

## MODBUS RTU MODE PROTOCOL ADDRESS TABLE

This product only supports Modbus RTU mode The supported command codes are: 03H, 04H, 06H

Product factory: Bao rate 9600 without verification 1 bit stop bit address 01 read command 03

Users can quickly read displacement data:

Read data: The standard device address is 1

Send hex data: 01 03 00 00 00 02 C4 0B

Receive hexadecimal data: 01 03 04 00 00 00 00 FA 33 Red is data byte, blue is CRC verification return data according to different displacement values, Red and blue will change

Data conversion: Convert 0x00 00 00 00 to integer type, multiply by 1.0 to floating-point type, and then divide by 65536 to obtain the actual displacement value.

### Keep Register Read Command 04

Hold register address	Name	R/W	Default	Description
0000H	Sensor address	RW	1	Effective range : 1-255
0001H	Serial port baud rate	RW	6	2=9600, 6=115200 <b>Chart 1</b>
0002H	parity bit	RW	2	0=None, 1=Odd, 2=Even
0003H	Stop bit	RW	1	1=1Bit, 2=2Bit

Note: One register occupies two bytes

Ex:

Read sensor address: 01 04 00 00 00 01 31 CA Device return data: 01 04 02 00 01 78 F0

Read sensor baud rate: 01 04 00 01 00 01 60 0A Device return data: 01 04 02 00 02 38 F1

Read sensor wave check bit: 01 04 00 02 00 01 90 0A Device return data: 01 04 02 00 00 B9 30

### Device return data write command 06

Hold register address	Name	R/W	Default	Description
0000H	Sensor address	RW	1	Effective range : 1-255
0001H	Serial port baud rate	RW	6	2=9600, 6=115200 <b>Chart 1</b>
0002H	parity bit	RW	2	0=None, 1=Odd, 2=Even
0003H	Stop bit	RW	1	1=1Bit, 2=2Bit

### Input register, read command 03

Enter register address	Name	R/W	Description
0000H	Displacement data high 16 bits	R	
0001H	Displacement data low 16 bits	R	

Send hex data: 01 03 00 00 00 02 C4 0B

Receive hexadecimal data: 01 03 04 00 00 00 00 FA 33, red is the data bytes, while blue is the data returned by CRC verification. Depending on the displacement value, red and blue may vary

**\*Chart 1 Baud Rate**

Baud Rate	Representation	Description
2400	0	
4800	1	
9600	2	<b>Default</b>
19200	3	
38400	4	
57600	5	
115200	6	

Calculate displacement (03H function can achieve displacement data reading)

**1. Displacement**

Each displacement occupies four bytes, with the first and second bytes representing the integer part of the displacement, and the third and fourth bytes representing the decimal part of the displacement. The 23rd place is positive and negative data flags, where 1 represents a negative number and 0 represents a positive number.

Data examples:

- Integer Decimal  
00 E0 47 AE-----Displacement 1 = 224.280(mm)
- Integer Decimal  
00 8A 23 D7-----Displacement 2= 138.140(mm)
- Integer Decimal  
01 45 40 00-----Displacement 3= 325.250(mm)
- Integer Decimal  
81 45 40 00-----Displacement 4= -325.250(mm)

Algorithm 1:  
 Example: 0145 4000 converted to displacement 325.250 (mm)  
 Calculation method:  
 Integer part: 0145H=325D  
 Decimal part: 4000H/FFFFFFH=16384/65535=0.250  
 The result is: 325+0.250=325.250 (mm)

Algorithm 2:  
 Example: 0145 4000 converted to displacement 325.250 (mm)  
 Calculation method:  
 01454000H=21315584D  
 The result is: 21315584/65536=325.250 (mm)

Algorithm 3:  
 Example: 8145 4000 converted to displacement -325.250 (mm)  
 Calculation method:  
 81454000H write EFFFFFFFH=21315584D  
 The result is: 21315584/65536=325.250 (mm)  
 The highest digit is 1, so adding a minus sign before the result results in -325.250  
 If using industrial control configuration software, such as KingView, Baxter, etc., it is recommended to use Algorithm 2.