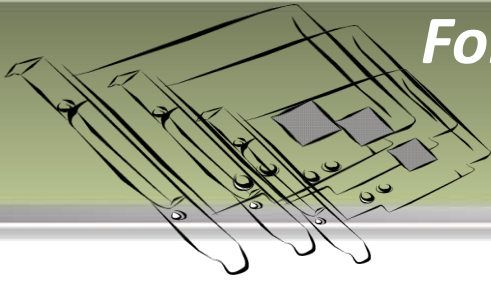


# I/O CARD QUICK START GUIDE

For PEX-P32A32

PISO-P32A32U(-5V) Series

English/Jun. 2015/Version 1.1



## 1 Check the Supplied Items

The package includes the following items:



One PEX-P32A32 or PISO-P32A32U (-5V) PCI Board.



One Software Utility CD (V6.2 or later)



One Quick Start Guide (This Document)



One CA-4037B Cable



Two CA-4002 D-Sub connectors

## 2 Installing the Windows Driver

**Step 1:** Setup the Windows driver. The driver is located at:

- The UniDAQ driver supports 32-/64-bit Windows 2K/XP/2003/Vista/7/8; it is recommended to install this driver for new user:  
CD: \NAPDOS\PCI\UniDAQ\DLL\Driver  
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/dll/driver/>
- The PISO-DIO Series classic driver supports Windows 98/NT/2K and 32-bit XP/2003/Vista/7/8. Recommended to install this driver for have been used PISO-DIO series boards of regular user, please refer to :  
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/piso-dio/manual/quickstart/classic/>

**Step 2:** Click the “**N**ext>” button to start the installation.

**Step 3:** Check your DAQ Card is or not on supported list, then click the “**N**ext>” button.

**Step 4:** Select the installed folder, the default path is **C:\ICPDAS\UniDAQ**, confirm and click the “**N**ext>” button.

**Step 5:** Check your DAQ Card on list, then click the “**N**ext>” button.

**Step 6:** Click the “**N**ext>” button on the Select Additional Tasks window.

**Step 7:** Click the “**N**ext>” button on the Download Information window.

**Step 8:** Select “**No, I will restart my computer later**” and then click the “**F**inish” button.

*For detailed information about the driver installation, please refer to Chapter 2.1 “Getting the UniDAQ Driver DLL Installer package” of the UniDAQ SDK user manual.*

## 3 Jumper Setting

Please make sure JP1 and JP2 jumper is kept in default setting before self-test, as follows:

(  This example uses this power supply.)

Jumper	JP1/JP2	
		Internal Power
		External Power (Default Setting)

- CON1:** The Connector for DI <0...15> and DO<0...15>. Refer to Section 6 Pin Assignments.
- CON2:** The Connector for DI <16...31> and DO<16...31>. Refer to Section 6 Pin Assignments.
- SW1:** DIP Switch used to configure the Board ID. Refer to PISO-P32x32/x64 Series User Manual.
- JP1:** Used to set the Internal or External Power for DI <0...15> on CON1, as above table.
- JP2:** Used to set the Internal or External Power for DI <16...32> on CON2, as above table.

# 4 Installing the Hardware

**Step 1:** Shut down and power off the computer.

**Step 2:** Remove all the covers from the computer.

**Step 3:** Select an unused PCI Express/PCI slot.

**Step 4:** Carefully insert your card into the PCI Express/PCI slot and secure the board in place.

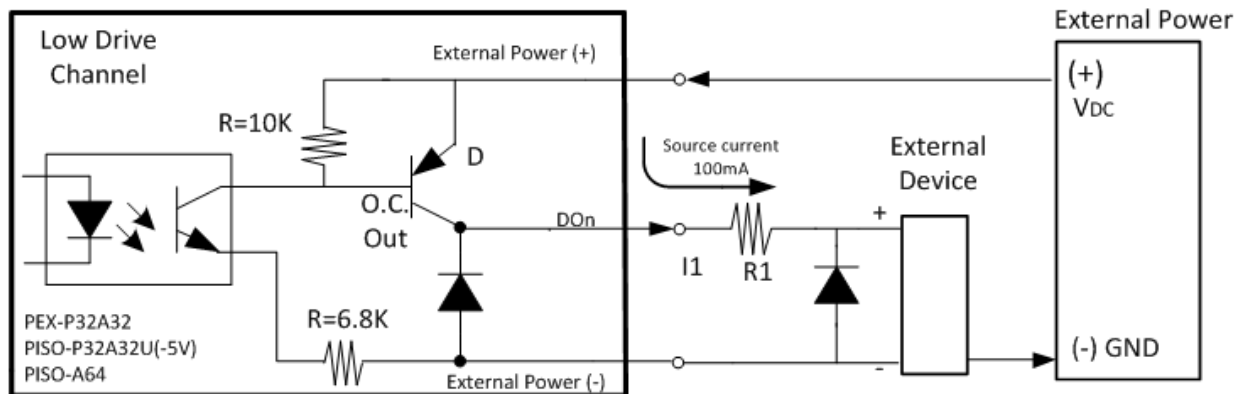
**Step 5:** Replace the covers on the computer.

**Step 6:** Reconnect the power supply and power on the computer.

**Step 7:** Once the computer reboots, follow any messages that may be displayed to complete the Plug and Play installation procedure.

**Step 8:** Open the “**Device Manager**” in the Control Panel and verify that the PEX/PISO-P32A32 Series board is listed correctly.

# 5 Wiring Note



If your control device is an inductive load (ex: inductive relay), it is recommended to connect a diode at the Control Device side as a means of preventing damage from the counter EMF.




*To prevent the board damaged forever by overload, the GND pins (CON1: pin 1/20, CON2: pin 1/20) all must be connected with GND of External Power.*

# 6

## Pin Assignments

PCI Express/PCI Bus DIO Boards

Pin Assignment <b>CON2</b>	Pin Assignment <b>CON1</b>	Terminal No.	Pin Assignment <b>CON1</b>	Pin Assignment <b>CON2</b>
EXT. GND1	EXT. GND0	01	20	EXT. GND0
DI_16	DI_0	02	21	DO_0
DI_17	DI_1	03	22	DO_1
DI_18	DI_2	04	23	DO_2
DI_19	DI_3	05	24	DO_3
DI_20	DI_4	06	25	DO_4
DI_21	DI_5	07	26	DO_5
DI_22	DI_6	08	27	DO_6
DI_23	DI_7	09	28	DO_7
DI_24	DI_8	10	29	DO_8
DI_25	DI_9	11	30	DO_9
DI_26	DI_10	12	31	DO_10
DI_27	DI_11	13	32	DO_11
DI_28	DI_12	14	33	DO_12
DI_29	DI_13	15	34	DO_13
DI_30	DI_14	16	35	DO_14
DI_31	DI_15	17	36	DO_15
ECOM1	ECOM0	18	37	EXT. PWR0
IGND1	IGND0	19		EXT. PWR1



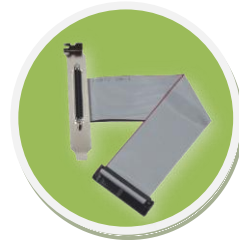
CON1/CON2 (Female DB-37)

Pin Assignment	Terminal No.	Pin Assignment
EXT. GND1	01	02
DI_16	03	04
DI_17	05	06
DI_18	07	08
DI_19	09	10
DI_20	11	12
DI_21	13	14
DI_22	15	16
DI_23	17	18
DI_24	19	20
DI_25	21	22
DI_26	23	24
DI_27	25	26
DI_28	27	28
DI_29	29	30
DI_30	31	32
DI_31	33	34
ECOM1	35	36
IGND1	37	38
N/A	39	40

CON2 (40-pin box header)



Extension Cable (CA-4037B):  
DB-40-Pin conversion DB-37-Pin



# 7 Self-Test

## ➤ Prepare for device:

- DN-37 (optional) wiring terminal board.
- Exterior power supply device. For example: DP-665 (optional)

## ➤ Self-test wiring as follows:

**Step 1:** Connect the DN-37 to the CON1 connector on your board using the CA-3710 cable.

**Step 2:** Keep set the JP1 and JP2 jumper to **External Power** (See Section 3 Jumper Setting).

**Step 3:** Connect the **DI(0-15) with DO(0-15)**. (DI0 connect to DO0 ... DI15 connect to DO15)

### **PEX-P32A32 and PISO-P32A32U External Power Wiring:**

**Step 4:** Connect the **Power Supply (+24 V)** to **Ext.PWR0 (Pin37)**.

Connect the **Power Supply GND** to **ECOM0 (Pin18)**.

Connect the **Power Supply GND** to **Ext.GND0 (Pin1 and Pin20)**.



The PEX-P32A32/PISO-P32A32U suggests input voltage range as follow:

**Logic high: +9 ~ +24 V; Logic Low: 0 ~ 1V.**

**(Higher voltage over the limitation will cause the hardware damage.)**

### **PISO-P32A32U-5V External Power Wiring:**

**Step 4:** Connect the **Power Supply (+5 V)** to **Ext.PWR0 (Pin37)**.

Connect the **Power Supply GND** to **ECOM0 (Pin18)**.

Connect the **Power Supply GND** to **Ext.GND0 (Pin1 and Pin20)**.



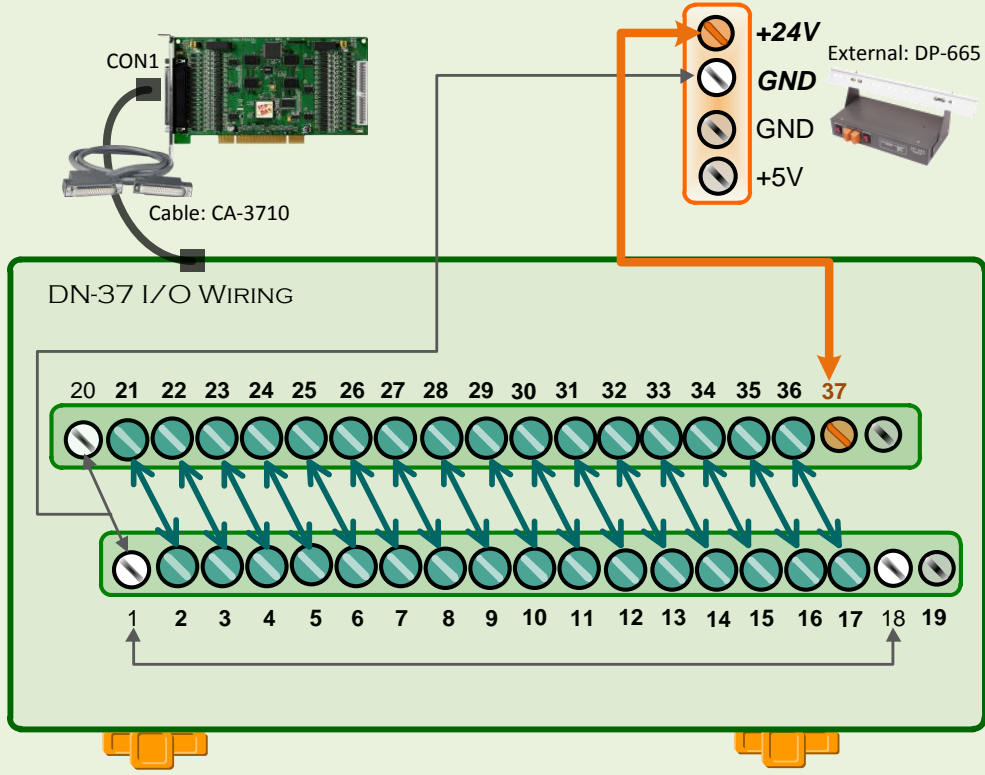
The PISO-P32A32U-5V suggests input voltage range as follow:

**Logic high: +5 ~ +12 V; Logic Low: 0 ~ 1V.**

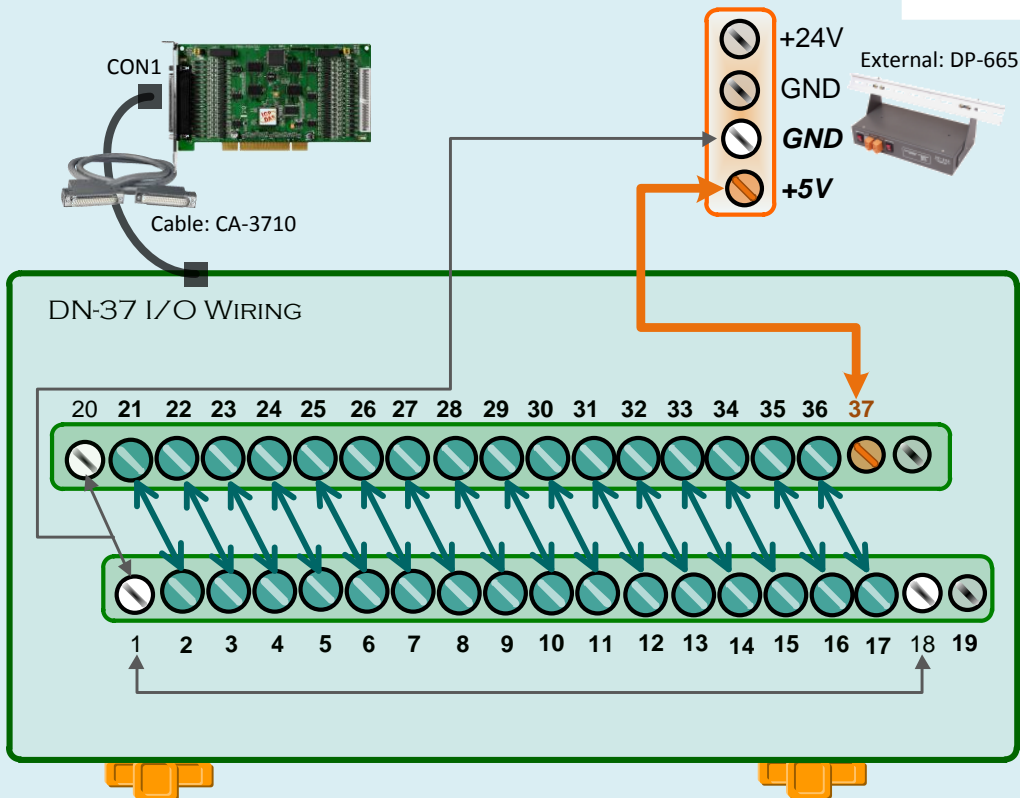
**(Higher voltage over the limitation will cause the hardware damage.)**



The PEX-P32A32/PISO-P32A32U wiring is illustrated in the figure below:

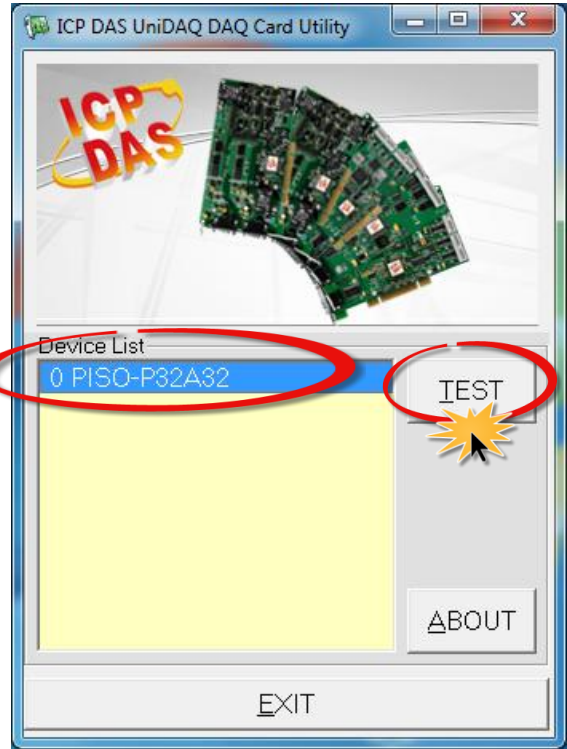


The PISO-P32A32U-5V wiring is illustrated in the figure below:



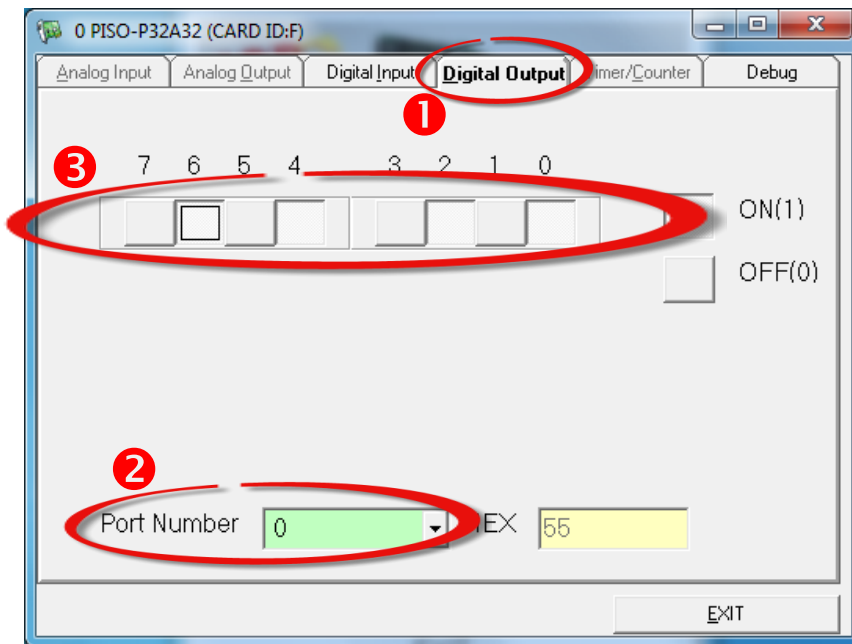
**Step 5:** Execute the UniDAQ Utility Program.

1. In Windows 7, click the “**Start**” button, point to “**All Programs**”, and then click the “**ICPDAS**” folder. Point to “**UniDAQ Development Kits**” and then click the “**UniDAQ Utility**” to execute the UniDAQ Utility Program.
2. Confirm that PEX/PISO-P32A32 Series board has been successfully installed in the Host system. **Note that the device numbers start from 0.**
3. Click the “**TEST**” button to start the test.

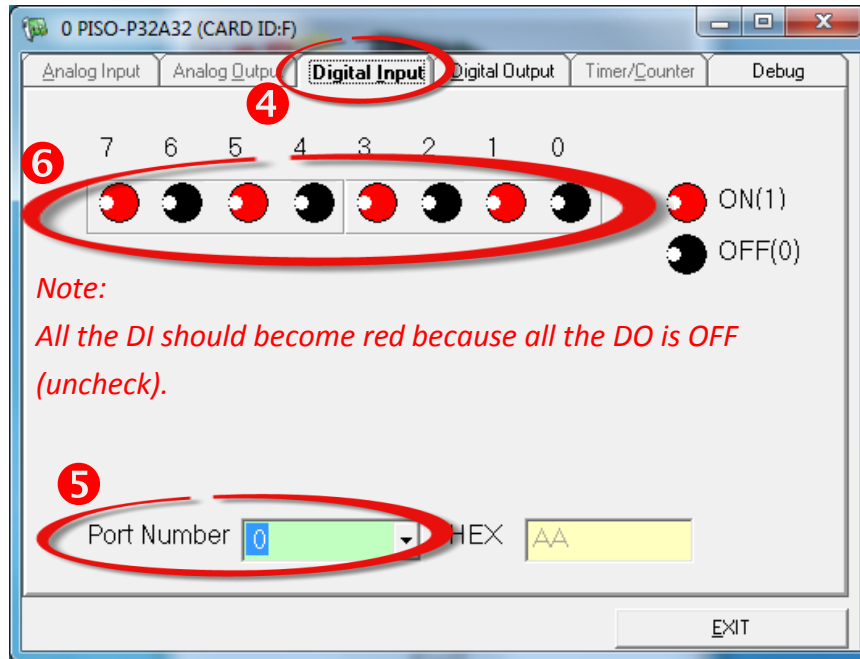


**Step 6:** Check the results of the DIO function test.

1. Click the “**Digital Output**” tab.
2. Select “**Port0**” from the “**Port Number**” drop-down menu.
3. Check the checkboxes for **channels 0, 2, 4 and 6**.



4. Click the “Digital Input” tab.
5. Select “Port0” from the “Port Number” drop-down menu.
6. The DI indicators will turn **black** when the corresponding DO channels 0, 2, 4 and 6 are **ON**.



## 8 Related Information

- PEX-P32A32 and PISO-P32A32U(-5V) Series Card Product Page:  
[http://www.icpdas.com/root/product/solutions/pc\\_based\\_io\\_board/pci/piso-p32a32u.html](http://www.icpdas.com/root/product/solutions/pc_based_io_board/pci/piso-p32a32u.html)
- DN-37, CA-3710 and DP-665 page (optional):  
[http://www.icpdas.com/products/DAQ/screw\\_terminal/dn\\_37.htm](http://www.icpdas.com/products/DAQ/screw_terminal/dn_37.htm)  
[http://www.icpdas.com/products/Accessories/power\\_supply/dp-665.htm](http://www.icpdas.com/products/Accessories/power_supply/dp-665.htm)  
[http://www.icpdas.com/products/Accessories/cable/cable\\_selection.htm](http://www.icpdas.com/products/Accessories/cable/cable_selection.htm)
- Documentation and Software:  
 CD:\NAPDOS\PCI\UniDAQ\  
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidag/>