

DIO-3206

Digital I/O Card

User's Manual (V1.0)

健昇科技股份有限公司

JS AUTOMATION CORP.

台北縣汐止市中興路 100 號 6 樓

6F,No.100,Chungshin Rd.

Shitsu, Taipei, Taiwan, R.O.C.

TEL : 886-2-2647-6936

FAX : 886-2-2647-6940

<http://www.automation.com.tw>

E-mail : control.cards@automation.com.tw

Correction record

Version	Record
1.0	New

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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.

Congratulation! You have it.

For more detail of step by step installation guide, please refer the file “installation.pdf “ on the CD come with the product or register as a member of our user’s club at:

<http://automation.com.tw/>

to download the complementary documents.

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 DIO-3206 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:

- DIO-9201 16 channel input and 16 channel output isolated digital I/O card (ISA bus)
- DIO-2232 32 channel input and 32 channel output isolated digital I/O card (ISA bus)
- DIO-2248 48 channel input and 16 channel output isolated digital I/O card (ISA bus)
- DIO-2264 64 channel input isolated digital I/O card (ISA bus)
- DIO-3208B 8 channel input and 8 channel relay output isolated digital I/O card (PCI bus)
- DIO-3216B 16 channel input and 16 channel output isolated digital I/O card (PCI bus)
- DIO-3217 16 channel input and 16 channel output isolated digital I/O card (PCI bus)
with multifunction timer/counter
- DIO-3232 32 channel input and 32 channel output isolated digital I/O card (PCI bus)
- DIO-3248 48 channel input and 16 channel output isolated digital I/O card (PCI bus)
- DIO-3264 64 channel input isolated digital I/O card (PCI bus)
- DIO-4264 64 TTL digital I/O PC-104 Module
- DIO-6208 8 channel input and 8 channel relay output isolated digital I/O PCI-104 Module
- DIO-6216 16 channel input and 16 channel relay output isolated digital I/O PCI-104 Module

Any comment is welcome,
please visit our website:

<http://www.automation.com.tw/> the up to date information.

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 DIO-3206 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

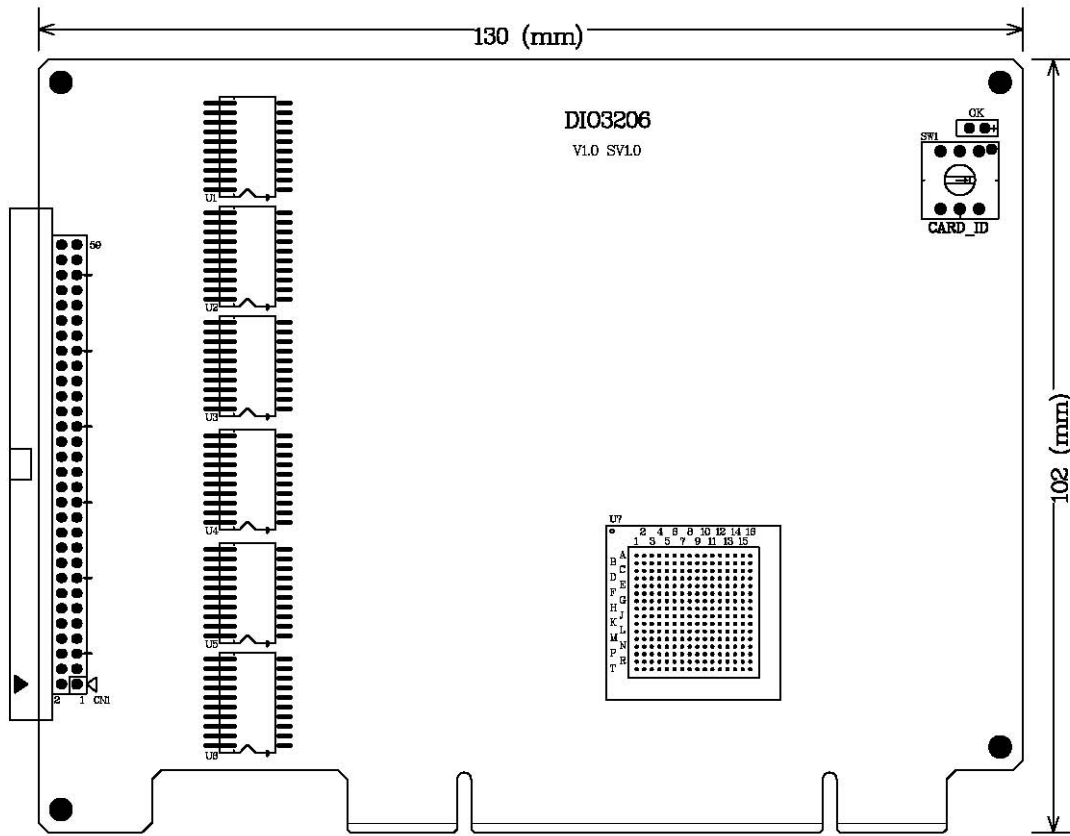
3.1.9 Storage temperature : -20 to +80 degree C

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

3.1.11 Dimensions : 130(W) * 102(H) mm , 5.12(W) * 4.02(H)in

4. Layout and dimensions

4.1 DIO-3206 Main card



5. PIN definitions

			Definitions
IO00	1	2	<p>IO_{xy}</p> <p>x: the port number, 0~5</p> <p>y: the bit number, 0~7, the bit7 is the most significant bit</p> <p>for example, if port2 bit3 will be controlled, the connection pin is IO23</p> <p>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</p>
IO02	3	4	
IO04	5	6	
IO06	7	8	
GND	9	10	
IO10	11	12	
IO12	13	14	
IO14	15	16	
IO16	17	18	
GND	19	20	
IO20	21	22	
IO22	23	24	
IO24	25	26	
IO26	27	28	
GND	29	30	
IO30	31	32	
IO32	33	34	
IO34	35	36	
IO36	37	38	
GND	39	40	
IO40	41	42	
IO42	43	44	
IO44	45	46	
IO46	47	48	
GND	49	50	
IO50	51	52	
IO52	53	54	
IO54	55	56	
IO56	57	58	
GND	59	60	

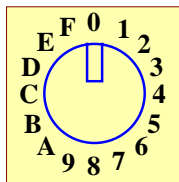
6. Hardware settings

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**

<u>PRODUCT</u>	<u>DESCRIPTIONS</u>
DIO-3206	48-channel TTL Digital I/O Card
M23223	60-pin flat cable 1.5 M
M23224	60-pin flat cable 3.0 M