

Eight DI and eight DO channels, switch isolation to RS-485/232, data acquisition

remote I/O module WJ65

Product features:

- Eight channel switch input, eight channel switch output
- The input level status can be read through the RS-485/232 interface
- The output status can be set through the RS-485/232 interface
- 3000V triple isolation between signal input, output, and communication interfaces
- Wide power supply range: 8~32VDC
- High reliability, easy programming, and easy application
- Standard DIN35 rail installation, convenient for centralized wiring
- Users can program module addresses, baud rates, etc
- Supports Modbus RTU communication protocol and automatic recognition protocol
- Low cost, small size, modular design
- Dimensions: 120 x 70 x 43mm

Typical applications:

- Level signal measurement, monitoring, and control
- RS-485 remote I/O, data acquisition
- Intelligent building control, security engineering and other application systems
- RS-232/485 bus industrial automation control system
- Industrial site signal isolation and long-distance transmission
- Equipment operation monitoring and control
- Measurement of sensor signals
- Acquisition and recording of industrial field data
- Switch signal acquisition

Product Overview:

The WJ65 product realizes signal acquisition and control between sensors and hosts, used to detect switch signals or control device operation. The WJ65 series products can be applied in industrial automation control systems with RS-232/485 bus, measurement and control of switch signals, measurement and output of high and low level signals, as well as industrial field signal isolation and long-distance transmission, etc.

The product includes power conditioning, switch quantity acquisition, switch quantity output, and RS-485 serial communication. Each serial port can connect up to 255 WJ65 series modules, and the communication method adopts ASCII code communication protocol or MODBUS RTU communication protocol. The baud rate can be set by code and can be hung on the same RS-485 bus as control modules from other manufacturers, making it easy for computer programming.



WJ65 module appearance diagram

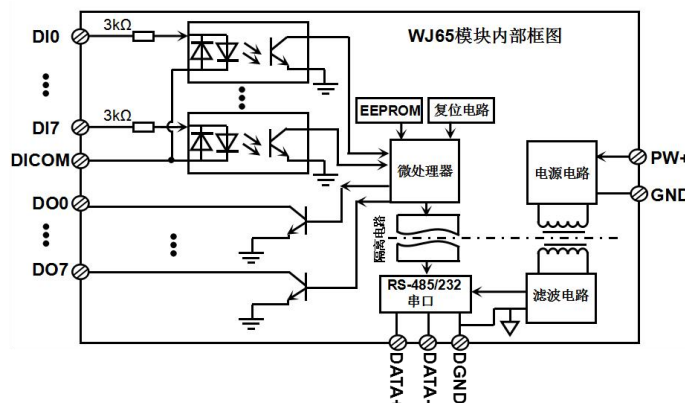


Figure 2 Internal Block Diagram of WJ65 Module

The WJ65 series products are intelligent monitoring and control systems based on microcontrollers. All user set configuration information such as address, baud rate, data format, checksum status, etc. are stored in non-volatile memory EEPROM.

The WJ65 series products are designed and manufactured according to industrial standards, with 3000V triple isolation between signal input, output, and communication interfaces, strong anti-interference ability, and high reliability. The working temperature range is -45 °C to +85 °C.

Function Introduction:

The WJ65 remote I/O module can be used to measure eight switch signals and has eight switch outputs.

1. Switching signal input and output

8-channel switch signal input, capable of connecting dry and wet contacts. Please refer to the wiring diagram for details; 8-channel switch signal output with open collector output, can be commanded to set internal pull-up output.

2. Communication Protocol

Communication interface: 1 standard RS-485 communication interface or 1 standard RS-232 communication interface, please specify when ordering and selecting.

Communication Protocol: Supports two protocols, the character protocol defined by the command set and the MODBUS RTU communication protocol. The module automatically recognizes communication protocols and can achieve network communication with various brands of PLCs, RTUs, or computer monitoring systems.

Data format: 10 digits. 1 start bit, 8 data bits, 1 stop bit, no checksum.

The communication address (0-255) and baud rate (2400, 4800, 9600, 19200, 38400, 57600, 115200bps) can be set;

The communication network can reach a maximum distance of 1200 meters and is connected through twisted pair shielded cables.

High anti-interference design of communication interface, ± 15KV ESD protection, communication response time less than 100mS.

3. Anti interference

Parity check can be set as needed. There is a transient suppression diode inside the module, which can effectively suppress various surge pulses and protect the module.

Product selection:

WJ65 - □
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Communication interface

485: Output as RS-485 interface

232: Output as RS-232 interface

Selection Example 1: Model: **WJ65-232** indicates that the communication interface is RS-232

Selection Example 2: Model: **WJ65-485** indicates that the communication interface is RS-485

WJ65 General Parameters:

(Typical @+25 °C, Vs is 24VDC)

Input type: switch input, 8 channels (DI0~DI7).

Low level: Input < 1V

High level: Input 4~30V

Input resistance: 3K Ω

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

Communication: RS-485 or RS-232 standard character protocol and MODBUS RTU communication protocol

Baud rates (2400, 4800, 9600, 19200, 38400, 57600, 115200bps) can be selected by software

The address (0-255) can be selected by software

Communication response time: 100 ms maximum

Working power supply: +8~32VDC wide power supply range, with internal anti reverse and overvoltage protection circuits

Power consumption: less than 1W

Working temperature: -45~+80 °C

Working humidity: 10~90% (no condensation)

Storage temperature: -45~+80 °C

Storage humidity: 10~95% (no condensation)

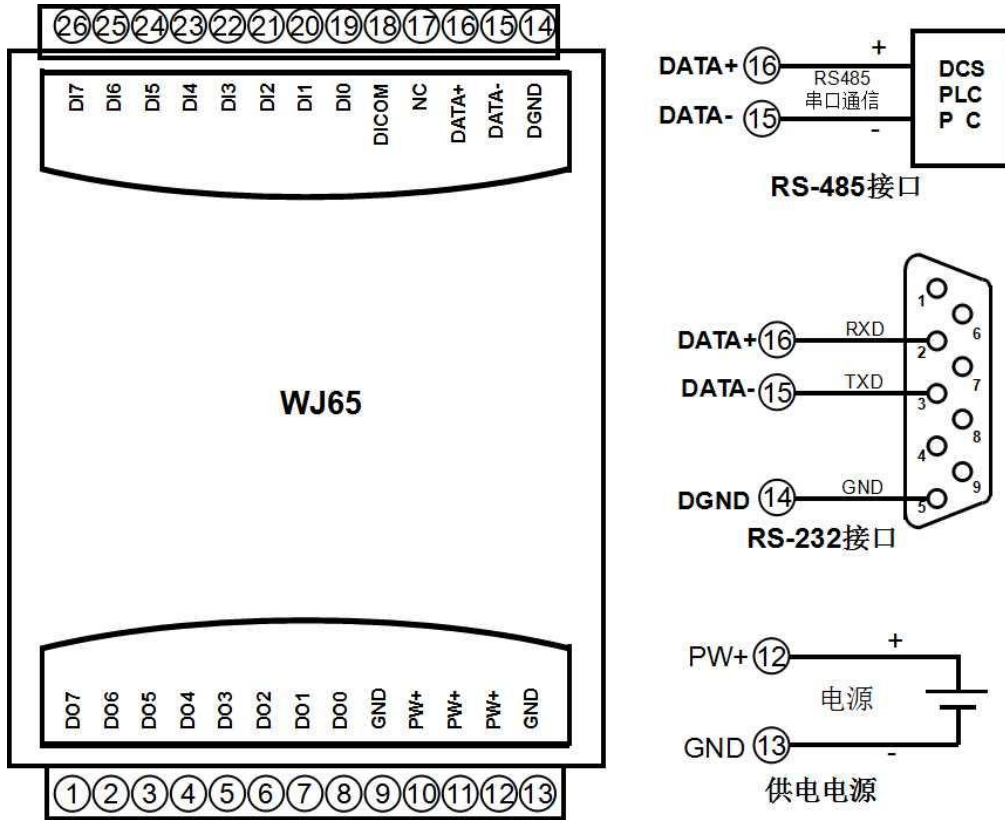
Isolation and Voltage Resistance: Three isolations between input, output, and communication, with an isolation voltage of 3000VDC, where the power supply and output are grounded together

Dimensions: 120mm x 70mm x 43mm

Pin definition:

Pin	name	Description	Pin	name	Description
one	DO7	Channel 7 switch signal output terminal	fourteen	GND	RS-485 signal ground (485 can be disconnected)
two	DO6	Channel 6 switch signal output terminal	fifteen	DATA-	RS-485 signal negative terminal
three	DO5	Channel 5 switch signal output terminal	sixteen	DATA+	RS-485 signal positive terminal
four	DO4	Channel 4 switch signal output terminal	seventeen	NC	Empty feet
five	DO3	Channel 3 switch signal output terminal	eighteen	DICOM	DI public end
six	DO2	Channel 2 switch signal output terminal	nineteen	DI0	Channel 0 switch signal input terminal
seven	DO1	Channel 1 switch signal output terminal	twenty	DI1	Channel 1 switch signal input terminal
eight	DO0	Channel 0 switch signal output terminal	twenty-one	DI2	Channel 2 switch signal input terminal
nine	GND	DO common negative terminal, internally connected to the negative terminal of the power supply	twenty-two	DI3	Channel 3 switch signal input terminal
ten	PW+	Internally connected to the positive end of the power supply	twenty-three	DI4	Channel 4 switch signal input terminal
eleven	PW+	Internally connected to the positive end of the power supply	twenty-four	DI5	Channel 5 switch signal input terminal
twelve	PW+	Positive end of power supply	twenty-five	DI6	Channel 6 switch signal input terminal
thirteen	GND	Negative end of power supply	twenty-six	DI7	Channel 7 switch signal input terminal

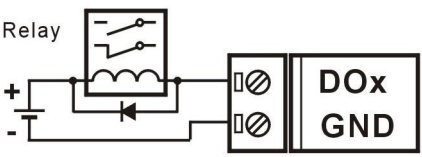
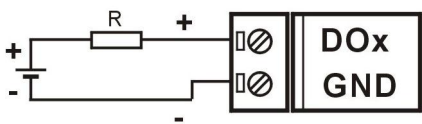
Table 1 Pin Definition



Wiring diagram for switch signal input

<p>Dry contact input</p> <p>External power supply can be selected from 5~30VDC</p>	<p>Wet contact input</p>
<p>Open collector input</p> <p>External power supply can be selected from 5~30VDC</p>	<p>TTL/CMOS level, 24V level input</p>

Wiring diagram for switch signal output

Drive Relay	Level output
 <p>External power supply can be selected from 5~30VDC The working current of the relay is less than 30mA If the voltage of the relay power supply and the module power supply are the same, they can share the power supply</p>	 <p>External power supply can be selected from 5~30VDC The working current of the resistor is less than 30mA</p>

WJ65 Character Protocol Command Set:

The factory initial settings of the module are as follows:

The address code is 01

Baud rate 9600 bps

No verification

If using an RS-485 network, a unique address code must be assigned, which is a hexadecimal number between 00 and FF. Since the address codes of new modules are the same, their addresses will conflict with other modules. Therefore, when building the system, you must reconfigure the addresses of each WJ65 module. After connecting the power line and RS485 communication line of the WJ65 module, the address and baud rate of the WJ65 module can be modified through configuration commands.

Method to put the module into default state:

There is an Initiat switch located on the side of the WJ65 module. Turn the Initiat switch to the Initiat position, then turn on the power, and the module will enter the default state. In this state, the configuration of the module is as follows:

The address code is 00

Baud rate 9600 bps

No verification

At this point, the baud rate, checksum status, and other parameters of the WJ65 module can be modified through configuration commands. When unsure of the specific configuration of a module, the Initiat switch can also be turned to the Initiat position to put the module into default mode, and then the module can be reconfigured.

Note: Please turn the Initiat switch to the NORMAL position during normal use.

1. Read switch status command

Explanation: Read back all output channel switch status and input channel switch status from the module.

Command format: \$AA6

Parameter description: \$delimiter. Hexadecimal is 24H

AA module address, with a value range of 00 to FF (hexadecimal). The factory address is 01, which is converted to hexadecimal as the ASCII code for each character. If address 01 is replaced with hexadecimal, it will be 30H and 31H.

Response format: ! The **(dataOutput) (dataInput) 00 (cr)** command is valid.

? The AA (cr) command is invalid or an illegal operation.

Parameter description: ! Boundary symbol. Hexadecimal is 21H

(dataOutput) represents the read output switch status, consisting of two hexadecimal numbers,

The first number represents channels 7 to 4

The second number represents channels 3 to 0

Bit value is 0:

Output transistor does not conduct

Bit value is 1:

Output transistor conduction

Hexadecimal is the ASCII code for each character.

(dataInput) represents the read switch status, consisting of two hexadecimal numbers,

The first number represents channels 7 to 4

The second number represents channels 3 to 0

Bit value is 0: Input is low level

Bit value 1: Input is high level.

Hexadecimal is the ASCII code for each character.

? The delimiter indicates that the command is invalid.

AA represents the input module address

(cr) End symbol, upper computer enter key, hexadecimal is 0DH.

Other instructions: If the format is incorrect, the communication is incorrect, or the address does not exist, the module will not respond.

If the serial communication software you are using cannot input the enter key character, please switch to hexadecimal format for communication.

Application example: User command (character format) **\$016**

(Hexadecimal format) **24303136**

Module response (character format) **! 221100 (cr)**

(Hexadecimal format): **213232313130300D**

Explanation: The output data read is 22, converted to binary is 0010 0010. Therefore, the output switch status on the address 01H module is:

Channel 0: Non conducting transistor Channel 1: Conducting transistor Channel 2: Non conducting transistor Channel 3: Non conducting transistor

Channel 4: Non conducting transistor Channel 5: Conducting transistor Channel 6: Non conducting transistor Channel 7: Non conducting transistor

The input data read is 11, converted to binary is 0001 0001, so the input switch status on the address 01H module is:

Channel 0: High Level Channel 1: Low Level Channel 2: Low Level Channel 3: Low Level

Channel 4: High Level Channel 5: Low Level Channel 6: Low Level Channel 7: Low Level

2. Read switch status command

Description: The function is the same as the first command, but the reply format is different. It reads back all output channel switch status, switch reset status, and input channel switch status from the module.

Command format: **# AA**

Parameter description: # delimiter. Hexadecimal is 23H

AA module address, with a value range of 00 to FF (hexadecimal). The factory address is 01, which is converted to hexadecimal as the ASCII code for each character. If address 01 is replaced with hexadecimal, it will be 30H and 31H.

Response format: **>AAAAAAA,BBBBBBB,CCCCCCC (cr)** command is valid.

? The **01 (cr)** command is invalid or an illegal operation.

Parameter description: >delimiter. Hexadecimal is 3EH

AAAAAAAA represents the read output switch status, consisting of 8 numbers arranged in the order of DO7~DO0,
Value 0: Output transistor disconnected; Value 1: Output transistor connected

BBBBBB represents the read reset output switch status, consisting of 8 numbers arranged in the order of DO7~DO0,
Value 0: Output transistor disconnected; Value 1: Output transistor connected

CCCCCCC represents the read input switch status, consisting of 8 numbers arranged in the order of DI7~DI0,
Value 0: Input low level; Value 1: Input high level

(cr) End symbol, upper computer enter key, hexadecimal is 0DH.

Application example: User command (character format) **# 01**

Module response (character format) **>00011000001100000111 (cr)**

Explanation: The module output switch status is 00011000, arranged in the order of DO7~DO0

Channel 0: transistor disconnected Channel 1: transistor disconnected Channel 2: transistor disconnected Channel 3: transistor connected

Channel 4: transistor connected Channel 5: transistor disconnected Channel 6: transistor disconnected Channel 7: transistor disconnected

After resetting the module, the output switch status is 00001010, arranged in the order of DO7~DO0

Channel 0: transistor disconnected Channel 1: transistor connected Channel 2: transistor disconnected Channel 3: transistor connected

Channel 4: transistor disconnection Channel 5: transistor disconnection Channel 6: transistor disconnection Channel 7: transistor disconnection

The input switch status of the module is 00000 111, and the arrangement order is DI7~DI0

Channel 0: High Level Channel 1: High Level Channel 2: High Level Channel 3: Low Level

Channel 4: Low Level Channel 5: Low Level Channel 6: Low Level Channel 7: Low Level

2. Set transistor output command

Description: Set the status of all output channel transistors. The factory setting for all channels is 00000000.

Command format: **#AA1ABCD (cr)**

Parameter description: # delimiter. Hexadecimal is 24H

AA module address, with a value range of 00 to FF (hexadecimal). The factory address is 01, which is converted to hexadecimal as the ASCII code for each character. If address 01 is replaced with hexadecimal, it will be 30H and 31H.

1 represents setting the transistor output command

AB channel selection, can choose all output channels or a single output channel.

Set output: Setting AB to 00 means setting all output channels. If setting a single channel, character A must be set to 1, and character B can be set to 0-7, representing 8 transistor DO output channels.

Set reset output: Setting AB to FF means setting the reset output values for all channels. If setting the reset output for a single channel, character A must be set to E, and character B can be set to 0-7, representing 8 transistor DO output channels.

CD output value.

If it is set for all channels (AB=00 or AB=FF)

Then there are two hexadecimal

numbers, as shown in the figure on the right

C represents channels 7 to 4

D represents channels 3 to 0

Bit value is 0:

C				D			
DO7	DO6	DO5	DO4	DO3	DO2	DO1	DO0

Set the output transistor to disconnect

Bit value is 1:

Set the output transistor to turn on

If it is set for a single channel (AB=1X or AB=EX, where X represents the channel to be set), it can only be set to 00 or 01,

00: Set the X-channel output transistor to disconnect

01: Set the X-channel output transistor to turn on

(cr) End symbol, upper computer enter key, hexadecimal is 0DH.

Response format: The **01 (cr)** command is valid.

? The **01 (cr)** command is invalid or an illegal operation.

Application example 1: User command (character format) # **011000F (cr)**

Module response (character format)! **01(cr)**

Explanation: Set the output of all channels (AB=00) to 0FH, and convert it to binary to 0000 1111,

So the switch state output by the module is:

Channel 0: transistor connected Channel 1: transistor connected Channel 2: transistor connected Channel 3: transistor connected

Channel 4: transistor disconnection Channel 5: transistor disconnection Channel 6: transistor disconnection Channel 7: transistor disconnection

Application example 2: User command (character format) # **0111201 (cr)**

Module response (character format)! **01(cr)**

Explanation: Set the transistor of channel 2 to be connected.

Application Example 3: User Command (Character Format) # **011FFFF (cr)**

Module response (character format)! **01(cr)**

Explanation: Set the reset output of all channels (AB=FF) to FFH, which is converted to binary as 1111 1111,

After the module is reset, all channel transistors are turned on.

4. Configure WJ65 module command

Explanation: Set the address, baud rate, and parity for a WJ65 module. The configuration information is stored in non-volatile memory EEPROM.

The modified address will take effect immediately, and the baud rate and verification will take effect after restarting.

Command format: % **AANNTTCCFF**

Parameter description: % delimiter.

AA module address, with a value range of 00 to FF (hexadecimal). The factory address is 01, which is converted to hexadecimal as the ASCII code for each character. If address 01 is replaced with hexadecimal, it will be 30H and 31H.

NN represents the new module hexadecimal address, with values ranging from 00 to FF. Convert to hexadecimal to ASCII code for each character. If address 18 is replaced with hexadecimal as 31H and 38H.

TT uses hexadecimal to represent type encoding. The WJ65 product must be set to 00.

CC uses hexadecimal to represent baud rate encoding.

Baud rate code	Baud rate
04	2400 baud
05	4800 baud
06	9600 baud
07	19200 baud
08	38400 baud
09	57600 baud

Table 2 Baud rate codes

FF uses 8 bits in hexadecimal to represent parity check.

00: No verification

10: Odd verification

20: Even verification

Response format: **!** The **AA (cr)** command is valid.

? The **AA (cr)** command is invalid or an illegal operation, or the Initiat switch is not turned to the Initiat position before changing the baud rate or checksum.

Parameter description: **!** The delimiter indicates that the command is valid.

? The delimiter indicates that the command is invalid.

AA represents the input module address

(cr) End symbol, upper computer enter key, hexadecimal is 0DH.

Other instructions: If the format is incorrect, the communication is incorrect, or the address does not exist, the module will not respond.

Application example: User command% **0111000600**

Module response! **11(cr)**

Explanation:% delimiter.

01 means that the original address of the WJ65 module you want to configure is 01H.

11 indicates that the new module's hexadecimal address is 11H.

00 type code, WJ65 product must be set to 00.

06 represents a baud rate of 9600 baud.

00 indicates no verification.

5. Read configuration status command

Explanation: Read configuration for a specified WJ65 module.

Command format: **\$AA2 (cr)**

Parameter description: \$delimiter.

AA module address, with a value range of 00 to FF (hexadecimal).

2 represents the command to read the configuration status

Response format: **!** The **AATTCCFF (cr)** command is valid.

? The **AA (cr)** command is invalid or an illegal operation.

Parameter description: **!** Boundary symbol.

AA represents the input module address.

TT stands for type code.

CC stands for baud rate encoding. See Table 2

FF is shown in Table 3

(cr) End symbol, upper computer enter key, hexadecimal is 0DH.

Other instructions: If the format is incorrect, the communication is incorrect, or the address does not exist, the module will not respond.

Application example: User command **\$302**

Module response! **300F0600(cr)**

Explanation: **!** Boundary symbol.

30 indicates that the WJ65 module address is 30H.

00 represents the input type code.

06 represents a baud rate of 9600 baud.

00 indicates no verification.

6. Set reset output command

Description: Set the reset output state of the specified module.

Command syntax: **\$AA7VV**

Parameter description: \$delimiter.

AA module address, with a value range of 00 to FF (hexadecimal).

7 represents the command to enable or disable the data acquisition channel of the module

VV is two hexadecimal numbers.

The first number represents channels 7 to 4

The second number represents channels 3 to 0

Bit value is 0:

Set the output transistor to be non-conductive

Bit value is 1:

Set the output transistor to conduct

DO7	DO6	DO5	DO4	DO3	DO2	DO1	DO0
Bit7	Bit 6	Bit 5	Bit 4	Bit 3	Bit2	Bit 1	Bit 0

Response syntax: **!** The **AA (cr)** command is valid.

? Invalid or illegal operation of **AA (cr)** command

Parameter description: **!** The delimiter indicates that the command is valid.

? The delimiter indicates that the command is invalid.

AA represents the input module address.

(cr) End symbol, enter key on the upper computer (0DH).

Other instructions: If there is a syntax error, communication error, or if the address does not exist, the module will not respond.

Application example: User command **\$017FF**

Module response: **! 01 (cr)**

Explanation: Set the channel value to 0xFF.

Set all output transistors to conduct.

7. Set the pull-up switch for DO

Description: Set the pull-up switch for DO, with a factory default value of 0 (DO turns off the pull-up function).

Command format: **\$AAQY**

Parameter description: **AA** module address, value range 00~FF (hexadecimal). The factory address is 01, which is converted to hexadecimal as the ASCII code for each character. If address 01 is replaced with hexadecimal, it will be 30H and 31H.

Q sets the pull-up switch command for DO.

Y 0: DO turns off the pull-up voltage; **1**: Connect the pull-up voltage to DO.

Response format: **! AA (cr)** indicates successful setting

Application example: User command (character format) **\$01Q1**

Module response (character format): **! 01(cr)**

Explanation: Set the DO to turn on the pull-up voltage. When DO requires voltage output, it can be set to turn on the DO pull-up voltage

Modbus RTU communication protocol:

The factory initial settings of the module are as follows:

The Modbus address is 01

Baud rate 9600 bps

Method to put the module into default state:

There is an Initiate switch located on the side of the WJ65 module. Turn the Initiat switch to the Initiat position, then turn on the power, and the module will enter the default state. In this state, the module temporarily returns to its default state: address 01, baud rate 9600. When unsure of the specific configuration of a module, users can query the address and baud rate registers 40201-40202 to obtain the actual address and baud rate of the module, or modify the address and baud rate as needed.

Note: Please turn the Initiat switch to the NORMAL position during normal use.

Supports Modbus RTU communication protocol, with command format following the standard Modbus RTU communication protocol.

Support **function code 01**, read coil status. 1 represents high level, 0 represents low level.

Support **function code 05**, set a single coil. 1 indicates that the transistor is conducting, and 0 indicates that the transistor is disconnected.

Support **function code 03** (read hold register) and **function code 06** (write single register),

Register Description: (Supports function codes 01, 05, 15)

Address 0X (PLC)	Address (PC, DCS)	Data content	attribute	Data Explanation
00001	0	Output switch quantity	Read/Write	Output status of channel 0
00002	one	Output switch quantity	Read/Write	Output status of channel 1
00003	two	Output switch quantity	Read/Write	Output status of channel 2
00004	three	Output switch quantity	Read/Write	Output status of channel 3
00005	four	Output switch quantity	Read/Write	Output status of channel 4
00006	five	Output switch quantity	Read/Write	Output status of channel 5
00007	six	Output switch quantity	Read/Write	Output status of channel 6
00008	seven	Output switch quantity	Read/Write	Output status of channel 7
00009	eight	DO0 reset output	Read/Write	Reset output status of DO channels 0-7 (default value is 0) 0 indicates that the transistor is disconnected after resetting, 1 indicates that the transistor
00010	nine	DO1 reset output	Read/Write	
00011	ten	DO2 reset output	Read/Write	
00012	eleven	DO3 reset	Read/	

		output	Write	conducts after resetting
00013	twelve	DO4 reset output	Read/Write	
00014	thirteen	DO5 reset output	Read/Write	
00015	fourteen	DO6 reset output	Read/Write	
00016	fifteen	DO7 reset output	Read/Write	
00033	thirty-two	Input switch quantity	read-only	Level status of channel 0
00034	thirty-three	Input switch quantity	read-only	Level status of channel 1
00035	thirty-four	Input switch quantity	read-only	Level status of channel 2
00036	thirty-five	Input switch quantity	read-only	Level status of channel 3
00037	thirty-six	Input switch quantity	read-only	Level status of channel 4
00038	thirty-seven	Input switch quantity	read-only	Level status of channel 5
00039	thirty-eight	Input switch quantity	read-only	Level status of channel 6
00040	thirty-nine	Input switch quantity	read-only	Level status of channel 7

Register Description: (Supports function codes 03, 06, 16)

Address 4X (PLC)	Address (PC, DCS)	Data content	attribute	Data Explanation
forty thousand and one	0	Output switch quantity	Read/Write	0x0000~0x00FF, 7~0 channels Output status of DO channels 0-7
forty thousand and nine	eight	DO reset output	Read/Write	0x0000~0x00FF, reset output status of channels 7~0, DO channels 0~7
forty thousand and thirty-three	thirty-two	Input switch quantity	read-only	0x0000~0x00FF, 7~0 channels
forty thousand and eighty-three	eighty-two	DO's pull-up switch	Read/Write	0: DO turns off the pull-up voltage; (default value is 0) 1: Connect the pull-up voltage to DO.

forty thousand two hundred and one	two hundred	Module address	Read/Write	Integer, effective after restart, range 0x0000-0x00FF
forty thousand two hundred and two	two hundred and one	Baud rate	Read/Write	Integer, effective after restart, range 0x0004-0x000A 0x0004 = 2400 bps, 0x0005 = 4800 bps 0x0006 = 9600 bps, 0x0007 = 19200 bps 0x0008 = 38400 bps, 0x0009 = 57600 bps 0x000A = 115200bps
forty thousand two hundred and three	two hundred and two	Parity check	Read/Write	Integer, takes effect after restart 0: No verification 1: Odd verification 2: Even verification
forty thousand two hundred and eleven	two hundred and ten	Module Name	read-only	High bit: 0x00 Low bit: 0x65

Table 5 Modbus Rtu Register Description

Example of Modbus RTU communication protocol application:

1. Supports Modbus RTU communication protocol **function code 01** (reading coil status), with command format following the standard Modbus RTU communication protocol.

Communication example: If the module address is 01, send **010100000083DCC** in hexadecimal to obtain the data in the register.

01	01	00	00	00	08	3D	CC
Module address	Read coil status	High position of coil address	Low position of coil address	High number of coils	Low number of coils	CRC check low bit	CRC check high bit

If the module replies: **010101031189**, the read data is 0x03, and the last bit is changed to binary, which is 0000 0011.

This indicates that channels 2 to 7 of the output transistor are currently disconnected, while channels 1 and 0 are connected.

01	01	01	03	eleven	eighty-nine
Module address	Read coil status	The number of bytes in the data	data	CRC check low bit	CRC check high bit

2. Supports Modbus RTU communication protocol **function code 05** (setting a single coil), and the command format follows the standard Modbus RTU communication protocol.

Communication example: If the module address is 01, send in hexadecimal: **01050000FF008C3A**, and the data is 0xFF00 to set the transistor to conduct. If the data is 0x0000, it means to disconnect the transistor (command: **010500000000CDCA**)

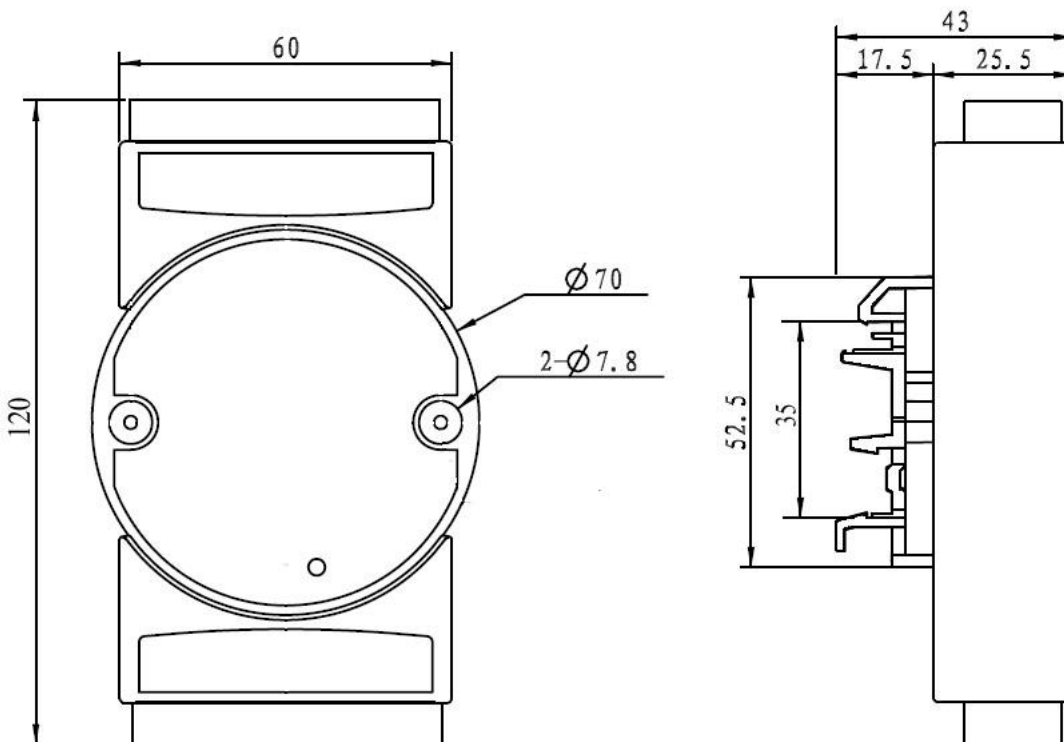
01	05	00	00	FF	00	8C	3A
----	----	----	----	----	----	----	----

Module address	Set up a single coil	High position of coil address	Low position of coil address	data-high	data-low	CRC check low bit	CRC check high bit
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If the module replies: **01050000FF008C3A**, the setting is successful

01	05	00	00	FF	00	8C	3A
Module address	Set up a single coil	High position of coil address	Low position of coil address	data-high	data-low	CRC check low bit	CRC check high bit

Dimensions: (Unit: mm)



Can be installed on standard DIN35 rails

guarantee:

Within two years from the date of sale, if the user complies with the storage, transportation, and usage requirements and the product quality is lower than the technical specifications, it can be returned to the factory for free repair. If damage is caused due to violation of operating regulations and requirements, device fees and maintenance fees shall be paid.

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Version number: V1.0

Date: May 2022