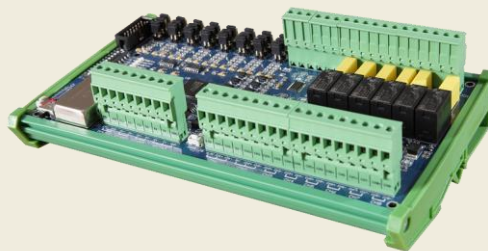


RS-485 I/O Module

Model: A6D6

Operation Manual

V1.13



JNC technology

銘祥科技實業股份有限公司

Catalog

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Part 1. Preface and Notes

□ Preface

Thank you very much for purchasing **RS-485 I/O Module (A6D6)**. To ensure that you use this product correctly, please read this operation manual in detail.

This product has 8 sets of AI/DI, 6 sets of Relay and 2 sets of AO re-output (optional); AI/DI/ baud rate and ID, switch adjustable; suitable for high humidity and harsh environments (IP66), aluminum rail or wall mounting available The installation method is very convenient and suitable for plant factories, environmental measurement or data collection and other places of use.

□ Warnings and Safety Precautions

Precautions for use	
	Please do not use it in areas with high vibration or strong electromagnetic interference to avoid product damage, ERROR, and measurement errors.
	Before performing any repair or maintenance, please remove the power cord to prevent personal injury or product damage caused by accidental contact with the power supply.
	When installed in a polluted environment with conductive substances (such as metal dust, water, etc.), appropriate ventilation, filtration or sealing measures should be taken.
	Do not operate the product if any components or modules have been removed or disassembled, and contact your dealer as soon as possible.
	Our company is not responsible for any impact or damage to the reliability of the product caused by failure to follow the correct usage in this operating manual or exceeding the application methods or environmental conditions described in the product specifications.
Installation Precautions	
	Avoid installing electrical appliances that generate heat within 1 meter of the product, as this will affect the accuracy of the product's temperature and humidity.
	Avoid installing the product within 1 meter of human activities, as it will affect humidity.

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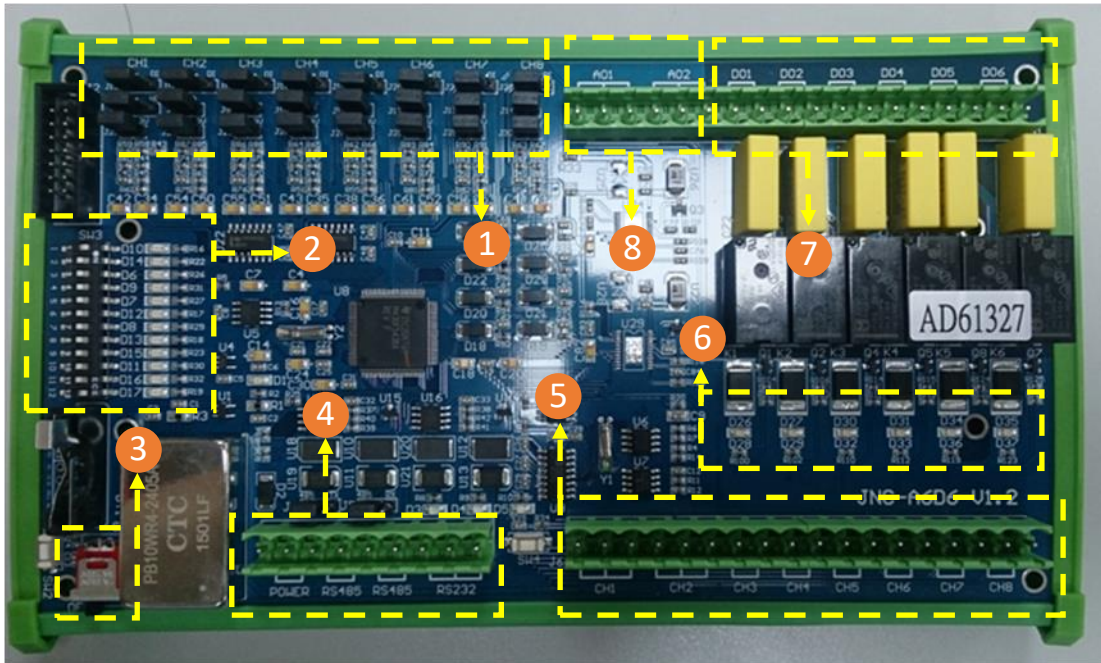
Part 2.Product description

2.1 Specification

Model		Aluminum rails	Waterproof type
Power	Transformer	◆AC input : 100 ~ 240V(50/60Hz) ◆DC output : 12V maximum 2A current	
	Equipment	◆DC input : 9 ~ 36V ◆Power consumption : 2.2W	
Alarm Ouput	Control output points	6 groups DO	
	Relay contacts	1A/110~220VAC ※Connecting load with Relay	
Communication	Interface	RS-485	
	Protocol	Modbus RTU	
Signal input	Input	AI or DI total 8 points (Jump set up)	
	Signal input	4-20mA or 0-5V (Jump set up)	
Physical conditions	Dimension (mm)	205x125x60(WxHxD)	252X175X60 (WxHxD)
	Installation	Aluminum rails	Wall mounting type
	Weight	< 0.7kg	
Certificate	FCC PART 15B AND CISPR 22 Class B · EN55022:2010:Class B · EN61326-1:2006 · IEC61000-4-2:2008 · IEC61000-4-3:2006+A1:2007+A2:2010		

2.2 Wiring diagram and instructions

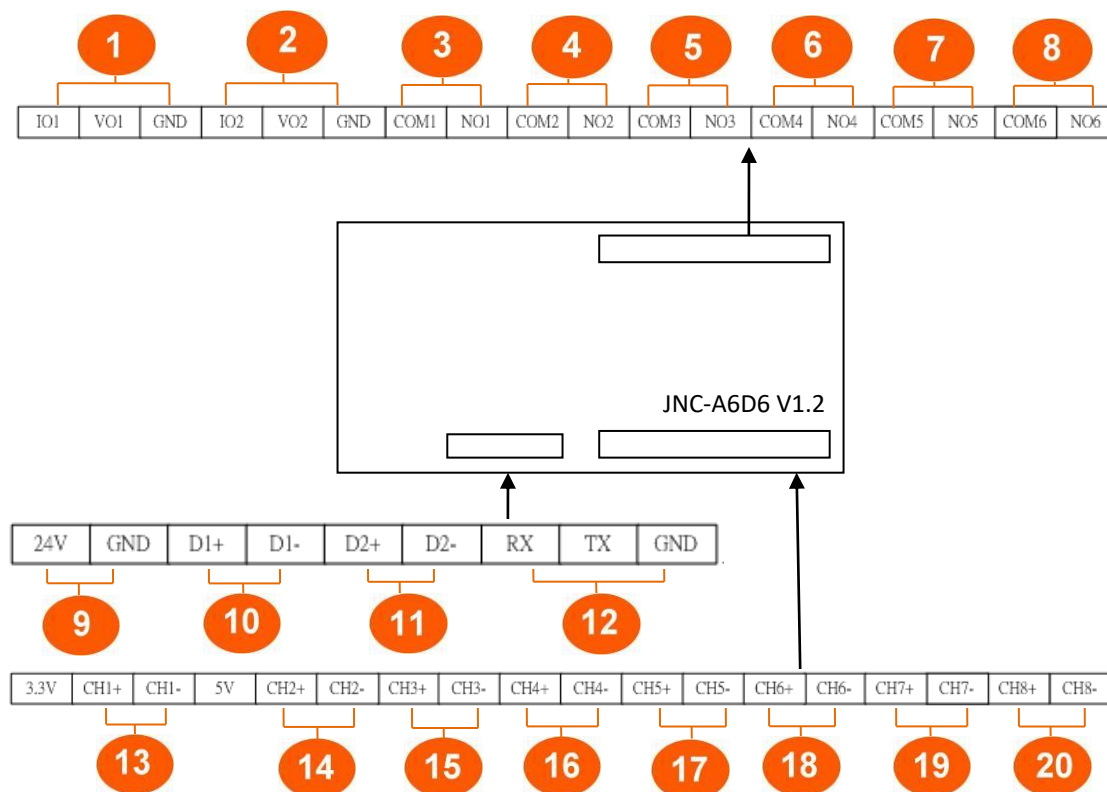
2.2.1 A6D6 PCB board description



Code	Name	Function Description
1	Jump Function Description	AI  DI mA  0~3.3V  mA mode AI  DI mA  0~3.3V  0~3.3V input AI  DI mA  0~3.3V  0~5V input AI  DI mA  0~3.3V  DI mode

2	DIP switch description	Station number [ID] setting example :  ID = 1  ID = 2  ID = 3  ID = 4 (The following is analogous to DIP switch 8. When it is not turned on, the ID is subject to the software setting [default ID is 1]) Both are binary representations, 1~8 are from low to high. Baud Rate settings :  Baud Rate = 9600  Baud Rate = 19200  Baud Rate = 38400  Baud Rate = 59600  Baud Rate = 115200
3	Switch	PCB power supply switch after connecting to 24V power supply
4	Power supply and communication terminal	The order is 24V contact, one (RS485) contact, two (RS485) contact, and RS232 contact
5	A/DI contact	The first and second points have voltage outputs for 3.3V and 5V power supply respectively, and the rest are signal input contacts for each point.
6	DO prompt signal	Turn on the light reminder for the six DOs. The DOs turned on from left to right will light up the red light simultaneously.
7	DO contact	There are six DO output terminal contacts respectively.
8	AO contact	Optional

2.2.2 Wiring diagram



Code	Name	Function Description	Code	Name	Function Description
1	IO1/VO1/GND	AO1 (Optional)	11	D2+/D2-	RS-485
2	IO2/VO2/GND	AO2 (Optional)	12	RX/TX/GND	RS-232
3	COM1 /NO1	Relay 1	13	CH1+/CH1-	First group AI or DI
4	COM2 /NO2	Relay 2	14	CH2+/CH2-	Second group AI or D
5	COM3 /NO3	Relay 3	15	CH3+/CH3-	The third group AI or DI
6	COM4 /NO4	Relay 4	16	CH4+/CH4-	The fourth group AI or DI
7	COM5 /NO5	Relay 5	17	CH5+/CH5-	The fifth group AI or DI
8	COM6 /NO6	Relay 6	18	CH6+/CH6-	The sixth group AI or DI
9	+24V/GND	Power supply	19	CH7+/CH7-	The seventh group AI or DI
10	D1+/D1-	RS-485	20	CH8+/CH8-	The eighth group AI or DI

Part 3. Utility operation instructions

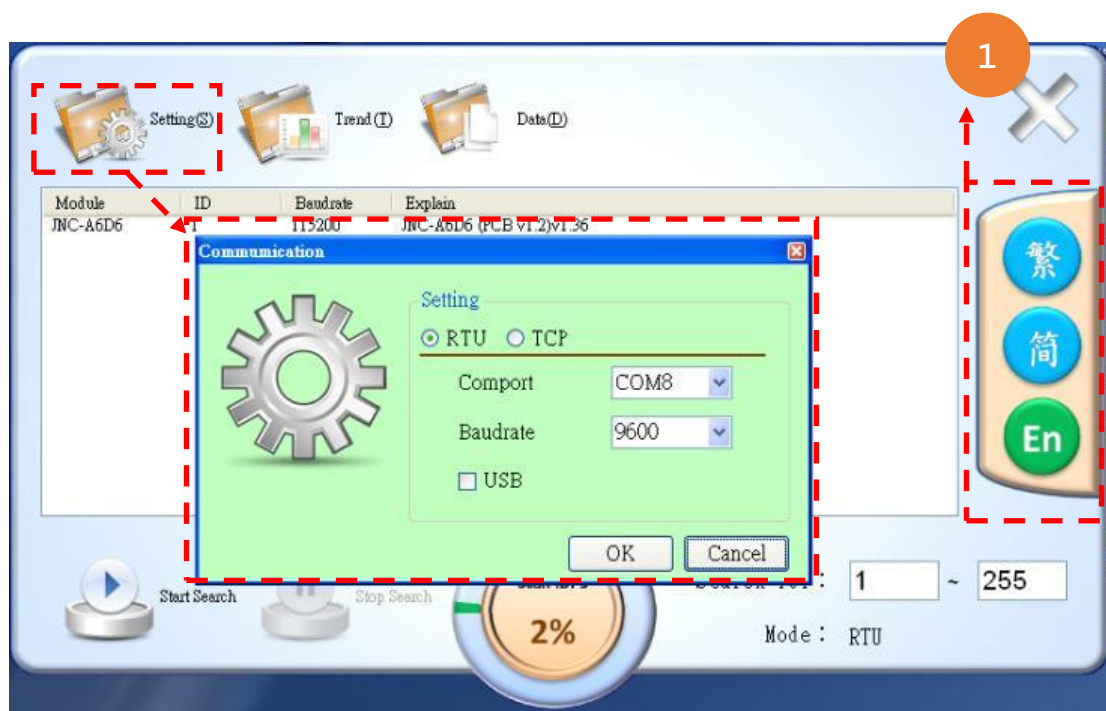
3.1 Open JNC software



(Must be version V2.48 or above)

3.2 Contact COM and Baud rate settings

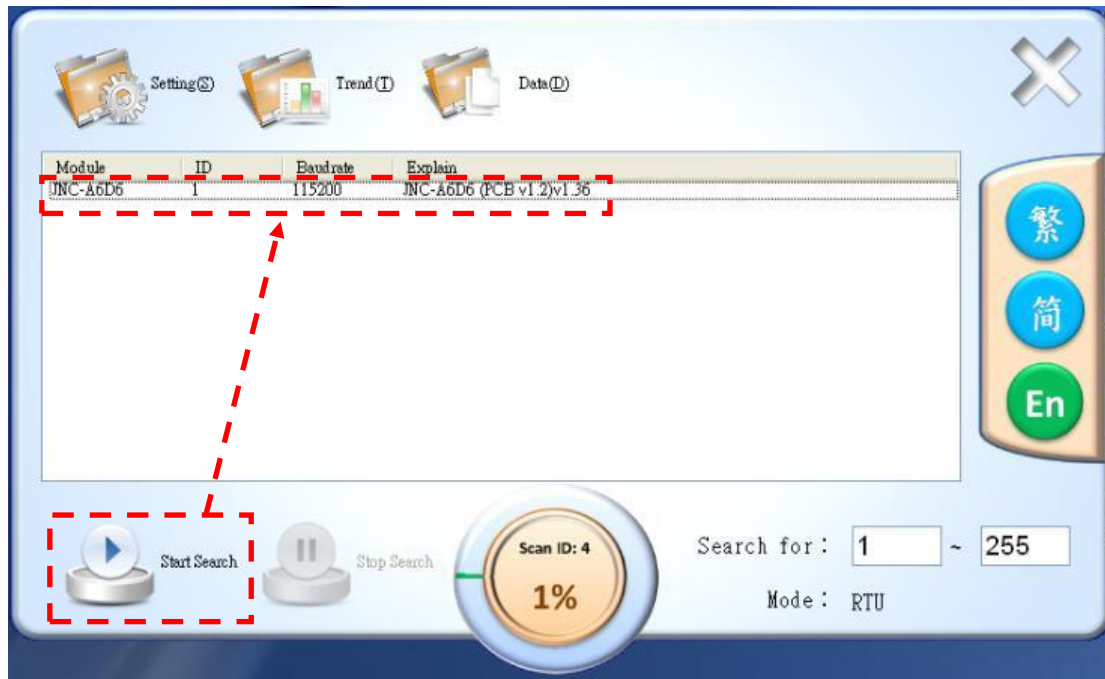
Click on the Setting input contact COM and Baud rate settings on the upper left



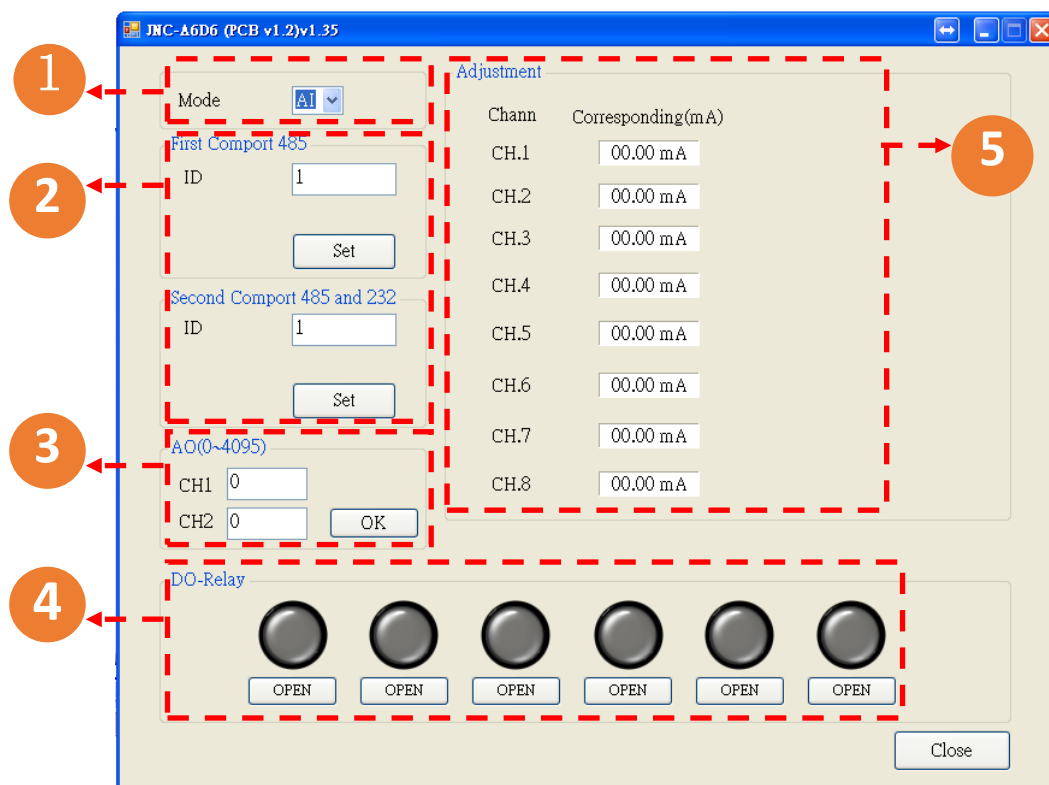
Code	Function Description
1	Selectable software display language

3.3 Search button on the lower left to search and click

Click the search button at the bottom left to search. Once you find it, you can click it (double click)



3.4 Setting Page



Code	Name	Function Description
1	Mode	Check the current status of the signal input point AI or DI (Note: Signal input needs to be checked synchronously to see if the Jump is the same)
2	Station number (ID) setting	When the dip switches are all closed, this address is used as the reference ID. (Note: 232 refers to the second point of ID synchronization 485)
3	AO output setting	Set the AO output point Count number (Note: This is optional)
4	DO output setting	Set six-point DO output switch
5	A/DI input display window	Display real-time A/DI signal input value

PART 4. MODBUS communication protocol reference table

A6D6 communication table (Firmware V1.02) 2020/09/02

Address	HEX	Use characters	Represent	Instructions
FUNCTION 03H to Read AO /Function 06H and 10H to Write AO				
0	0	1	Hardware name	ASCII code [fixed]
1	1	1	Hardware name	ASCII code [fixed]
2	2	1	Hardware name	ASCII code [fixed]
3	3	1	Version	(Value)[fixed]
4	4	1	Communication D1 station number (ID)	(Value) (Need to restart)
5	5	1	Communication D1 BaudRate	No setting effect
6	6	1	Communication D2 station number (ID)	(Value) (Need to restart)
7	7	1	Communication D2 BaudRate	No setting effect
10	A	1	AO1	(Value of Count) Note A
11	B	1	AO2	(Value of Count) Note A
FUNCTION 04H to Read AI				
0	0	1	AI1	(Value) Note A
1	1	1	AI2	(Value) Note A
2	2	1	AI3	(Value) Note A
3	3	1	AI4	(Value) Note A
4	4	1	AI5	(Value) Note A
5	5	1	AI6	(Value) Note A
6	6	1	AI7	(Value) Note A
7	7	1	AI8	(Value) Note A
FUNCTION 02H to Read DI				
0	0	1	DI1	(Value)
1	1	1	DI2	(Value)
2	2	1	DI3	(Value)
3	3	1	DI4	(Value)
4	4	1	DI5	(Value)
5	5	1	DI6	(Value)
FUNCTION 01H to Read DO /Function 05H and 0FH to Write DO (Writing 0xFF means ON, 0x00 means OFF)				
0	0	1	DO1	(Value)
1	1	1	DO2	(Value)
2	2	1	DO3	(Value)
3	3	1	DO4	(Value)
4	4	1	DO5	(Value)
5	5	1	DO6	(Value)

Note A: The reading Value range is 819~4096 corresponding to 4~20mA.

※For Modbus table, please refer to the standard Modbus communication protocol.



ISO 9001

V1.13 2022/06/09

Applicable to firmware version v2.48
(inclusive) and above

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