EX-94317
Digital I/O Card

User's Manual (V1.0)

旭蒙科技股份有限公司

TOPSCCC Technology Co., Ltd.

台北市內湖區陽光街 345 巷 12 號 5 樓

5F., No.12, Lane 345, Yang-Guang St.,Nei-Hu

Taipei City, Taiwan

TEL：+886-2-2799-9080

FAX：+886-2-2657-5516

http://www.topsccc.com.tw

E-mail：topsccc@topsccc.com.tw

Correction record

Version	Record

Contents

Notes on hardware installation

Please follow step by step as you are installing the control cards.

1. Be sure your system is power off.
2. Be sure your external power supply for the wiring board is power off.
3. Plug your control card in slot, and make sure the golden fingers are put in right contacts.
4. Fasten the screw to fix the card.
5. Connect the cable between the card and wiring board.
6. Connect the external power supply for the wiring board.
7. Recheck everything is OK before system power on.
8. External power on.

Warning:

Some computer BIOS has “Auto detect DIMM/PCI clock” option, be sure to switch to “DISABLE” else in some cases the PCI add on cards will not be detected by windows at cold start.

1. Forward

Thank you for your selection of EX-94317 6ports (48bits) TTL DIGITAL I/O card for industrial PC. This card is a FPGA based design and each port is software configurable as input or output. At the interface, a bus driver chip is adopted to enhance the drive capacity of the output. The bus driver also protect the FPGA from any damage from instantaneous mal-connection.

Other DIO series products:

EX-90312 16 channel input and 16 channel output isolated digital I/O card (ISA bus)
EX-93343 32 channel input and 32 channel output isolated digital I/O card (ISA bus)
EX-93359 48 channel input and 16 channel output isolated digital I/O card (ISA bus)
EX-93375 64 channel input isolated digital I/O card (ISA bus)
EX-94319B 8 channel input and 8 channel relay output isolated digital I/O card (PCI bus)
EX-94327B 16 channel input and 16 channel output isolated digital I/O card (PCI bus)
EX-94328 16 channel input and 16 channel output isolated digital I/O card (PCI bus) with multifunction timer/counter
EX-94343 32 channel input and 32 channel output isolated digital I/O card (PCI bus)
EX-94359 48 channel input and 16 channel output isolated digital I/O card (PCI bus)
EX-94375 64 channel input isolated digital I/O card (PCI bus)
EX-95375 64 TTL digital I/O PC-104 Module
EX-97319 8 channel input and 8 channel relay output isolated digital I/O PCI-104 Module
EX-97327 16 channel input and 16 channel relay output isolated digital I/O PCI-104 Module

2. Features

2.1 Main card

2.1.1 48 (6 port) TTL digital I/O channels

2.1.2 Programmable digital filter at 100Hz,200Hz,1KHz and no de-bounce for input

2.1.3 No output transition during start-up

2.1.4 Output status read back

2.1.5 External triggered interrupt (on IN00~IN07)

2.1.6 32-bit timer with cross zero interrupt

3. Specifications

3.1 EX-94317 Main card

Input Section

3.1.1 Input : 48(max) TTL level

3.1.2 Interrupt at IN00 ~IN07

Output Section

3.1.3 Output level: 48(max) TTL level

3.1.4 Output source : 35mA(peak) per channel

3.1.5 Output Sink : 35mA(peak) per channel

Main Card General

3.1.6 Card ID : 4 bits

3.1.7 Connector : 60-pin male flat-cable connector

3.1.8 Operation temperature : 0 to +70 degree C

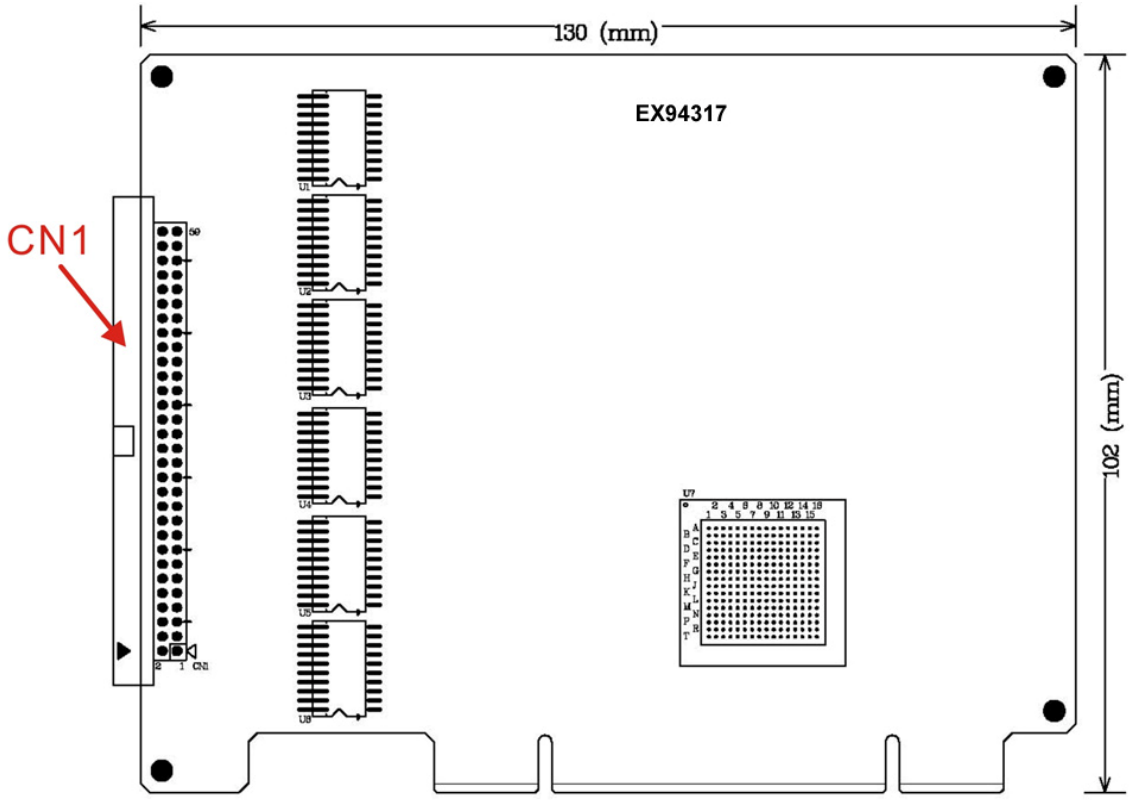
3.1.9 Storage temperature : -20 to +80 degree C

3.1.10 Operation humidity : 5~95% RH, non-condensing

3.1.11 Dimensions : 130(W) * 102(H) mm , 5.2(W) * 4.1(H)in

4. Layout and dimensions

4.1 EX-94317 Main card



5. PIN definitions

5.1 CN1 Assignment / Definitions

IO00	1	2	IO01
IO02	3	4	IO03
IO04	5	6	IO05
IO06	7	8	IO07
GND	9	10	GND
IO10	11	12	IO11
IO12	13	14	IO13
IO14	15	16	IO15
IO16	17	18	IO17
GND	19	20	GND
IO20	21	22	IO21
IO22	23	24	IO23
IO24	25	26	IO25
IO26	27	28	IO27
GND	29	30	GND
IO30	31	32	IO31
IO32	33	34	IO33
IO34	35	36	IO35
IO36	37	38	IO37
GND	39	40	GND
IO40	41	42	IO41
IO42	43	44	IO43
IO44	45	46	IO45
IO46	47	48	IO47
GND	49	50	GND
IO50	51	52	IO51
IO52	53	54	IO53
IO54	55	56	IO55
IO56	57	58	IO57
GND	59	60	GND

Definitions

IOxy

x: the port number, 0~5

y: the bit number, 0~7, the bit7 is the most significant bit

for example, if port2 bit3 will be controlled, the connection pin is IO23

Note: Take port 0 as example,

IO00~IO07 : port0 data bit,

if port0 is configured as input, in this document will describe as IN00 ~IN07

if port0 is configured as output, in this document will describe as OUT00 ~OUT07

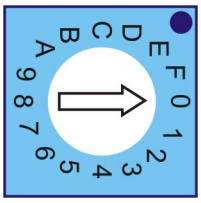
6. Hardware settings

6.1 CARD ID setting

Since PCI cards have plug and play function, the card ID is required for programmer to identify which card he/she will control without knowing the physical address assigned by the Windows. A 4-bit DIP switch or rotary switch for distinguishing the 16 identical card.

The following example sets the card ID at 0.

Example for card ID setting



Rotary switch set at ID=0

7. Ordering information

PRODUCT	DESCRIPTIONS
EX-94317	48-channel TTL Digital I/O Card
EX-94317-1.5M	60-pin flat cable 1.5 M
EX-94317-3.0M	60-pin flat cable 3.0 M