

DIO3206

Digital I/O Card

User's Manual (V1.0)

健昇科技股份有限公司

JS AUTOMATION CORP.

新北市汐止區中興路 100 號 6 樓
6F., No.100, Zhongxing Rd.,
Xizhi Dist., New Taipei City, Taiwan

TEL : +886-2-2647-6936

FAX : +886-2-2647-6940

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

<http://www.automation-js.com/>

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

Correction record

Version	Record

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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 DIO3206 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:

DIO9201 16 channel input and 16 channel output isolated digital I/O card (ISA bus)

DIO2232 32 channel input and 32 channel output isolated digital I/O card (ISA bus)

DIO2248 48 channel input and 16 channel output isolated digital I/O card (ISA bus)

DIO2264 64 channel input isolated digital I/O card (ISA bus)

DIO3208B 8 channel input and 8 channel relay output isolated digital I/O card (PCI bus)

DIO3216B 16 channel input and 16 channel output isolated digital I/O card (PCI bus)

DIO3217 16 channel input and 16 channel output isolated digital I/O card (PCI bus)

with multifunction timer/counter

DIO3232 32 channel input and 32 channel output isolated digital I/O card (PCI bus)

DIO3248 48 channel input and 16 channel output isolated digital I/O card (PCI bus)

DIO3264 64 channel input isolated digital I/O card (PCI bus)

DIO4264 64 TTL digital I/O PC-104 Module

DIO6208 8 channel input and 8 channel relay output isolated digital I/O PCI-104 Module

DIO6216 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/>

<http://www.automation-js.com/> for 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 DIO3206 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

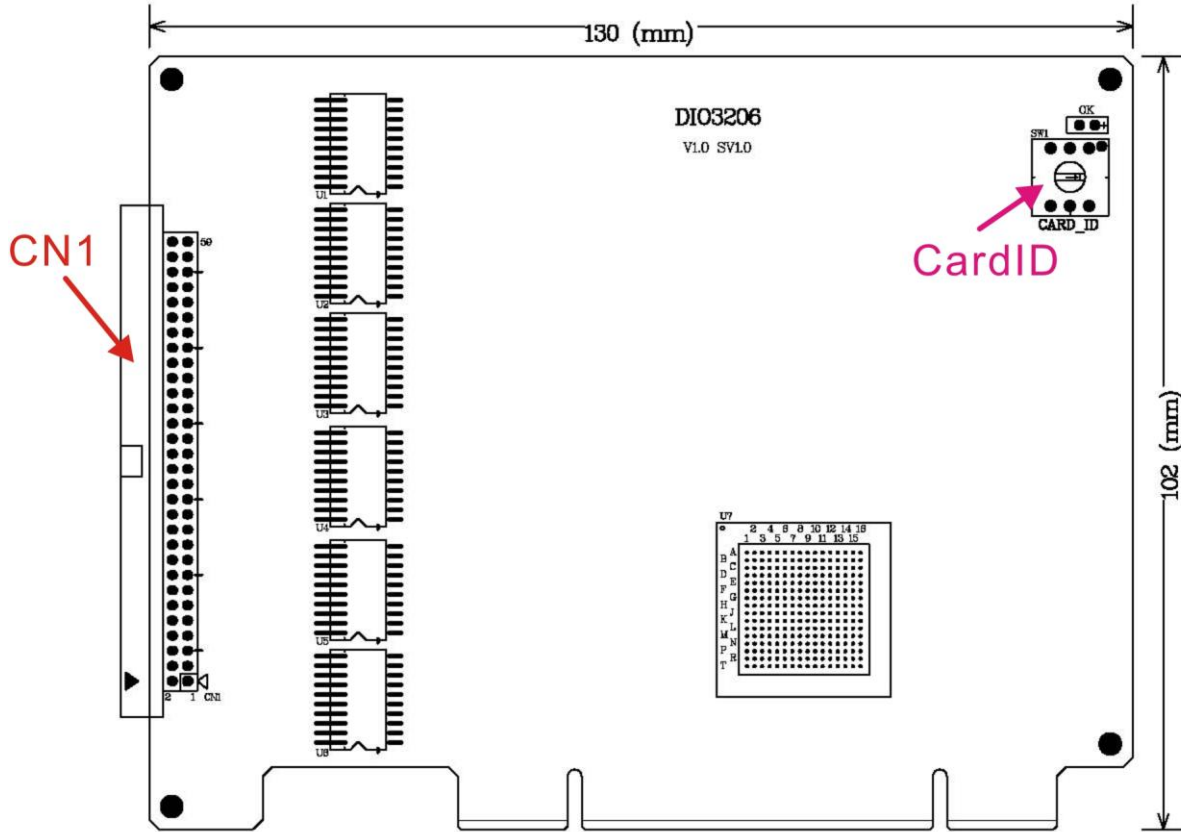
3.2 JS51060 60P Din rail mounted dummy wiring board

3.2.1 Connection cable — 60-pin flat cable to connect main and wiring board

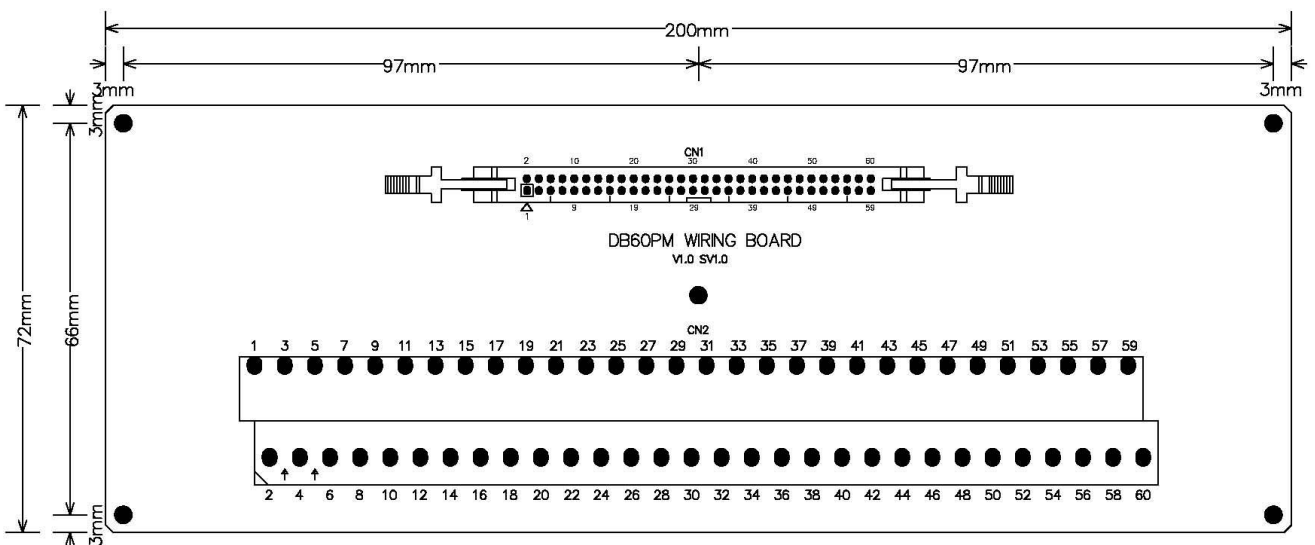
3.2.2 Dimension — 86(W)*204(L)*45(H)mm , 3.4(W)*8.1(L)*1.8(H)in

4. Layout and dimensions

4.1 DIO3206 Main card



4.2 JS51060 60PM Din rail mounted dummy wiring board



5. PIN definitions

5.1 CN1 Assignment / Definitions

			Definitions
IO00	1 2	IO01	<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,</p> <p>IO00~IO07 : port0 data bit,</p> <p>if port0 is configured as input, in this document will describe as IN00 ~IN07</p> <p>if port0 is configured as output, in this document will describe as OUT00 ~OUT07</p>
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	

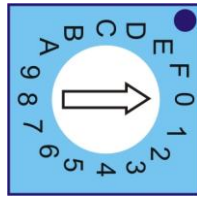
6. Hardware settings

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>
DIO3206	48-channel TTL Digital I/O Card
JS51060	DIN rail mounted dummy wiring board (60P Male to terminals)
M23223	60-pin flat cable 1.5 M
M23224	60-pin flat cable 3.0 M