze function for output channels
- Interrupt handling capability
- Provides convenient wiring terminal module with LED indicators for DIN-rail mounting
- High-density 100-pin SCSI connector

Introduction

The PCI-1756 card offers 32 isolated digital input channels as well as 32 isolated digital output channels with isolation protection up to 2,500 V_{DC}, which makes it ideal for industrial applications where high-voltage isolation is required. In addition, all output channels are able to keep their last values after a hot system reset. Furthermore, the PCI-1756 provides Channel-Freeze function that keeps the current output status unchanged for each channel during operating process.

Robust Protection

The PCI-1756 features a robust isolation protection for applications in industrial, lab and machinery automation. It can durably withstand a voltage up to 2,500 V_{DC}, preventing your host system from any incidental harms. If connected to an external input source with surge-protection, the PCI-1756 can offer up to a maximum of 2,000 V_{DC} ESD (Electrostatic Discharge) protection for input channels. Even with an input voltage rising up to 70 V_{DC}, the input channels of PCI-1756 can still manage to work properly albeit only for short period of time.

Wide Input/Output Range

The PCI-1756 has a wide range of input voltage from 10 to 50 V_{DC}, and it is suitable for most industrial applications with 12 V_{DC}, 24 V_{DC} and 48 V_{DC} input voltage. It also features a wide output voltage range from 5 to 40 V_{DC}, suitable for most industrial applications with 12 V_{DC} / 24 V_{DC} output voltage. In the mean time, we are also ready to serve your special needs for specific input/output voltage range. Do not hesitate to ask us about tailoring our standard products to meet your specifications. All these merits make PCI-1756 the best choice for customers in industrial applications.

Board ID

The PCI-1756 has a built-in DIP Switch that helps define each card's ID when multiple PCI-1756 cards have been installed on the same PC chassis. The board ID setting function is very useful when users build their system with multiple PCI-1756 cards. With correct Board ID settings, you can easily identify and access each card during hardware configuration and software programming.

Channel-Freeze Function

The PCI-1756 provides Channel-Freeze function, which can be enabled either in dry contact or wet contact mode (selectable by the on-board jumper). When the Channel-Freeze function is enabled, the last status of each digital output channel will be safely kept for emergency use. Moreover, you can enable this function through software as it is useful in software simulation and testing program.

Reset Protection Fulfills Requirement for Industrial Applications

When the system has undergone a hot reset (i.e. without turning off the system power), the PCI-1756 can either retain outputs values of each channel, or return to its default configuration as open status, depending on its on-board jumper setting. This function protects the system from wrong operations during unexpected system resets.

64-channel Isolated Digital I/O Card

Applications

- Industrial ON/OFF control
- Switch status sensing
- BCD interfacing
- Digital I/O control
- Industrial and lab automation
- SMT/PCB machinery
- Semi-conductor machinery
- PC-based Industrial Machinery
- Testing & Measurement
- Laboratory & Education

Ordering Information

- ❏ PCI-1756: 64-channel isolated digital I/O card
- ❏ PCL-10250: 100-pin SCSI to two 50-pin SCSI cable, 1m
- ❏ ADAM-3951: Wiring terminal module with LED indicators for DIN-rail mounting

Specifications

Isolated Digital Input

Number of Input Channel	32	
Interrupt Inputs	2 (IDI0, IDI16)	
Optical Isolation	2500 V_{DC}	
Opto-isolator response time	25 µs	
Over-voltage Protect	70 V_{DC}	
ESD (ElectroStatic Discharge)	2,000 V_{DC}	
Input Voltage	VIH (max.)	50 V_{DC}
	VIH (min.)	10 V_{DC}
	VIL (max.)	3 V_{DC}
Input Current	10 V_{DC}	1.70 mA (typical)
	12 V_{DC}	2.10 mA (typical)
	24 V_{DC}	4.40 mA (typical)
	48 V_{DC}	9.00 mA (typical)
	50 V_{DC}	9.40 mA (typical)

Isolated Digital Output

Number of Output Channel	32
Optical Isolation	2500 V_{DC}
Opto-isolator response time	25 µs
Supply Voltage	5 ~ 40 V_{DC}
Sink Current	200 mA max/channel

General

I/O Connector Type	100-pin SCSI-II female	
Dimensions	175 mm x 100 mm (6.9" x 3.9")	
Power Consumption	Typical	+5 V @ 285 mA
	Max.	+5 V @ 475 mA
Temperature	Operation	0 ~ +60° C (32 ~ 140° F) (refer to IEC 68-2-1,2)
	Storage	-20 ~ +70° C (-4 ~ 158° F)
Relative Humidity	5 - 95 % RH non-condensing (refer to IEC 68-2-3)	

Pin Assignments

IDI00 ~ IDI15 :Isolated digital input of Group 0

IDI16 ~ IDI31 :Isolated digital input of Group 1

IDO00 ~ IDO15 :Isolated digital output of Group 0

IDO16 ~ IDO31 :Isolated digital output of Group 1

ECOM0 :External common input of Group 0

ECOM1 :External common input of Group 1

PCOM0 :External common output of Group 0

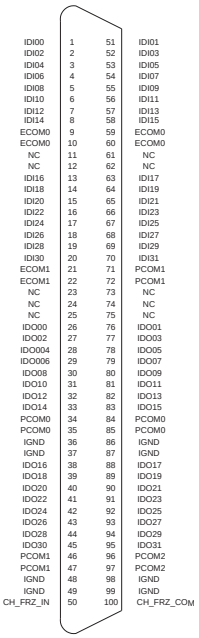
PCOM1 :External common output of Group 1

NC : No connection

IGND :Isolated ground

CH_FRZ_IN :Channel-Freeze input pin

CH_FRZ_COM :Common pin for Cannel-Freeze input



Block Diagram