MODBUS pressure transmitter communication protocol

One. General information:

This protocol complies with the MODBUS communication protocol and adopts the subset RTU method in the MODBUS protocol. RS485 semi-duplex works.

Second. Serial Data Format:

Serial port setting: no check, 8 bit data, 1 bit stop bit.

Example: 9600, N,8,1 meaning: 9600bps, no check, 8 bit data bit, 1 bit stop.

The serial port baud rate supported by this transmitter is:

1200,2400,4800,9600,19200,38400,57600,115200

Polynomial for CRC verification: 0xA001.

The data in the process of data communication is all processed by two-byte signed plastic data. If the data identifies the floating points, the writing needs to read the decimal point to determine the size of the data.

Third. Communication format:

1. read command format (03 function code) for example

A. Send Read command format:

Address	Function code	Data Start (H)	Data Start (L)	Number of Data (H)	Number of Data (L)	CRC16. (L)	CRC16. (H)
0X01.	0X03.	0X00.	0X00.	0X00.	0X01.	0X84.	0X0A.

B. returns to the read data format: for example

Address	Function code	Data length	Data (H)	Data (L)	CRC16. (L)	CRC16. (H)
0X01.	0X03.	0X02.	0X00.	0X01.	0X79.	0X84.

2. write command format (06 function code) for example

Address	Function code	Data Start (H)	Data Start (L)	Data (H)	Data (L)	CRC16. (L)	CRC16. (H)
0X01.	0X06.	0X00.	0X00.	0X00.	0X02.	0X08.	0X0B.

B. returns to the read data format: for example

Address	Function	Data Start (H)	Data Start (L)	Data (H)	Data (L)	CRC16.	CRC16.

	code					(L)	(H)
0X01.	0X06.	0X00.	0X00.	0X00.	0X02.	0X08.	0X0B.

The 3. exception response was returned

Address	Function code	Exception code	CRC16. (L)	CRC16. (H)
0X01.	0X80 + function code	0x01(Invalid directive) 0x02(invalid address)		

Fourth. Supported commands and commands and data implications:

The list of MODBUS-RTU protocol commands is as follows:

Function code	Data start address	Number of data	Data bytes	Data range	Command meaning
The 0x03 function code reads the data					
0x03.	0x0000.	1	2	1-255	Read the slave machine address
0x03.	0x0001.	1	2	0-1200 1-2400 2-4800 3-9600 4-19200 5-38400 6-57600 7-115200	Baud rate reading
0x03.	0x0002.	1	2	0- Unit is not displayed 1- CM. 2- MM. 3- MPa.	Pressure unit

				4- Pa. 5- KPa. 6- MA.	
0x03.	0x0003. 	1	2	0-#### 1-###.# 2-##.## 3-#.###	decimal places represent 0-3 decimal points respectively
0x03.	0x0004. 	1	2	-32768-32767	Measure the output value
0x03.	0x0005. 	1	2	-32768-32767	Transmitter range zero
0x03.	0x0006. 	1	2	-32768-32767	Transmitter range is full point
0x06 function code to write the data					
0x06.	0x0000. 		2	1-255	Overwrite the slave address
0x06.	0x0001. 		2	0-1200 1-2400 2-4800 3-9600 4-19200 5-38400 6-57600 7-115200	Modify the aud rate

Description:

1. Changing the baud rate, the transmitter replies to the modified data at the baud rate sent by the host, and the transmitter baud rate becomes the modified target value.
2. When modifying the address, the data also responds to the previous modification address, and the transmitter address is automatically modified after the reply.
3. User allowed only 2 data, address, address, baud rate,