QPC-Z-PIO-PCIE-H0A

Q.VITEC
Erkennen, was möglich ist

Startup Manual

Packing List

Before installation, please ensure that the following items are included with the product:

- QPC-Z-PIO-PCIE-H0A
- QPC-Z-PIO-PCIE-H0A startup manual

If anything is missing or damaged, contact your distributor or sales representative immediately.

Declaration of Conformity

FCC Class A:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. In such cases, users are required to correct the interference at their own expense.

CE:

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This type of cable is available from Q.VITEC. Please contact your local supplier for ordering information.

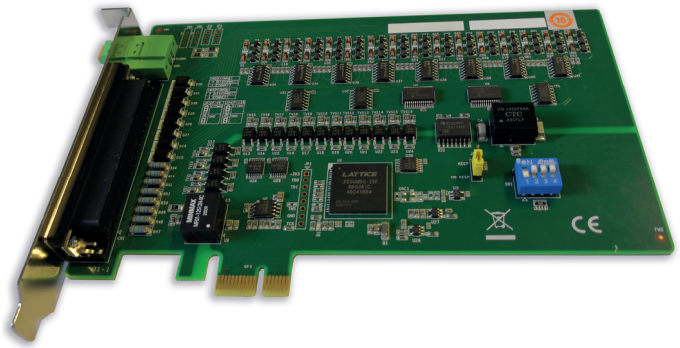
Overview

The digital I/O Board QPC-Z-PIO-PCIE-H0A provides 16 digital inputs and outputs. It can be installed in any system which has a PCI Express slot.
(Minimum requirements Vision Q.400 V9 / Windows 10)

Replacement of ANPC 850V3D

QPC-Z-PIO-PCIE-H0A provides the same amount of inputs and outputs and thus, it is an equivalent replacement for a ANPC 850V3D Board.

Both boards have the same 37-Pin connector but it is important to note, that the Pin layout differs completely. Because of this, for a replacement a modification of the connector is mandatory.



Specifications

Isolated Digital Input:

- Input Channels: 16
- Input Voltage:
  - Logic 0: 3 V max. (0 VDC min.)
  - Logic 1: 10 V min. (30 VDC max.)
- Input Current:
  - 3.4 mA @ 12 VDC
  - 7.13 mA @ 24 VDC
- Isolation Protection: 2,500 VDC
- Overvoltage Protection: 70 VDC
- Opto-Isolator Response: 100 µs
- Input Resistance: 3.37 kΩ

Isolated Digital Output:

- Output Channels: 16
- Isolation Protection: 2,500 VDC
- Output Voltage: 5 ~ 40 VDC
- Load Current: 350 mA/channel (max.)
- Opto-Isolator Response: 100 µs

Hardware Installation

1. Turn off the computer and unplug the power cord and cables before installing or removing any components.
2. Remove the cover of the computer.
3. Remove the slot cover on the rear panel of the com-puter.
4. Touch a metal part of the computer case with your hand to neutralize any static electricity that may be in your body.
5. Insert the QPC-Z-PIO-PCIE-H0A card into a PCI Express slot. Holding the card by the edges, carefully align the card with the slot. Insert the card firmly into place. Do not use excessive force to avoid damaging the card.
6. Fasten the bracket of the QPC-Z-PIO-PCIE-H0A card onto the back panel rail of the computer using screws.
7. Connect any additional accessories (37-pin cable, wiring terminals, etc.) to theQPC-Z-PIO-PCIE-H0A card.
8. Replace the cover of the computer chassis. Reconnect the cables removed in Step 2.
9. Plug in the power cord and turn on the computer.

Signal Connections (Cont.)

Extra Grounding

CN2 provides two extra connections that are equivalent to the GND/PCOM pin on CN1 and also increases the current tolerance of the QPC-Z-PIO-PCIE-H0A card. The CN2 pins should be connected whenever the total current of IDO is higher than 3.2A.

The pin assignments are as follows:

- Pin 1: PCOM, used in source type (PNP) connections
- Pin 2: GND, used in sink type (NPN) connections

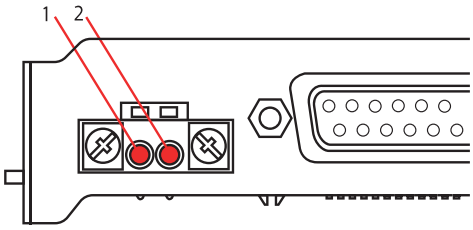


Figure 1. CN2 Pin Definition

Signal Connections

Isolated Digital Input

Each of the isolated digital input channels accepts bi-directional 10 ~ 30 VDC voltage inputs. This means that both positive and negative voltage can be applied to an isolated input pin (VIN). Figure 2 shows how to connect an external input source to one of the card's isolated in-put channels.

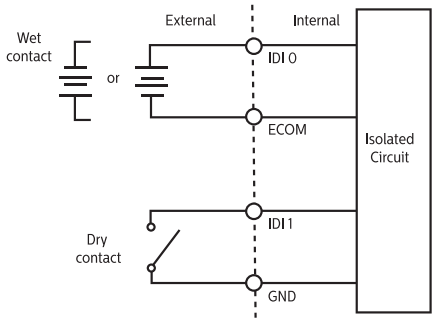


Figure 2. IDI Connection

Isolated Digital Output

The QPC-Z-PIO-PCIE-H0A card allows the digital out-put direction to be configured via software as NPN or PNP. When the direction is set as NPN and the wiring is connected as shown in Figure 3, the current will sink into the IDO channel as the IDO channel is switched to HIGH. When IDO is switched ON in PNP mode and the wiring is connected as shown in Figure 4, the current will be co-ming from the IDO channel.

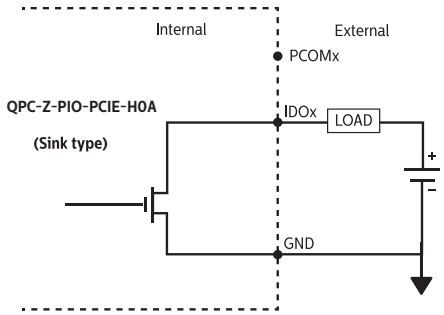


Figure 3. Sink Type (NPN) Connection

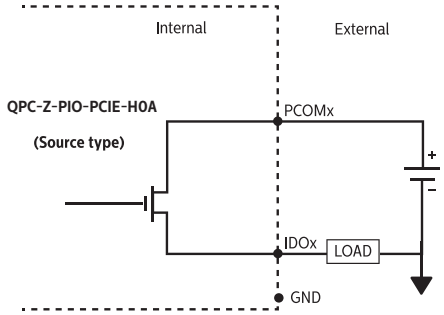


Figure 4. Source Type (PNP) Connection

Switch and Jumper Settings

Refer to Figure 5 regarding the location of the connectors, jumpers, and switches on the QPC-Z-PIO-PCIE-H0A card.

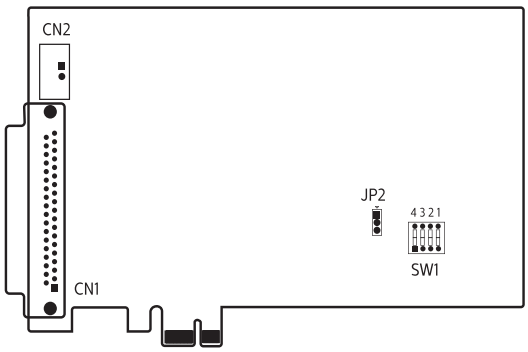


Figure 5.QPC-Z-PIO-PCIE-H0ACard Layout

Power On Configuration (JP2)

The default configuration after a system power on or hardware reset is that all isolated output channels are set as open (the load current cannot be sinking current) to protect external devices from damage during system starts or resets.

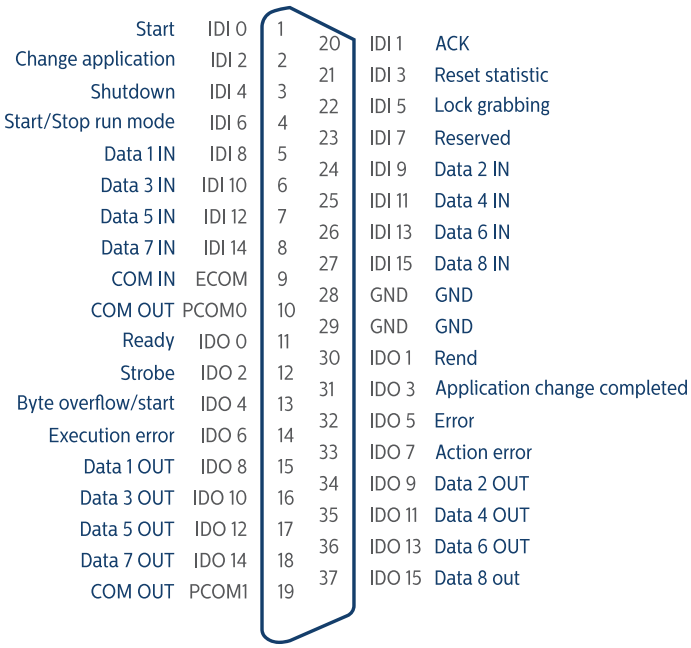
However, when the system is hot reset, the status of isolated digital output channels is selected by jumper JP2. The configuration of jumper JP2 is shown below.

JP2	Power On Configuration After Hot Resets
	Keep last status after hot reset
	Default configuration (default setting)

Features

	ANPC 850V3D	QPC-Z-PIO-PCIE-H0A
Status	discontinued	New
Plug	37-pin D-Sub	37-pin D-Sub
Card format	Half-length PCI card	Half-length PCI card
Bus	PCI	PCI Express
Entrances	PNP or NPN	PNP or NPN
Outputs	PNP or NPN	PNP or NPN
Number of digital inputs	16	16
Number of digital outputs	16	16
Flash connection	X	
Parameterizable inputs and outputs (from Vision Q.400 V10)		x

Pin Assignments



Pin Name	Direction	Description
Isolated Digital Input		
IDI n	Input	Isolated digital input n (n = 0 ~ 15)
ECOM	Input	Common pin for exter-nal source or ground of IDI0~IDI15
Isolated Digital Output		
IDO n	Output	Isolated digital output n (n = 0 ~ 15)
PCOM0	Input	NPN: Common pin for con-necting inductive loads of IDO0 ~ IDO7 PNP: Common pin for external voltage of IDO0 ~ IDO7
PCOM1	Input	NPN: Common pin for con-necting inductive loads of IDO8 ~ IDO15 PNP: Common pin for external voltage of IDO8 ~ IDO15
GND		Isolated ground

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