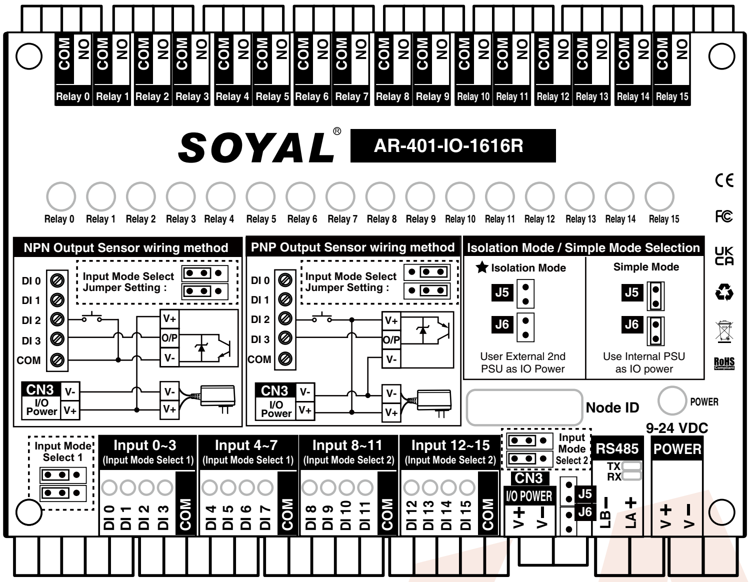
16 Optically Isolated Input / 16 Type A Relay Output I/O Module

AR-401-IO-1616R



1. Product Features

16 Optically Isolated Input/16 Type A Relay Output I/O Module AR-401-IO-1616R

- Supports Modbus and SOYAL communication protocols, suitable for various IoT integration applications.
- Built-in input optocoupler protection function, effectively achieving electrical isolation, high voltage protection, lightning resistance, and avoiding noise interference.
- Versatile application modes: standard I/O, multi-door interlock, people counting, crowd control, etc., easily meeting various application scenarios.
- Compatible with Modular DIN Rail Mounting Base (AR-701B)

3. How to Order

AR-401-IO | 1616 | R | -X | X | -X

Relay
R = Relay
M = MOSFET

Type
N/A = PCB
M = Metal Case
X = Plastic Mounting Base

Input Qty / Output Qty
0016 = 16 Output
0804 = 8 Input & 4 Output
0808 = 8 Input & 8 Output
1608 = 16 Input & 8 Output
1608 = 16 Input & 16 Output

Additional Features
N/A = No Additional Features
R = RTC

Additional Module
N/A = No Additional Module
P = POE Features

Table of Contents

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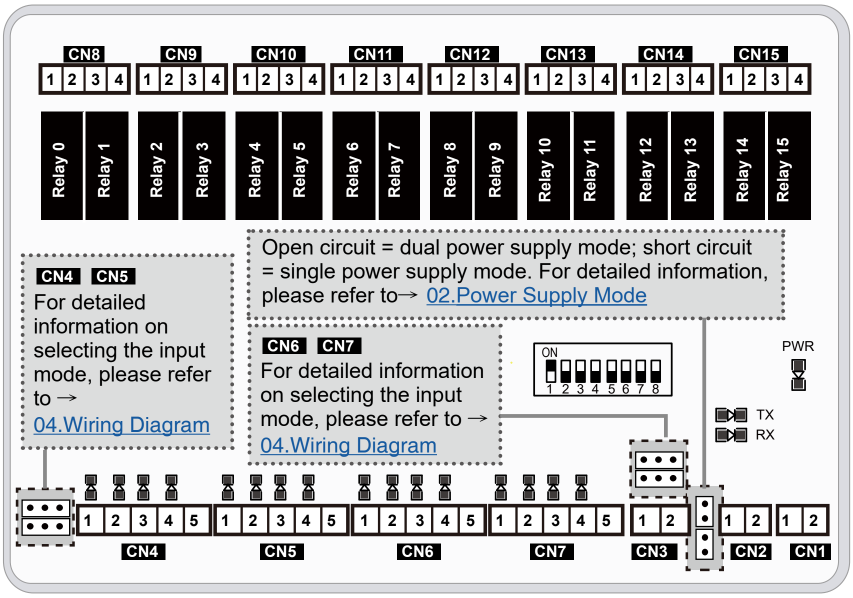
01.PIN Assignments



CN1

Function	Pin	Description
Main power input (single power supply mode)(DC12V/1W)	1	V+
	2	V-

CN2

Function	Pin	Description
External port 1 (RS-485 input)	1	L1-(B-)
	2	L1+(A+)

CN3

Function	Pin	Description
I/O side power supply (DC12V/1W)	1	V+
	2	V-

※ Note : It is recommended not to share with the main power supply.

CN4

Function	Pin	Description
DI input	1	DI.0
	2	DI.1
	3	DI.2
	4	DI.3
	5	COM

CN5

Function	Pin	Description
DI input	1	DI.4
	2	DI.5
	3	DI.6
	4	DI.7
	5	COM

CN6

Function	Pin	Description
DI input	1	DI.8
	2	DI.9
	3	DI.10
	4	DI.11
	5	COM

CN7

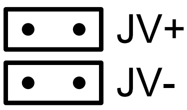
Function	Pin	Description
DI input	1	DI.12
	2	DI.13
	3	DI.14
	4	DI.15
	5	COM

CN8~15

Function	Pin	Description
Relay output 0~15	1	NO
	2	
	3	NO
	4	

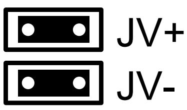
02.Power Supply Mode

- **I/O Power and Main Power use individual power supplies(JV+ & JV- Open Circuit):**
  Two independent power supplies are required. In this mode, the main controller and I/O operate in power isolation mode, which enhances system safety and reliability. Power supply range: 12~24V.



∗JV+ & JV- both do not plug in jumper

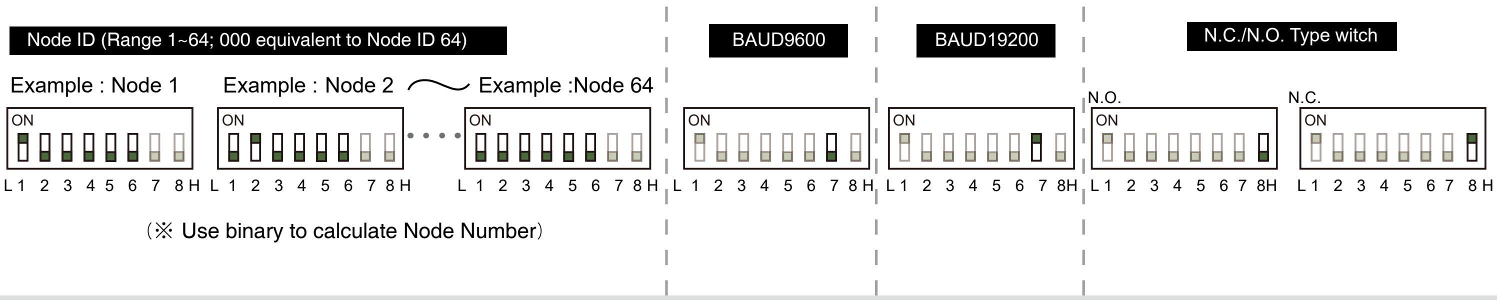
- **I/O Power and Main Power share one power supply. (JV+ & JV- Short Circuit):**
  Only one power supply is needed, making installation easier for smaller systems where I/O power isolation is not required. In this mode, the power input range is 12~24V.



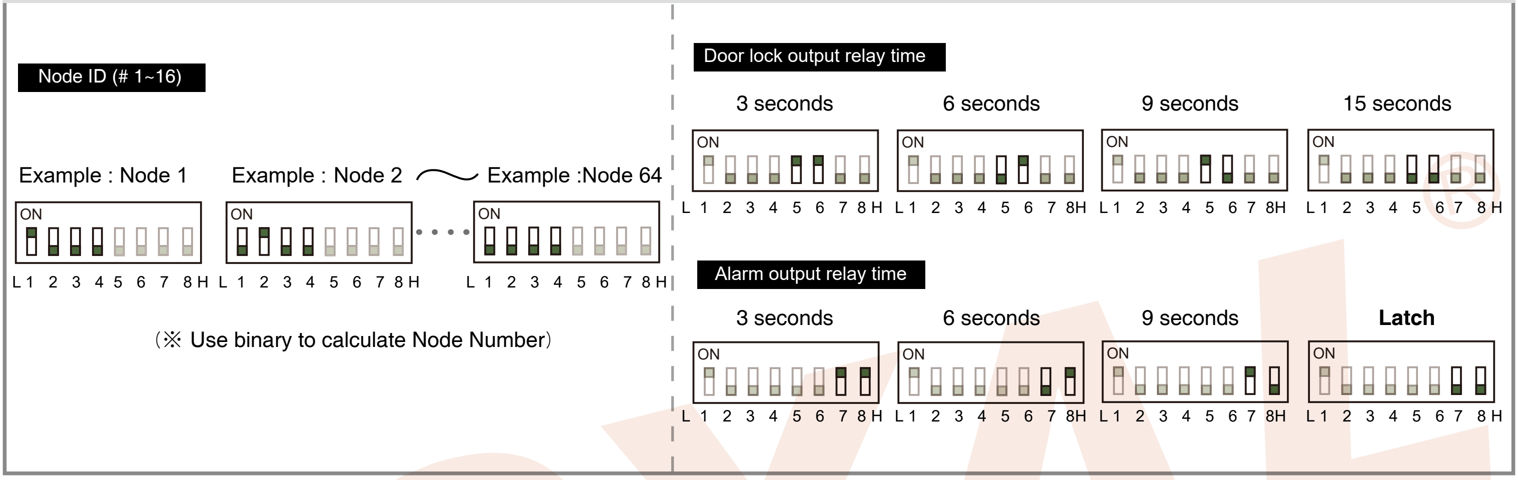
∗JV+ & JV- both plug in jumper

03. DIP Switch Setting

Standard Firmware



8 Interlock Door Solution

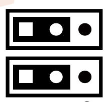


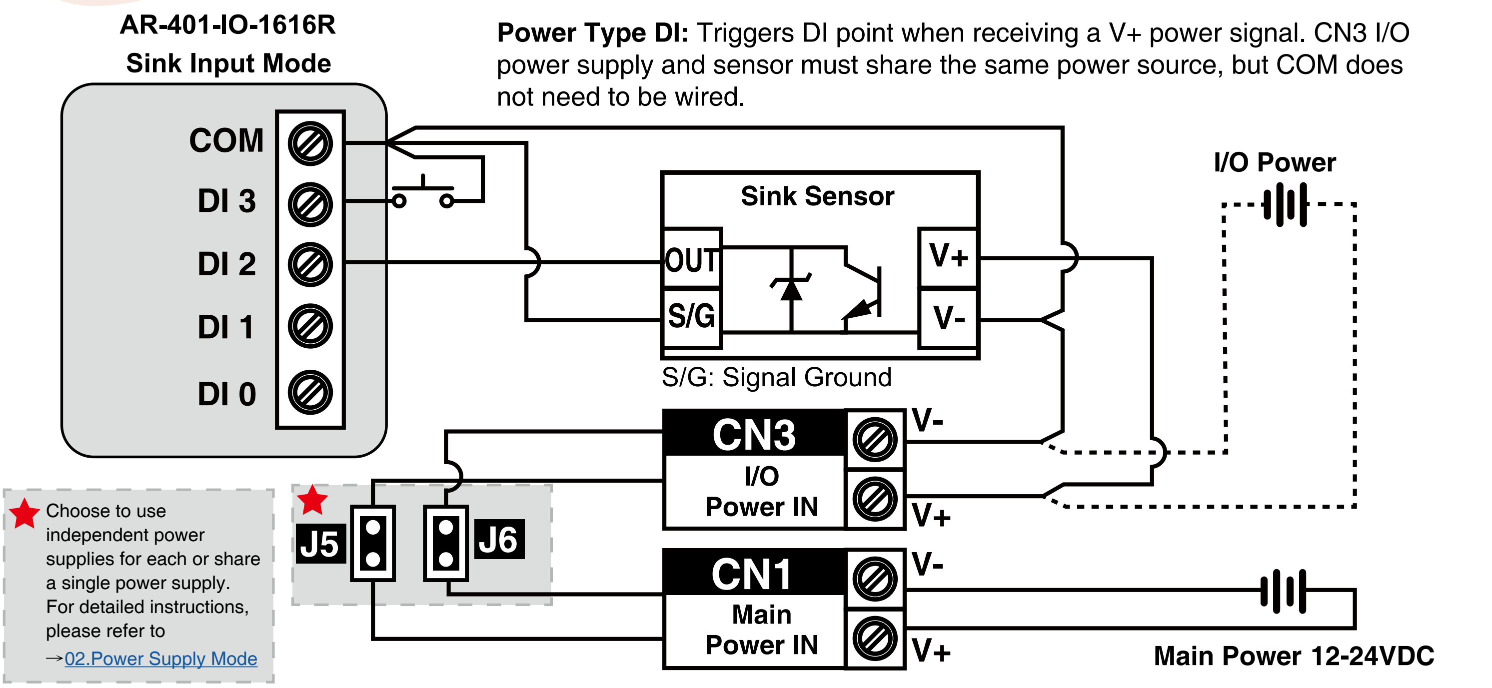
04. Wiring Diagram

NPN Sensor Wiring Diagram

Jumper Setting Method :

1. PIN 1 / PIN 2 must be connected with a jumper.
2. Adjust in pairs synchronously; Jumper J1 + J2 is one pair / Jumper J3 + J4 is another pair.

 1 2 3	J1 + J2 is one pair
	J3 + J4 is one pair

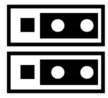


PNP Sensor Wiring Diagram

Jumper Setting Method：

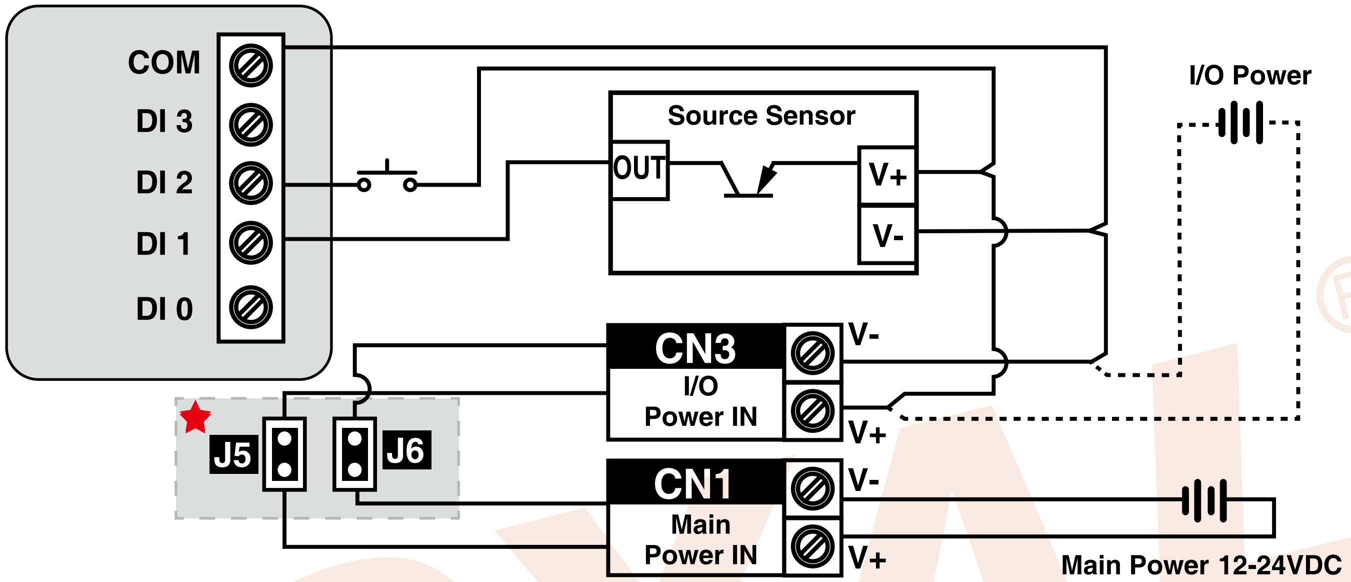
1.PIN 2/ PIN 3 must be connected with a jumper.

2. Adjust in pairs synchronously; Jumper J1 + J2 is one pair / Jumper J3 + J4 is another pair.



1 2 3	J1 + J2 is one pair
	J3 + J4 is one pair

Source Input Mode **AR-401-IO-1616R**

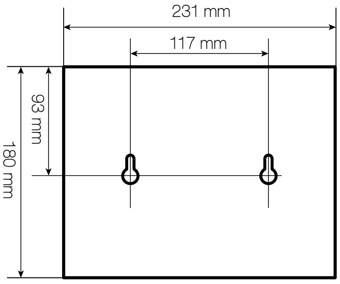


★ Choose to use independent power supplies for each or share a single power supply.
For detailed instructions, please refer to→02.Power Supply Mode

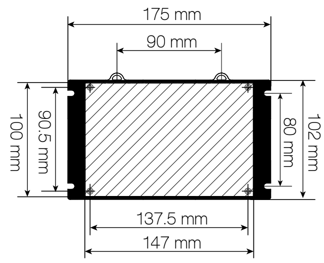
05.Specification

Interface	Serial port	RS485 X 1
	Baud Rate	9600,19200 bps (N,8,1)
Input/Output		16 Isolated Input / 16 Relay Output(Type A)
Protocol		Modbus RTU, Soyal
LED Indicator		Power,Tx/Rx, D.O./D.I
Watchdog function		Yes
Operating Temperature		-20℃ ~ +70℃
Fuses		Power & RS485 both with PTC Protector
Noise Isolation		Input optical isolation
Power Supply		12-24 VDC
Power Consumption		<4W
Dimension(mm)		PCB:100(H)x147(W)x20(D) Panel Mounting Base :102(H)x175(W)x30(D) Metal Box :180(H)x231(W)x62(D)
Weight(g)		PCB: approx.138 Panel Mounting Base : approx. 221 Metal Box : approx.1760

06. Installation



Metal casing



■ DIN rail mounting base ▨ PCB

07. Contents

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