PCI2320

User's Manual

Beijing ART Technology Development Co., Ltd.

Contents

Chapter 1 Overview

PCI2320 is an opto-isolator input card, mainly used for industrial control and related fields.

Unpacking Checklist

Check the shipping carton for any damage. If the shipping carton and contents are damaged, notify the local dealer or sales for a replacement. Retain the shipping carton and packing material for inspection by the dealer.
Check for the following items in the package. If there are any missing items, contact your local dealer or sales.

- PCI2320 Data Acquisition Board
- ART Disk
  a) user's manual (pdf)
  b) drive
  c) catalog
- Warranty Card

FEATURES

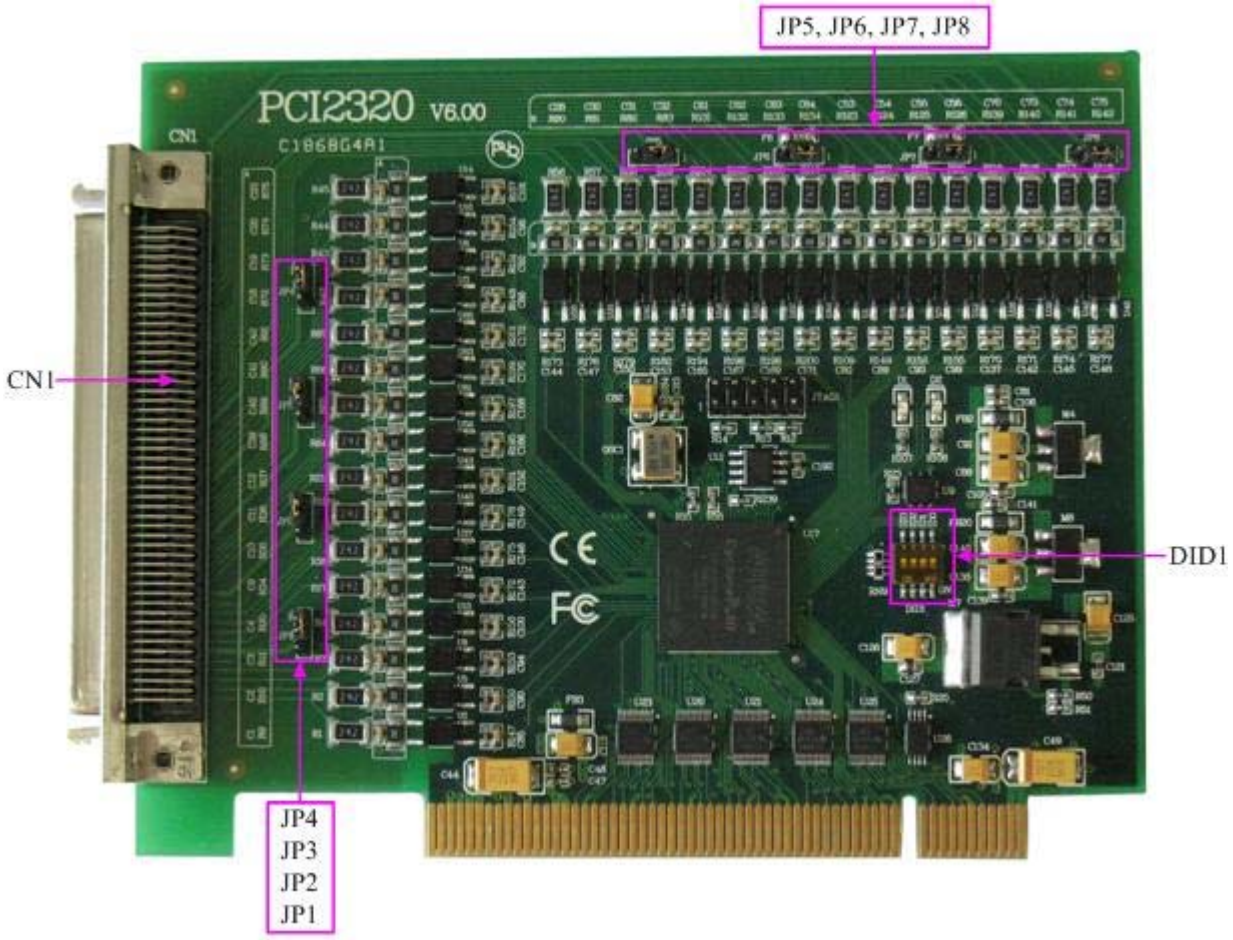
Digital Input

- 64 channel opto-isolated inputs
- Maximum Input Range: 24V no polarity
- Digital Logic Level:
  Input high voltage: 5 ~ 24V
  Input low voltage: 0 ~ 1.5V
- Input Impedance: 2.4kΩ @ 0.5W
- Isolation Voltage: 3750Vrms
- Interrupt Source: digital input (channel 0 and 1)
- Interrupt Response: rising edge
- Jumper selection fuse, recovery the insurance automatically, when the current over 500mA, the fuse is off.
- Data Transmission: programmed I/O
- Operating Temperature: 0℃~ +50℃
- Storage Temperature: - 20℃~ +70℃
- Relative Humidity: 5 ~ 95%

Board Dimension: 134mm (L)*106mm (W)

Chapter 2 Components Layout Diagram and a Brief Description

2.1 The Main Component Layout Diagram



2.2 Interface Description

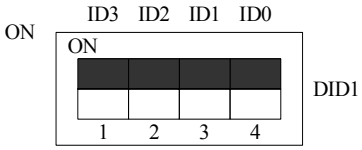
Please refer to the first section of the main component layout diagram, to understand the general function of the following main components.

2.2.1 Signal Connector

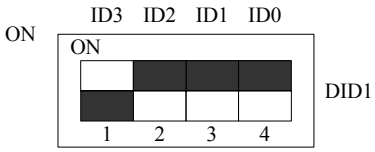
CN1: signal connector

2.2.2 Physical ID of DIP Switch

DID1: Set physical ID number. When the PC is installed more than one PCI2320 , you can use the DIP switch to set a physical ID number for each board, which makes it very convenient for users to distinguish and visit each board in the progress of the hardware configuration and software programming. The following four-place numbers are expressed by the binary system: When DIP switch points to "ON", that means "1", and when it points to the other side, that means "0." As they are shown in the following diagrams: place "ID3" is the high bit."ID0" is the low bit, and the black part in the diagram represents the location of the switch. (Test software of the company often use the logic ID management equipments and at this moment the physical ID DIP switch is invalid. If you want to use more than one kind of the equipments in one and the same system at the same time, please use the physical ID as much as possible.).



The above chart shows"1111", so it means that the physical ID is 15.



The above chart shows"0111", so it means that the physical ID is 7.

The above chart shows"0101", so it means that the physical ID is 5.

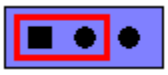
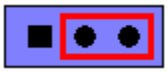
ID3	ID2	ID1	ID0	Physical ID（Hex）	Physical ID（Dec）
OFF（0）	OFF（0）	OFF（0）	OFF（0）	0	0
OFF（0）	OFF（0）	OFF（0）	ON（1）	1	1
OFF（0）	OFF（0）	ON（1）	OFF（0）	2	2
OFF（0）	OFF（0）	ON（1）	ON（1）	3	3
OFF（0）	ON（1）	OFF（0）	OFF（0）	4	4
OFF（0）	ON（1）	OFF（0）	ON（1）	5	5
OFF（0）	ON（1）	ON（1）	OFF（0）	6	6
OFF（0）	ON（1）	ON（1）	ON（1）	7	7
ON（1）	OFF（0）	OFF（0）	OFF（0）	8	8
ON（1）	OFF（0）	OFF（0）	ON（1）	9	9
ON（1）	OFF（0）	ON（1）	OFF（0）	A	10
ON（1）	OFF（0）	ON（1）	ON（1）	B	11
ON（1）	ON（1）	OFF（0）	OFF（0）	C	12
ON（1）	ON（1）	OFF（0）	ON（1）	D	13
ON（1）	ON（1）	ON（1）	OFF（0）	E	14

ON（1）	ON（1）	ON（1）	ON（1）	F	15

2.2.3 Jumper

JP1: whether the COM1selects connection the fuse or not. When the 1-2 pins are shorted, the COM1- COM1selects connection the fuse, if the current exceeds 500mA, the fuse will be off; when 2-3 pins are shorted, it does not connect with the fuse.

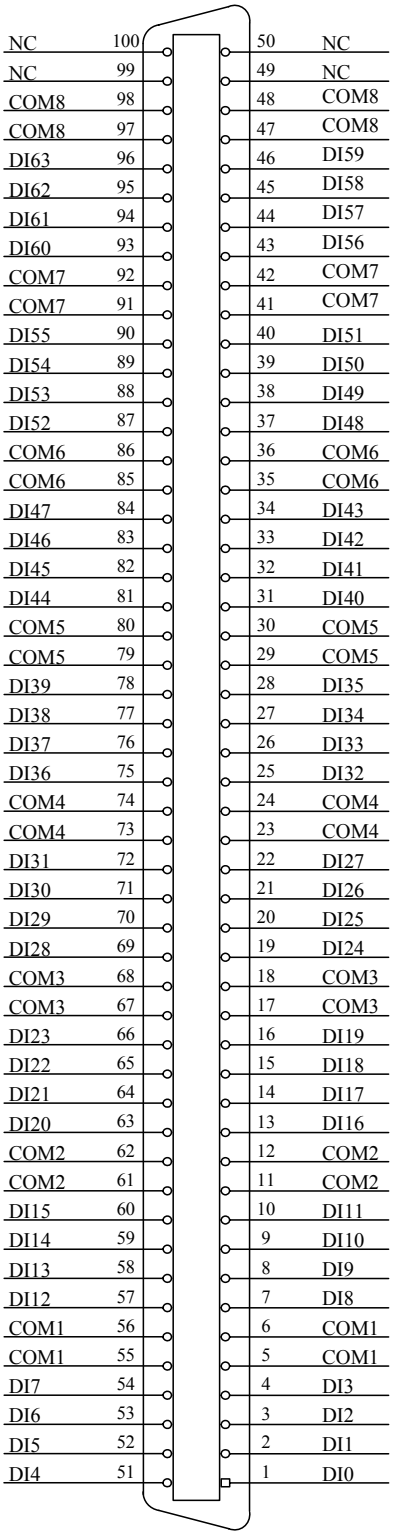
JP2, JP3, JP4, JP5, JP6, JP7, JP8: corresponds to COM2, COM3, COM4, COM5, COM6, COM7, COM8, the function is the same as JP1.

COM select the fuse	**JP1(COM1) JP2(COM2) JP3(COM3) JP4(COM4) JP5(COM5) JP6(COM6) JP7(COM7) JP8(COM8)**
Connection	
Not connection	

Chapter 3 Signal Connectors

3.1 The Definition of DI/DO Connectors

CN1: 100- pin definition

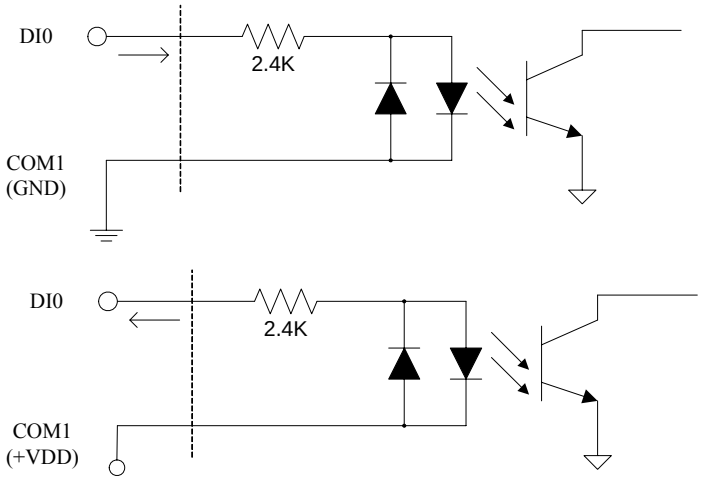


Pin definition

Signal Name	Type	Definition
DI0～DI7	Input	8 channel digital inputs
COM1	Input	The common port of the DI0~DI7
DI8～DI15	Input	8 channel digital inputs
COM2	Input	The common port of the DI8~DI15
DI16～DI23	Input	8 channel digital inputs
COM3	Input	The common port of the DI16~DI23
DI24～DI31	Input	8 channel digital inputs
COM4	Input	The common port of the DI24~DI31
DI32～DI39	Input	8 channel digital inputs
COM5	Input	The common port of the DI32~DI39
DI40～DI47	Input	8 channel digital inputs
COM6	Input	The common port of the DI40~DI47
DI48～DI55	Input	8 channel digital inputs
COM7	Input	The common port of the DI48~DI55
DI56～DI63	Input	8 channel digital inputs
COM8	Input	The common port of the DI56~DI63
NC		NC

3.2 Digital Input Connection

Isolated digital input is open-collector input, the input voltage is from 0 to 24V, input impedance is 2.4KΩ, the common port of the input can be connected to the ground or power port. Take DI0 for example, isolated digital input connection as shown below, other channels are the same as the DI0.



Chapter 4 Notes and Warranty Policy

4.1 Notes

In our products' packing, user can find a user manual, a PCI2320 module and a quality guarantee card. Users must keep quality guarantee card carefully, if the products have some problems and need repairing, please send products together with quality guarantee card to ART, we will provide good after-sale service and solve the problem as quickly as we can.

When using PCI2320, in order to prevent the IC (chip) from electrostatic harm, please do not touch IC (chip) in the front panel of PCI2320 module.

4.2 Warranty Policy

Thank you for choosing ART. To understand your rights and enjoy all the after-sales services we offer, please read the following carefully.

1. Before using ART's products please read the user manual and follow the instructions exactly. When sending in damaged products for repair, please attach an RMA application form which can be downloaded from: www.art-control.com.
2. All ART products come with a limited two-year warranty:
   - The warranty period starts on the day the product is shipped from ART's factory
   - For products containing storage devices (hard drives, flash cards, etc.), please back up your data before sending them for repair. ART is not responsible for any loss of data.
   - Please ensure the use of properly licensed software with our systems. ART does not condone the use of pirated software and will not service systems using such software. ART will not be held legally responsible for products shipped with unlicensed software installed by the user.
3. Our repair service is not covered by ART's guarantee in the following situations:
   - Damage caused by not following instructions in the User's Manual.
   - Damage caused by carelessness on the user's part during product transportation.
   - Damage caused by unsuitable storage environments (i.e. high temperatures, high humidity, or volatile chemicals).
   - Damage from improper repair by unauthorized ART technicians.
   - Products with altered and/or damaged serial numbers are not entitled to our service.
4. Customers are responsible for shipping costs to transport damaged products to our company or sales office.
5. To ensure the speed and quality of product repair, please download an RMA application form from our company website.

Products Rapid Installation and Self-check

Rapid Installation

Product-driven procedure is the operating system adaptive installation mode. After inserting the disc, you can select the appropriate board type on the pop-up interface, click the button【driver installation】; or select CD-ROM drive in Resource Explorer, locate the product catalog and enter into the APP folder, and implement Setup.exe file. After the installation, pop-up CD-ROM, shut off your computer, insert the PCI card. If it is a USB product, it can be directly inserted into the device. When the system prompts that it finds a new hardware, you do not specify a drive path, the operating system can automatically look up it from the system directory, and then you can complete the installation.

Self-check

At this moment, there should be installation information of the installed device in the Device Manager (when the device does not work, you can check this item.). Open "Start -> Programs -> ART Demonstration Monitoring and Control System -> Corresponding Board -> Advanced Testing Presentation System", the program is a standard testing procedure. Based on the specification of Pin definition, connect the signal acquisition data and test whether AD is normal or not. Connect the input pins to the corresponding output pins and use the testing procedure to test whether the switch is normal or not.

Delete Wrong Installation

When you select the wrong drive, or viruses lead to driver error, you can carry out the following operations: In Resource Explorer, open CD-ROM drive, run Others-> SUPPORT-> PCI.bat procedures, and delete the hardware information that relevant to our boards, and then carry out the process of section I all over again, we can complete the new installation.