

## 8-CH DI/DO, switch signal to webpage, with MODBUS TCP: WJ90-RJ45

**Features:**

- >>Eight digital inputs, eight digital output data acquisition module
- >>Supports MODBUS TCP protocol
- >>Built-in Web feature, you can query level state by the webpage
- >>Switch output state can be set via the webpage
- >>No signal isolation between input, output and power supply
- >>Wide power supply range: 8 ~ 32VDC
- >>High reliability, easy programming, easy application
- >>Standard DIN35 rail mounting, small size
- >>Users can set the module IP address and other parameters on the page
- >>Webpage login can be set account and password
- >>Dimensions: 120 x 70 x 43mm

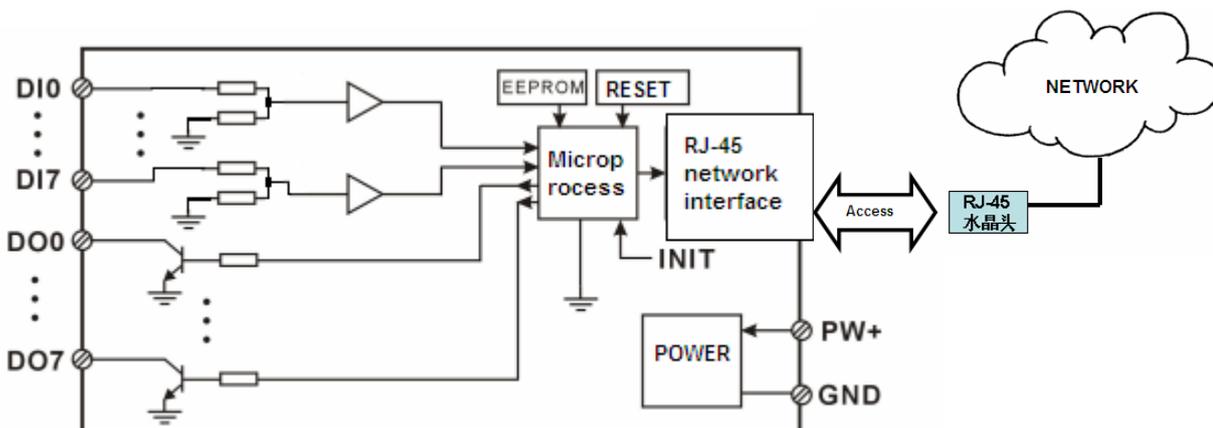


**Typical applications:**

- >>Industrial Ethernet signal level monitoring and control
- >>For networking, real-time monitoring network and field device communication
- >>Intelligent building control, security engineering and other applications
- >>Ethernet industrial automation and control systems
- >>Industrial field signal isolation and long-term transmission
- >>Monitoring and control equipment operation
- >>Measuring sensor signal
- >>Get in touch with field data recording industry
- >>Things switch signal acquisition

**Product Overview:**

WAYJUN WJ90-RJ45 is a Internet of Things and Industrial Ethernet acquisition module, to achieve the formation transparent between sensor and network. WJ90-RJ45 can send sensor data exchange to network, or send the data forwards network to the sensor.



**Figure 2 WJ90-RJ45 Block Diagram**

WAYJUN WJ90-RJ45 includes power conditioning, digital acquisition, digital output and RJ-45 network interface communication. Communication uses MODBUS TCP protocol. TCP is based on the transport protocol, which is used widely to reliable connection-oriented protocol. The user can set module IP address, subnet mask, communication protocol directly on the page. The sensor device can be used to monitor and control.

WAYJUN WJ90-RJ45 series products are based on SCM's intelligent monitoring and control system, users set the module IP address, subnet mask and so on configuration information are all stored in nonvolatile memory EEPROM.

WAYJUN WJ90-RJ45 products are according to industry standard design, No-isolation between signal input / output, high anti-interference ability and reliability. Operating temperature range is - 45 ~ +85 °C.

### **Function Description:**

WJ90-RJ45 remote I/O module can be used to measure 8 channels digital input, and 8 channels digital output signal.

#### **1. Digital signal input and output**

8-CH digital signal input, which can be connected to dry contact and wet contact, details refer to the wiring diagram.  
8-CH digital signal output open collector output

#### **2. Communication protocol**

**Communication Interface:** RJ-45 network interface. The two lights of Ethernet port position, when after the network cable plugged the **Link (Green)** will be light all the time, **Data (Yellow)** will flash from time to time.

**Communication Protocols:** supports MODBUS TCP protocols, can achieve industrial Ethernet data exchange. Also users can access the control module directly via the web.

**Network Cache:** 16K Byte (both receive and send)

**Response Time:** less than 100ms

#### **3. Anti-jamming**

Module internal has transient suppression diodes, can inhibit a variety of surge pulse, protection module.

### **Product Part No.:**

#### **WJ90 - RJ45**

\_\_\_\_\_ Communication Interface

**RJ45:** RJ-45 output network interface

### **WJ90 General Parameters:**

(typical @ +25 °C, Vs to 24VDC)

Input type: digital signal input, 8 channels (DI0~DI7)

Low level: input<1V

High level: input 3.5~30V

Input Resistance: 30KΩ

Output type: open collector output, voltage 0~30V, maximum load current 30mA, 8-CH (DO0~DO7)

Communication: MODBUS TCP communication protocol

Web: support web to access module, support web setting module parameters

Interface: RJ-45 network interface

Power Supply: +8 ~ 32VDC wide range power supply, internal anti-reverse and over-voltage protection circuit

Power Loss: less than 1W

Operating Temperature: - 45 ~ +80 °C

Humidity: 10 ~ 90% (no condensation)

Storage Temperature: - 45 ~ +80 °C

Storage Humidity: 10 ~ 95% (no condensation)

Isolation Voltage: Non-isolated

Dimensions: 120 mm x 70 mm x 43mm

### WJ90-RJ45 factory default parameters:

Account: admin Password: admin

Module itself IP: 192.168.0.7

Subnet Mask: 255.255.255.0

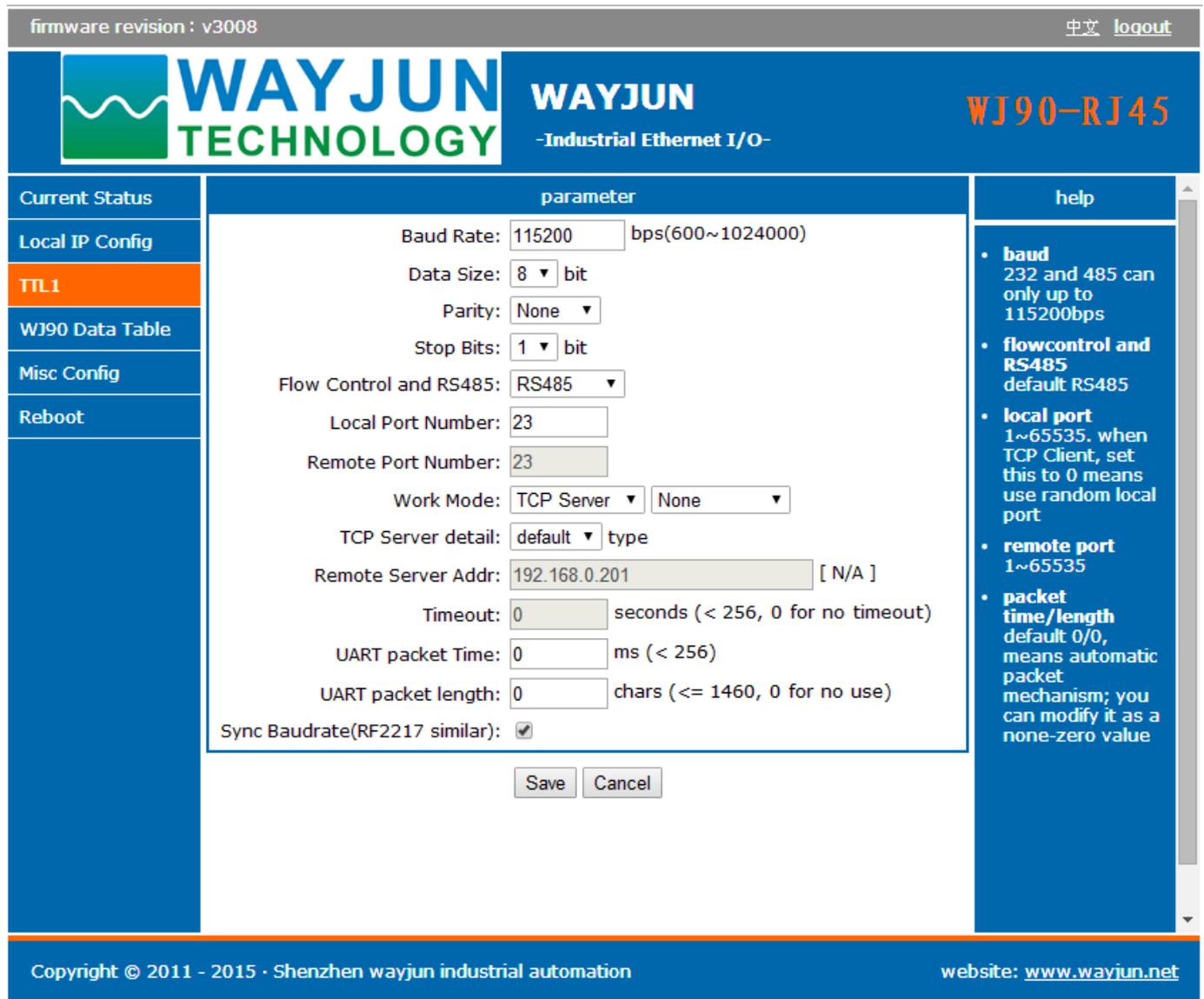
Gateway: 192.168.0.1

IP address mode: Static IP, means using a static IP address

Baud Rate: 115,200 bps Data bits: 8 Parity Check: None Stop bits: 1bit

Local port No.: 23 Remote Port No.: 23

TTL1→work mode→TCP Serve→None



The screenshot shows the 'TTL1' configuration page in the WJ90-RJ45 web interface. The page title is 'firmware revision : v3008' and '中文 logout'. The main content area is titled 'parameter' and contains the following settings:

- Baud Rate: 115200 bps(600~1024000)
- Data Size: 8 bit
- Parity: None
- Stop Bits: 1 bit
- Flow Control and RS485: RS485
- Local Port Number: 23
- Remote Port Number: 23
- Work Mode: TCP Server (selected), None
- TCP Server detail: default type
- Remote Server Addr: 192.168.0.201 [N/A]
- Timeout: 0 seconds (< 256, 0 for no timeout)
- UART packet Time: 0 ms (< 256)
- UART packet length: 0 chars (<= 1460, 0 for no use)
- Sync Baudrate(RF2217 similar):

Buttons for 'Save' and 'Cancel' are located at the bottom of the parameter area. On the right side, there is a 'help' section with the following information:

- baud**: 232 and 485 can only up to 115200bps
- flowcontrol and RS485**: default RS485
- local port**: 1~65535. when TCP Client, set this to 0 means use random local port
- remote port**: 1~65535
- packet time/length**: default 0/0, means automatic packet mechanism; you can modify it as a none-zero value

The footer of the page contains: Copyright © 2011 - 2015 · Shenzhen wayjun industrial automation and website: [www.wayjun.net](http://www.wayjun.net)

**Figure 3 WJ90-RJ45 Factory Default**

>> How to restore factory setting?

1. put INIT switch to INIT position
2. connect the power supply line
3. switch on the power, wait 10 seconds, module restored to the factory settings automatically.
4. put INIT switch to the NORMAL position
5. Module has been restored to factory settings successfully

>>> How to set up MODBUS TCP communication protocol

After restore factory setting, if required using MODBUS TCP, we need to set the baud rate of TTL1 entry, the local port and work mode.

Baud Rate: 9600    Local Port: 502    Work Mode: TCP Server → MODBUS TCP

Module MODBUS TCP unit identifier is 01

firmware revision : v3008
中文 [logout](#)



**WAYJUN**  
 -Industrial Ethernet I/O-

WJ90-RJ45

Current Status	parameter	help
Local IP Config		
TTL1	Baud Rate: <input type="text" value="9600"/> bps(600~1024000) Data Size: <input type="text" value="8"/> bit Parity: <input type="text" value="None"/> Stop Bits: <input type="text" value="1"/> bit Flow Control and RS485: <input type="text" value="RS485"/> Local Port Number: <input type="text" value="502"/> Remote Port Number: <input type="text" value="23"/> Work Mode: <input type="text" value="TCP Server"/> <input type="text" value="None"/> TCP Server detail: <input type="text" value="default"/> type Remote Server Addr: <input type="text" value="192.168.0.201"/> [ N/A ] Timeout: <input type="text" value="0"/> seconds (< 256, 0 for no timeout) UART packet Time: <input type="text" value="0"/> ms (< 256) UART packet length: <input type="text" value="0"/> chars (<= 1460, 0 for no use) Sync Baudrate(RF2217 similar): <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li><b>baud</b> 232 and 485 can only up to 115200bps</li> <li><b>flowcontrol and RS485</b> default RS485</li> <li><b>local port</b> 1~65535, when TCP Client, set this to 0 means use random local port</li> <li><b>remote port</b> 1~65535</li> <li><b>packet time/length</b> default 0/0, means automatic packet mechanism; you can modify it as a none-zero value</li> </ul>
WJ90 Data Table		
Misc Config		
Reboot	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

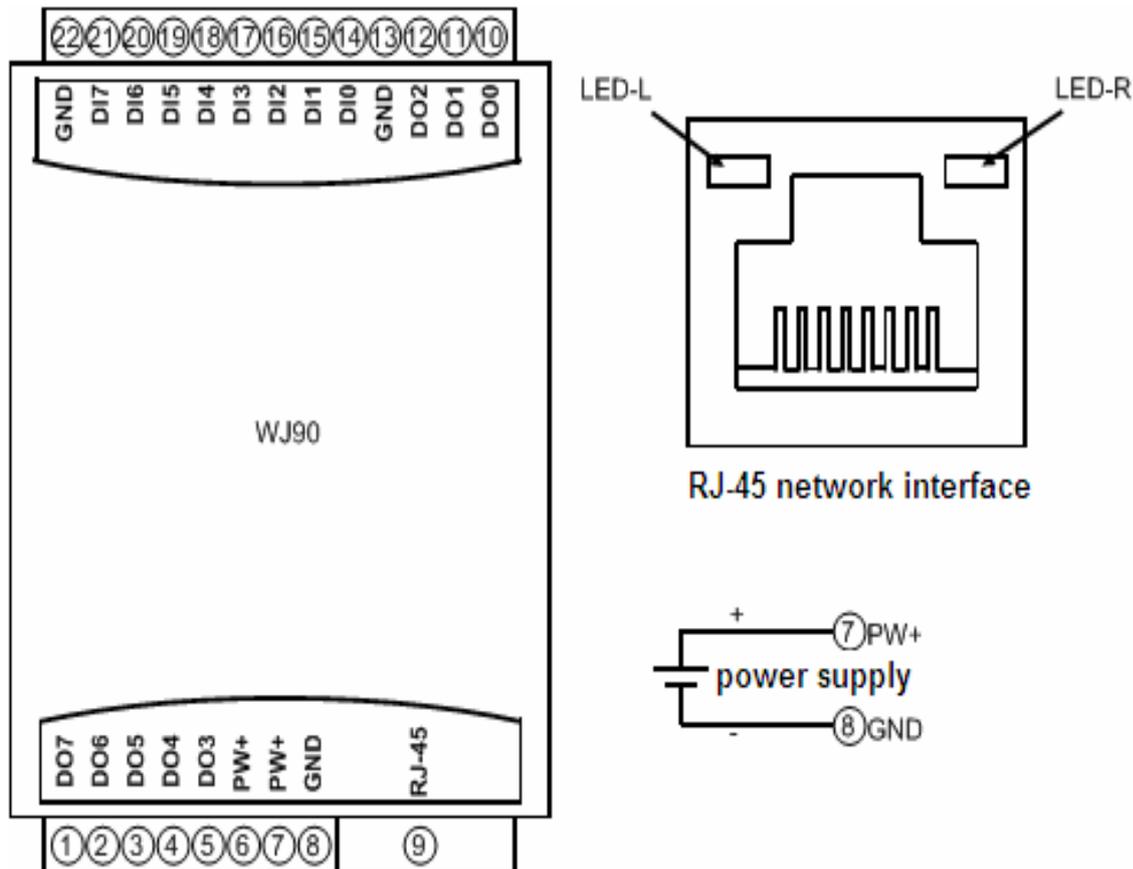
Copyright © 2011 - 2015 · Shenzhen wayjun industrial automation
website: [www.wayjun.net](http://www.wayjun.net)

**Figure 4 WJ90-RJ45 Parameters after setting MODBUS TCP**

**Footprint Function:**

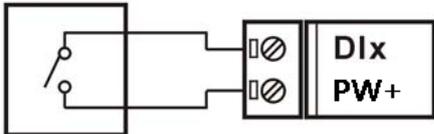
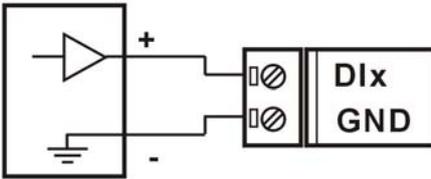
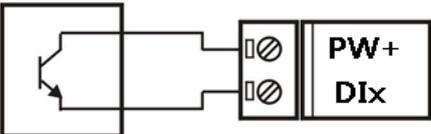
PIN	Name	Function	PIN	Name	Function
1	DO7	Channel 7 switch signal output	12	DO2	Channel 2 switch signal output
2	DO6	Channel 6 switch signal output	13	GND	Power supply-,signal common ground
3	DO5	Channel 5 switch signal output	14	DI0	Channel 0 switch signal input
4	DO4	Channel 4 switch signal output	15	DI1	Channel 1 switch signal input
5	DO3	Channel 3 switch signal output	16	DI2	Channel 2 switch signal input
6	PW+	Power supply +	17	DI3	Channel 3 switch signal input
7	PW+	Power supply +	18	DI4	Channel 4 switch signal input
8	GND	Power supply -,signal common ground	19	DI5	Channel 5 switch signal input
9	RJ-45	Network interface	20	DI6	Channel 6 switch signal input
10	DO0	Channel 0 switch signal output	21	DI7	Channel 7 switch signal input
11	DO1	Channel 1 switch signal output	22	GND	Power supply-,signal common ground

**Note: same name PIN interior are connected**

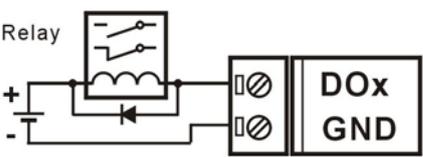
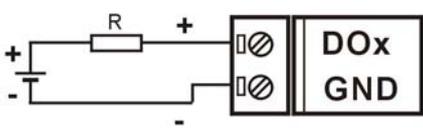


**Figure 3 WJ90-RJ45 Wiring Diagram**

### Switch signal input wiring diagram

Dry contact input	TTL/CMOS level, 24V level input
	
Open collector input	
	

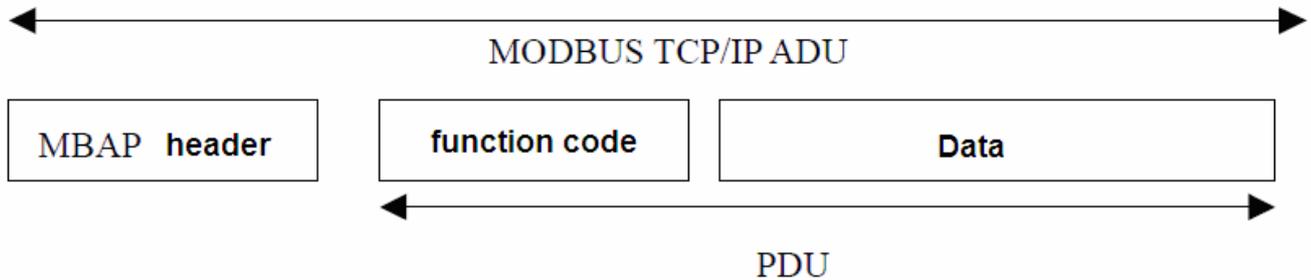
### Switch signal output wiring diagram

Drive Relay	Level output
	
<p>Optional external power supply :5~30V It also be a power supply to the module Resistance operating current is less than 30mA</p>	<p>Optional external power supply :5~30V It also be a power supply to the module Resistance operating current is less than 30mA</p>

**MODBUS TCP protocol**

**(1) MODBUS TCP Data Frame**

Transmitting over TCP/IP, supports Ethernet II and 802.3 frame formats. Figure 3, MODBUS TCP Data Frame includes a header, function code and data three parts.



**Figure 6: MODBUS request/response over TCP/IP**

**(2) MBAP Header description:**

The length of **MBAP** header (MBAP, MODBUS Application Protocol) is seven Bytes, it is composed of four parts. As shown in Table 1:

Fields	Length (B)	Description
Transaction Identifier	2 Bytes	Identification of a MODBUS Request / Response transaction.
Protocol Identifier	2 Bytes	0=MODBUS protocol
Length	2 Bytes	Number of following bytes
Unit identifier	1 Byte	Identification of a remote slave connected on a serial line or on other buses.

**Table 1: MBAP header**

**(3) MODBUS Function Codes Description**

**MODBUS** function contains three types:

- (1) Public function code: Defined function code to ensure uniqueness by MODBUS.org recognized
- (2) User-defined function code contains two groups: 65~72 and 100~110, no recognition, but does not guarantee the uniqueness of the code used. If change to the public code, need be required to RFC approved;
- (3) Reserved function code for using by certain companies in certain traditional equipment, not as a public purpose.

In a typical public function code, WJ90-RJ45 supports certain function code, as indicated below:

Function Code	Name	Description
01	Read Coil Status	1 means high level, 0 means high level
03	Read Holding Register	1 means high level, 0 means high level
05	Write Single Coil	1 means triode conduction, 0 means triode off
06	Write Single Register	1 means triode conduction, 0 means triode off

**(4) Supported Functions Code Description**

**01 (0x01) Read Coils**

This function code is used to read from 1 to 2000 contiguous status of coils in a remote device. The Request PDU specifies the starting address, i.e. the address of the first coil specified, and the number of coils. In the PDU Coils are

addressed starting at zero. Therefore coils numbered 1-16 are addressed as 0-15.

The coils in the response message are packed as one coil per bit of the data field. Status is indicated as 1= ON and 0= OFF. The LSB of the first data byte contains the output addressed in the query. The other coils follow toward the high order end of this byte, and from low order to high order in subsequent bytes.

If the returned output quantity is not a multiple of eight, the remaining bits in the final data byte will be padded with zeros (toward the high order end of the byte). The Byte Count field specifies the quantity of complete bytes of data.

**Here is an example: function code 01, read 8 channels DI data, register address 00033~00040:**

Request			Response		
Field Name		(Hex)	Field Name		(Hex)
MBAP Header	Transaction Identifier	01	MBAP Header	Transaction Identifier	01
		00			00
	Protocol Identifier	00		Protocol Identifier	00
		00			00
	Length	00		Length	00
06		04			
Unit identifier	01	Unit identifier	01		
Function Code		01	Function Code		01
Starting Address Hi		00	Byte Count		01
Starting Address Lo		20	Output status DI7-DI0		00
Quantity of Outputs Hi		00			
Quantity of Outputs Lo		08			

### 03 (0x03) Read Holding Registers

This function code is used to read the contents of a contiguous block of holding registers in a remote device. The Request PDU specifies the starting register address and the number of registers. In the PDU Registers are addressed starting at zero. Therefore registers numbered 1-16 are addressed as 0-15.

The register data in the response message are packed as two bytes per register, with the binary contents right justified within each byte. For each register, the first byte contains the high order bits and the second contains the low order bits.

**Here is an example: function code 03, read 8 channels DI data, register address: 40033**

Request			Response		
Field Name		(Hex)	Field Name		(Hex)
MBAP Header	Transaction Identifier	01	MBAP Header	Transaction Identifier	01
		00			00
	Protocol Identifier	00		Protocol Identifier	00
		00			00
	Length	00		Length	00
06		05			
Unit identifier	01	Unit identifier	01		
Function Code		03	Function Code		03
Starting Address Hi		00	Byte Count		02
Starting Address Lo		20	Register value Hi (0x00)		00
No. of Registers Hi		00	Register value Lo (DI7-DI0)		00
No. of Registers Lo		01			

### 05 (0x05) Write Single Coil

This function code is used to write a single output to either ON or OFF in a remote device. The Request PDU specifies the forced coil address. Coils are addressed starting at zero. Therefore, coil numbered 1 is addressed as 0. The requested ON/OFF state is specified by a constant in the coil value field. A value of 0xFF00 hex requests the coil to be ON. A value of 0x0000 requests the coil to be OFF. All other values are illegal and will not affect the coil.

Correct response and request are the same.

**Here is an example: function code 05, set channel DO0 to ON, also as 1, register address: 00001**

Request			Response				
Field Name		(Hex)	Field Name		(Hex)		
MBAP Header	Transaction Identifier	01 00	MBAP Header	Transaction Identifier	01 00		
	Protocol Identifier	00 00		Protocol Identifier	00 00		
	Length	00 06		Length	00 06		
	Unit identifier	01		Unit identifier	01		
	Function Code			05	Function Code		05
	Output Address Hi			00	Output Address Hi		00
Output Address Lo		00	Output Address Lo		00		
Output Value Hi		FF	Output Value Hi		FF		
Output Value Lo		00	Output Value Lo		00		

### 06 (0x06) Write Single Register

This function code is used to write a single holding register in a remote device. The Request PDU specifies the address of the register to be written. Registers are addressed starting at zero. Therefore register numbered 1 is addressed as 0.

The normal response is an echo of the request.

**Here is an example: function code 06, set channels DO0~DO7, all as 1, Hex is 0xFF, register address: 40001**

Request			Response				
Field Name		(Hex)	Field Name		(Hex)		
MBAP Header	Transaction Identifier	01 00	MBAP Header	Transaction Identifier	01 00		
	Protocol Identifier	00 00		Protocol Identifier	00 00		
	Length	00 06		Length	00 06		
	Unit identifier	01		Unit identifier	01		
	Function Code			06	Function Code		06
	Registers Address Hi			00	Registers Address Hi		00
Registers Address Lo		00	Registers Address Lo		00		
Registers Value Hi		00	Registers Value Hi		00		
Registers Value Lo		FF	Registers Value Lo		FF		

### (5) WJ90-RJ45 Register Address Description

Address 0X (PLC)	Address (PC, DCS)	Data	Property	Data Description
00001	0000	Output Switch	Read/write	Channel 0 output status
00002	0001	Output Switch	Read/write	Channel 1 output status
00003	0002	Output Switch	Read/write	Channel 2 output status
00004	0003	Output Switch	Read/write	Channel 3 output status
00005	0004	Output Switch	Read/write	Channel 4 output status
00006	0005	Output Switch	Read/write	Channel 5 output status
00007	0006	Output Switch	Read/write	Channel 6 output status
00008	0007	Output Switch	Read/write	Channel 7 output status
00033	0032	Input Switch	Read only	Channel 0 level status
00034	0033	Input Switch	Read only	Channel 1 level status
00035	0034	Input Switch	Read only	Channel 2 level status
00036	0035	Input Switch	Read only	Channel 3 level status
00037	0036	Input Switch	Read only	Channel 4 level status
00038	0037	Input Switch	Read only	Channel 5 level status
00039	0038	Input Switch	Read only	Channel 6 level status
00040	0039	Input Switch	Read only	Channel 7 level status
40001	0000	Output Switch	Read/write	Channel 0-7 output status
40033	0032	Input Switch	Read only	Channel 0-7 level status
40211	0210	Module Name	Read only	High level: 0x00 Low level: 0x90

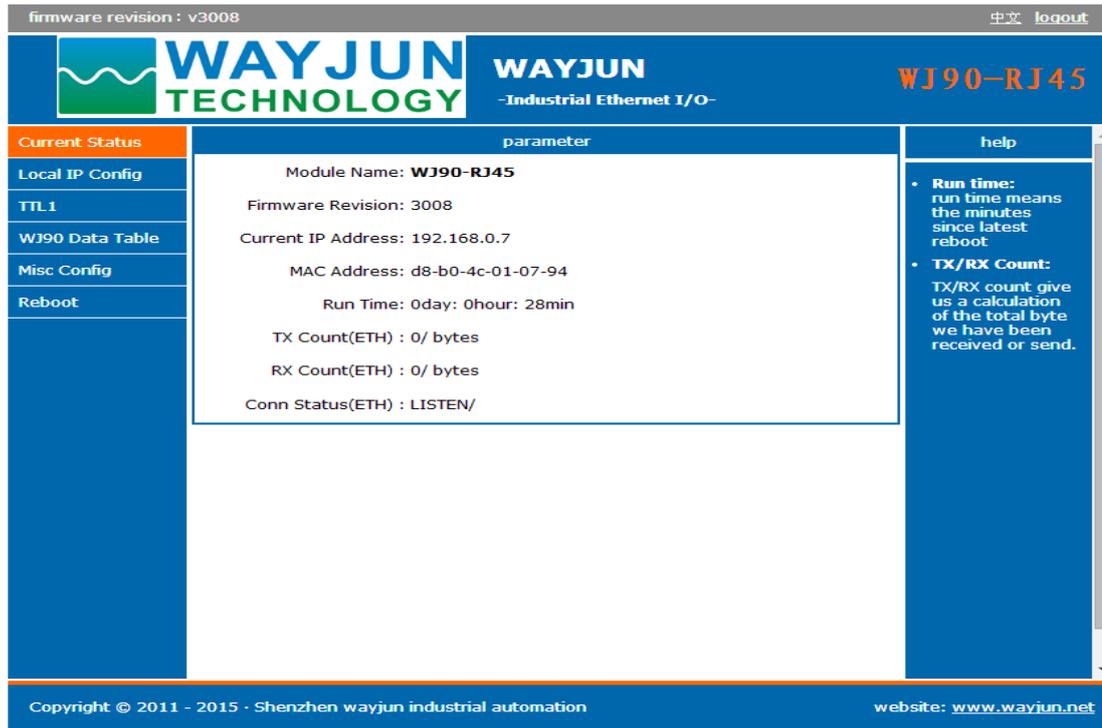
### Operation and settings on the page

Input the default module IP on the browser, default: **192.168.0.7**, can open the module page (provided that the computer IP and module are in the same network segment, landing page need to be operated according to current module IP address), enter a user name and password, default: **admin**, click on “**landing**”. There is Chinese/English handover sign upper right corner.

#### (1) Chinese/English Handover



## (2) Current Status



Current Status	parameter	help
Local IP Config	Module Name: <b>WJ90-RJ45</b>	<ul style="list-style-type: none"> <li>• <b>Run time:</b> run time means the minutes since latest reboot</li> <li>• <b>TX/RX Count:</b> TX/RX count give us a calculation of the total byte we have been received or send.</li> </ul>
TTL1	Firmware Revision: 3008	
WJ90 Data Table	Current IP Address: 192.168.0.7	
Misc Config	MAC Address: d8-b0-4c-01-07-94	
Reboot	Run Time: 0day: 0hour: 28min	
	TX Count(ETH) : 0/ bytes	
	RX Count(ETH) : 0/ bytes	
	Conn Status(ETH) : LISTEN/	

Copyright © 2011 - 2015 · Shenzhen wayjun industrial automation      website: [www.wayjun.net](http://www.wayjun.net)

### (A) Module Name

Default: **WJ90-RJ45**, do not support to change module name.

### (B) Firmware Version

Firmware version increments from V3000. Version can be seen in the upper left of the page.

### (C) Current IP address

Module current IP address, the factory default: **192.168.0.7**

### (D) MAC address

In the current state, which is being used to view the current MAC address, the factory MAC address is globally unique.

### (E) Run time

Run time is the module cumulative run time from the last power-up, in minutes

### (F) TX/RX count

It provides a rough network statistics, convenient debugging, in bytes

### (G) Connection status

LISTEN / indicates that the network is connected.

### (3) The local IP settings

firmware revision : v3008
中文 [logout](#)



**WAYJUN**  
 -Industrial Ethernet I/O-

WJ90-RJ45

Current Status	parameter	help
Local IP Config	IP type: <span style="border: 1px solid #ccc; padding: 2px;">Static IP</span>	<ul style="list-style-type: none"> <li>IP type: StaticIP or DHCP</li> <li>StaticIP: Module's static ip</li> <li>Submask: usually 255.255.255.0</li> <li>Gateway: Usually router's ip address</li> </ul>
TTL1	Static IP: <span style="border: 1px solid #ccc; padding: 2px;">192</span> . <span style="border: 1px solid #ccc; padding: 2px;">168</span> . <span style="border: 1px solid #ccc; padding: 2px;">0</span> . <span style="border: 1px solid #ccc; padding: 2px;">7</span>	
WJ90 Data Table	Submask: <span style="border: 1px solid #ccc; padding: 2px;">255</span> . <span style="border: 1px solid #ccc; padding: 2px;">255</span> . <span style="border: 1px solid #ccc; padding: 2px;">255</span> . <span style="border: 1px solid #ccc; padding: 2px;">0</span>	
Misc Config	Gateway: <span style="border: 1px solid #ccc; padding: 2px;">192</span> . <span style="border: 1px solid #ccc; padding: 2px;">168</span> . <span style="border: 1px solid #ccc; padding: 2px;">0</span> . <span style="border: 1px solid #ccc; padding: 2px;">1</span>	
Reboot	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

#### (a) Module IP address acquisition

There are two types: DHCP and Static IP address. Default configuration is Static IP address: **192.168.0.7**

DHCP enables network devices to obtain dynamic IP address, subnet mask, gateway, etc. After selecting DHCP, take effect after restarting, the module will request IP address to the network DHCP host, the whole process takes about 5-15s, after you can search the module IP address by using search software.

#### (b) Computer IP address

The module IP address itself, users may modify the module IP address according need, take effect after restarting

#### (c) Subnet Mask:

To subnet range (typically **255.255.255.0**), where you can modify, take effect after restarting.

#### (d) Gateway address:

The only way to access the external network (generally filled router's IP address).

### (4) TTL1

firmware revision : v3008
中文 [logout](#)



**WAYJUN**  
 -Industrial Ethernet I/O-

WJ90-RJ45

Current Status	parameter	help
Local IP Config		
TTL1	Baud Rate: <span style="border: 1px solid #ccc; padding: 2px;">9600</span> bps(600~1024000)	<ul style="list-style-type: none"> <li><b>baud</b>: 232 and 485 can only up to 115200bps</li> <li><b>flowcontrol and RS485</b>: default RS485</li> <li><b>local port</b>: 1~65535, when TCP Client, set this to 0 means use random local port</li> <li><b>remote port</b>: 1~65535</li> <li><b>packet time/length</b>: default 0/0, means automatic packet mechanism; you can modify it as a none-zero value</li> </ul>
WJ90 Data Table	Data Size: <span style="border: 1px solid #ccc; padding: 2px;">8</span> bit	
Misc Config	Parity: <span style="border: 1px solid #ccc; padding: 2px;">None</span>	
Reboot	Stop Bits: <span style="border: 1px solid #ccc; padding: 2px;">1</span> bit	
	Flow Control and RS485: <span style="border: 1px solid #ccc; padding: 2px;">RS485</span>	
	Local Port Number: <span style="border: 1px solid #ccc; padding: 2px;">502</span>	
	Remote Port Number: <span style="border: 1px solid #ccc; padding: 2px;">23</span>	
	Work Mode: <span style="border: 1px solid #ccc; padding: 2px;">TCP Server</span> <span style="border: 1px solid #ccc; padding: 2px;">ModbusTCP</span>	
	TCP Server detail: <span style="border: 1px solid #ccc; padding: 2px;">default</span> type	
	Remote Server Addr: <span style="border: 1px solid #ccc; padding: 2px;">192.168.0.201</span> [ N/A ]	
	Timeout: <span style="border: 1px solid #ccc; padding: 2px;">0</span> seconds (< 256, 0 for no timeout)	
	UART packet Time: <span style="border: 1px solid #ccc; padding: 2px;">0</span> ms (< 256)	
	UART packet length: <span style="border: 1px solid #ccc; padding: 2px;">0</span> chars (<= 1460, 0 for no use)	
	Sync Baudrate(RF2217 similar): <input checked="" type="checkbox"/>	
	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

**(a) The serial port parameters**

WJ90 set to 9600.

**(b) RS485 transceiver control**

The default value, without modification

**(c) The local port and remote port**

Local port: MODBUS TCP protocol change it to 502

Remote port: no need to set

**(d) Work mode**

For setting communications work mode, please select TCP Server mode and MODBUS TCP mode when MODBUS TCP communication. If the module restores the factory settings, this will become None, you need to modify it to MODBUS TCP mode.

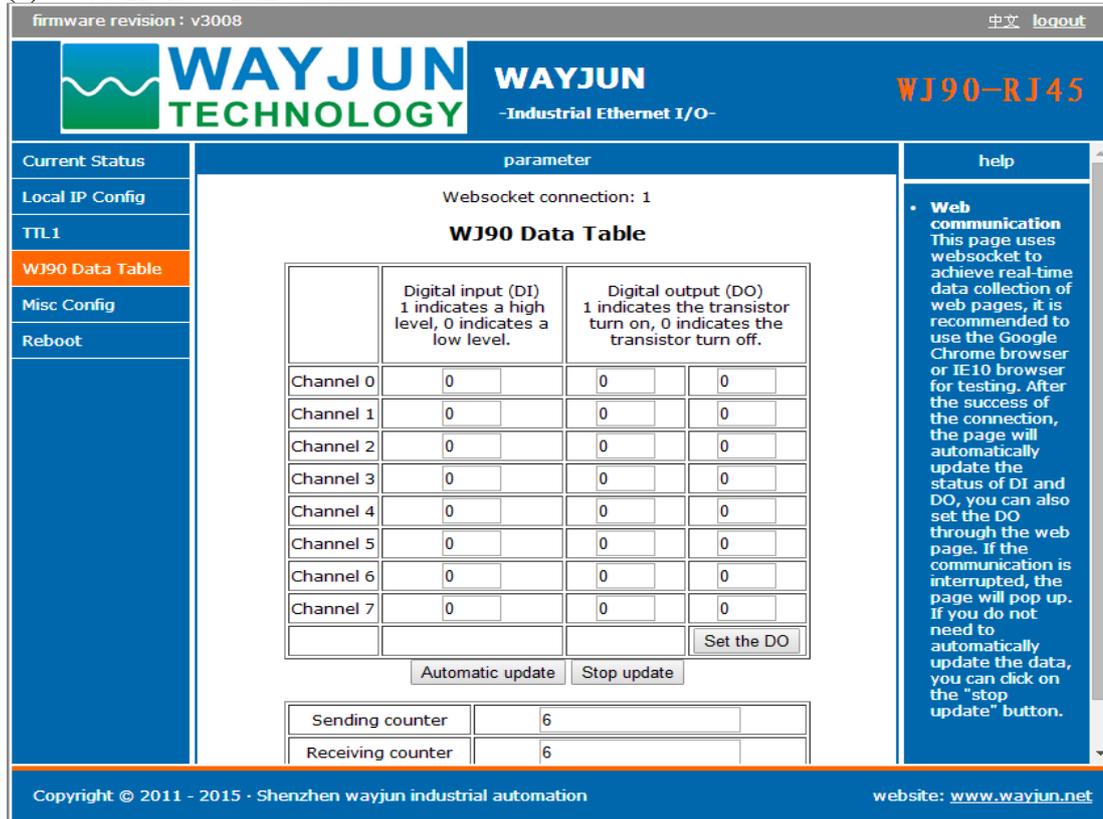
**(e) The remote server address**

It is the remote server IP address.

**(f) Timeout**

<256, 0: no timeout.

**(5) WJ90-RJ45 Switch Status**



firmware revision : v3008 中文 [logout](#)



**WAYJUN**

-Industrial Ethernet I/O-

**WJ90-RJ45**

Current Status

Local IP Config

TTL1

WJ90 Data Table

Misc Config

Reboot

parameter

Websocket connection: 1

**WJ90 Data Table**

	Digital input (DI) 1 indicates a high level, 0 indicates a low level.	Digital output (DO) 1 indicates the transistor turn on, 0 indicates the transistor turn off.	
Channel 0	0	0	0
Channel 1	0	0	0
Channel 2	0	0	0
Channel 3	0	0	0
Channel 4	0	0	0
Channel 5	0	0	0
Channel 6	0	0	0
Channel 7	0	0	0
		<input type="button" value="Set the DO"/>	
<input type="button" value="Automatic update"/>		<input type="button" value="Stop update"/>	

Sending counter	6
Receiving counter	6

**Web communication**  
This page uses websocket to achieve real-time data collection of web pages, it is recommended to use the Google Chrome browser or IE10 browser for testing. After the success of the connection, the page will automatically update the status of DI and DO, you can also set the DO through the web page. If the communication is interrupted, the page will pop up. If you do not need to automatically update the data, you can click on the "stop update" button.

Copyright © 2011 - 2015 · Shenzhen wayjun industrial automation website: [www.wayjun.net](http://www.wayjun.net)

**(a) WJ90-RJ45 Switch Status Table**

Webpage real-time data acquisition: Since the webpage using **websocket** to achieve real-time data acquisition, it is recommended to use the **Google Chrome** browser or **IE10** browser for testing. After the success of connection, the page will update the DI and DO status automatically, DO output can also be set via the web. If communication is interrupted, the webpage will pop-up prompts. If you do not update the data automatically, you can click the "Stop Update " button.

If your phone browser supports **websocket**, you can also read the DI data and control DO output via your phone.

**(b) Sending/Receiving counter**

It is used to record the communication number between pages and the module.

## (6) Advanced Settings

firmware revision : v3008		中文 <a href="#">logout</a>																								
		 -Industrial Ethernet I/O-																								
		<b>WJ90-RJ45</b>																								
<ul style="list-style-type: none"> <li>Current Status</li> <li>Local IP Config</li> <li>TTL1</li> <li>WJ90 Data Table</li> <li style="background-color: #0070C0; color: white;">Misc Config</li> <li>Reboot</li> </ul>	<table border="1"> <thead> <tr> <th align="center" colspan="2">parameter</th> </tr> </thead> <tbody> <tr> <td>Module name:</td> <td><b>WJ90-RJ45</b></td> </tr> <tr> <td>Reserved:</td> <td><input type="text" value="6432"/></td> </tr> <tr> <td>Webserver port:</td> <td><input type="text" value="80"/></td> </tr> <tr> <td>Module id(use for indentify modue):</td> <td><input type="text" value="1"/> (1~65535)</td> </tr> <tr> <td>Module id type:</td> <td><input type="text" value="0"/> (0/1/2/3)</td> </tr> <tr> <td>MAC address:</td> <td><input type="text" value="d8-b0-4c-01-07-94"/></td> </tr> <tr> <td>User name:</td> <td><input type="text" value="admin"/></td> </tr> <tr> <td>Pass word:</td> <td><input type="text" value="admin"/></td> </tr> <tr> <td>Buffer data before connected:</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Reset timeout:</td> <td><input type="text" value="0"/> second</td> </tr> </tbody> </table> <p align="center"> <input type="button" value="Save"/> <input type="button" value="Cancel"/> </p>	parameter		Module name:	<b>WJ90-RJ45</b>	Reserved:	<input type="text" value="6432"/>	Webserver port:	<input type="text" value="80"/>	Module id(use for indentify modue):	<input type="text" value="1"/> (1~65535)	Module id type:	<input type="text" value="0"/> (0/1/2/3)	MAC address:	<input type="text" value="d8-b0-4c-01-07-94"/>	User name:	<input type="text" value="admin"/>	Pass word:	<input type="text" value="admin"/>	Buffer data before connected:	<input type="checkbox"/>	Reset timeout:	<input type="text" value="0"/> second	<table border="1"> <thead> <tr> <th align="center">help</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• <b>module name</b> max length is 15 char</li> <li>• <b>Web port</b> default 80</li> <li>• <b>ID and ID type</b> we could use it for D2D</li> <li>• <b>Mac address</b> user could modify this MAC address</li> <li>• <b>Buffer data</b> default not checked, buffer data before tcp connection established</li> <li>• <b>reset timeout</b> default 0, 0-60 mean no timeout, &gt;60 mean when there is no data received during this time, the device will restart</li> </ul> </td> </tr> </tbody> </table>	help	<ul style="list-style-type: none"> <li>• <b>module name</b> max length is 15 char</li> <li>• <b>Web port</b> default 80</li> <li>• <b>ID and ID type</b> we could use it for D2D</li> <li>• <b>Mac address</b> user could modify this MAC address</li> <li>• <b>Buffer data</b> default not checked, buffer data before tcp connection established</li> <li>• <b>reset timeout</b> default 0, 0-60 mean no timeout, &gt;60 mean when there is no data received during this time, the device will restart</li> </ul>
parameter																										
Module name:	<b>WJ90-RJ45</b>																									
Reserved:	<input type="text" value="6432"/>																									
Webserver port:	<input type="text" value="80"/>																									
Module id(use for indentify modue):	<input type="text" value="1"/> (1~65535)																									
Module id type:	<input type="text" value="0"/> (0/1/2/3)																									
MAC address:	<input type="text" value="d8-b0-4c-01-07-94"/>																									
User name:	<input type="text" value="admin"/>																									
Pass word:	<input type="text" value="admin"/>																									
Buffer data before connected:	<input type="checkbox"/>																									
Reset timeout:	<input type="text" value="0"/> second																									
help																										
<ul style="list-style-type: none"> <li>• <b>module name</b> max length is 15 char</li> <li>• <b>Web port</b> default 80</li> <li>• <b>ID and ID type</b> we could use it for D2D</li> <li>• <b>Mac address</b> user could modify this MAC address</li> <li>• <b>Buffer data</b> default not checked, buffer data before tcp connection established</li> <li>• <b>reset timeout</b> default 0, 0-60 mean no timeout, &gt;60 mean when there is no data received during this time, the device will restart</li> </ul>																										
Copyright © 2011 - 2015 · Shenzhen wayjun industrial automation		website: <a href="http://www.wayjun.net">www.wayjun.net</a>																								

### (a) Module Name

Module name defaults **WJ90-RJ45**, that is the factory name. It does not support to change module name.

### (b) Webpage Port

Module contains built-in web server, the same as the conventional web server, both use port 80 pages, but this module provides the port modification function, after modification, can be accessed built-in web through other ports.

### (c) ID and ID type

The default value, without modification

### (d) MAC address

Users can modify the module MAC address as according to need

### (e) User name and password

The user name and password are both default "**admin**", the length must be less than 6. After modifying , the restart to take effect.

### (f) Buffer data

The default value, without modification

### (g) Reset timeout

Default 0, 0 to 60 mean no timeout,

> = 60, mean when there is no data received during this time, the device will restart

(7) Module Management



(a) Restart Module

Restart module to make your configuration take effect

## FAQ about WJ90-RJ45

### 1>> Across the network Segment problems

If the communication PC and device IP are not a network segment, and it is in a straight line, or under a sub-router, then they are unable to communicate simply.

Example:

Device IP: 192.168.0.7

Subnet Mask: 255.255.255.0

PC's IP: 192.168.1.100

Subnet Mask: 255.255.255.0

Device IP is 192.168.0.7, then the result could not land equipment page on the PC, also can not ping it.

If you want them to be able to communicate, you need set to 255.255.0.0 about the subnet mask of device/PC and the router, so that we can login module pages.

### 2>>> Device can ping but can not open the page

There may be several causes:

- 1) The device is set up static IP, but conflicts to the existing device network IP
- 2) HTTP server port was to be modified (default should be 80)

### 3) Other reasons

Workaround: Re-set up an unused IP to the device, restore factory settings or input the correct port when open the browser.

### 3>> every once in a while, dropped reconnection occurs

Every once in a while, dropped reconnection phenomena occur

Cause: The serial server has an IP address conflict with other device

### 4>> Communication is not normal, not on the network links, or can not search

Currently used computer firewall needs to be closed (in the windows firewall settings)

Three local ports, not conflict, that is, must be set to different values, the default 23, 26, 29

With illegal MAC address, such as all-FF MAC address, there maybe appear unable to connect the target IP address, or MAC address repeat.

Illegal IP address, such as a router and network are not in a network segment, you may not be able to access the Internet.

### 5>> Find hardware problems

Bad power adapter, or plug connection is undesirable

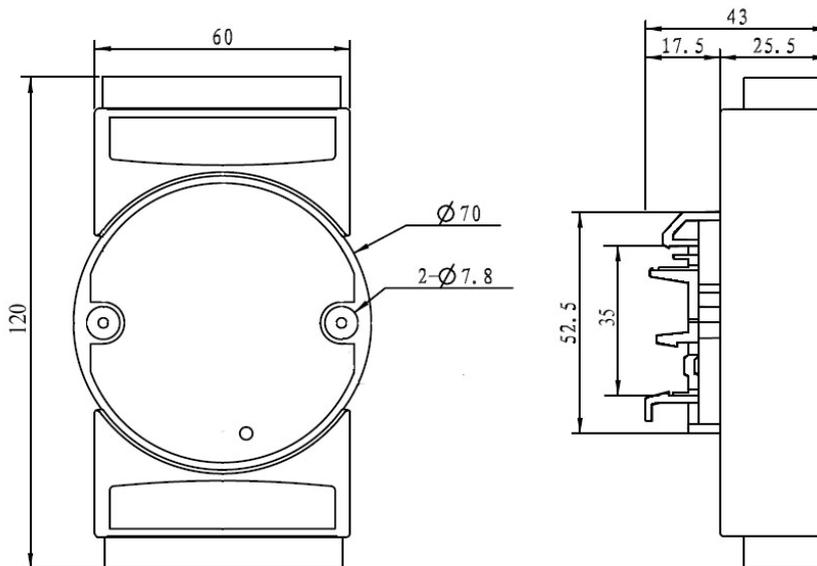
Power light is not on, the LAN light is not bright, that is no power supply or the hardware is broken

Cable or network port hardware issues, view the status of the network port lights

Network interface hardware problems, you can check the network port status, etc., green light should be the long bright, yellow light should be flashing, instead of the long light or long off, otherwise it is a hardware problem

Wrong password, if you forget the password, you can restore the factory configuration (switch to **init**, the device is on 10 seconds, then put on the switch to **normal**)

**Size(unit:mm)            DIN35 Rail Mounted**



### Warranty

Two years (but violate operating rules and requirements to create damage, clients need pay maintenance costs)

### Copyright

Copyright © 2016 Shenzhen WAYJUN Industrial Automation

Specifications subject to change without notice.

### Brand

In this manual, mentioned other trademarks and copyright belongs to their respective owners.

Version: V1.0