PISO-P32C32U(-5V)/ PEX-P32C32 Quick Start

v1.4, Dec. 2018

What's in the box?

The package includes the following items:

PISO-P32C32U(-5V)

or

PEX-P32C32

PISO/PEX-P32C32 Card x 1

Quick Start x 1 (This Document)

CA-4037B Cable x 1

CA-4002 D-Sub Connector x 2

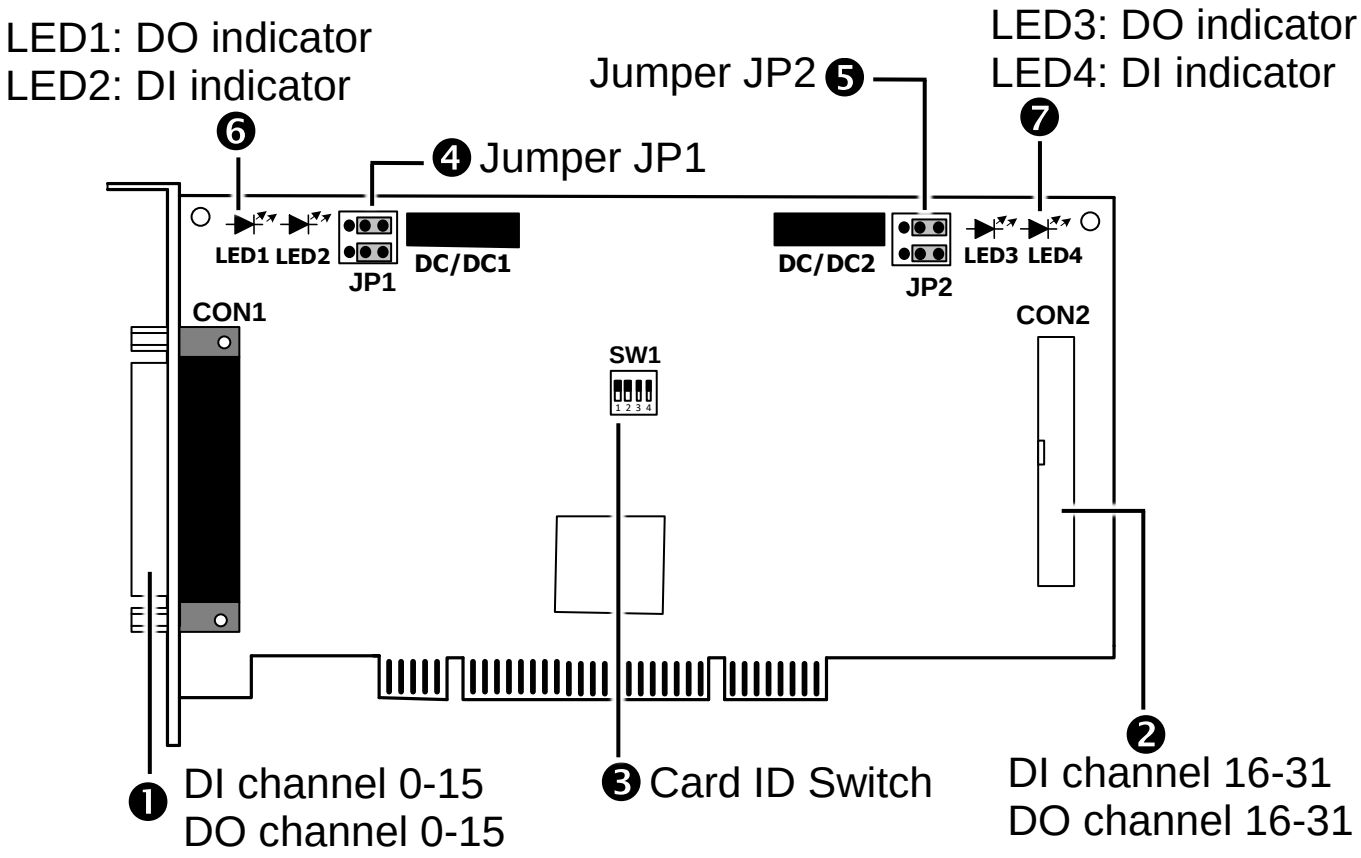
Related Information

- For more detailed information related to the user manual and software for UniDAQ Driver & SDK:
http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/

- For more detailed information related to the hardware settings for PISO/PEX-P32C32 Series Card:
http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/piso-dio/manual/

- DN-37 and CA-3710 Cable Page (optional):
http://www.icpdas.com/products/DAQ/screw_terminal/dn_37.htm
http://www.icpdas.com/root/product/solutions/accessories/cable/cable_selection.html

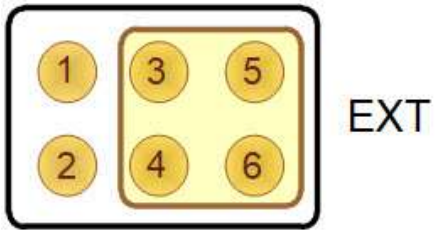
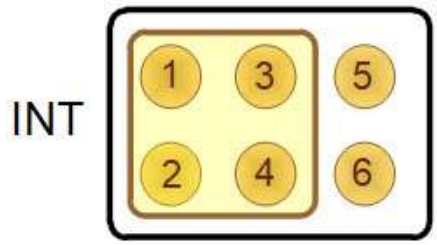
1 Appearance



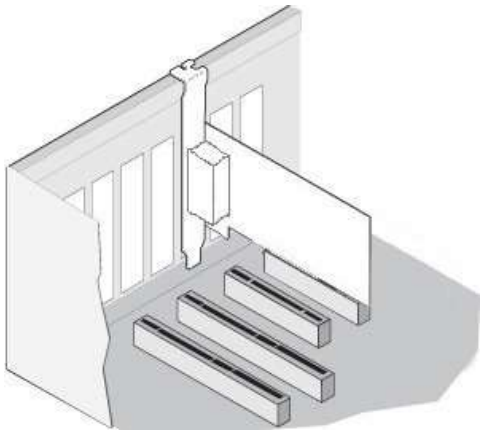
2 Jumper Settings

Jumpers JP1 and JP2

Jumpers JP1 and JP2 are used to specify whether the Digital Input is either Internal or External Power. **NOTE: Ensure that Jumpers JP1 and JP2 are in the default positions before performing a self-test.**

☑ External Power (Default)	Internal Power
	

3 Installing a PISO/PEX-P32C32



1) Power off the PC.
2) Remove all covers from the Computer.
3) Carefully insert the PISO/PEX-P32C32 Series Card into PCI/PCIe slot.
4) Replace the PC Covers.
5) Power on the PC.
6) Download or locate the Windows driver.

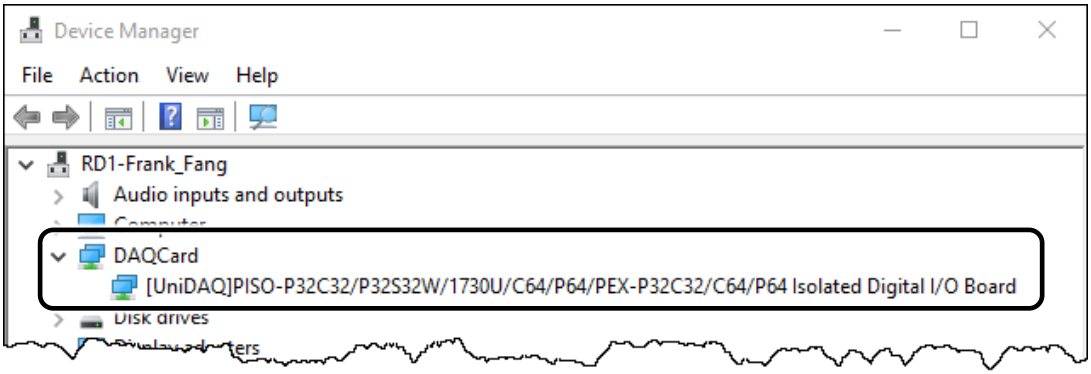
☑ The **UniDAQ driver** supports 32-/64-bit Windows XP/2003/2008/7/8/10. It is recommended that new users install this driver, which can be found in the http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/dll/driver/

☐ The **PISO-DIO Series classic driver** supports Windows 98/NT/2K and 32-bit XP/2003/2008/7/8/10. Recommended to install this driver for have been used PISO-P32C32 Series card of regular user, refer to: http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/piso-dio/manual/quickstart/classic/

7) Setup the UniDAQ Driver DLL, click the **"Next>"** button for all dialogs. **NOTE: For more detailed information related to driver installation, refer to Chapter 2 "Starting" in the UniDAQ SDK user manual.**

8) The operating system will automatically detect the new hardware and install the necessary drivers after reboot the PC.

9) Open the **"Device Manager"** to verify that the PISO/PEX-P32C32 Series Card has been correctly installed and is in the Device Manager, as illustrated on right.



4 Pin Assignments

Pin Assign-ment (CON2)	Pin Assign-ment (CON1)	Terminal No.		Pin Assign-ment (CON1)	Pin Assign-ment (CON2)
Ext.GND1	Ext.GND0	01	20	Ext.GND0	Ext.GND1
DI_0	DI_0	02	21	DO_0	DO_0
DI_1	DI_1	03	22	DO_1	DO_1
DI_2	DI_2	04	23	DO_2	DO_2
DI_3	DI_3	05	24	DO_3	DO_3
DI_4	DI_4	06	25	DO_4	DO_4
DI_5	DI_5	07	26	DO_5	DO_5
DI_6	DI_6	08	27	DO_6	DO_6
DI_7	DI_7	09	28	DO_7	DO_7
DI_8	DI_8	10	29	DO_8	DO_8
DI_9	DI_9	11	30	DO_9	DO_9
DI_10	DI_10	12	31	DO_10	DO_10
DI_11	DI_11	13	32	DO_11	DO_11
DI_12	DI_12	14	33	DO_12	DO_12
DI_13	DI_13	15	34	DO_13	DO_13
DI_14	DI_14	16	35	DO_14	DO_14
DI_15	DI_15	17	36	DO_15	DO_15
COM2A	COM1A	18	37	Ext.PWR0	Ext.PWR1
COM2B	COM1B	19			

CON1

Pin Assign-ment	Terminal No.		Pin Assign-ment
Ext.GND1	01	02	Ext.GND1
DI_16	03	04	DO_16
DI_17	05	06	DO_17
DI_18	07	08	DO_18
DI_19	09	10	DO_19
DI_20	11	12	DO_20
DI_21	13	14	DO_21
DI_22	15	16	DO_22
DI_23	17	18	DO_23
DI_24	19	20	DO_24
DI_25	21	22	DO_25
DI_26	23	24	DO_26
DI_27	25	26	DO_27
DI_28	27	28	DO_28
DI_29	29	30	DO_29
DI_30	31	32	DO_30
DI_31	33	34	DO_31
COM2A	35	36	Ext.PWR1
COM2B	37	38	N.C.
N.C.	39	40	N.C.

CON2

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

NOTES:

1. Ext.GND: External Power Ground

2. Ext.PWR: External Power Input

3. N.C.: None Connect

4. For detailed information abuout the **DI and DO wiring note**, refer to **Section 2.3 “Isolated DI Architecture”** and **Section 2.4 “Isolated DO Architecture”** in the PISO-P32C32 Series user manual.

5 Wiring the DI and DO for Self-test

1) Verify that Jumpers **JP1 and JP2** on the PISO/PEX-P32C32 Series Card are set to the **"External Power (default)"** position. **Refer to Chapter 2 "Jumper Settings" above (P2).**

2) Connect the DN-37 to CON1 on the PISO/PEX-P32C32 Series Card using the CA-3710 cable.

3) Connect the **DI <0-15>** (Pin2 - Pin17) **with DO <0-15>** (Pin21 – Pin36). i.e., DI0(Pin2) with DO0(Pin21) …DI15(Pin17) with DO15(Pin36).

➢ **The External Power Wiring for PEX-P32C32/PISO-P32C32U:**

4) Connect the **External Power Supply +9V ~ +24 V** to **COM1A** (Pin18) and **Ext.PWR0** (Pin37), see Figure 1-1.
5) Connect the **External Power Supply GND** to **COM1B** (Pin19) and **Ext.GND0** (Pin1/Pin20), see Figure 1-1.

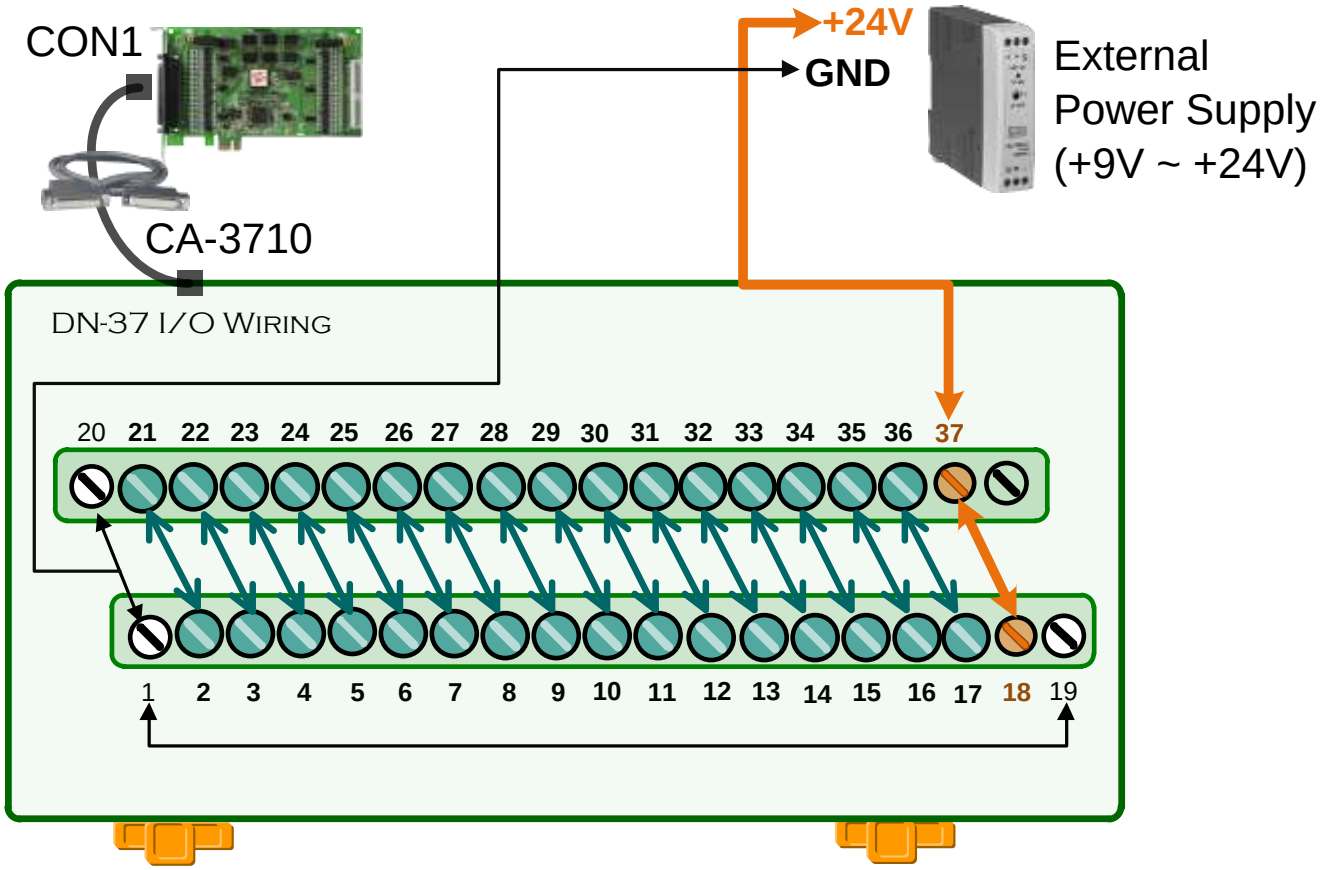
NOTE: The PEX-P32C32/PISO-P32C32U suggests input voltage range +9 to +24 V (Logic high). (Higher voltage over the limitation will cause the hardware damage.)

➢ **The External Power Wiring for PISO-P32C32U-5V:**

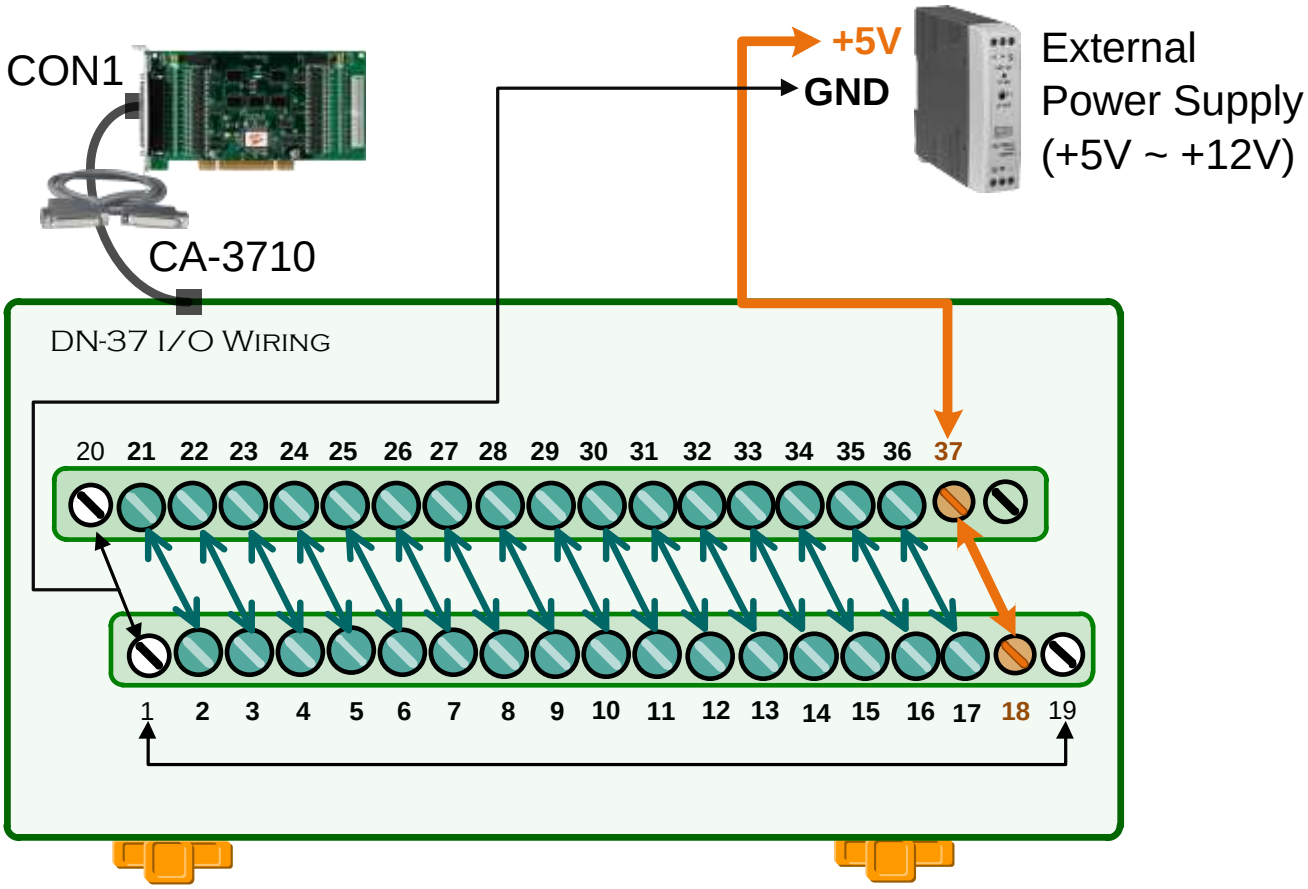
4) Connect the **External Power Supply +5V ~ +12 V** to **COM1A** (Pin18) and **Ext.PWR0** (Pin37), see Figure 1-2.
5) Connect the **External Power Supply GND** to **COM1B** (Pin19) and **Ext.GND0** (Pin1/Pin20), see Figure 1-2.

NOTE: The PISO-P32C32U-5V suggests input voltage range +5 to +12V (Logic high). (Higher voltage over the limitation will cause the hardware damage.)

➢ **Figure 1-1: The PEX-P32C32/PISO-P32C32U wiring:**

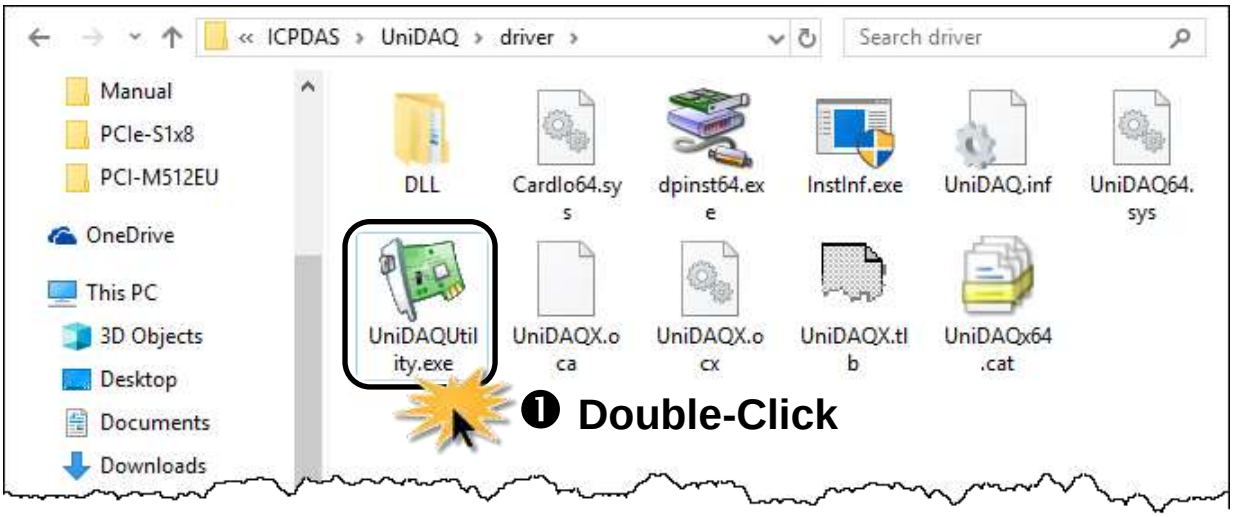


➢ **Figure 1-2: The PISO-P32C32U-5V wiring:**



6 Testing your PISO/PEX-P32C32

1) Launch the **UniDAQ Utility** software. The UniDAQ Utility will be placed in the **default path "C:\ICPDAS\UniDAQ\Driver"** after completing installation.



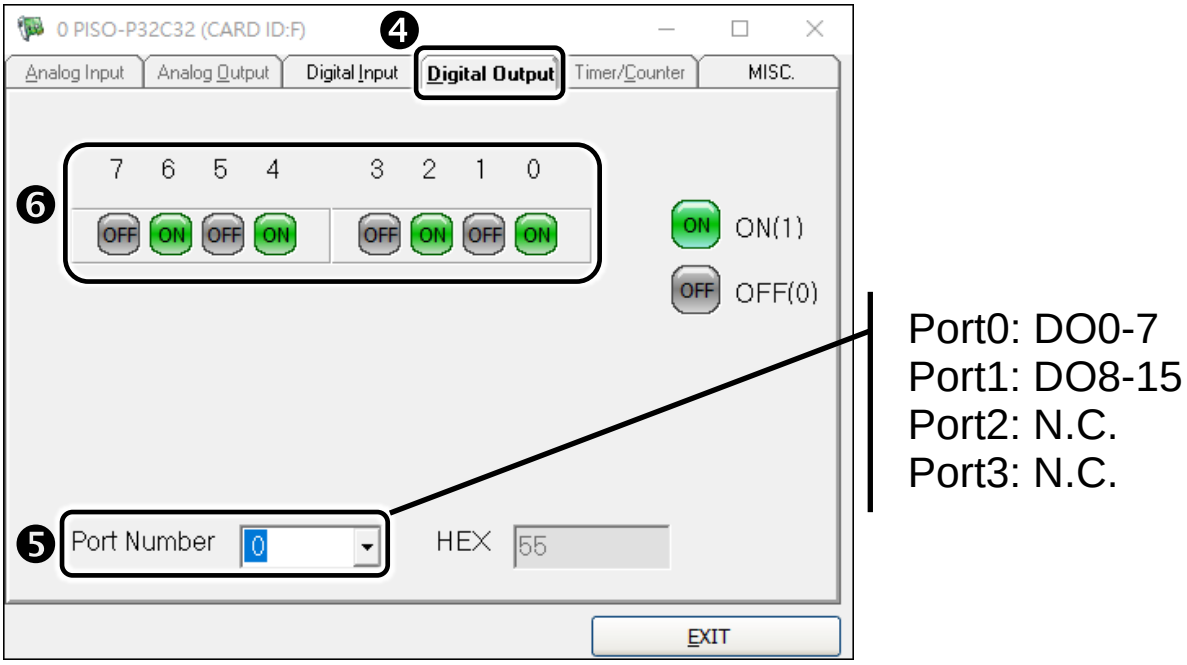
2) Confirm that PISO-P32C32 Series Card has been successfully installed in the Host system. **Note that the device numbers start from 0.**

3) Click the **"TEST"** button to start the test.

4) Click the **“Digital Output”** tab.

5) Select **“Port0”** from the **“Port Number”** drop-down menu.

6) Click the **DO channels 0, 2, 4 and 6 buttons**.



7) Click the **“Digital Input”** tab.

8) Select **“Port0”** from the **“Port Number”** drop-down menu.

9) The DI indicators will turn **black** when the corresponding **DO channels 0, 2, 4 and 6 are high**.

<u>NOTE:</u> Port0/1 DI is the reverse logic, so the red light means low status (Logic 0) and the black light means high status (Logic 1).