

RS485 PROTOCOL

A subset of commands using the MODBUS-RTU protocol, using the read relay command (03) (06)

1. Data transmission method:
8 data bits, 1 stop bit, no check bit.

2. Data Report Format

(1) Function code 0x03- Query slave device relay content

Master Device Report	Slave Device Report
Slave device address (0x01-0xFE 1 byte)	Slave device address (0x01-0xFE 1 byte)
Function code (0x03 1 byte)	Function code (0x03 1 byte)
Register start address (2 bytes)	Bytes in data area (2* number of registers 1 byte)
Number of relays (2 bytes)	Data area (register content 2* number of registers 1 byte)
CRC check code (2 bytes)	CRC check code (2 bytes)

(2) Function code 0x06- Setting Slave Registers

Master Device Report	Slave Device Report
Slave device address (0x01-0xFE 1 byte)	Slave device address (0x01-0xFE 1 byte)
Function code (0x06 1 byte)	Function code (0x06 1 byte)
Register start address (2 bytes)	Bytes in data area (2* number of registers 1 byte)
Data written to registers (2* number of registers 1 byte)	Data area (register content 2* number of registers 1 byte)
CRC check code (2 bytes)	CRC check code (2 bytes)

Note: 1. The CRC check code has a low bit before and a high bit after, and the register address, number of registers, and data are all high bit before and low bit after; 2. Register word length is 16bit (two bytes);

3. Relay Description and Command Format

(1) Parameter Data Register Definition Table

Register add. (Hex)	Register Content	Number of relays	Relay status	Data Range (Hex)
0x002A	Wind speed	1	Read	0~300 (0x00-0x012C)

Register add. (Hex)	Register Content	Number of relays	Relay status	Data Range (Hex)
0x2000	Device address	1	R/W	1~254 (0x01~0xFE)

Register add. (Hex)	Register Content	Number of relays	Relay status	Data Range (Hex)
0x002B	Wind direction	1	Read	0~3600 (0x00-0x0E10)

Register add. (Hex)	Register Content	Number of relays	Relay status	Data Range (Hex)
0x2000	Device address	1	R/W	1~254 (0x01~0xFE)

(2) Command example:

All register address bytes, register number bytes, and data bytes in the command have their high bits first and low bits last;
CRC checksum low-order byte comes first and high-order byte comes last;

Read the current value of the sensor:

(Slave device address: 02, baud rate is 9600, N, 8,1)

Slave device add.	Function code	Register start add.		Number of relays		CRC-L	CRC-H
0x02	0x03	0x00	0x2A	0x00	0x01	0XA5	0xF1

Slave device response:

Slave device add.	Function code	Bytes of data area	Register data		CRC-L	CRC-H
0x02	0x03	0x02	0x00	0x00	0xFC	0x44

Modify device address:

(Modified slave device: from 02 to 03)

Slave device add.	Function code	Register start add.		Modified data		CRC-L	CRC-H
0x02	0x06	0x20	0x00	0x00	0x03	0XC2	0x38

Slave device response:

Slave device add.	Function code	Register start add.	Modified data		CRC-L	CRC-H
0x02	0x06	0x20	0x00	0x03	0XC2	0x38

After modifying the device address, it needs to be powered on again.

Note: If the device address does not change after modifying the 2000 address, modify the 4000 address.