

XY-MD01 Temperature and Humidity Transmitter SHT20 High-Precision With Shell Cable 1m RS485

Description:

Product introduction:

The product uses industrial-grade chips and high-precision imported SHT20 temperature and humidity sensors to ensure the excellent reliability, high precision and interchangeability of the product. Using RS485 hardware interface (with lightning protection design), the protocol layer is compatible with the standard industrial Modbus-Rtu protocol. This product integrates the MODBUS protocol and the common protocol. The user can choose the communication protocol by himself. The common protocol has an automatic upload function (connecting RS485 and passing the serial port adjustment tool will automatically output temperature and humidity).

Features:

Industrial grade product, high progress SHT20 temperature and humidity sensor, RS485 communication;

Standard MODBUS protocol and common protocol are integrated, users can choose communication protocol by themselves;

The baud rate can be set by yourself;

The common protocol has an automatic upload function, and the upload rate can be set by yourself.

Product parameters:

Working voltage: DC4-30V (the highest should not exceed 33V)

Maximum power: 0.2W

Working temperature: temperature -20°C+60°C, humidity 0%RH-100%RH

Control accuracy: temperature $\pm 0.3^{\circ}\text{C}$ (25°C), humidity $\pm 3\%\text{RH}$ (25°C)

Output interface: RS485 communication (standard MODBUS protocol and custom common protocol), see protocol description for details

Device address: 1-247 can be set, the default is 1

Baud rate: default 9600 (users can set by themselves), 8 data, 1 stop, no parity.

MODBUSprotocol

products used in the function code:

0 x03:read holding registers

0 x04:read input registers
 0 x06:write a single holding register
 0 x10:write multiple hold registers

Modbuscommunication Format:

the host sends a data frame:

the slave address	function Code	register Address the high byte	register Address the low byte	number of registers the high byte	number of registers the low byte	CRC the high byte	CRC the low byte

slave response data frame:

the slave address	in response to the function code	the number of bytes	register1 data the high byte	register1 data the low byte	registerNdata the high byte	registerNdata the low byte	CRC the high byte	CRC the low byte

MODBUSthe command frame

host reads temperature command frames(0 x04):

the slave address	function Code	register Address the high byte	register Address the low byte	number of registers the high byte	number of registers the low byte	CRC the high byte	CRC the low byte
0x01	0x04	0x00	0x01	0x00	0x01	0x60	0x0a

slave response data frame:

the slave address	function Code	the number of bytes	temperature the high byte	temperature the low byte	CRC the high byte	CRC the low byte
0x01	0x04	0x02	0x01	0x31	0x79	0x74

the temperature value= 0 x131,to decimal conversion305actual
 temperature value= 305 / 10=30.5°C

note: temperature is marked16decimal number, temperature value= 0 xFF33,to decimal conversion-205the actual temperature= -20.5°C;

host reads humidity command frames(0 x04):

the slave address	function Code	register Address the high byte	register Address the low byte	number of registers the high byte	number of registers the low byte	CRC the high byte	CRC the low byte

0x01	0x04	0x00	0x02	0x00	0x01	0xC1	0xCA
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slave response data frame:

the slave address	function Code	the number of bytes	humidity the high byte	humidity the low byte	CRC the high byte	CRC the low byte
0x01	0x04	0x02	0x02	0x22	0xD1	0xBA

humidity value= 0 x22,to decimal conversion546actual humidity value= 546 / 10 = 54.6%;

continuously read temperature and humidity command frames(0 x04):

the slave address	function Code	register Address the high byte	register Address the low byte	number of registers the high byte	number of registers the low byte	CRC the high byte	CRC the low byte
0x01	0x04	0x00	0x01	0x00	0x02	0x20	0x0B

slave response data frame:

the slave address	function Code	the number of bytes	temperature the high byte	temperature the low byte	humidity the high byte	humidity the low byte	CRC the high byte	CRC the low byte
0x01	0x04	0x04	0x01	0x31	0x02	0x22	0x2A	0xCE

read the content of the maintenance register(0 x03):

take reading the slave address as an example:

the slave address	function Code	register Address the high byte	register Address the low byte	number of registers the high byte	number of registers the low byte	CRC the high byte	CRC the low byte
0x01	0x03	0x01	0x01	0x00	0x01	0xD4	0x0F

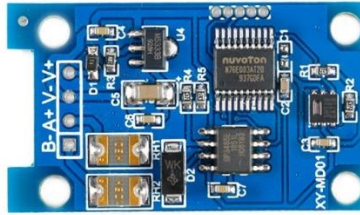
PARAMinstructions:

TC:0.0,HC:0.0,BR:9600,HZ:1->temperature correction0.0humidity correction value0.0the baud rate9600report rate1Hz

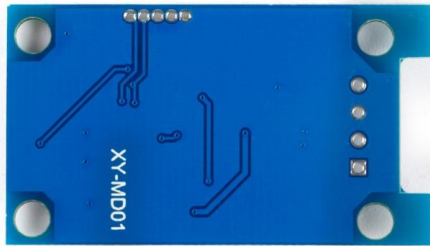
SLAVE_ADD:1->MODBUSthe slave address0x01

EC Buying

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Shun