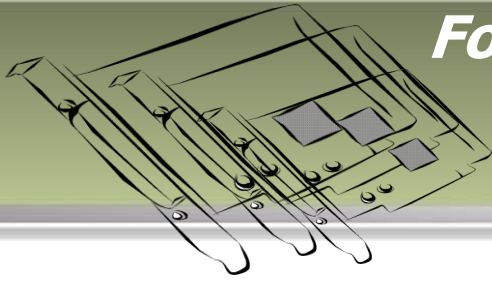


I/O CARD QUICK START GUIDE

For *PEX-P32C32*
PISO-P32C32U Series

English/ Oct. 2013/ Version 1.3



1

What's in the shipping package?

The package includes the following items:



One PEX-P32C32 or PISO-P32C32U (-5V) PCI Board.



One Software Utility CD (V5.2 or later)



One Quick Start Guide (This Document)



One CA-4037B Cable



Two CA-4002 D-Sub connectors

2

Installing 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/unidag/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 **"Next>"** button to start the installation.

Step 3: Check your DAQ Card is or not on supported list, then click the **"Next>"** button.

Step 4: Select the installed folder, the default path is C:\ICPDAS\UniDAQ , confirm and click the **"Next>"** button.

Step 5: Check your DAQ Card on list, then click the **"Next>"** button.

Step 6: Click the **"Next>"** button on the **Select Additional Tasks** window.


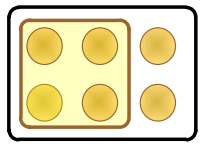
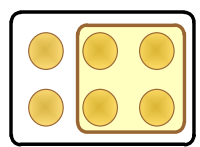
Step 7: Click the **"Next>"** button on the **Download Information** window.

Step 8: Select **"No, I will restart my computer later"** and then click the **"Finish"** 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.)

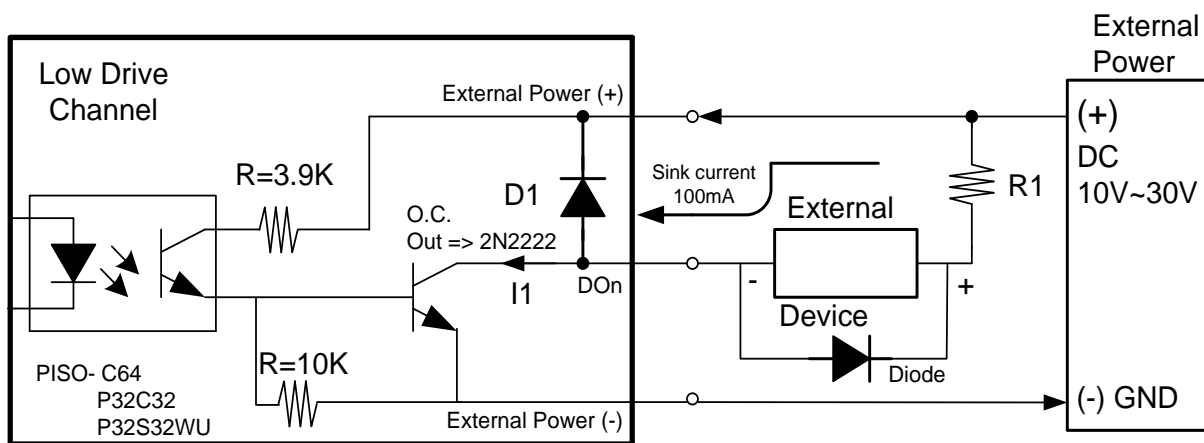
Jumper	JP1/JP2	
		Internal Power
	<input checked="" type="checkbox"/>	

4 Installing Hardware on PC

- Step 1: Shut down and power off your computer.**
- Step 2: Remove the cover from the computer.**
- Step 3: Select an unused PCI/PCI Express slot.**
- Step 4: Carefully insert your I/O card into the PCI/PCI Express slot.**
- Step 5: Replace the PC cover.**
- Step 6: Power on the computer.**

After powering-on the computer, please finish the Plug&Play steps according to the prompted messages.

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

Pin Assignment CON2	Pin Assignment CON1	Terminal No.	Pin Assignment CON1	Pin Assignment CON2
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		

CON1/CON2 (Female DB-37)

Pin Assignment	Terminal No.	Pin Assignment
EXT. GND1	01	EXT. GND1
DI_16	03	DO_16
DI_17	05	DO_17
DI_18	07	DO_18
DI_19	09	DO_19
DI_20	11	DO_20
DI_21	13	DO_21
DI_22	15	DO_22
DI_23	17	DO_23
DI_24	19	DO_24
DI_25	21	DO_25
DI_26	23	DO_26
DI_27	25	DO_27
DI_28	27	DO_28
DI_29	29	DO_29
DI_30	31	DO_30
DI_31	33	DO_31
ECOM1	35	EXT. PWR1
IGND1	37	N/A
N/A	39	N/A

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:

1. Use the DN-37 to connect the CON1 on board.
2. Keep set the J1 and JP2 jumper to External Power (Page 2).
3. Connect the DI(0-15) with DO(0-15). (DI0 with DO0 ... DI15 with DO15)

PEX-P32C32 and PISO-P32C32U External Power Wiring:

4. Power Supply (+24 V) connect to ECOM0 (Pin18).
Power Supply (+24 V) connect to Ext.PWR0 (Pin37).
Power Supply GND connect to IGND0 (Pin19).
Power Supply GND connect to Ext.GND0 (Pin1 and Pin20).



The PEX-P32C32/PISO-P32C32U 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-P32C32U-5V External Power Wiring:

4. Power Supply (+5 V) connect to ECOM0 (Pin18).
Power Supply (+5 V) connect to Ext.PWR0 (Pin37).
Power Supply GND connect to IGND0 (Pin19).
Power Supply GND connect to Ext.GND0 (Pin1 and Pin20).



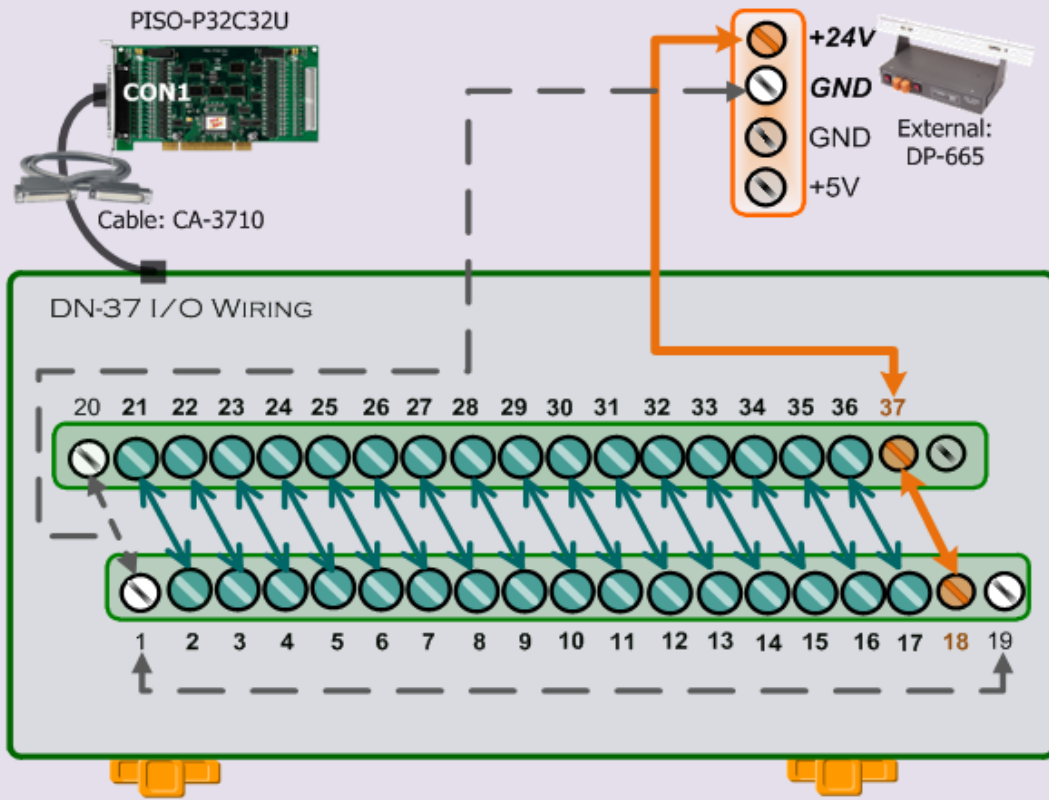
The PISO-P32C32U-5V suggests input voltage range as follow:

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

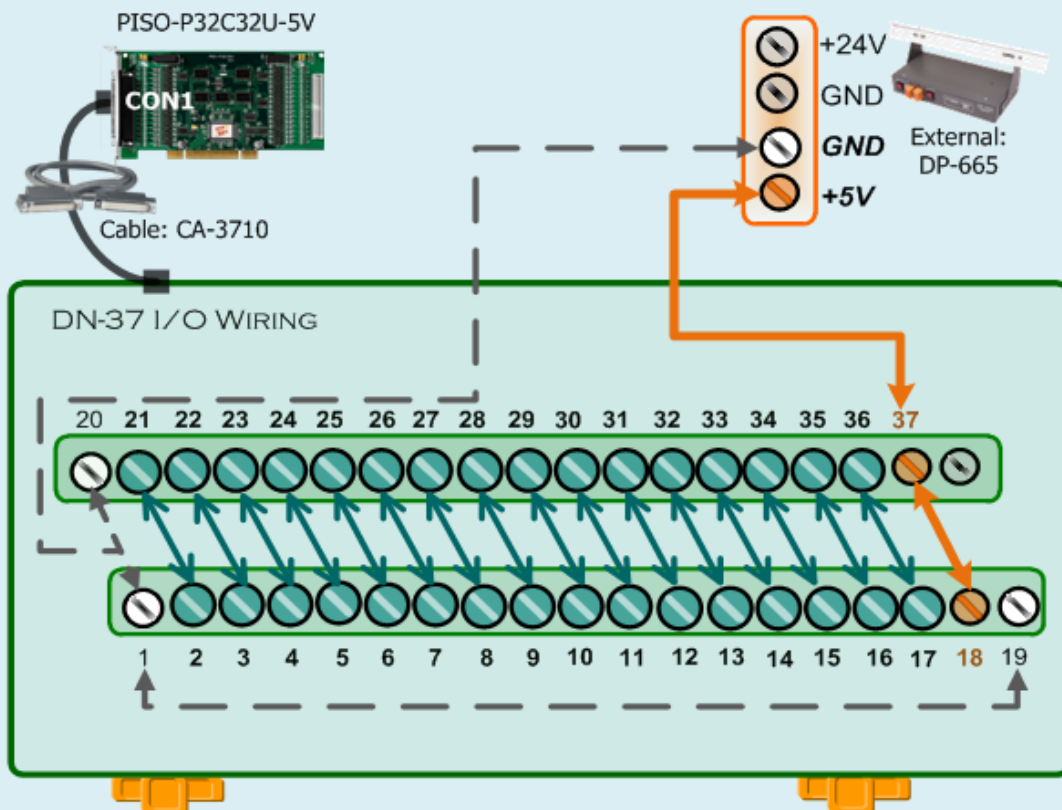
(Higher voltage over the limitation will cause the hardware damage.)



The **PEX-P32C32/PISO-P32C32U** wiring is illustrated in the figure below:



The **PISO-P32C32U-5V** wiring is illustrated in the figure below:



5. Execute the UniDAQ Utility Program.

This program (UniDAQ Utility) will be placed in the default path after completing installation.

The UniDAQ Utility.exe is located in:
 C:\ICPDAS\UniDAQ\Driver\
 (Default path).

1 Double-Click UniDAQUtility

2 Confirm the PISO-P32C32U series card had successfully installed to PC. It starts from 0.

3 Click this button to start test.

The screenshot shows the 'ICP DAS UniDAQ DAQ Card Utility' window. It features a 'TEST' button and an 'EXIT' button. A list of devices is shown, with '0 PISO-P32C32' selected.

6. Get DIO function test result.

4 Click "Digital Output" item.

5 Select the "Port 0".

6 Check channel 0, 2, 4, 6

Port0: D00-7
 Port1: D08-15
 Port2: N.C.
 Port3: N.C.

The screenshot shows the '0 PISO-P32C32 (CARD ID:F)' window with the 'Digital Output' tab selected. It includes a row of 8 channel indicators (0-7) and a 'Port Number' dropdown menu set to '0'. There are also 'ON(1)' and 'OFF(0)' checkboxes.

Click "Digital Input" item.

7

8 Select the "Port 0"

9 The corresponding D/I becomes black for channel 0, 2, 4, 6 of D/O is ON.

Port0: DI0-7
Port1: DI8-15
Port2: N.C.
Port3: N.C.

Port Number 0 HEX AA

PASS

EXIT

Note!! All the DI should become red because all the DO is OFF (uncheck).

8 Related Information

- PEX-P32C32 and PISO-P32C32U Series Card Product Page:
http://www.icpdas.com/root/product/solutions/pc_based_io_board/pci/piso-p32c32u.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/Accessories/power_supply/dp-665.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/unidaq/>