

# QUICK MANUAL

# Modbus RTU Interface Encoder





# DEVICE CONNECTION

# **Cable Connection**





# DEVICE CONNECTION

# **Encoder Setting**

### **Pin Definition**



## **Default Setting**

- Baud rate: 19200
- Even parity check
- 1 stop bit

Connection Plan	
SIGNAL	PIN NUMBER
Power Supply	2
GND	3
RS485 A +	4
RS485 B -	5
Signal GND	1

Slave ID: 7Fh(127d)

8 data bits.



## COMMUNICATION SETTING



Register Address = A + B

onnection Setup		
Connection		0
Serial Port	~	
Serial Settings		Car
USB Serial Port (COM5)	~	Mode
19200 Baud 🗸		●RTU 〇,
8 Data bits 🛛 🗸		Response Time
Even Parity 🗸 🗸		Delay Between
1 Stop Bit 🛛 🗸	Advanced	100
Remote Modbus Server		
IP Address or Node Name		
127.0.0.1		
Server Port	Connect Timeout	IPv4
502	3000 [ms]	0.00

Press F3 to make connection setup. If it is the first time to use, select it according to the original settings.





## COMMUNICATION SETTING

R

Read/Write	Definition				×
Slave ID:	127	]			OK
Function:	03 Read Ho	olding Reg	gisters (4x) 🗸 🗸		Cancel
Address:	1	Protoco	l address. E.g.	4001	1 -> 10
Quantity:	6				
Scan Rate: Disable Read/ Disabl	1000 Write Disable e on error	[ms] ed		Rea	Apply ad/Write Once
View Rows 10 Hide A	20 O Ilias Columns ss in Cell	50 🔾	100 O Fit to PLC Addr Enron/Da	) Quai esses aniel M	ntity (Base 1) fode

Press F8 to make read/write definition. The original slave ID is 127. According to register list, choosing Address and Quantity.

			1		
egister	Data name	Order	Attribute	Value	Default
40002	Position	MSB	RO	Position Value Bit 17-32	
40003	Position	LSB	RO	Position Value Bit 1–16	
40004	Actual Reverse State	MSB	RO	Actual State CW = 0, CCW = 1	0
40005	Term Rest State	MSB	RO	Termination on $= 1$ , off $= 0$	1
40006	Speed	MSB	RO	Speed Value Bit 17-32	
40007	Speed	LSB	RO	Speed Value Bit 1–16	
40008	Limit switch state		RO		

- Address: The first register address you need to view.
- Quantity: The number of continuous registers you need to view.

For example: If you want to check the position data.

- Address: Protocol address. E.g.  $40011 \rightarrow 10$ . So Position Register address 40002 should be reduced 40001 = 1.
- Quantity blank should be filled 2.
- Note: If the register being queried is not in use, an error is reported.



## **REGISTER DESCRIPTION**

# Register 0 - 19

_									
$\mathbb{B}^{n}_{0}$	Modbus Poll - Mbpoll1			_		×			
<u>F</u> ile	Eile Edit Connection Setup Functions Display View Window Help								
D	🗅 🖆 🖶 🎒 🗙 🛅 🗒 🚊 💷 05 06 15 16 17 22 23   TC 🖻 🤶 🦹								
<b>P</b>	Mbpoll1					×			
Tx	Tx = 170: Err = 0: ID = 127: F = 03: SR = 1000ms								
	Alias	00000				^			
0									
1	Position Value Bit 17-32 (RO)	0							
2	Position Value Bit 1-16 (RO)	1440							
3	Actual State CW=0, CCW=1 (RO)	0							
4	Termination on=1, off=0 (R0)	1							
5	Speed Value Bit 17-32 (RO)	0							
6	Speed Value Bit 1-16 (RO)	0				13			
7	Limit Switch State (RO)	0							
8						*			
For H	lelp, press F1.	Port 5: 19200-8	-E-1						

뢥	Modbus Poll - Mbpoll1		-
<u>F</u> ile	Edit Connection Setup Functions	<u>D</u> isplay <u>V</u> iew <u>V</u>	<u>V</u> indow <u>H</u> elp
D	🚔 🖬 🎒 🗙   🗂   🖳 🎰   Л.   05	06 15 16 17 23	2 23   TC 🗵   🦹
9	Mbpoll1		
T×	= 107: Err = 0: ID = 127: F = 03: SR =	1000ms	
lh	Alias	00010	
0			
1			
2	Physical ST Resolution Bit 17-32 (RO)	0	
3	Physical ST Resolution Bit 1-16 (RO)	8192	
4	Physical MT Resolution Bit 17-32 (RO)	0	
5	Physical MT Resolution Bit 1-16 (RO)	4096	
6	Scaling Enabled (RW)	1	
7	ST Resolution Bit 17-32 (RW)	0	
8	ST Resolution Bit 1-16 (RW)	4096	
9	Total Resolution Bit 17-32 (RW)	0	

### Remark:

- **RO:** Read only, not modifiable.
- **New:** Read and write.





## **REGISTER DESCRIPTION**

# **Register 20 - 32**

പ്പ്പ പ്പം	Modbus Poll - I	Mbpoll1	Display View V	Window Hole	_		×
		< <   П   Ц 👜   Л   05	06 15 16 17 2	2 23   TC 🗵	,   ? N	?	
<u>.</u>	Mbpoll1				E	-	×
Τ×	= 242: Err = 0	: ID = 127: F = 03: SR =	1000ms				
		Alias	00020				
0	Tota	Resolution Bit 1-16 (RW)	16384				
1		Preset Bit 17-32 (RW)	0				
2		Preset Bit 1-16 (RW)	0				
3		Offset Bit 17-32 (RO)	0				
4		Offset Bit 1-16 (RO)	6420				
5		Count Direction (RW)	0				
6		Speed Mode (RW)	0	~			
7		Speed Filter (RW)	0				
8		Limit Switch Enable (RW)	0				
9	Limit 9	Switch Low Bit 17-32 (RW)	0				
	John mass El		Port 5: 19200-8-6	-1			

1	Y¶ I	Modbus Poll - Mbpoll1		
E	ile	Edit Connection Setup Functions	<u>D</u> isplay <u>V</u> iew <u>V</u>	<u>V</u> indow <u>H</u> elp
	Ľ	🛎 🖬 🎒 🗙 🛅 🖳 🚊 💷 05	06 15 16 17 22	2 23   TC 🗵
	<u> </u>	Mbpoll1		
	Τ×	= 68: Err = 0: ID = 127: F = 03: SR = 1	000ms	
Ш				
		Alias	00030	
Ш	0	Limit Switch Low Bit 1-16 (RW)	0	
Ш	1	Limit Switch High Bit 17-32 (RW)	0	
Ш	2	Limit Switch High Bit 1-16 (RW)	0	
	3			
	4			
	5			
1	6			
Ш	7			
Ш	8			
Ш	9			
Ш				
Ш				
Ľ	ļ			
Fo	or H	lelp, press F1.	Port 5: 19200-8-E	-1

### Remark:

- **RO:** Read only, not modifiable.
- **New:** Read and write.





## **REGISTER DESCRIPTION**

# Register 256 - 262

File Edit Connection Setup Functions Display View Window Help      Image: Set of the set of th
Image: Constraint of the intervention of the interventi
Mbpoll1    Image: Constraint of the second
Alias    00250      0
Alias  00250    0
Alias  00250    0
0    1    2    3    4    5    6    Baudrate (RW)    5    7    Number Data (RW)    2    8
1
2
3
4
5      Baudrate (RW)      5        6      Baudrate (RW)      5        7      Number Data (RW)      2        8      Parity (RW)      2
6      Baudrate (RW)      5        7      Number Data (RW)      2        8      Parity (RW)      2
7      Number Data (RW)      2        8      Parity (RW)      2
8 Parity (RW) 2
9 Stopbits (RW) 1
East Hele areas 51

× = 44: Err =	= 0: ID = 127: F = 03: SR = 1000m	s	
	Alias	00260	
0	Comm Update (RW)	0	
1	Node Address (RW)	127	
2	Node Update (RW)	0	
3			
4			
5			
6			
7			
8			
9			

### Remark:

- **RO:** Read only, not modifiable.
- **New:** Read and write.





# **Position Preset**

Modbus Poll - Mbpoll1

16: Write Multiple Registers		×
Slave ID: 127 Address: 21 Quantity: 2 Type: Unsigned ✓	<mark>021 = 0</mark> 022 = 0	Send Cancel Edit Open Save

File Edit Connection Setup Functions Display View Window Help 🗋 🗃 🔚 🎒 🗙 🛅 🖳 🚊 🗐 05 06 15 16 17 22 23 TC 🔍 🤶 💖 🕎 Mbpoll1 Tx = 455: Err = 0: ID = 127: F = 03: SR = 1000ms Alias 00020 Tot Resolution Bit 1-17 (W/R) 8192 Preset Bit 17-32 (W/R) Preset Bit 1-16 (W/R) 478 Offset Bit 17-32 (RO) Offset Bit 1-16 (RO) 26382 Count Direction (W/R) Speed Mode (W/R) Speed Filter (W/R) Limit Switch Low Bit 17-32 (W/R) Limit Switch Low Bit 1-16 (W/R) Port 5: 19200-8-E-1 For Help, press F1.

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".

- According to the figure above, we can find:
- Register Address of preset are 21 and 22.
- Address should be filled in 21.
- Quantity should be filled in 2.



n find: 1d 22.



# **Direction Setting**

16: Write Mult	iple Registers		×
16: Write Mult Slave ID: 12 Address: 25 Quantity: 1 Type: Ur	iple Registers	025 = 0	× Send Cancel Edit Open Save
			$\sum_{s}$

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".

_	Alia	as 00020	1
0	0 Tot Resolution Bit 1-17 (W/	R) 8192	
1	1 Preset Bit 17-32 (W/	R) 0	
2	2 Preset Bit 1-16 (W/	R) 0	
3	3 Offset Bit 17-32 (R0	0) 478	1
4	4 Offset Bit 1-16 (RG	26382	2
5	5 Count Direction (W/	R) (	
6	6 Speed Mode (W/	R) 0	)
7	7 Speed Filter (W/	R) 0	)
8	B Limit Switch Low Bit 17-32 (W/	R) 0	
9	9 Limit Switch Low Bit 1-16 (W/R	) C	

- According to the figure above, we can find:
- Register address of count direction is 25.
- Address should be filled in 25.
- Quantity should be filled in 1.



n find: s 25.



# **ST Resolution Setting**

16: Write N	Aultiple Registers		×
Slave ID:	127	017 = 0 018 = 4096	Send
Address:	17		Cancel
Quantity:	2		Edit
Туре:	Unsigned $\sim$		Open
			Save
		L	

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".

< -	= 196: Err = 0: ID = 127: F = 03: SR = 1000m	S	
Ţ	Alias	00010	
D			
I			
2	Physical ST Resolution Bit 17-32 (RO)	0	
3	Physical ST Resolution Bit 1-16 (RO)	8192	
4	Physical MT Resolution Bit 17-32 (RO)	0	
5	Physical MT Resolution Bit 1-16 (RO)	4096	
5	Scaling Enabled (RW)	1	•
7	ST Resolution Bit 17-32 (W/R)	0	
3	ST Resolution Bit 1-16 (W/R)	4096	
9	Tot Resolution Bit 17-32 (W/R)	0	-

- According to the figure above, we can find:
- Register address of ST resolution setting are 17 and 18.
- Address should be filled in 17.
- Quantity should be filled in 2.



n find: tting are 17 and



# **Total Resolution Setting**

16: Write N	Multiple Registers			×
Slave ID:	127		019 = 0 020 = 16384	Send
Address:	19			Cancel
Quantity:	2			Edit
Туре:	Unsigned	$\sim$		Open
				Save

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".

Mbr	2011			
c = 19	96: Err = 0: ID = 127: F = 03: SR = 1000π	15		
	Alias	00010		
)				
2	Physical ST Resolution Bit 17-32 (RO)	0		
3	Physical ST Resolution Bit 1-16 (RO)	8192		
ŧ.	Physical MT Resolution Bit 17-32 (RO)	0		
5	Physical MT Resolution Bit 1-16 (RO)	4096		
5	Scaling Enabled (RW)	1		
,	ST Resolution Bit 17-32 (W/R)	0		
3	ST Resolution Bit 1-16 (W/R)	4096		
9	Tot Resolution Bit 17-32 (W/R)	0		
			J	
	Alias	00020		
)	Tot Resolution Bit 1-17 (W/R)	8192		
1	Preset Bit 17-32 (W/R)	0		

- According to the figure above, we can find:
- Register address of total resolution setting are 19 and 20.
- Address should be filled in 19.
- Quantity should be filled in 2.



n find: etting are 19 and



# **Baudrate Setting**

16: Write Multiple Registers		×
Slave ID: 127	256 = 5	Send
Address: 200		Cancel
Quantity:		Edit
Type. Onsigned V		Open
		Save
	L]	

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".
- ▶ Baud rate: 0=1200, 1=2400, 2=4800, 3=9600, 4=14400, 5=19200, 6=38400, 7=56000, 8=57600, 9=115200, 10=128000, 11=256000
- Power off and reconnect at the new baud rate after setting.

	Alias	00250	
0			
1			
2			
3			
4			
5			
6	Baudrate (RW)	5	
7	Number Data (RW)	2	
8	Parity (RW)	2	i i
9	Stopbits (RW)	1	

- According to the figure above, we can find:
- Register Address of baud rate is 256.
- Address should be filled in 256.
- Quantity should be filled in .





# **Slave ID Setting**

ave ID:    127    Send      dress:    261    Cancel      aantity:    1    Edit      pe:    Unsigned    Open      Save    Save	쒌 Modbus Poll - Mbpoll1 File Edit Connection Setup Functions Display View Window Help	
pe: Unsigned Open	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	N?
	1      Node Address (RW)      127        2      Node Update (RW)      0        3	
	9	

- Press Alt + F8 to write multiple registers.
- Filling in "Slave ID", "Address", "Quantity" and "Type".
- Set the corresponding register data.
- Press "Send".
- Power off and reconnect at the Slave ID after setting.

- According to the figure above, we can find:
- Register Address of node address is 261.
- Address should be filled in 261.
- Quantity should be filled in 1.



n find: 261.