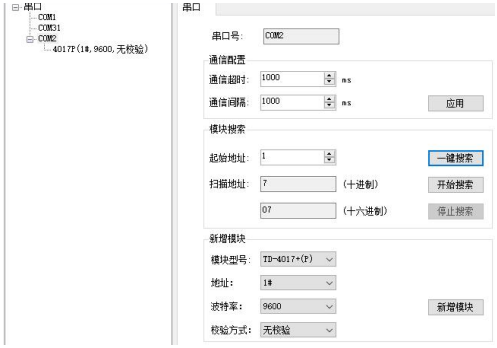
■ Software operating instructions

一、Open the data acquisition module configuration software through the start menu shortcut or desktop shortcut, right-click on the serial port on the left side of the software and select Refresh, the software will automatically search for the serial port on the computer, and display the serial slogan on the interface;

二、Click the serial port connected with the module by the left mouse button, there are multiple functional areas in the pop-up interface, if the software pops up the serial port cannot be connected prompt box, please check whether the serial port is normal, or whether it is occupied by other software;



1、The communication configuration is used to set the communication timeout and the communication interval of the host computer, the communication timeout refers to the maximum time that the software waits for the module to return the data after sending the instruction, if the software fails to receive the returned data within this time, it is determined that the communication fails, the communication interval refers to the software completes the instruction and waits for this time after sending the next instruction, after entering the value to be set, click the application;

2、Module search is used to search for module information (device model, communication address, baud rate, check mode), where one-click search is the software to send a universal search command to the module (the module firmware version needs to be in B0.01 and above, and only one module can be connected on the same serial port), this function can directly obtain the information of the module, and the start of the search is from the starting address to poll the search module information (all firmware versions are supported, and multiple modules with different communication addresses can be connected on the same serial port), until the search address is 255, the stop search is to stop the search in advance during the polling search, and the searched module information will be displayed below the serial slogan, as shown in the figure above, the information content is: device model, communication address, baud rate, check mode;

3、If the information of the module has been known in advance, select the known module model in the module model, select the known module address in the address, select the baud rate of the known module in the baud rate, select the known module verification method in the verification mode, click the new module, and the new information will be displayed below the string slogan;

四、After the software obtains the module information, the software will automatically connect the module by clicking the module information directly with the left mouse button, and display the communication parameter page and the module function page;

1、The communication parameters page is used to view the current address, baud rate, verification mode and firmware version of the module, and you can also set the address, baud rate and verification mode of the module, select the address to be modified in the communication parameter setting area, click the setting button after the baud rate and verification mode, if the setting is successful, the software will pop up a prompt box, at this time, you need to search for the module again, if the modification failure prompt box pops up, you need to check whether there is a fault.

3、The TD-4117 page is used to view the measured values of the module, configure the parameters, and modify the configuration parameters

(1)、To set the sampling rate, select the desired sampling rate in the drop-down box of the sampling rate setting, and click Set Sampling Rate.

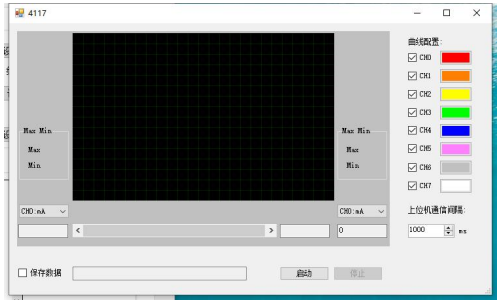
(2)、If you want all channels to be set to the same range, you can check the unified settings and click Set Range.

(3)、Configure the upper and lower limits of the engineering value, select the channel you want to configure in the channel drop-down box, enter the upper and lower limits of the engineering value to be configured in the input box of the upper and lower limits of the engineering value, click to set the upper and lower limits, if you want all channels to be set to the same upper and lower limits of the engineering value, you can check the unified settings, and click to set the upper and lower limits.

(4)、To enable the channel, select the enabling status of the channel (select Enable and Disable) from the selection box on the channel enable configuration page, and click Enable Settings.

(5)、Real-time curve, click the real-time curve button, and the software will pop up the real-time curve interface.

3、The real-time curve interface is shown in the figure



(1)、The highest end of the curve interface corresponds to the upper limit of the range, and the lowest end of the curve interface corresponds to the lower limit of the range.

(2)、Check or cancel the channel configuration selection box to choose whether to display the curves of the corresponding channel;

(3)、Click on the color palette in the channel configuration to select the curve color of the corresponding channel;

(4)、Select the channel drop-down box on the left and right sides of the interface to choose to display the measured value and extreme value of the corresponding channel;

(5)、Enter the collection interval and click Apply to set the period for reading the data;

(6)、Tick the Save Data selection box to save the channel measurement data as .CSV file (Excel can be opened);

(7)、Click the Select Save Path button to re-select the file name and path you want to save;

(8)、Click the start button and the software will start recording data;

(9)、Click the stop button and the software will stop recording data;

(10)、In the stopped state, the scroll bar below the sliding curve allows you to view the recorded data;

■ Q&A

1、Q: After the voltage signal is connected, the measured value is less than the value of the connected voltage signal?

A: Check that the channel's short-circuit cap is broken.

2、Q: After connecting the current signal, the current value cannot be measured?

A: Check whether the input current signal is out of the range, such as 4~20mA range, the current is less than 4mA, or the current is negative.

3、Q: When I input a signal greater than half the range during programming, the data read is abnormal?

A: The programming system used parses the unsigned data into a signed one, and it is recommended to read the measured raw value.

TD-4117

High common-mode eight-channel analog acquisition module

(User Manual)

⚠ 注意

- Please check whether the outer packaging of the product, the model and specification of the product label are consistent with the order contract;
- Please read this manual carefully before installation and use, if you have any questions, please contact the company's technical support hotline;
- The product should be installed in a safe place;
- The instrument is powered by 24V DC power supply, and it is strictly forbidden to use 220V AC power supply;
- It is strictly forbidden to disassemble and assemble the instrument without permission to prevent the instrument from failing or malfunctioning.
- The company reserves the right to change the product without prior notice to the user, if the content of the instructions for use is inconsistent with the website, samples and other information, this manual shall prevail.
- For more product information and configuration software, please scan the code to obtain

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Profile

The TD-4117 supports ± 15V, ±10V, ±5V, ±1V, ±500mV, ±150mV, ±20mA, 4~20mA, 0~15V, 0~10V, 0~5V, 0~1V, 0~500mV, 0~150mV, 0~20mA range, and eight differential inputs. The AD acquisition part is optoelectically isolated, and the application layer adopts the standard MODBUS-RTU protocol, which is suitable for a variety of industrial occasions and automation systems. It is convenient to communicate with the host computer, which can realize fast networking and build a monitoring system.

Mainly technical parameter

INPUT

Number of channels: 8
Input range: ±15V, ±10V, ±5V, ±1V, ±500mV, ±150mV, ±20mA, 4~20mA, 0~10V, 0~5V, 0~1V, 0~500mV, 0~150mV, 0~20mA, 0~15V
Input: Eight channels of current or voltage differential unipolar and bipolar inputs
Sampling frequency: ≤10Hz, 50Hz or 100Hz (total), (channel sampling rate = total sampling rate / number of enabling channels, 1.25Hz when 10Hz and 8 channels are fully enabled, of which 10Hz sampling rate supports 50/60Hz power frequency rejection)
Accuracy class: ≤ 0.1%
Input impedance: current: 100Ω, voltage: 20MΩ
Common mode voltage: ≤2000VDC (the voltage between any input ports cannot be greater than the common mode voltage)
Note: A certain voltage value is measured when the voltage range is open

Communication side

Signal Type: RS-485 digital signal
Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps
Verification method: no check, odd check or even check
Data bits: 8 bits Stop bits: 1 bit
Communication protocol: Standard MODBUS-RTU protocol
Communication distance: 1200m (typical)

Basic parameter

Power supply: DC24V, voltage range: DC 9~30V
Power consumption: <1.5W @DC 24V
Dielectric strength: 3000V DC/1min (between communication and input)
Insulation resistance: ≥ 100MΩ (between communication and input)
Electromagnetic compatibility: according to GB/T 182681 (IEC 6132-1)
Applicable field devices: configuration software, PLC, touch screen, computer and other devices that support MODBUS - RTU protocol

Indicator status

1. After powering on, the indicator light is always on, and if it is not lit, it means that the power supply is faulty or the contact is poor;
2. During normal communication, the indicator light flashes;
3. When there is no communication, the indicator light flashes, which indicates that the module is faulty

Default factory parameters

Device address: 1 Baud rate: 9600bps Verification method: no verification
Data bit: 8 bits, stop bit: 1 bit
Channel range: all are set to 4-40mA range, and the acquisition status is enabled;

Use environment

(1) There shall be no strong vibration, impact, high current and spark and other electromagnetic induction effects in the surrounding environment, and the air shall not contain the medium that corrodes chromium, nickel and silver plating, and shall not contain flammable and explosive substances;
(2) Continuous operating temperature: -40℃~ +85℃;

(3) Relative humidity : 10 % ~ 90 % R H(No condensation);

Quantum configuration description

Each channel can be individually configured with a range, and the input range can be flexibly selected for customer convenience. When you open the equipment shell, you can find that there are P1~P8 jumpers near the terminals of the equipment, corresponding to the eight channels of IN0-IN7 respectively.

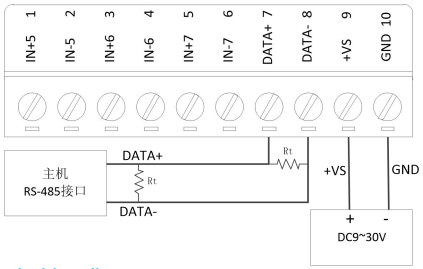
(1) When INx measures the voltage signal, the jumper Px of the corresponding channel is disconnected, as shown in the left figure below;

(2) When INx measures the current signal, the jumper Px of the corresponding channel is closed, as shown in the figure on the right below;

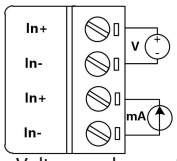
Wiring instructions

Communication and power wiring diagrams:

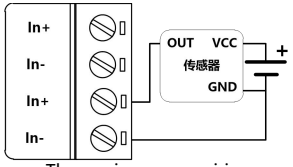
The RS485 communication line is connected by hand-in-hand, if you need a star connection, please add an external splitter, and the terminal resistor Rt is added at both ends of the communication line as needed.



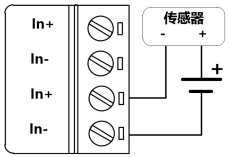
Enter the signal wiring diagram:



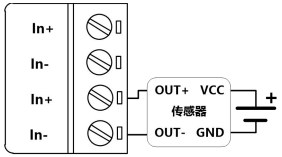
Voltage and current can be input at the same time



Three-wire sensor wiring



Two-wire sensor wiring

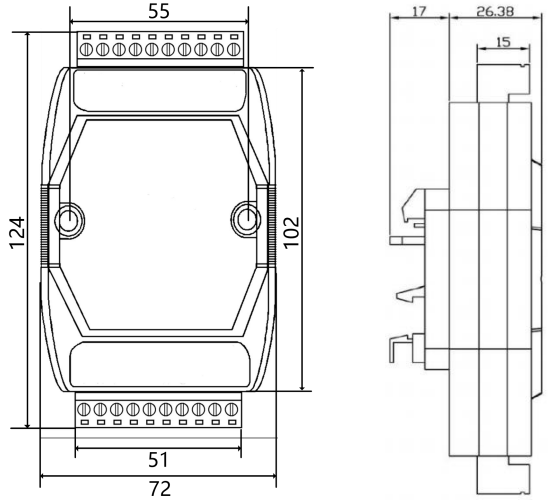


Four-wire sensor wiring

Terminal Block Description

Terminal number	Terminal name	Textual description
1	IN5+	Analog input 5-channel positive end
2	IN5-	Analog input 5-channel negative end
3	IN6+	Analog input 6-channel positive end
4	IN6-	Analog input 6-channel negative end
5	IN7+	Analog input 7-channel positive end
6	IN7-	Analog input: 7 channels on the negative end
7	DATA+	RS-485 communication interface at the positive end
8	DATA-	RS-485 communication interface negative end
9	+VS	Positive end of external power supply (9~30V)
10	GND	Negative end of external power supply (ground)
11	IN0+	Analog input 0 channel positive
12	IN0-	Analog input 0 channel negative end
13	IN1+	Analog input 1 channel positive end
14	IN1-	Analog input 1 channel negative end
15	IN2+	Analog input 2-channel positive end
16	IN2-	Analog input 2 channel negative end
17	IN3+	Analog input 3-channel positive end
18	IN3-	Analog input 3-channel negative end
19	IN4+	Analog input 4-channel positive
20	IN4-	Analog input: 4-channel negative end

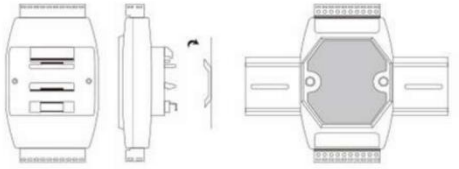
Dimensions



Installation

The TD-4117 is mounted on a DIN 35mm rail arrangement. The guide rail shall conform to the installation size specification of the TH35-7.5 type guide rail in the national standard with standard number: GB/T19334-2003. This standard is

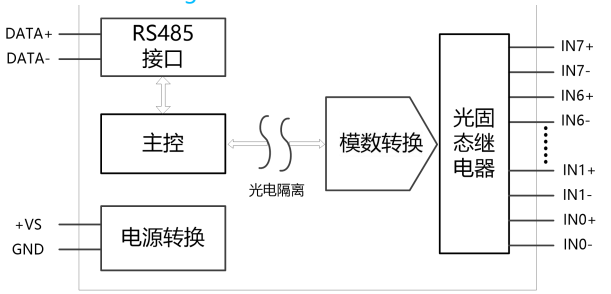
equivalent to the international standard of the International Electrotechnical Commission IEC60715-1981. The installation must be stable and secure.



Rail mounting

Stacked installations

Internal block diagram



A table of communication points

Point table	Attribute	Feature description	Value range and description
40001 40002 40003 40004 40005 40006 40007 40008	16-bit unsigned Read-only registers	40001~40008 correspondence The measured digital value of channel 0 ~ channel 7	0~65535 corresponds to the lower and upper limits of the input range, Such as 4~20mA range: 0 corresponds to 4mA, 65535 corresponds to 20mA, there is a linear relationship, Some PLCs or software do not support the 16-bit unsigned format, so it is recommended to read the raw value of the measurement
40009 40010 40011 40012 40013 40014 40015 40016	16-bit signed Read-only registers Firmware version only: B0.01 and above	40009~40016 correspondence The measured raw value of channel 0~channel 7	-32768~32767, correspondence: 4~20mA current value 1000 times 1000 times the voltage value of 15V 1000 times the voltage value of 10V 5 times the voltage value of 1000V 1000 times the voltage value of 1V 10 times the value of 500mV millivolts 100 times the 150mV millivolt value 1000 times the current value of 20mA For example, if the reading value is -9857 in the +/-10V range, the actual value is -9.857V
40017 40018 40019 40020 40021 40022 40023 40024	16-bit signed Read-only registers Firmware version only: B0.01 and above	40017~40024 correspondence The measured engineering value of channel 0 ~ channel 7	-32768~32767 It is related to the upper and lower limits of engineering values and measured values For example: 4~20mA range, the upper limit of the engineering value is 1000, The lower limit of the engineering value is 0, when the current of 10mA is connected, The engineering value is 375
40101	16-bit unsigned Read and write registers Power-down storage	Channel 0 project value lower limit	-32768~32767, The lower limit of the engineering value corresponds to the lower limit of the measuring range The upper limit of the project value corresponds to the
40102		The upper limit of the project value of channel 0	
40103	Firmware version only: B0.01 and above	Channel 1 lower limit of engineering value	upper limit of the measuring range As: 4~20mA range, sensor range is 0~1.6Mpa, then the lower limit of the engineering value can be set to 0, the upper limit of the engineering value is 16000, when the engineering value of the corresponding channel is read is 3954, the actual value is 0.3954Mpa
40104		Upper limit of the project value of channel 1	
40105		Channel 2 engineering value lower limit	
40106		Upper limit of the project value of channel 2	
40107		Channel 3 engineering value lower limit	
40108		Upper limit of the project value of channel 3	
40109		Channel 4 engineering value lower limit	
40110		Upper limit of the project value of channel 4	
40111		Channel 5 lower limit of engineering value	
40112		Upper limit of the project value of channel 5	
40113		Channel 6 engineering value lower limit	
40114		Upper limit of the project value of channel 6	
40115		Channel 7 works at the lower limit	
40116		Upper limit of the engineering value of channel 7	

Point table	Attribute	Feature description	Value range and description
40201 40202 40203 40204 40205 40206 40207 40208	16-bit Read and write registers Power-down storage	40201~40208 corresponding to the input range of channel 0~channel 7;	4~20mA Code is 0x0007 +/-10V Code is 0x0008 +/-5V Code is 0x0009 +/-1V Code is 0x000A +/-500mV Code is0x000B +/-150mV Code is 0x000C +/-20mA Code is 0x000D ±15V Code is 0x0015 0~10V Code is 0x0048 0~5V Code is 0x0049 0~1V Code is 0x004A 0~500mV Code is 0x004B 0~150mV Code is 0x004C 0~20mA Code is 0x004D 0~15V Code is 0x0055

Point table	Attribute	Feature description	Value range and description
40211	16-bit Read-only registers	Module model 1	0X4117
40212		Module model 2	0X0000
40213		Firmware version	0X0000~0XFFFF
40215	16-bit Read and write registers Power-down storage	Device communication address	0X0001~0X00FF Represents the address of the device
40216		baud rate	0: is 1200bps 1: is 2400bps 2: is 4800bps 3: is 9600bps 4: is 19200bps 5: is 38400bps 6: is 57600bps 7: is 115200bps
40217		Verification method	0: no check 1: Odd check 2: Puppet checks

The formula for calculating the numeric value

Range	Calculation formula (D is a numeric value, 16-bit unsigned integer)
4~20mA	D ÷ 65535 × 16 + 4 (mA)
±10V	D ÷ 65535 × 20 - 10 (V)
±5V	D ÷ 65535 × 10 – 5 (V)
±1V	D ÷ 65535 × 2 - 1 (V)
±500mV	D ÷ 65535 × 1000 - 500 (mV)
±150mV	D ÷ 65535 × 300 - 150 (mV)
±20mA	D ÷ 65535 × 40 - 20 (mA)
±15V	D ÷ 65535 × 30 - 15 (V)
0~10V	D ÷ 65535 × 10 (V)
0~5V	D ÷ 65535 × 5 (V)
0~1V	D ÷ 65535 × 1 (V)
0~500mV	D ÷ 65535 × 500 (mV)
0~150mV	D ÷ 65535 × 150 (mV)
0~20mA	D ÷ 65535 × 20 (mA)
0~15V	D ÷ 65535 × 15 (V)

TD-4117
Eight-channel analog acquisition module
User manual(Programming)

⚠ 注意

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- Please read this manual carefully before installation and use, if you have any questions, please contact the company's technical support hotline;
- The product should be installed in a safe place;
- The instrument is powered by 24V DC power supply, and it is strictly forbidden to use 220V AC power supply;
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- For more product information and configuration software, please scan the code to obtain

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MODBUS-RTU Protocol

Profile

The MODBUS-RTU protocol stipulates a variety of function codes to achieve different functions, TD-4000 series products only support some of the function codes, this manual only explains the function codes used, TD-4000 series products support function codes are: 0X01, 0X03, 0X04, 0X06, 0X05, 0X0F, 0X10, of which TD-4117 does not support function codes 0X01, 0X05 and 0X0F, The address and function description of the point table corresponding to the function code are shown in the following table:0X01、0X05 and 0X0F,

Feature codes	The address of the corresponding point table	Feature description
0X01	0XXXX	Read the status of multiple coils (single bit data).
0X05	0XXXX	Write single coil (single bit data) status (0X0F can be replaced)
0X0F	0XXXX	Write multiple coils (single bit data) status
0X03	4XXXX	Read the values of multiple registers
0X04	4XXXX	Read the value of multiple registers (0X03 can be substituted)
0X06	4XXXX	Write a single register value (0X10 can be substituted)
0X10	4XXXX	Write multiple register values

Feature codes 0X01

1、The structure of the request packet sent by the host, in which the starting address and the number of coils are expressed in big-endian mode, and the starting address must be reduced by one, for example, the address of 00016 is 0X000F.

Instructions	Number of bytes	Value range
Device address	1byte	0X0001~0X00FF
Feature codes	1byte	0X01
Start address	2bytes	0X0000~0XFFFF
Number of coils	2bytes	0X0001~0X0040
CRC check	2bytes	0X0000~0XFFFF

2、The slave returns a packet structure, where each bit of the coil state represents a coil state 1 = ON and 0 = OFF, and the LSB (least significant bit) of the first data byte represents the coil state of the start address. The other coils and so on up to the highest bit of this byte, and in the following bytes from low to high.

Instructions	Number of bytes	Value range
Device address	1byte	Module address
Feature codes	1byte	0X01
The number of coil state bytes	1byte	N(Note)
Coil status	Nbytes	Big-endian mode, with high bytes first
CRC check	2bytes	0X0000~0XFFFF

Note: N=number of coils / 8, if the remainder is not equal to 0, then N=number of coils / 8 + 1

3、For example, read the status of 24 coils of module 00001~00024 with address 1.

Packets sent by the host: (The packets are in hexadecimal format)

01	01	00	00	00	18	3C	00
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of coils is high bytes	The number of coils is low in bytes	CRC check	CRC check

Slave Return Packet: (Packet in hexadecimal format)

01	01	03	01	03	07	2C	BC
Module address	Feature codes	The number of coil state bytes	Coil status bytes 0	Coil status bytes 1	Coil status bytes 2	CRC check	CRC check

The 3-byte coil status byte in the packet returned by the slave machine is as follows:

Byte 0： 0X01 The binary is 0000 0001, from right to left (i.e. from the lowest bit of byte to the highest byte) represents 00001~00008 The state is ON, OFF, OFF, OFF, OFF, OFF, OFF, OFF,

Byte 1： 0X03 The binary is 0000 0011, from right to left (i.e. from the lowest bit of byte to the highest byte) represents 00009~00016 The state is ON, ON, OFF, OFF, OFF, OFF, OFF, OFF,

Byte 2： 0X07 The binary is 0000 0111, from right to left (i.e. from the lowest bit of byte to the highest byte) represents 00017~00024 The state is ON, ON, ON, OFF, OFF, OFF, OFF, OFF, OFF, OFF,

Feature codes 0X0F

1、For example, the address of 00008 is 0X0007, each bit of the coil state represents a coil state 1 = ON and 0 = OFF, and the LSB (least significant bit) of the first data byte represents the coil state of the start address. The other coils and so on up to the highest bit of this byte, and in the following bytes from low to high.

Instructions	Number of bytes	Value range
Device address	1byte	0X0001~0X00FF
Feature codes	1byte	0X0F
Start address	2bytes	0X0000~0XFFFF
Number of coils	2bytes	0X0001~0X0040
The number of coil state bytes	1byte	N（Note)
Coil status	Nbytes	
CRC check	2bytes	0X0000~0XFFFF

Note: N=number of coils/8, if the remainder is not equal to 0, then N=number of coils/8+1

2、The structure of the slave return packet is equivalent to the first 6 bytes of the host packet plus 2 bytes of CRC check.

Instructions	Number of bytes	Value range
Device address	1byte	0X0001~0X00FF
Feature codes	1byte	0X0F
Start address	2bytes	0X0000~0XFFFF
Number of coils	2bytes	0X0001~0X0040
CRC check	2bytes	0X0000~0XFFFF

3、For example, if the address 1 module 00017~00024 is addressed, the status of 8 coils is set to: ON, OFF, ON, OFF, OFF, OFF, OFF, OFF;

Packets sent by the host: (The packets are in hexadecimal format)

01	0F	00	10	00	08	01	05	FF	55
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of coils is high bytes	The number of coils is low in bytes	The number of coil state bytes	Coil status bytes 0	CRC check	CRC check

Coil status bytes 0：0X05 The binary is 0000 0101, from right to left (i.e. from the lowest bit of the byte to the highest bit) represents 00017~00024 The state is ON, OFF, ON, OFF, OFF, OFF, OFF,

Slave Return Packet: (Packet in hexadecimal format)

01	0F	00	10	00	08	55	C8
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of coils is high bytes	The number of coils is low in bytes	CRCcheck	CRCcheck

Feature codes 0X03

1、The structure of the request packet sent by the host, in which the start address and the number of registers are represented in big-endian mode, and the start address must be removed from the beginning of the dot table address 4 and then subtracted by one, for example, the address of 40017 is 0X0010

Instructions	Number of bytes	Value range
Device address	1byte	0X0001~0X00FF
Feature codes	1byte	0X03
Start address	2bytes	0X0000~0XFFFF
Number of registers	2bytes	0X0001~0X0040
CRC check	2bytes	0X0000~0XFFFF

2、The slave returns a message structure, each register occupies 2 bytes, for each register, the first byte is the register high byte, and the second byte is the register low byte (i.e., big-end mode);

Instructions	Number of bytes	Value range
Device address	1byte	Module address
Feature codes	1byte	0X03
Number of bytes of register value	1byte	2*N(Note)
Register value	2*Nbytes	Big-endian mode, with high bytes first
CRC check	2bytes	0X0000~0XFFFF

Note：N=Number of registers

2、For example, if you read the values of the two registers of the module 40009~40010 with address 1,

Packets sent by the host: (The packets are in hexadecimal format)

01	03	00	08	00	02	45	c9
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of registers is high bytes	The number of registers is low in bytes	CRC check	CRC check

Slavrethun Pakter: (Pakter in Hexard West Malformatt)

01	03	04	F1	03	F7	FF	3E	BF
Module address	Feature codes	Number of bytes of register value	Register bytes 0	Register bytes 1	Register bytes 2	Register bytes 3	CRC check	CRC check

The register value of the 4-byte total in the packet returned by the slave is as follows:

Bytes 0 and 1 are the values of register 40009, hexadecimal is 0XF103, converted to 16-bit unsigned number is 61699, converted to 16-bit signed number is -3837, byte 2 and byte 3 are the value of register 40010, hexadecimal value is 0Xf7ff, converted to 16-bit unsigned number is 63487, converted to 16-bit signed number is -2049,

Feature codes 0X10

1、The structure of the request packet sent by the host, in which the starting address and the number of registers are represented in big-endian mode, and the starting address needs to be removed from the beginning of the dot table address 4 and then subtracted by one, for example, the address of 40004 is 0X0003, and each register occupies 2 bytes, for each register, the first byte is the high byte of the register, and the second byte is the low byte of the register (i.e., the large-endian mode);

Instructions	Number of bytes	Value range
Device address	1byte	0X0001~0X00FF
Feature codes	1byte	0X10
Start address	2bytes	0X0000~0XFFFF
Number of registers	2bytes	0X0001~0X0040
Number of bytes of register value	1byte	2*N（Note）
Register value	2*Nbytes	Big-endian mode, with high bytes first
CRC check	2bytes	0X0000~0XFFFF

Note: N = number of registers

2、The structure of the slave return packet is equivalent to the first 6 bytes of the host packet plus 2 bytes of CRC check.

Instructions	Number of bytes	Value range
Device address	1byte	Module address
Feature codes	1byte	0X10
Start address	2bytes	0X0000~0XFFFF
Number of registers	2bytes	0X0000~0X0040
CRC check	2bytes	0X0000~0XFFFF

3、For example, in module 40002~40003 with address 1, the values of the two registers are set to 0XF003 (16-bit unsigned: 65283, 16-bit signed: -4093), 0X0007 (16-bit unsigned: 7, 16-bit signed: 7);

The host sends packets:

01	10	00	01	00	02	04
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of registers is high bytes	The number of registers is low in bytes	Register bytes

F0	03	00	07	B0	A1	
Register bytes 0	Register bytes 1	Register bytes 2	Register bytes 3	CRC check	CRC check	

Slave returns packets:

01	10	00	01	00	02	10	08
Module address	Feature codes	The start address is high bytes	The start address is low bytes	The number of registers is high bytes	The number of registers is low in bytes	CRC check	CRC check