

16-CH 4-20mA analog signal to MODBUS TCP Network Data Acquisition module (WJ89 Series)

Features:

- >> Sixteen channels 4-20mA current/voltage input MODBUS TCP communication protocol
- >> Input voltage signal can choose 0-5V or 0-10V
- >> The built-in web page function can query data through web pages
- >> Support socket communication using character communication protocol
- >> 3000V isolation between 4-20mA signal input and power supply
- >> Wide power supply range: 8 ~ 32VDC
- >> DIN35 Rail-mounted
- >> User can set up module IP address and other parameters on the web pages
- >> Web login can be set up accounts and passwords, more secure
- >> Dimensions: 120 mm x 70 mm x 43mm

Applications:

- >> Industrial Ethernet analog signal monitoring and control
- >> It is used for Internet of things, real-time monitoring network and field equipment communication
- >> Intelligent building control, security engineering applications
- >> Ethernet industrial automation control system
- >> Industrial signal isolation and long-term transmission
- >> Equipment operation monitoring
- >> Monitoring and control of equipment operation
- >> Measurement of sensor signals
- >> Internet of things acquisition and recording
- >> Internet of things analog signal acquisition

Product Overview:

WAYJUN WJ89 series products are a collection module of Internet of Things and Industrial Ethernet, which realizes transparent data interaction between sensor and network. Can forward the sensor data to the network, or the data from the network to the sensor.



Figure 1 WJ89

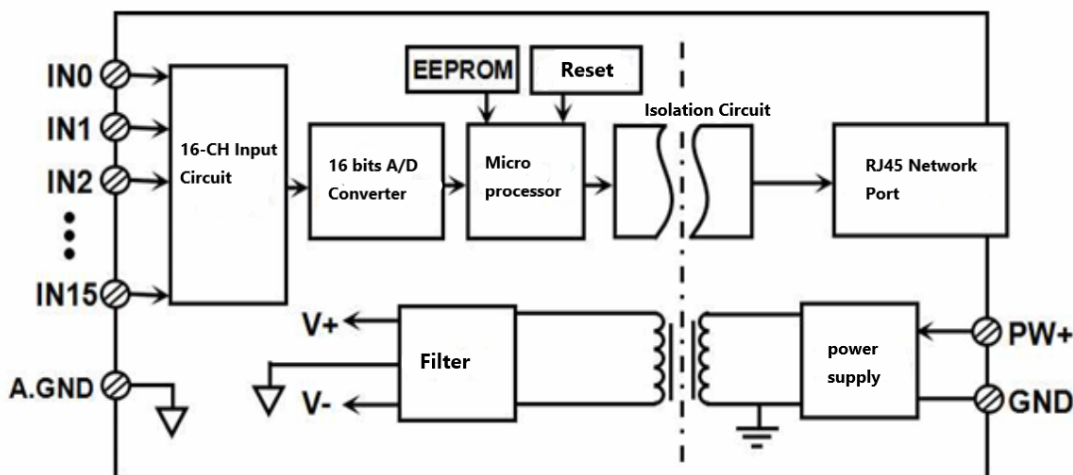


Figure 2: WJ89 Block Diagram

WJ89 series products include power conditioning, analog acquisition and output, switch acquisition, switch output and RJ-45 network interface communication. The communication mode is MODBUS TCP protocol. TCP is a protocol based

of channels opened)

Note: Please recalibrate the module after modifying the conversion rate, otherwise the measured data will be biased. It can also be noted when ordering

At the rate of change, we recalibrate the product at the required conversion rate when it leaves the factory.

Communication: MODBUS TCP communication protocol

Web page: Support web page access module, support web page setting module parameters.

Interface: RJ-45 network interface.

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

Power consumption: < 2W

Working temperature: - 45 ~ +80 Deg. C

Working humidity: 10 ~ 90% (no condensation)

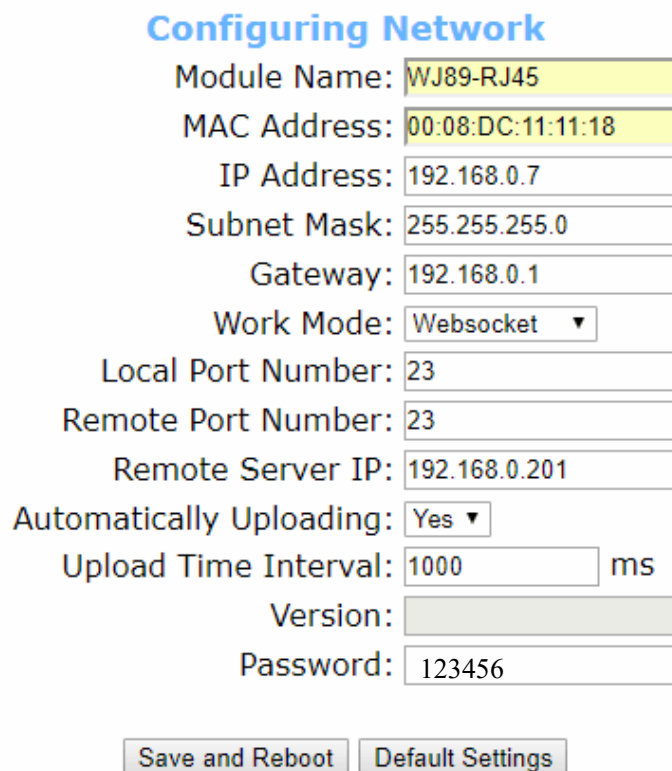
Storage temperature: - 45 ~ +80 Deg. C

Storage humidity: 10 ~ 95% (no condensation)

Isolation withstand voltage: 3000V isolation between analog signal and the digital signal, the switching signal and the power supply are common ground.

Dimensions: 120 mm x 70 mm x 43mm

WJ89 Factory default parameters:



Configuring Network

Module Name: WJ89-RJ45

MAC Address: 00:08:DC:11:11:18

IP Address: 192.168.0.7

Subnet Mask: 255.255.255.0

Gateway: 192.168.0.1

Work Mode: Websocket

Local Port Number: 23

Remote Port Number: 23

Remote Server IP: 192.168.0.201

Automatically Uploading: Yes

Upload Time Interval: 1000 ms

Version:

Password: 123456

Save and Reboot Default Settings

Figure 3: WJ89 Factory default parameters

How to restore factory setting?

1. When module is working, turn the INIT switch to the INIT position and then back to the NORMAL position.
2. Wait 30 seconds, module restored to the factory settings automatically. As shown in Figure 3. The web login password is automatically restored to 123456.

Footprint Function:

| PIN | Name | Function | PIN | Name | Function |
|-----|-------|----------------------------------|-----|-------|---------------------------------|
| 1 | IN11 | Channel 11 analog signal input + | 12 | IN2 | Channel 2 analog signal input+ |
| 2 | IN12 | Channel 12 analog signal input+ | 13 | IN3 | Channel 3 analog signal input+ |
| 3 | IN13 | Channel 13 analog signal input + | 14 | IN4 | Channel 4 analog signal input+ |
| 4 | IN14 | Channel 14 analog signal input+ | 15 | IN5 | Channel 5 analog signal input+ |
| 5 | IN15 | Channel 15 analog signal input+ | 16 | A.GND | Analog signal common ground |
| 6 | NC | No connecting | 17 | IN6 | Channel 6 analog signal input+ |
| 7 | PW+ | Power supply+ | 18 | IN7 | Channel 7 analog signal input+ |
| 8 | GND | Power supply - | 19 | IN8 | Channel 8 analog signal input+ |
| 9 | RJ-45 | Network interface | 20 | IN9 | Channel 9 analog signal input+ |
| 10 | IN0 | Channel 0 analog signal output+ | 21 | IN10 | Channel 10 analog signal input+ |
| 11 | IN1 | Channel 1 analog signal output+ | 22 | A.GND | Analog signal common ground |

Note: same name PIN interior are connected

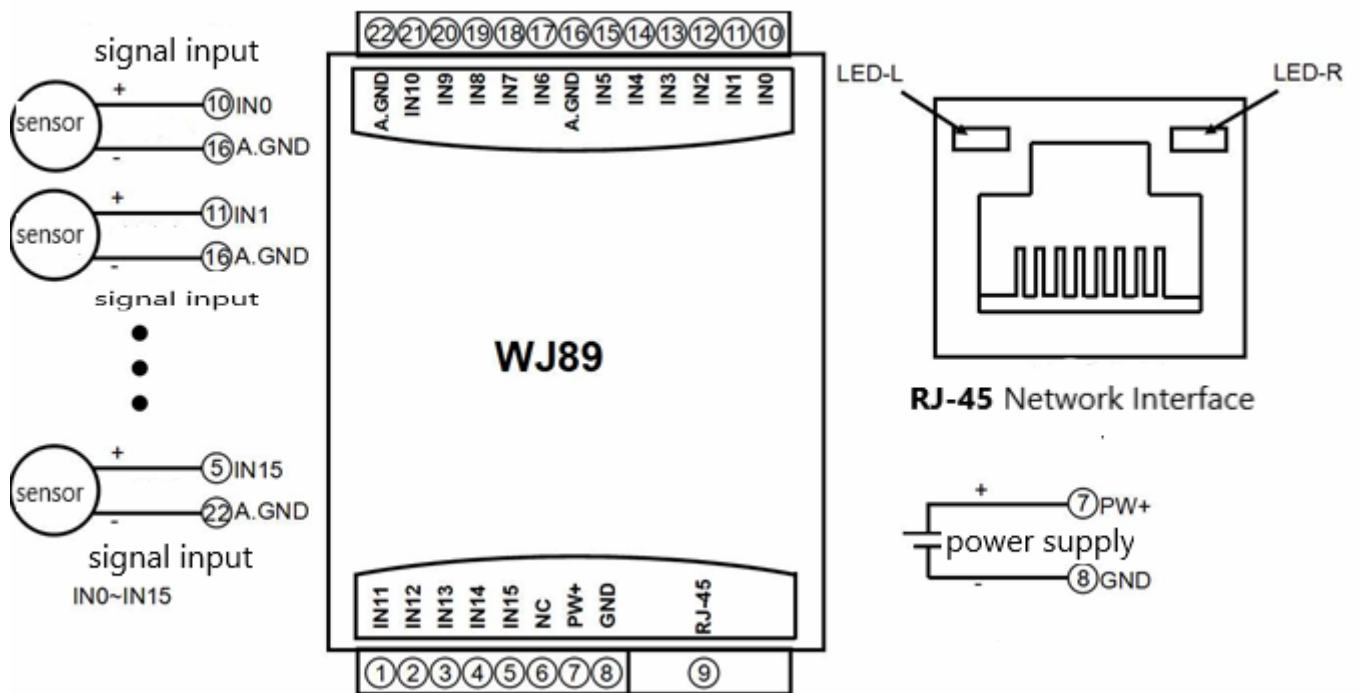
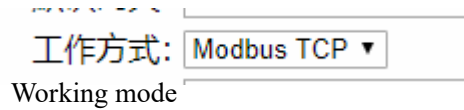


Figure 5: WJ89 wiring diagram

MODBUS TCP protocol

The module defaults is 1 MODBUS TCP Server, it does not need to be set and can communicate according to the MODBUS TCP protocol directly. If need more MODBUS TCP Server, you can change the module working mode to MODBUS TCP in the configuration parameters. Supports us to 6 MODBUS TCP Servers at most.



(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.

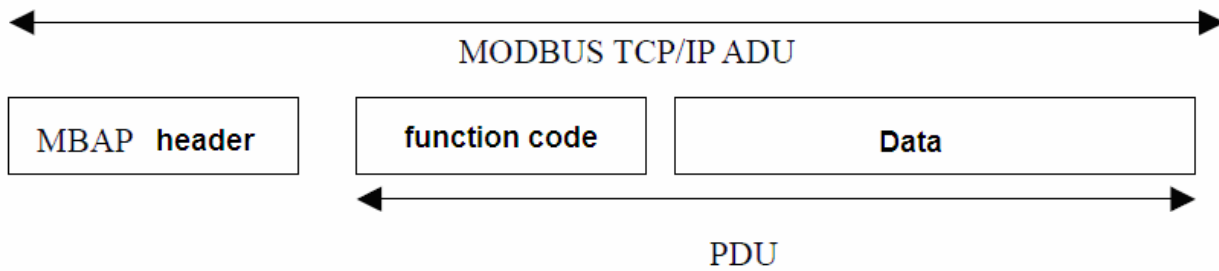


Figure 6: MODBUS request/response over TCP/IP

(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, WJ89 series products 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

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 00 | MBAP Header | Transaction Identifier | 01 00 |
| | Protocol Identifier | 00 00 | | Protocol Identifier | 00 00 |
| | Length | 00 06 | | Length | 00 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 | | | | |

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) WJ89 Register Address Description

Support function codes 03 and 06

| Address 4X (PLC) | Address (PC, DCS) | Data | Property | Data Description |
|------------------|-------------------|----------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40001 ~ 40016 | 0000~0015 | Input Analog | Read only | Integer, channel 0~15 data, 0x0000-0x7FFF |
| 40021~40036 | 0020~0035 | 4-20mA special | Read only | Integer, channel 0~15 data, 4mA=0x0000, 20mA=0x7FFF |
| 40061 ~ 40076 | 0060 ~ 0075 | Input Analog | Read only | Integer, channel 0~15 data, the range is defined by 40161~40176 register |
| 40081 ~ 40096 | 0080 ~ 0095 | User-defined 4-20mA | Read only | Integer, channel 0~15 data, the range is defined by 40181~40196 register When the data is less than 4mA, it is displayed as 0. when the data is 20 mA, it is displayed as set value. The middle is displayed proportionally. |
| 40101 ~ 40116 | 0100 ~ 0115 | Channel 0~15 calibration | Read/Write | The product has been calibrated at the factory and can be used directly without calibration. If you really need to recalibrate, please check the calibration section and follow the steps. |
| 40160 | 0159 | Channel 0~15 range | Write | If all channels range is the same, you can set this register. After the setting is completed, the 40161 ~ 40176 registers will be modified to the same value of the current register. |
| 40161 ~ 40176 | 0160 ~ 0175 | Channel 0~15 range | Read/Write | Integer, 0x0001-0x7FFF, the 40061~40076 register data is converted according to this range after modification |
| 40180 | 0179 | User-defined 4-20mA Channel 0~15 range | Write | If all channels range is the same, you can set this register. After the setting is completed, the 40181 ~ 40196 registers will be modified to the same value of the current register. |
| 40181 ~ 40196 | 0180 ~ 0195 | User-defined 4-20mA Channel 0~15 range | Read/Write | Integer, 0x0001-0x7FFF, the 40081~40096 register data is converted according to this range after modification |

2. Read channel N analog input module data command

Description: Returns channel N analog input data from the module in the currently configured data format.

Command Format: **#00N**

Parameters: N Channel codes 0 to F, hexadecimal is 30H~39H, 41H~46H.

Response format: **>(data)(cr)** the command is valid

?00(cr) the command is invalid or illegal or the channel is closed

Parameters: > Delimiter

(data) represents returning the data of channel N. The data format can be an engineering unit, a percentage of FSR, and a hexadecimal complement, or ohms. See section 3 of the command set for details.

(cr) terminating character, carriage return (0DH)

Other notes: If the format is wrong or the communication is incorrect, the module does not respond.

Example: Commands (character format) **#000**

(Hexadecimal format) **23303030**

Module response (character format): **>+18.000 (cr)**

(Hexadecimal format) **3E2B31382E3030300D**

Description: The input on the module channel 0 is (the data format is the engineering unit): +18.000mA

3. Set WJ89 Module Command

Description: Set data formats, decimal point, range and channel status for a WJ89 module. counter data is stored in a EEPROM.

Command Format: **\$01FDNNNNNABCD**

Parameters: \$01 Configuration command 3 initial characters

F Data format

0: Engineering Units

1: % of FSR

2: Twos complement

3: 4mA displays 0 (measurement data is subtracted 4mA automatically and then converted according to range)

D Data decimal point position, value rang is from 1 to 5. Indicates that there are several numbers in front of the decimal point. For example, 3 means 000.00.

NNNNN represents the data range, value rang is from 00000 to 99999 (decimal). For example, 10000 means the range is 10000.

ABCD Four hexadecimal numbers,

The first number represents 15~12 channel

The second number represents 11~8 channel

The third number represents 7~4 channel

The fourth number represents the 3~0 channel

Bit value is 0: channel is disabled

Bit value is 1: Enable channel

| | | | | | | | |
|--------|--------|--------|--------|--------|-------|-------|-------|
| IN15 | IN14 | IN13 | IN12 | IN11 | IN10 | IN9 | IN8 |
| Bit 15 | Bit 14 | Bit 13 | Bit 12 | Bit 11 | Bit10 | Bit 9 | Bit 8 |
| A | | | | B | | | |
| | | | | | | | |
| IN7 | IN6 | IN5 | IN4 | IN3 | IN2 | IN1 | IN0 |
| Bit7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit2 | Bit 1 | Bit 0 |
| C | | | | D | | | |

Response format: **!01(cr)** the command is valid

?00(cr) the command is invalid or illegal

Example: Commands **\$010220000FFFF**

Module response **!01(cr)**

Description: **\$01** Configuration command 3 initial characters

- 0** Engineering Units
- 2** Indicates that there are 2 numbers before the decimal point
- 20000** Indicates that the range is 20000
- FFFF** Indicates that the channels are open

4. Read Configuration Status Command

Description: Read configuration for WJ89 module.

Command Format: **\$00**

Response format: **!00FDNNNNNABCD (cr)** the command is valid
?00(cr) the command is invalid or illegal

Parameters: **!00** Reply 3 first characters

- F** Data format
 - 0: Engineering Units
 - 1: % of FSR
 - 2: Twos complement
 - 3: 4mA displays 0 (measurement data is subtracted 4mA automatically and then converted according to range)
- D** Data decimal point position, value rang is from 1 to 5. Indicates that there are several numbers in front of the decimal point. For example, 3 means 000.00.

NNNNN represents the data range, value rang is from 00000 to 99999 (decimal). For example, 10000 means the range is 10000.

ABCD Four hexadecimal numbers

The first number represents 15~12 channel

The second number represents 11~8 channel

The third number represents 7~4 channel

The fourth number represents the 3~0 channel

Bit value is 0: channel is disabled

Bit value is 1: Enable channel

| | | | | | | | |
|--------|--------|--------|--------|--------|-------|-------|-------|
| IN15 | IN14 | IN13 | IN12 | IN11 | IN10 | IN9 | IN8 |
| Bit 15 | Bit 14 | Bit 13 | Bit 12 | Bit 11 | Bit10 | Bit 9 | Bit 8 |
| A | | | | B | | | |
| | | | | | | | |
| IN7 | IN6 | IN5 | IN4 | IN3 | IN2 | IN1 | IN0 |
| Bit7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit2 | Bit 1 | Bit 0 |
| C | | | | D | | | |

(cr) terminating character, carriage return (0Dh)

Other notes: If the format is wrong or the communication is incorrect, the module does not respond.

Example: Commands **\$00**

Module response **!001150000FFFF (cr)**

Description: **!00** Reply 3 first characters

- 1** % of FSR
- 1** Indicates that there is one numbers in front of the decimal point

50000 Indicates that the range is 50000

FFFF Indicates that the channels are open

5. Set Module AD Conversion Rate

Description: Sets the AD conversion rate of the module. Among them, channel conversion rate = AD conversion rate / opened channel numbers. The slower the sampling rate, the more accurate the acquired data. Users can adjust it according to their needs. The factory default conversion rate is 20SPS.

Note: Please recalibrate the module after modifying the conversion rate, otherwise the measured data will be biased. It is also possible to indicate the conversion rate when ordering, and we recalibrate at the factory's required conversion rate when the product is shipped.

Command Format: **\$03R**

Parameters: **\$03** Set the conversion rate command to 3 initial characters
R Conversion rate code, which can be 0~9

| Code R | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------------|---------|-------|--------|--------|--------|--------|---------|---------|---------|----------|
| Conversion rate | 2.5 SPS | 5 SPS | 10 SPS | 20 SPS | 40 SPS | 80 SPS | 160 SPS | 320 SPS | 500 SPS | 1000 SPS |

Response format: **!03(cr)** the command is valid
?00(cr) the command is invalid or illegal

Other notes: If the format is wrong or the communication is incorrect, the module does not respond.

Example 1: Commands **\$036**
Module response **!03(cr)**

Description: set AD conversion rate is 160SPS.

Example 2: Commands **\$035**
Module response **!03(cr)**

Description: set AD conversion rate is 80SPS.

6. Read Module AD Conversion Rate

Description: Read the module AD conversion rate. Among them, channel conversion rate = AD conversion rate / numbers of channel opened. The slower the sampling rate, the more accurate the acquired data.

Command Format: **\$02R**

Response format: **!02(cr)** the command is valid
?00(cr) the command is invalid or illegal

Parameters: **R** Conversion rate code, which can be 0~9

| Code R | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------------|---------|-------|--------|--------|--------|--------|---------|---------|---------|----------|
| Conversion rate | 2.5 SPS | 5 SPS | 10 SPS | 20 SPS | 40 SPS | 80 SPS | 160 SPS | 320 SPS | 500 SPS | 1000 SPS |

(cr) terminating character, carriage return (0DH)

Other notes: If the format is wrong or the communication is incorrect, the module does not respond.

Example 1: Commands **\$02**
Module response **!026(cr)**

Description: set AD conversion rate is 160SPS.

Example 2: Commands **\$02**
Module response **!025(cr)**

Description: set AD conversion rate is 80SPS.

Actions and settings on the webpage

Enter the default module IP in the computer or mobile browser, the default is 192.168.0.7, which can open the module webpage (provided that the computer IP or mobile IP and module are on the same network segment. The login webpage should be based on the IP address of the current module.

Login operation), enter the password, the default is 123456, click "Login",

You can enter the data display interface, there are Chinese and English switch signs in the upper right corner, click then you can switch between Chinese and English signs.

1. web page real-time collection:

Since this page uses websocket to realize real-time data collection by webpage, it is recommended to test using Google Chrome or IE10 browser.

After the connection is successful, the web page will automatically update the data (note how the module works, it must be set to "Websocket," and the automatic upload data should be set to "Yes" or you can't get the data), you can also set the AI range through the webpage and other parameters. DO and AO parameters can also be set through the webpage. if your mobile browser supports websocket, you can also use your mobile phone to read data and set parameters.

Input Data Table

| Channels | Analog Data |
|----------|----------------------|
| AI0 | <input type="text"/> |
| AI1 | <input type="text"/> |
| AI2 | <input type="text"/> |
| AI3 | <input type="text"/> |
| AI4 | <input type="text"/> |
| AI5 | <input type="text"/> |
| AI6 | <input type="text"/> |
| AI7 | <input type="text"/> |
| AI8 | <input type="text"/> |
| AI9 | <input type="text"/> |
| AI10 | <input type="text"/> |
| AI11 | <input type="text"/> |
| AI12 | <input type="text"/> |
| AI13 | <input type="text"/> |
| AI14 | <input type="text"/> |
| AI15 | <input type="text"/> |

| | |
|-----------------|-----------------------------|
| Data Format | Engineering Unit ▾ |
| Decimal Point | 000.00 ▾ |
| Range Setting | 20000 <input type="text"/> |
| Channel Setting | 0x00FF <input type="text"/> |

2.configure network parameters:

(a) module name

The module name defaults is WJ89-RJ45, and user can modify as needed.

(b) MAC address

The MAC address can be changed according to user needs.

(c) IP address

The current module IP address, factory default is: 192.168.0.7, the IP address can be modified.

(c) subnet mask

Used to divide the subnet range size (usually 255.255.255.0), which can be modified by the user.

(d) default gateway

The only way to access the external network (usually fill in the router IP address).

(d) working method

The default is Websocket, which supports up to 6 Websocket communication. Can be set to TCP Server, TCP Client, UDP Mode, Modbus TCP, etc. communication method. Up to 6 TCP Servers can be supported in TCP Server mode.

(c) local port

The local port default is 23 and can be modified by the user.

Configuring Network

| | |
|--------------------------|------------------------------------------------|
| Module Name: | <input type="text" value="WJ89-RJ45"/> |
| MAC Address: | <input type="text" value="00:08:DC:11:11:18"/> |
| IP Address: | <input type="text" value="192.168.0.7"/> |
| Subnet Mask: | <input type="text" value="255.255.255.0"/> |
| Gateway: | <input type="text" value="192.168.0.1"/> |
| Work Mode: | <input type="text" value="Websocket"/> |
| Local Port Number: | <input type="text" value="23"/> |
| Remote Port Number: | <input type="text" value="23"/> |
| Remote Server IP: | <input type="text" value="192.168.0.201"/> |
| Automatically Uploading: | <input type="text" value="Yes"/> |
| Upload Time Interval: | <input type="text" value="1000"/> ms |
| Version: | <input type="text"/> |
| Password: | <input type="text"/> |

(c) remote port

The working mode is TCP Client, and UDP Mode is filled in according to the actual situation.

(e) remote server address

It is the IP address of the remote server. The working mode is TCP Client, and UDP Mode is filled in according to the actual situation.

(e) automatically upload data

Whether to upload measurement data automatically in Websocket, TCP Server, TCP Client, UDP Mode, etc.

(f) upload time interval

The time interval at which the measurement data is uploaded automatically. The default is to upload data once in 1 second.

(b) version number

The version is incremented from 1.0.

(g) password

Setting parameters must be entered with the correct password to take effect. The password is the web login password, the factory default is 123456.

After the parameters are filled in, click the “Save and Restart” button, the module will save the parameters and restart automatically.

Module Calibration:

We have calibrated the module, the user can use directly.

You can also use the product calibration function to re-calibrate the module. During calibration, the module need to be entered the appropriate signal, different input range needs different input signals.

In order to improve calibration accuracy, it is recommended to calibrate using the following equipment:

1. A stable output, low noise DC voltage / current signal source
2. A five and a half or more high-precision voltage / current measuring instruments to monitor the accuracy of the input signal

Calibration:

1. According to the module input range, connects to the corresponding input signal.

Which WJ89 module zero calibration is at input 0, full scale calibration is at the input full-scale 100% . For example, input signal is **4-20mA**, when calibrate zero, input **0mA**, when full-scale calibration, input **20mA**. input signal is **0-5V**, when calibrate zero, input **0V**, when the full-scale calibration, input **5V**.

2. To WJ89 module input zero signal, usually is **0mA** or **0V**.
3. Until the signal stabilized, MODBUS protocol modify register 40101 (channel 0) to 0xFF00 and the module performs zero calibration. (To calibrate other channels, please modify the corresponding channel register data to 0xFF00).
4. To WJ89 module input 100% of full scale current or voltage signal
5. Until the signal is stable, MODBUS protocol modify register 40101 (channel 0) to 0xFFFF and the module performs zero calibration. (To calibrate other channels, please modify the corresponding channel register data to 0xFFFF).
6. Finished

FAQ about WJ89

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

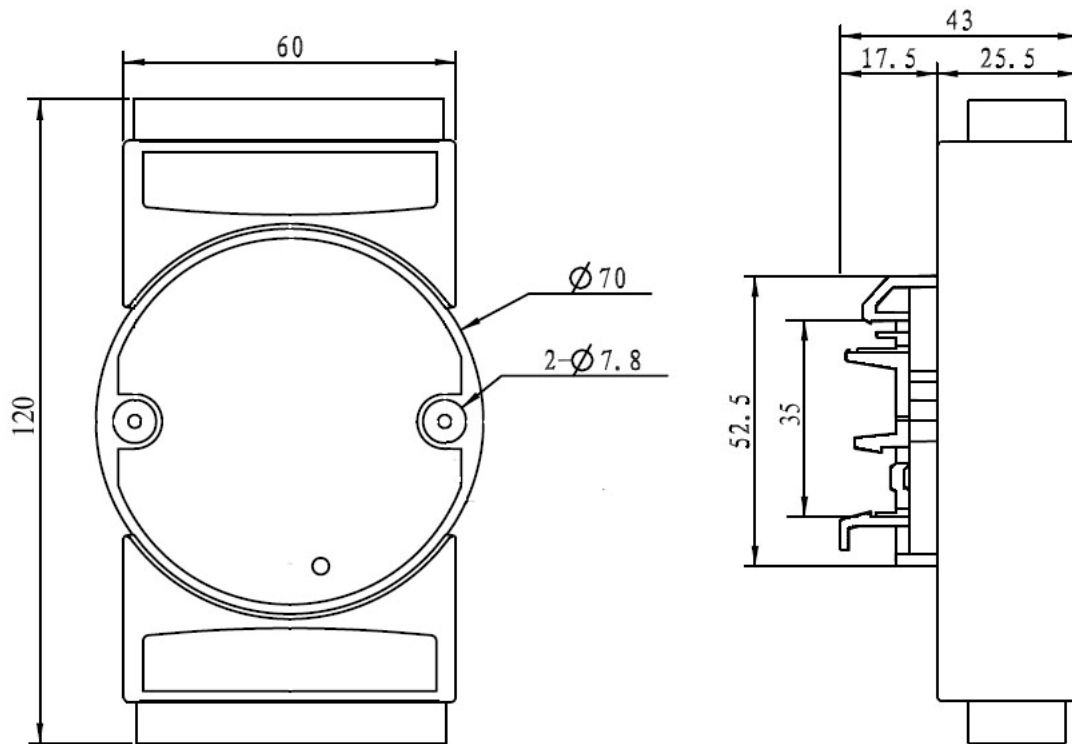
Power light is not on, the LAN light is not bright, that is no power supply or the hardware is broken

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 30 seconds, then put on the switch to **normal**. The parameters are shown in Figure 3. Web login password is restored to 123456 automatically)

Size(unit:mm) DIN35 Rail Mounted



Warranty

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

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Version: V1.0