

LETTER of AGREEMENT**Basic communication parameters**

Code	8-bit binary
Data bit	8-bit
Parity bit	no
Stop bit	1 person
Error checking	CRC (Redundant Cyclic Code)
Baud rate	2400bit/s, 4800bit/s, 9600 bit/s can be set, the factory default is 4800 bit/s

Data frame format definition

Modbus-RTU communication protocol is adopted, the format is as follows:

Initial structure ≥ 4 bytes of time

Address code = 1 byte

Function code = 1 byte

Data area = N bytes

Error check = 16-bit CRC

Ending structure ≥ 4 bytes of time

Address code: It is the address of the transmitter, which is unique in the communication network (factory default 0x01).

Function code: The function instruction of the command issued by the host, this transmitter only uses the function code 0x03 (reading register data).

Data area: The data area is the specific communication data. Note that the high byte of the 16bits data comes first!

CRC code: two-byte check code.

Host inquiry frame structure:

Address code	Function code	Register start address	Register length	Low check bit	Check code high
1byte	1byte	2byte	2byte	1byte	1byte

Slave response frame structure:

Address code	Function code	Number of valid bytes	Data area	Second data area	Nth data area	Check code
1byte	1byte	1byte	2byte	2byte	2byte	2byte

Register Address

Register Add.	PLC or configuration address	Content	Operating	Description
0000 H	40001	Instantaneous noise value	R	Expand upload tenfold
07D0 H	42001(decimal)	Address	R/W	1~254 (default 1)
07D1 H	42002(decimal)	Baud rate	R/W	0: 2400; 1: 4800; 2: 9600

Communication protocol example and explanation

For example, read the noise value of the device address 0x01

Inquiry frame:

Address code	Function code	Start address	Data length	Check code low bit	Check code high bit
0x01	0x03	0x00 0x00	0x00 0x01	0x84	0x0A

Response frame: (for example, read that the current noise is 71.3dB)

Address code	Function code	Returns the number of valid bytes	Current noise value	Check code low bit	Check code high bit
0x01	0x03	0x02	0x02 0xC9	0x79	0x72

Noise calculation:

Current noise: 02C9H (hex)=713=>noise=71.3dB.

Common problems and solutions

Possible reasons why the device cannot be connected to the PLC or computer:

- 1) The computer has multiple COM ports, and the selected port is incorrect.
- 2) The device address is incorrect, or there are devices with duplicate addresses (factory default is all 1).
- 3) Baud rate, verification method, data bits, stop bit error.
- 4) The host polling interval and waiting time for response are too short and need to be set at least 200ms.
- 5) The 485 bus is disconnected, or the A and B wires are connected in reverse.
- 6) If there are too many devices or the wiring is too long, power should be supplied to the nearby area, with a 485 booster and a 120 Ω terminal resistor added.
- 7) USB to 485 driver not installed or damaged.
- 8) Equipment damage.