PCI2312

User's Manual

Beijing ART Technology Development Co., Ltd.

Contents

Chapter 1 Overview

PCI2312 is an opto-isolator input and output board, 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.

➢ PCI2312 Data Acquisition Board
➢ ART Disk
  a) user's manual (pdf)
  b) drive
  c) catalog
➢ Warranty Card

FEATURES

Digital Input

➢ 16-ch isolated digital input
➢ Optical Isolation Voltage: 2500Vrms (min)
➢ Maximum switching frequency of input: 10kHz (square wave)
➢ DI0 with input trigger interrupt
➢ Input Range: 5V~24V
➢ Operating Temperature Range: 0℃~50℃
➢ Storage Temperature Range: −20℃~70℃
➢ Humidity: 40~90%

Digital Output

➢ 16-ch isolated digital output
➢ Optical Isolation Voltage: 2500Vrms (min)
➢ 16-ch isolated digital output
➢ Maximum switching frequency of output: 10kHz (square wave)
➢ Output Range: 5V~24V
➢ Operating Temperature Range: 0℃~50℃
➢ Storage Temperature Range: −20℃~70℃
➢ Humidity: 40~90%

Board Dimension: 145mm (L)* 90mm (W) * 15mm (H)

Chapter 2 Components Layout Diagram and a Brief Description

2.1 The Main Component Layout Diagram
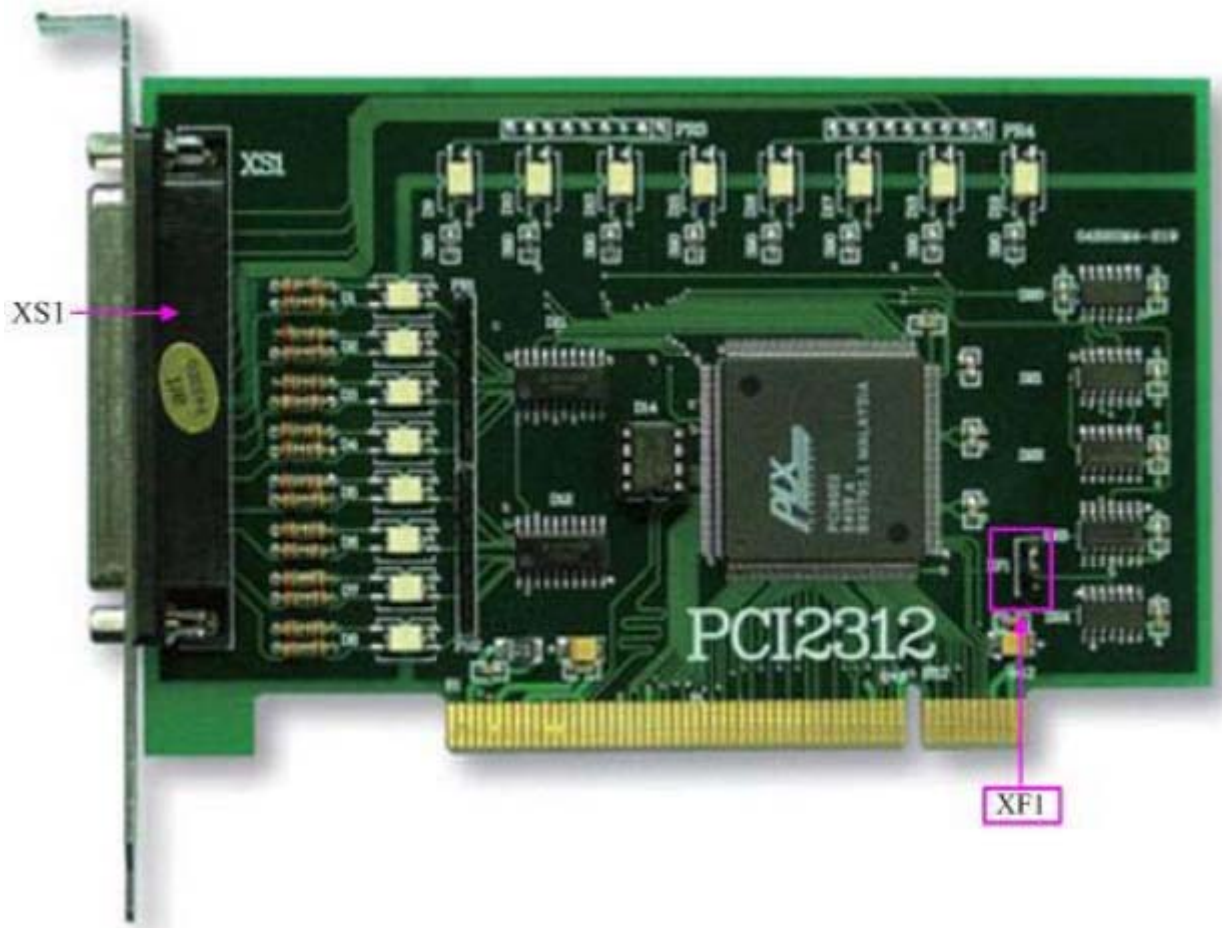
2.2 Jumper and Interface Description

Please refer to the first section of the main component layout diagram, to understand the general function of the following main components.
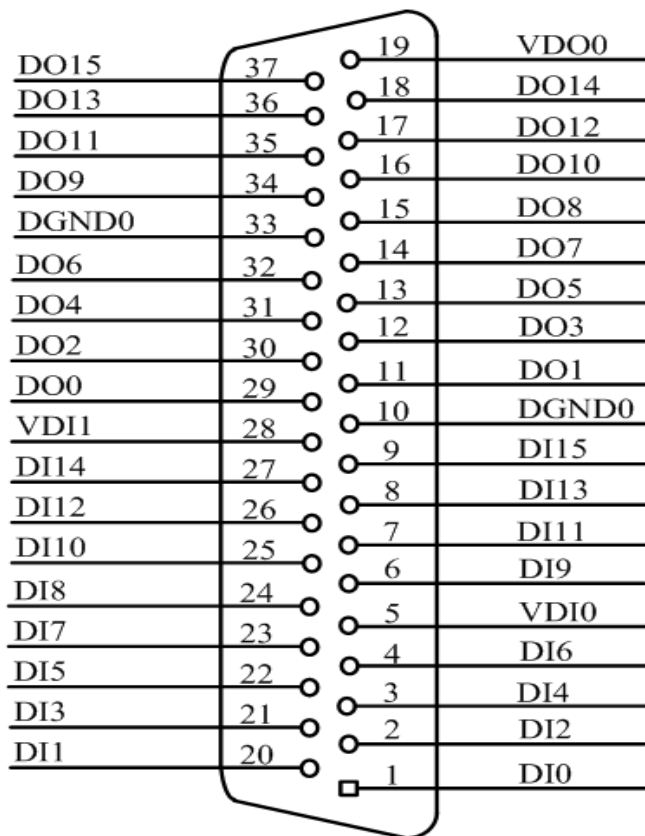
XF1: DI0 interrupt mode selected

    1-2 shorted: Interrupt when DI0 signal has a rising edge

    2-3 shorted: Interrupt when DI0 signal has a falling edge

    XS1: Digital input and output port

37 core plug on the XS1 pin definition

Pin definition

| Signal Name	Type	Definition
DI0~DI7	Input	Digital input pins, power supplied by VDI0 (5V~24V)
DI8~DI15	Input	Digital input pins, power supplied by VDI1 (5V~24V)
DO0~DO15	Output	Digital output pins, power supplied by VDO0 (5V~24V)
DGND0	GND	Digital ground
VDI0	Input	External power supply, supply power to DI0 ~ DI7
VDI1	Input	External power supply, supply power to DI8~DI15
VDO0	Input	External power supply, supply power to DO0~DO15

Chapter 3 Connection Ways for Input and Output

3.1 Input Principle and wiring

DI0 ~ DI15 input principles are the same, the following description the DI0, the others are the same.
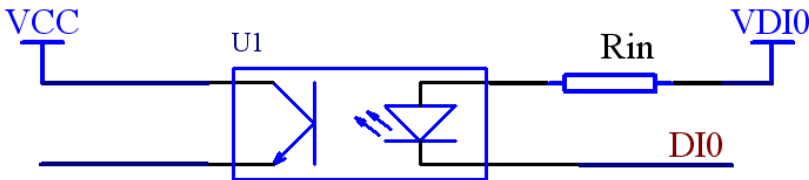
DI0~DI7 are digital input signals, DGND0 is common ground, VDI0 is common external power supply. DI8~DI15 are digital input signals, VDI1 is common external power supply. Power supply can use 5V~24V, when the input signal high level is 5V, we can use 5V, when the input signal high level is 12V, we can use 12V, and so on.
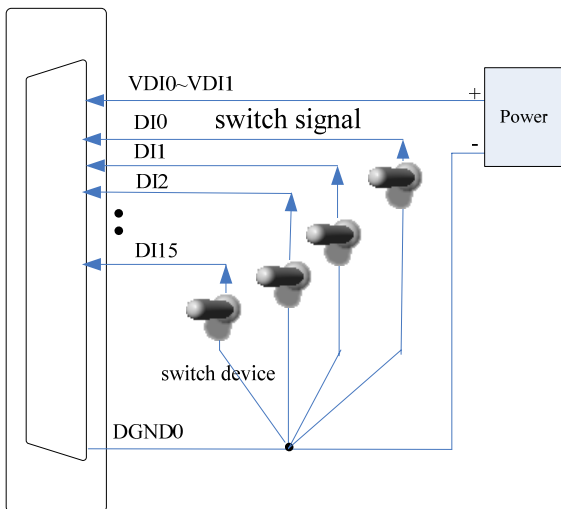
3.2 Output Principle and wiring
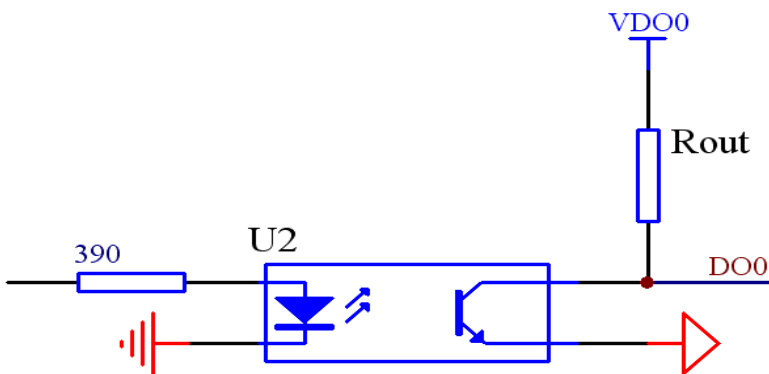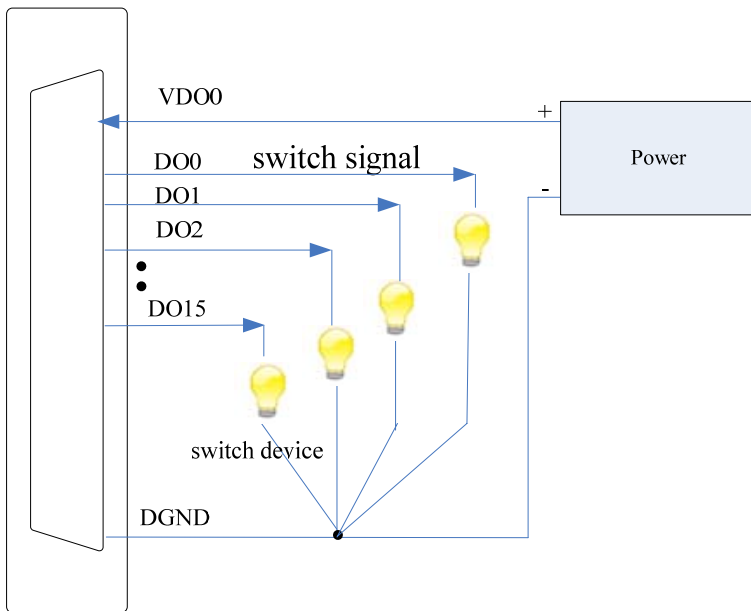

DO0~DO15 are digital output signals, DGND0 is common ground, VDO0 is common external power supply, the output range is 5V~24V, when need output 5V, we can connect VDO0 with 5V power supply, when need output 24V, we can

connect VDO0 with 24V power supply, and so on.

High level: VDO0

Low level: <0.3V

VDO0

DO0 switch signal

DO1

DO2

DO15

switch device

DGND

+

Power

-

Chapter 4 Notes and Warranty Policy

4.1 Notes

In our products' packing, user can find a user manual, a PCI2312 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 PCI2312, in order to prevent the IC (chip) from electrostatic harm, please do not touch IC (chip) in the front panel of PCI2312 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.