N467D01 MODBUS RTU Commamd

MODBUS command (function code, write 06/16, read 03)

Note :

1 MODBUS command must be HEX

2 Slave address (device address) must be the same as the setting. You can also use this command to query the current device address: FF 03 00 FD 00 01 00 24

3 The Baudrate and parity should be consistent

4 If communication fails, please short the RES jumper on the board for 5 seconds to restore the factory settings

5 If this operation is abnormal, please power on again, or send the "FF 06 00 FB 00 00 ED E5" command to restore the factory settings.

Supported function codes:

Function Code	Modbus Address (PLC)	Register Address	Describe
03	40001		
		0x0080-0x00FF (128-255)	Read special function registers (baud rate 485 address, etc.)
06	40001		
		0x0080-0x00FF (128-255)	Write a single special function register (baud rate 485 address, etc.)
16(0x10)	40001		
		0x0080-0x00FF (128-255)	Write multiple special function registers (baud rate 485 address, etc.)

All states are mapped into 4xxxx range registers. The user can monitor the input and output status of the module by reading or modifying the value of the 4xxxx interval register (03 06 16 function code)

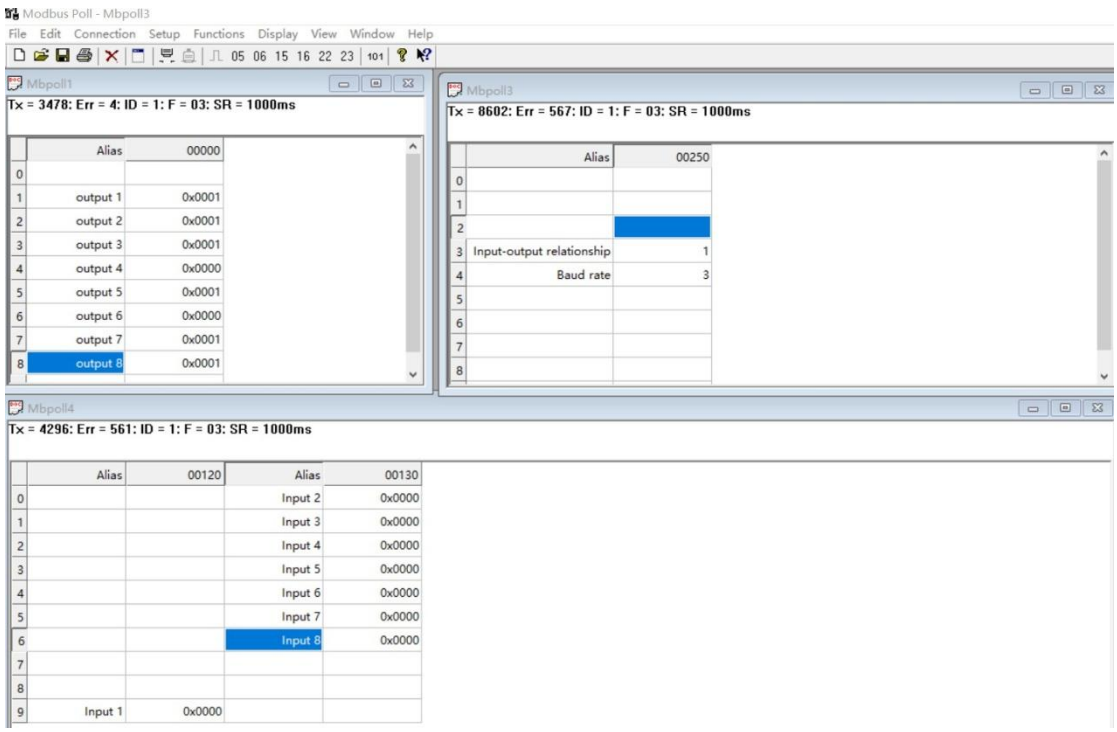
Register address	Register contents	Register value	Remarks	R/W
0x0000-0x0001 (0-1)	Forward Time (default 5 seconds)	This parameter is saved after power off Two registers store the motor Forward/Reverse/Stop time, unit 0.01 second Data range: 0x00000000-0xFFFFFFFF Time range: 0.01-42949672.95 seconds For example: Forward rotation for 10 seconds, Reverse rotation for 20 seconds, and Stop for 0.5 seconds in between. The following data is written to the register: 0x0000: 1000 (0x03E8), 10.00 seconds 0x0001:0000(0x0000) 0x0002: 2000 (0x07D0), 20.00 seconds 0x0003:0000(0x0000) 0x0004: 0050 (0x0032), 0.50 seconds 0x0005:0000(0x0000)		R/W
0x0002-0x0003 (2-3)	Reverse Time (default 5 seconds)			
0x0004-0x0005 (4-5)	Stop Time (default 1 second)			
0x0006 (6)	Number of forward and reverse cycles	This parameter is saved after power off Write data to this register, and the motor will work according to the time set by the 0-5 register. 0x0000: Stopped working(default) 0x0001-0xFFFE: Cycle work 1-65534 times 0xFFFF (65535): Always working		R/W
0x0008-0x0009 (8-9)	Forward Remaining Time	Display the remaining time of motor Forward (unit 0.01 second)		R
0x000A-0x000B (10-11)	Reverse Remaining Time	Display the remaining time of motor Reverse (unit 0.01 second)		R
0x000C-0x000D (12-13)	Stop Remaining Time	Display the remaining time of motor Stop (unit 0.01 second)		R
0x000E (14)	Number of cycles remaining	Displays the remaining number of motor cycles		R
0x0080 (128)	Simple Control (Real-time control)	This parameter will not be saved after power off. This register is used to control the motor in		R/W

		real time. Before operating this register, set the 0x0006(6) register to 0. The following commands are supported: Stop: 0x0000 Forward: 0x1000 Reversal0x2000 Timing Forward: 0x3XXX Timed Reversal:: 0x4XXX XXX(000-FFF) is the delay time, unit: seconds Example 1: Send 0x3005, Forward and Stop after 5 seconds Example 2: Send 0x403C, Reverse and Stop after 60 seconds		
0x0081 (129)	Display the Forward or Reverse remaining time of the 0x0080 (128) register			R
The following are special function registers				
0x00FB (251)	Factory Reset (Use this function when operation is abnormal)	Factory Reset: 1 Short the RES jumper for 5 seconds 2 Enter the following command at the current baud rate: FF 06 00 FB 00 00 ED E5		R/W
0x00FC (252)	Command Return Time	0-25	Time interval for command return (unit: 40MS) Setting value: 0-25	R/W
0x00FD (253)	RS485 address (Slave ID)	Read address: FF 03 00 FD 00 01 00 24; Set address to 0x02: FF 06 00 FD 00 02 8C 25		R/W
0x00FE (254)	Baud rate	0-255	0:1200 1:2400 2:4800 3:9600 (default) 4:19200 5:38400 6: 57600 7: 115200 Others: Factory reset	R/W
0x00FF (255)	Parity	0-2	0 None Parity 1 Odd Parity 2 Even Parity	R/W

9600 Band ,8 Data bits,None Parity,1 Stop Bit。

MODBUS commands you can use "Modbus Poll" input, as shown below

(CRC check generated automatically)



You can also use HyperTerminal serial input, as shown below
（Manually add CRC check）

Example:

Control the Forward and Reverse rotation of the motor through the 0x0000-0x0006 (0-6) register
(This parameter is saved after power-off and will be run again after power-on).

Example 1: The motor transmits Forward for 120 seconds, Reversely transmits for 100 seconds, Stops for 2 seconds in the middle, and works in a cycle 99 times

Write the following data:
Register 0x0000-0x0001(0-1): 0x00002EE0(12000,120 seconds)
Register 0x0002-0x0003(2-3): 0x00002710(10000,100 seconds)
Register 0x0004-0x0005(4-5): 0x000000C8(200,20 seconds)
Register 0x0006(6): 0x0063 (cycle 99 times)

Send data: 01 10 00 00 00 07 0E 2E E0 00 00 27 10 00 00 00 C8 00 00 00 63 89 A9
Return data: 01 10 00 00 00 07 81 CB
Stop Working: 01 06 00 06 00 00 69 CB

Example 2: The motor transmits Forward for 200.12 seconds, Reversely transmits for 50.22 seconds, and Stops in the middle for 3.12 seconds. It keeps working in a cycle after power on.

Write the following data:
Register 0x0000-0x0001(0-1): 0x00004E2C (20012,200.12 seconds)
Register 0x0002-0x0003(2-3): 0x0000139E(5022,50.22 seconds)
Register 0x0004-0x0005(4-5): 0x00000138(312, 3.12 seconds)
Register 0x0006(6): 0xFFFF(65535, keeps looping)

Send data: 01 10 00 00 00 07 0E 4E 2C 00 00 13 9E 00 00 01 38 00 00 FF FF 95 D5
Return data: 01 10 00 00 00 07 81 CB
Stop Working: 01 06 00 06 00 00 69 CB

Simple real-time control of motor Forward and Reverse rotation through 0x0080(128) register
(This parameter is not saved when power is off. Before operating this register, set the 0x0006(6) register to 0).
The following commands are supported:
Stop: 0x0000
Forward: 0x1000

Reverse: 0x2000
Timing Forward: 0x3XXX
Timed Reversal:: 0x4XXX
XXX(000-FFF) is the delay time, unit: seconds

Forward rotation: 01 06 00 80 10 00 85 E2
Reverse: 01 06 00 80 20 00 91 E2
Stop:01 06 00 80 00 00 88 22
Forward rotation for 10 seconds: 01 06 00 80 30 0A 1C 25
Reverse rotation for 5 seconds: 01 06 00 80 40 05 79 E1

Special function Register

1.Set the 485 address(Slave ID)

Send data

RS485 address (Station address) (1)	Function (1)	Register address (2)	Read number (2)	CRC16(2)

Returns data

RS485 address (Station address) (1)	Function (1)	Number of bytes (1)	data (n)	CRC16(2)

Modbus Address(PLC)：40254
RS485 address :0x01~0Xf8/0XFF
Function code:Write 0x06/0x10,Read 0x03
Register address:0x00FD(253)
Value: 2 bytes (values 1-248)

For example 1: Set the current device address to 0x02
Send data(address is 1): 01 06 00 FD 00 02 99 FB
Return data : 01 06 00 FD 00 02 99 FB
Send data(don't know the address): FF 06 00 FD 00 02 8C 25
Return data : FF 06 00 FD 00 02 8C 25

For example 2: Read device address(0X0001)
Send data : FF 03 00 FD 00 01 00 24
Return data : 01 03 02 00 01 79 84

Note：With this command, there can be only one module on the bus 485, More than one will go wrong!

2.Write baud rate

Send data

RS485 address (Station address) (1)	Function (1)	Register address (2)	Read number (2)	CRC16(2)

Returns data

RS485 address (Station address) (1)	Function (1)	Number of bytes (1)	data (n)	CRC16(2)

Modbus Address(PLC)：40255
RS485 address :0x01~0x3F
Function code:Write 0x06/0x16;Read 0x03
Register address:0x00FE(254)
Value: 2 bytes (values 0-7)

For example 1, Change the baud rate to 4800bps:
Send data(address 1):01 06 00 FE 00 02 69 FB
Return data :01 06 00 FE 00 02 69 FB

Baud rate corresponds to the number: 0:1200 1:2400 2:4800 3:9600
4:19200 5：38400 8: Factory reset
Note: 1 The baud rate will be updated only when the module is powered on again when this command is used!
2 When the number corresponding to the baud rate is 8, the factory settings can be restored
For example:01 06 00 FE 00 08 E9 FC

For example 2 Read the current baud rate:
Send data(address 1):01 03 00 FE 00 01 E5 FA
Return data :01 03 02 00 03 F8 45

01 RS485 address, 03 Function,02 length,F8 45 crc16,03 means the current baud rate is 9600bps

Baud rate corresponds to the number: 0:1200 1:2400 2:4800 3:9600
4:19200 5：38400

5.Set Command(Date) Return Time

Send data

RS485 address (Station address) (1)	Function (1)	Register address (2)	Read number (2)	CRC16(2)

Returns data

RS485 address (Station address) (1)	Function (1)	Number of bytes (1)	data (n)	CRC16(2)

Modbus Address(PLC): 40253
RS485 address :0x01~0x3F
Function code:Write 0x06/0x16;Read 0x03
Register address:0x00FC(252)
Value: 2 bytes (values 0-25)

For example, set the data return delay to 200ms
Send data(address 1):01 06 00 FC 00 05 89 F9
Return data :01 06 00 FC 00 05 89 F9
Return the delay time calculation formula:X = 05 * 40 = 200MS

Note: The maximum can be set to 1000MS. If it exceeds 1000MS, that is, the setting value is greater than 25, and the data return delay will be initialized.
That is: 01 06 00 FC 00 20 48 22 can make the data return delay to restore initialization 0

6.Set Parity

Send data

RS485 address (Station address) (1)	Function (1)	Register address (2)	Read number (2)	CRC16(2)

Returns data

RS485 address (Station address) (1)	Function (1)	Number of bytes (1)	data (n)	CRC16(2)

Modbus Address(PLC): 40256
RS485 address :0x01~0x3F
Function code:Write 0x06/0x16;Read 0x03
Register address:0x00FF(255)
Value: 2 bytes (values 0-2)

For example, set the parity to even parity
Send data(address 1):01 06 00 FF 00 01 78 3A
Return data :01 06 00 FF 00 01 78 3A
0 None Parity 1 Odd Parity 2 Even Parity

Note: 1. When using this command, the module is powered on again, and the check digit will be updated!

2. When the setting is greater than 2, the default value will be restored to 0 after powering on again, and there will be no verification.

7. Factory reset:

Send data

RS485 address (Station address) (1)	Function (1)	Register address (2)	Read number (2)	CRC16(2)

Returns data

RS485 address (Station address) (1)	Function (1)	Number of bytes (1)	data (n)	CRC16(2)

Modbus Address(PLC): 40252
RS485 address : 0x01~0x3F
Function code:Write 0x06;
Register address:0x00FB(251)
Send data(address 1):FF 06 00 FB 00 00 ED E5
Return data :FF 06 00 FB 00 00 ED E5

Reset the hardware: Short the RES jumper of the board for 5 seconds, then power on again.