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RIO1000-2T-6IO(DI)-6IO(RO)-TB Industrial I/O Server Quick Installation Guide

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【Package Checklist】

Please check whether the package and accessories are intact while using the device for the first time.

1. I/O Server
2. DIN-Rail mounting attachment
3. Straight-through cable
4. Warranty card
5. Certification

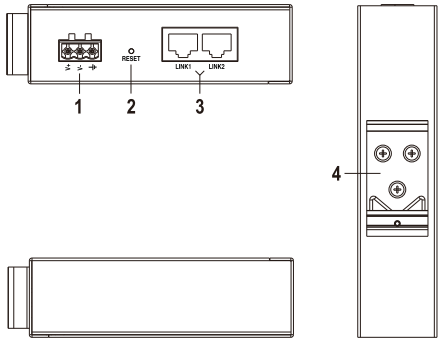
If any of these items are damaged or lost, please contact our company or dealers, we will solve it ASAP.

【Product Overview】

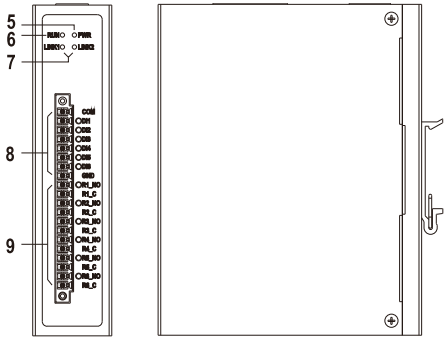
This series is industrial I/O server specially designed for I/O devices to collect and control data, which can convert the collected I/O data into Modbus TCP protocol. The Models is RIO1000-2T-6IO(DI)-6IO(RO)-TB-P(12~48VDC) (2 100M copper ports + 6 DI + 6 RO, 12~48VDC power supply input).

【Panel Design】

➢ **Top view, bottom view and rear view**



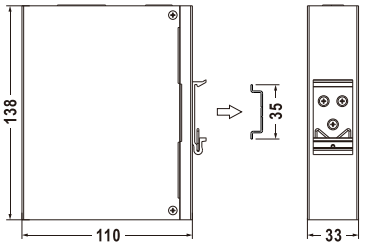
➢ **Main view and right view**



1. Power supply input terminal block
2. Restore default settings(RESET)
3. 10/100Base-T(X) 100M Ethernet RJ45 (LINK1-LINK2)
4. DIN-Rail mounting kit
5. Power supply indicator (PWR)
6. Running indicator (RUN)
7. Ethernet port indicator (LINK1-LINK2)
8. DI digital inputs channel (DI1-DI6)
9. RO relay output channel (R1-R6)

【Mounting Dimension】

Unit: mm

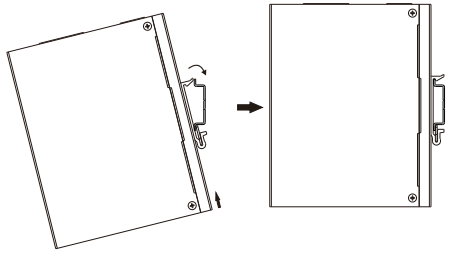


Notice Before Mounting:

- Don't place or install the device in area near water or moist, keep the relative humidity of the device surrounding between 5%~95% without condensation.
- Before power on, first confirm the supported power supply specification to avoid over-voltage damaging the device.
- The device surface temperature is high after running; please don't directly contact to avoid scalding.

【DIN-Rail Mounting】

The product adopts 35mm standard DIN-Rail mounting which is suitable for most industrial scenes, mounting steps as follows:



Step 1 Check if the DIN-Rail mounting kit is installed firmly.

Step 2 Insert the bottom of DIN-Rail mounting kit (one side with spring support) into DIN-Rail, then insert the top into DIN-Rail.

Tips:
Insert a little to the bottom, lift upward and then insert to the top.

Step 3 Check and confirm the product is firmly installed on DIN-Rail, then mounting ends.

【Disassembling DIN-Rail】

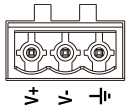
Step 1 Power off the device.

Step 2 After lifting the device upward slightly, first shift out the top of DIN-Rail mounting kit, and then shift out the bottom of DIN-Rail, disassembling ends.

Notice before power on:

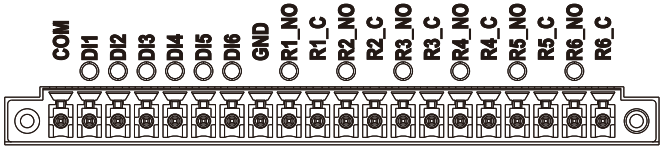
- Power ON operation: First insert the power supply terminal block into the device power supply interface, then plug the power supply plug contact and power on.
- Power OFF operation: First, remove the power plug, then remove the wiring section of terminal block. Please pay attention to the above operation sequence.

【Power Supply Connection】



The device provides 3-pin 5.08mm pitch terminal blocks and supports 1 DC power supply input. The power supply supports non-polarity connection, and the equipment can still work normally after reverse connection. The definitions of power pin are shown in the left figure, and the power input range is 12~48VDC.

【I/O Port Connection】



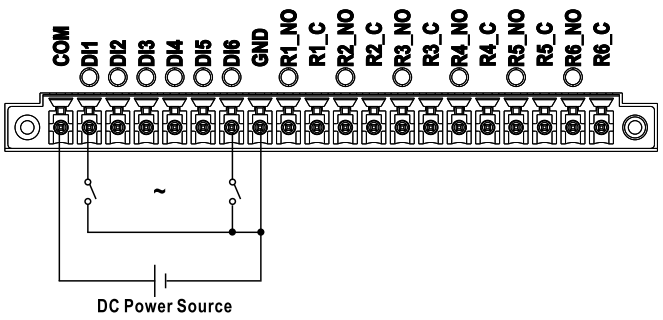
The device supports 6 digital inputs and 6 relay outputs channels, and adopts 20-pin 3.81mm pitch spring-loaded terminal block with screw latch. The definition of I/O pin is shown below.

PIN	Definition
COM	DI common terminal
DI1-DI6	DI input channel 1-6
GND	Grounding
R1_NO—R6_NO	Normally open contact of RO relay 1-6
R1_C—R6_C	Common contacts of RO relay 1-6

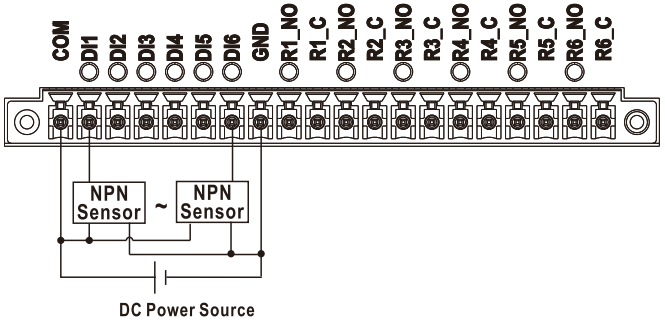
➢ **Digital Inputs channel**

DI channel is compatible with dry contact and wet contact. Wet contact supports Sink (PNP) and Source (NPN) types. Common wiring methods are as follows.

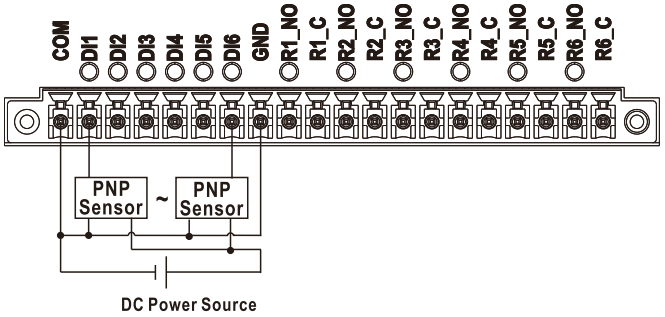
- Dry contact wiring diagram (Connect COM to the positive terminal of the power supply)



- Wet contact Source (NPN) wiring diagram

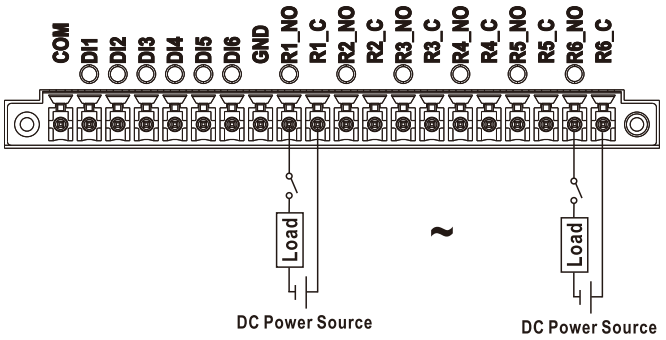


- Wet contact Sink PNP) wiring diagram



➢ **Relay Outputs channel**

RO channel supports relay type output. Common wiring methods are as follows.



【Reset Button Setting】

RESET This device provides 1 RESET button, press the button for 2-4s to reboot; press the button 5s or above to restore factory defaults.

【Checking LED Indicator】

The device provides LED indicators to monitor its operating status, which has simplified the overall troubleshooting process. The function of each LED is described in the table below:

LED	Indicate	Description
RUN	ON	Device is not started or abnormal
	Blinking	The device is running normally
	OFF	The device is powered off or the device is abnormal.
PWR	ON	Power supply is running normally
	OFF	Power supply is disconnected or running abnormally
LINK (1-2)	ON	Ethernet port has established a valid network connection
	Blinking	Ethernet port is in an active network status
	OFF	Ethernet port has not established valid network connection
DI (1-6)	ON	DI channel effective
	Blinking	Pulse signal input
	OFF	DI channel invalid
Rx_NO	ON	The circuit between the Rx_NO and Rx_C channels is closed

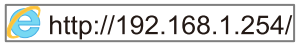
LED	Indicate	Description
	OFF	The circuit between the Rx_NO and Rx_C channels is open

【Logging in to WEB Interface】

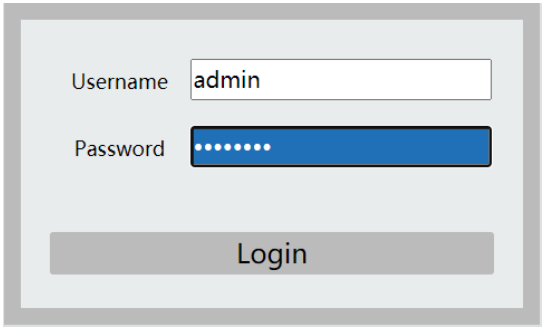
This device supports WEB management and configuration. Computer can access the device LAN1 via Ethernet interface. The way of logging in to device's configuration interface via IE browser is shown as below:

Step 1 Configure the IP addresses of computer and the device to the same network segment, and the network between them can be mutually accessed.

Step 2 Enter device's IP address in the address bar of the computer browser.



Step 3 Enter device's username and password in the login window as shown below.



Step 4 Click "Login" button to login to the WEB interface of the device.

Note:

- The device operates in dual IP mode by default, the default IP address of LAN1 is "192.168.1.254", the default IP address of LAN2 is "192.168.8.254".
- The default user name and password of the device are "admin".
- If the user name or password is lost, user can restore it to factory settings via restore button or management software; all modified configurations will be cleared after restoring to factory settings, so please backup configuration file in advance.
- Please refer to user manual for specific configuration method of logging in to WEB interface and other configurations about network management function.

【Specification】

Panel	
100M copper port	10/100Base-T（X）self-adapting RJ45 port, full/half duplex self-adaption, MDI/MDI-X self-adaption
Digital Inputs	Interface form: 20-PIN 3.81mm pitch terminal blocks (DI channel occupies 8 pins) Counter frequency: ≤1kHz Working mode: DI or counter Input type: – Dry contact (ON: GND short circuit; OFF: open circuit) – Wet contact Source(NPN) (ON: 0~3VDC; OFF: 10~30VDC) – Wet contact Sink (PNP) (ON: 10~30VDC: OFF: 0~3VDC)
Relay Outputs	Interface quantity: 6 Interface form: 20-PIN 3.81mm pitch terminal blocks (RO channel occupies 12 pins) Rated load: – resistive load, 5A 250VAC, 5A 30VDC – Inductive load, 2A 250VAC, 2A 30VDC Withstanding Voltage: – coil and contact, 3,000VAC 50/60Hz 1 min – Homopolar contact, 750VAC 50/60Hz 1 min Relay switch time: <10ms
	Insulation resistor: 1000mΩ (Minimum) @500VDC Mechanical life: above 20,000,000 times Electrical Life: – above 50,000 times (250VAC 5A, resistive load) – above 50,000 times (30VDC 5A, resistive load) – above 100,000 times (250VAC 2A, resistive load) – above 100,000 times (30VDC 3A, resistive load) Contact resistor: <100mΩ
Indicator	Power supply indicator, running indicator, Ethernet port indicator, I/O indicator
Power Supply	
Input power supply	12~48VDC, supports non-polarity
Access terminal block	3-pin 5.08mm pitch terminal blocks
Power Consumption	
No-load	1.4W@12VDC (high temperature)
Full-load	2.4W@12VDC (high temperature)
Working Environment	
Working temperature	-40~75℃
Storage temperature	-40~85℃
Working humidity	5%~95% (no condensation)
Protection grade	IP40 (metal shell)

【Disposal of Waste Electrical and Electronic Equipment (WEEE 2012/19/EU)】

(Applicable in the EU-member states)



The crossed-out wheeled bin symbol on the equipment or its packaging indicates that the product, at the end of its service life, shall not be mixed with unsorted municipal waste but should be collected separately, in accordance with local laws and regulations.

A proper separate collection of end-of-life equipment for the subsequent recycling, treatment and environmentally compatible disposal, will help prevent potential damage to the environment and human health, facilitating the reuse, recycling and/or recovery of its component materials.

Private users should contact their vendor or municipal waste management service and ask for disposal information.

Professional users should contact their suppliers and check the terms of their selling agreement.

This product must not be disposed of with other commercial waste.

Users' cooperation in the correct disposal of this product will contribute to saving valuable resources and protecting the environment.