PCI-1760U

Isolated Relay Actuator and Digital Input Card

Packing List

Before installation, please make sure that you have received the following:

- PCI-1760U card
- Driver CD
- Quick Start User Manual

If any of these items are missing or damaged, please contact your distributor or sales representative.

User Manual

For more detailed information on this product, please refer to the PCI-1760U User Manual on the CD-ROM (PDF format).

CD:\Documents\Hardware Manuals\PCI\PCI-1760U

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 which case the user is required to correct interference at his 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 kind of cable is available from Advantech. Please contact your local supplier for ordering information.

Overview

The PCI-1760U Relay Actuator & Isolated Digital Input Card is a PC add-on card for the PCI bus, which was designed with this idea in mind. This card offers the user 8 opto isolated digital inputs with isolation protection of 2500 V_{DC} for collecting digital signals under noisy environment, 8 relay actuators for serving as ON/OFF control devices or small power switches, and 2 isolated PWM (Pulse Width Modulation) outputs for user's specific applications.

Notes

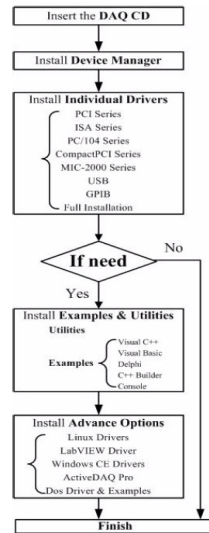For more information on this and other Advantech products, please visit our websites at:

http://www.advantech.com/eAutomation

For technical support and service:

http://www.advantech.com/support/

This startup manual is for PCI-1760U

Software Installation

Hardware Installation

1. Turn off your computer and unplug the power cord and cables. TURN OFF your computer before installing or removing any components.
2. Disconnect the power cord and any other cables from the back of the computer.
3. Remove the cover of the computer.
4. Select an empty 5 V PCI slot. Remove the screw that secures the expansion slot cover. Save the screw to secure the interface card retaining
5. Grasp the upper edge of the PCI-1760U. Align the hole in the retaining bracket with the hole on the expansion slot and align the gold striped edge connector with the expansion slot socket. Press the card into the socket. Make sure it fits tightly.
6. Secure the PCI-1760U by screwing the mounting bracket to the back panel of the computer.
7. Attach any accessories (37-pin D type cable, wiring terminal board, etc.) to the card.
8. Replace the cover of your computer. Connect the cables you removed in step 2.
9. Turn the computer power on
.

Pin Assignments

IGND	1		
IDI7-	2	20	IDI7+
IDI6-	3	21	IDI6+
IDI5-	4	22	IDI5+
IDI4-	5	23	IDI4+
IDI3-	6	24	IDI3+
IDI2-	7	25	IDI2+
IDI1-	8	26	IDI1+
IDI0-	9	27	IDI0+
PWM0	10	28	PWM1
R7_OUT	11	29	R4_OUT
R6_OUT	12	30	R3_OUT
R5_OUT	13	31	R2_OUT
R7_COM	14	32	R1_NO
R6_COM	15	33	R1_NC
R5_COM	16	34	R1_COM
R4_COM	17	35	R0_NO
R3_COM	18	36	R0_NC
R2_COM	19	37	R0_COM
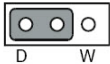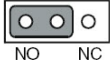
Description of PIN Use

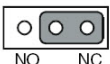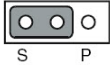|	
IGND	Isolated Ground for PWM out-puts and dry contact wiring of IDI
IDIn+(n=0~7)	Isolated digital input+
IDIn-(n=0~7)	Isolated digital input-
PWMn (n=0, 1)	Isolated PWM output
Rn_OUT(n=2~7)	Normally Open/Closed pin of Relay output
Rn_NO(n=0~1)	Normally Open pin of Relay
Rn_NC(n=0~1)	Normally Closed pin of Relay output
Rn_COM(n=0~7)	Common pin of Relay output

Switch and Jumper Settings

We designed the PCI-1760U with ease-of-use in mind. It is a "plug and play" card, i.e. the system BIOS assigns the system resources such as base address and interrupt automatically. There are only three functions with jumpers to be set by the user. You may refer to the figure below for help in identifying card components.
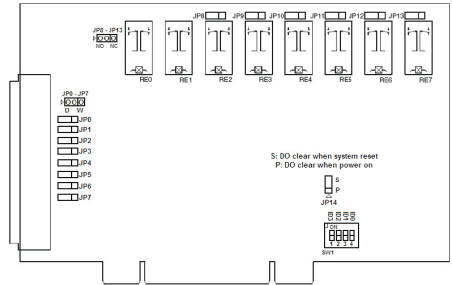
Names of Jumpers	Function Description	
JP0 ~ 7	D W	Supports dry contactfor digital input (default)
	D W	Supports wet contact for digital input
JP8 ~ 13	NO NC	Sets relay output to be normally open (default)
	NO NC	Sets relay output to be normally closed
JP14	S P	Clears relay outputs to "OFF" when the system (or PC) issues a reset signal on the PCI bus.
	S P	Clears relay outputs to "OFF" only when system powers-on.

Setting dry/wet contact connection for each DI

Each of the 8 isolated digital input channels accepts either dry contact or 5 ~ 12 V$_{DC}$ wet contact inputs according to the corresponding jumper settings (see Table 2.2). The default setting for each IDI is dry contact. For detailed information, please refer to Chapter 3.

Setting relay outputs to be NC/NO

6 relay outputs, RE2 ~ RE7, are single-pole single throw (SPST), which can be jumper set as either normally open (NO) or normally close (NC) (see Table 2.3). The default settings for RE2 ~ RE7 are normally open. For detailed information, please refer to Chapter 4.

Note!: RE0 and RE1 are Form C relays

Setting the Broad ID (SW1)

Use Read Board ID Command (0x0D) to get the board ID. The PCI-1760U has a built-in DIP switch (SW1), which is used to define each card's board ID. You can determine the board ID on the register as shown on Table 2.4. When there are multiple cards on the same chassis, this board ID setting function is useful for identifying each card's device number through board ID. We set the PCI-1760U board ID as 0 at the factory. If you need to adjust it to other board ID, set the SW1 by referring to DIP switch setting.

Default setting is 0

SW1	Position 1	Position 2	Position 3	Position 4
Board ID	ID3	ID2	ID1	ID0
15	OFF	OFF	OFF	OFF
14	OFF	OFF	OFF	ON
13	OFF	OFF	ON	OFF
:	:	:	:	:
I	ON	ON	ON	OFF
O	ON	ON	ON	ON