

Modbus setting in COM2 for WECON PLC



WECON Technology Co., Ltd.

Website: <http://www.we-con.com.cn/en>

Technical Support: liux@we-con.com.cn

Skype: fcwkkj

Phone: 86-591-87868869

Forums: <http://wecon.freeforums.net/>

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I . Protocol Setting (D8126)

Protocol	Description	Value of D8126
WECON PLC Protocol	Using WECON PLC Protocol	01H
MODBUS RTU Master	PLC is slave device	02H
MODBUS ASCII Master	PLC is slave device	03H
MODBUS RTU Slave	PLC is master device	20H
MODBUS ASCII Slave	PLC is master device	30H

II . Communication Format (D8120)

Item	parameter	Bit value of D8120							
		b7	b6	b5	b4	b3	b2	b1	b0
Baud rate (Bps)	115200	1	1	0	0	-	-	-	-
	57600	1	0	1	1	-	-	-	-
	38400	1	0	1	0	-	-	-	-
	19200	1	0	0	1	-	-	-	-
	9600	1	0	0	0	-	-	-	-
	4800	0	1	1	1	-	-	-	-
Stop bit	1 bit	-	-	-	-	0	-	-	-
	2 bit	-	-	-	-	1	-	-	-
Parity	None	-	-	-	-	-	0	0	-
	Odd	-	-	-	-	-	0	1	-
	Even	-	-	-	-	-	1	1	-
Data bit	7 bit	-	-	-	-	-	-	-	0
	8 bit	-	-	-	-	-	-	-	1

Example: the communication format is 9600.1.8.None, $b_7b_6b_5b_4=1000$, $b_3=0$, $b_2b_1=00$, $b_0=1$.
 $D8120=81H$ ($(10000001)_2=81H$, 81H means hexadecimal number)

Note: If use Data bit=7. Parity can not choose None.

III. WECON PLC - MODBUS (Slave) addresses rules

PLC Bit Address		
PLC Address	MODBUS Address	
	Hex	Decimal
M0 ~ M3071	0 ~ 0xBFF	0 ~ 3071
M8000 ~ M8256	0x1F40 ~ 0x2040	8000 ~ 8256
S0 ~ S999	0xE000 ~ 0xE3E7	57344 ~ 58343
T0 ~ T256	0xF000 ~ 0xF100	61440 ~ 61696
C0 ~ C255	0xF400 ~ 0xF4FF	62464 ~ 62719
X0 ~ X255	0xF800 ~ 0xF9FE	63488 ~ 63998
Y0 ~ Y255	0xFC00 ~ 0xFDFE	64512 ~ 65022

PLC Word Address		
PLC Address	MODBUS Address	
	Hex	Decimal
D0 ~ D8255	0 ~ 0x203F	0 ~ 8255
T0 ~ T255	0xF000 ~ 0xF0FF	61440 ~ 61695
C0 ~ C199	0xF400 ~ 0xF4C7	62464 ~ 62663
C200 ~ C255	0xF700 ~ 0xF7FF	63232 ~ 63487

IV. MODBUS Function Code Introduction

1. Function code 0x01(01): read coil (bit address)

Frame format: Station number of slave&0x01 + start address + number of coils + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x01 (function code)	1 byte	Read coil
3	Start address	2 bytes	
4	Number of coils	2 bytes	
5	CRC	2 bytes	

2. Function code 0x03(03): read register (word address)

Frame format: Station number of slave&0x03 + start address+ number of registers + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x03 (function code)	1 byte	Read register
3	Start address	2 bytes	
4	Number of registers	2 bytes	
5	CRC	2 bytes	

3. Function code 0x05(05): write single coil

Frame format: Station number of slave&0x05 + address + state of coil + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x05 (function code)	1 byte	Write single coil
3	address	2 bytes	
4	State of coil	2 bytes	
5	CRC	2 bytes	

4. Function code 0x06 (06): Write single register

Frame format: Station number of slave&0x06 + address + value + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x06 (function code)	1 byte	Write single register

3	address	2 bytes	
4	Value of register	2 bytes	
5	CRC	2 bytes	

5. Function code 0x0f(15): Write continuous coils

Frame format: Station number of slave&0x0f + start address + number of coils + length + state of coil + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x0f (function code)	1 byte	Write continuous coils
3	Start address	2 bytes	
4	Number of coil	2 bytes	
5	Length	1 bytes	
6	State of coils	[(N+7)/8] bytes	
7	CRC	2 bytes	

6. Function code 0x10 (10): Write continuous registers

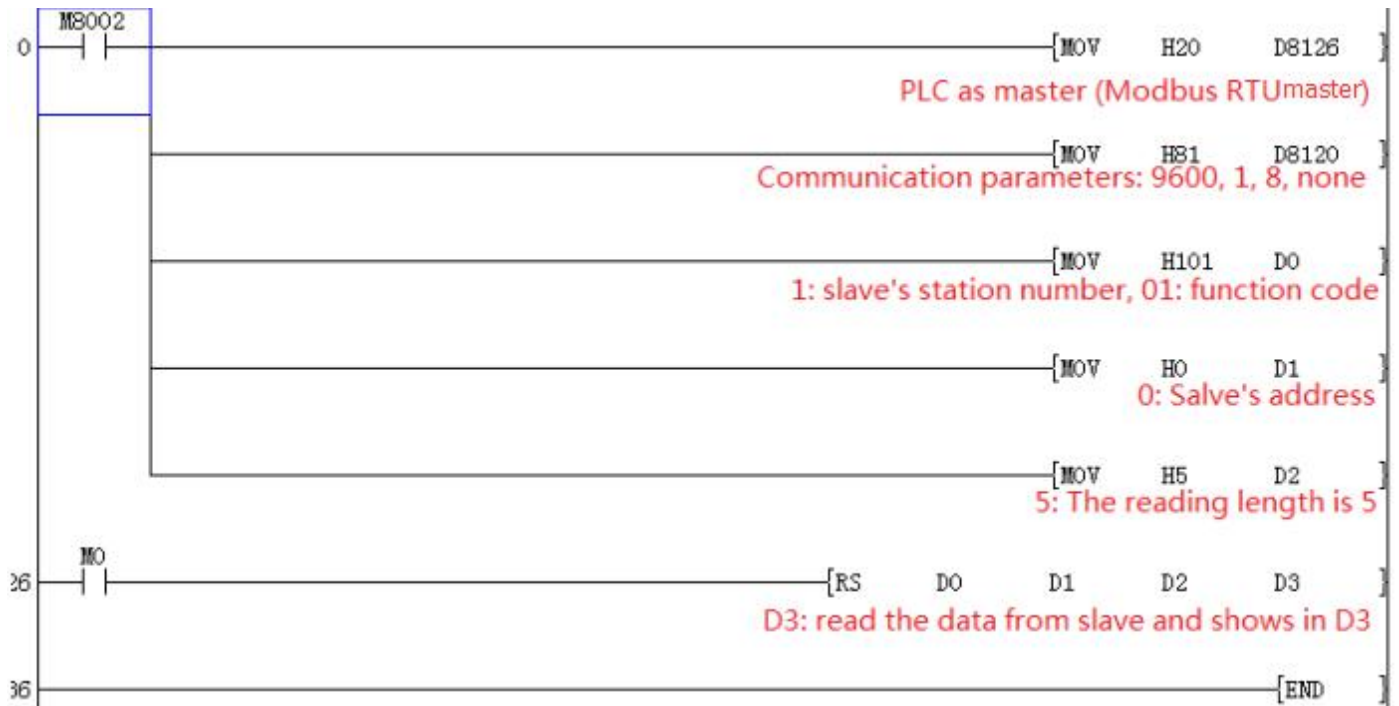
Frame format: Station number of slave&0x10 + start address + number of registers + length + value of register + CRC

No.	Data	Number of byte	Instruction
1	Station number of slave	1 byte	Value range 1~247, set by D8121
2	0x10 (function code)	1 byte	Write continuous registers
3	Start address	2 bytes	
4	Number of registers	2 bytes	
5	Length	1 bytes	
6	Value of register	N*2 bytes	
7	CRC	2 bytes	

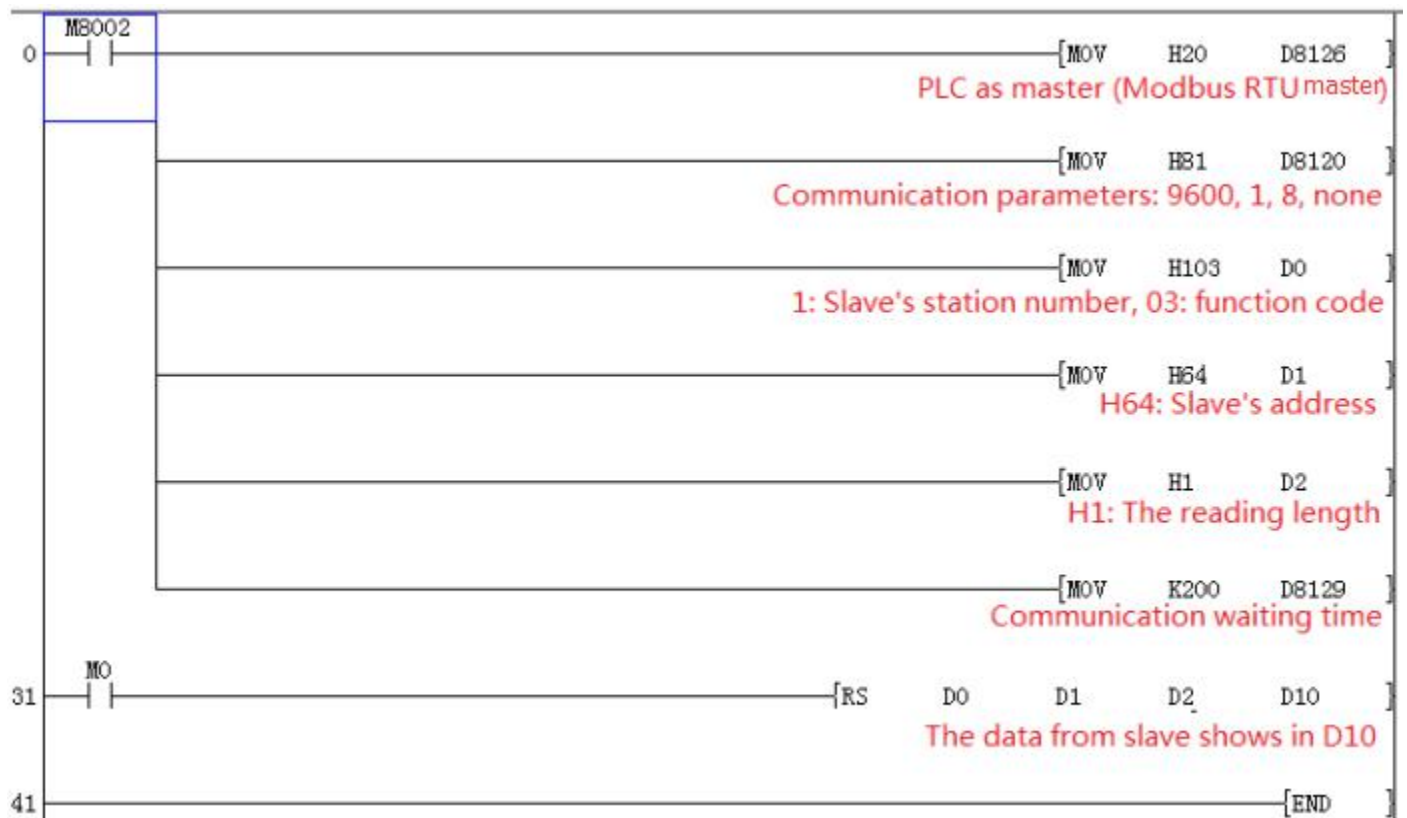
V. Example

1. Read bit address from device

(When reading the bit address, the return value of 256 means that the coil is turned ON, and the return value of 0 means that the coil is turned OFF.)



2. Read word address from device

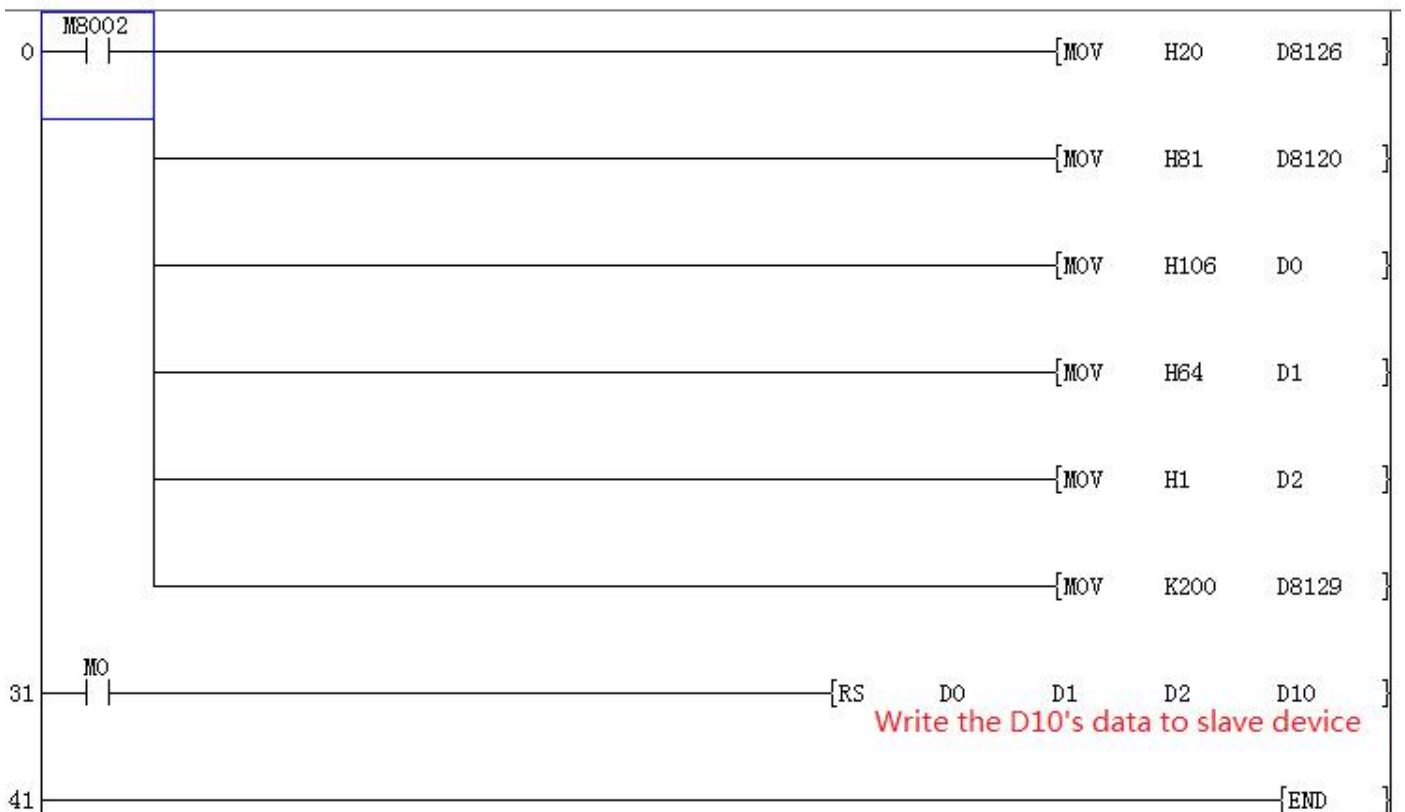


3. Write single coil

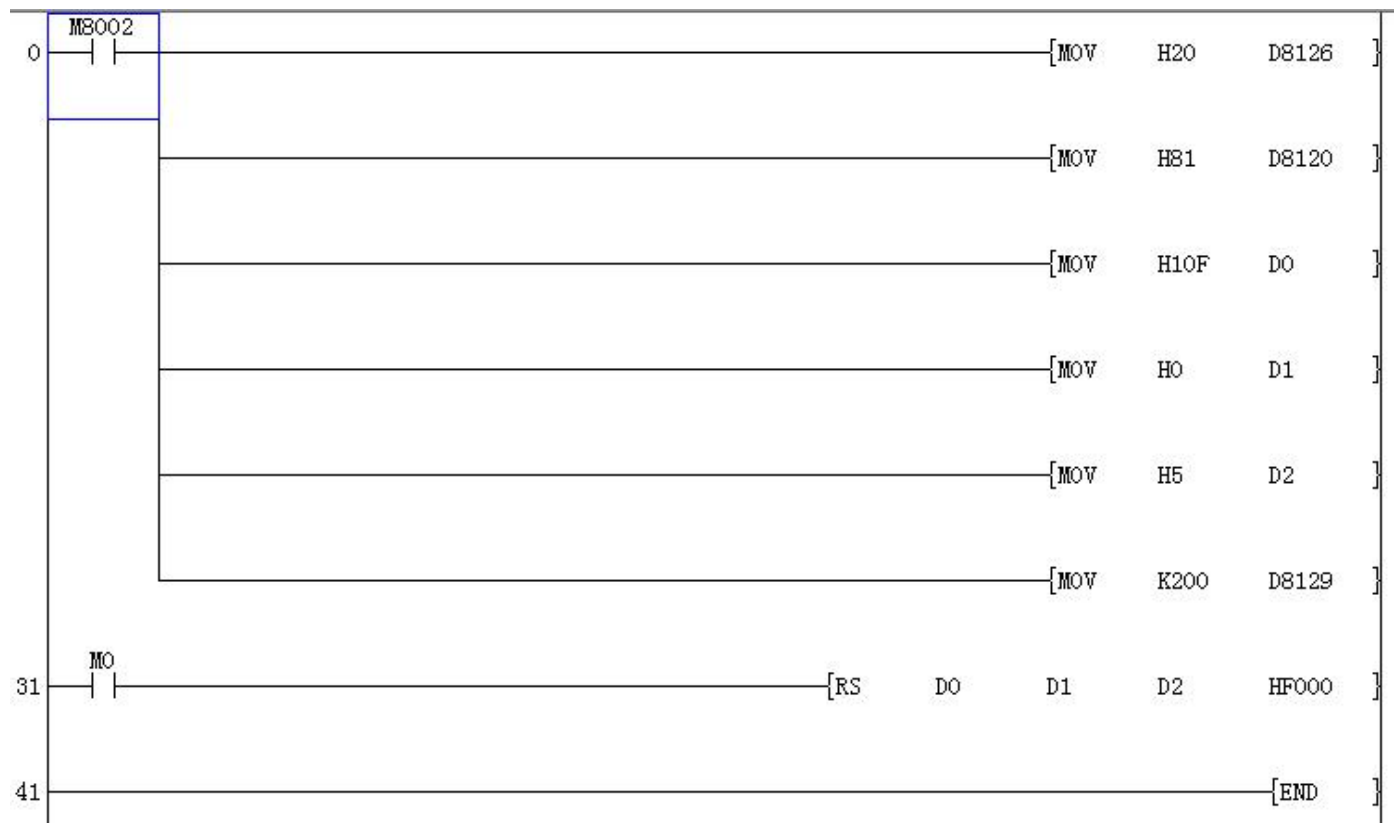


Tip:
 (When writing a single coil or a continuous coil, write HFF00 to turn the coil on, and write H0000 to turn off the coil.)

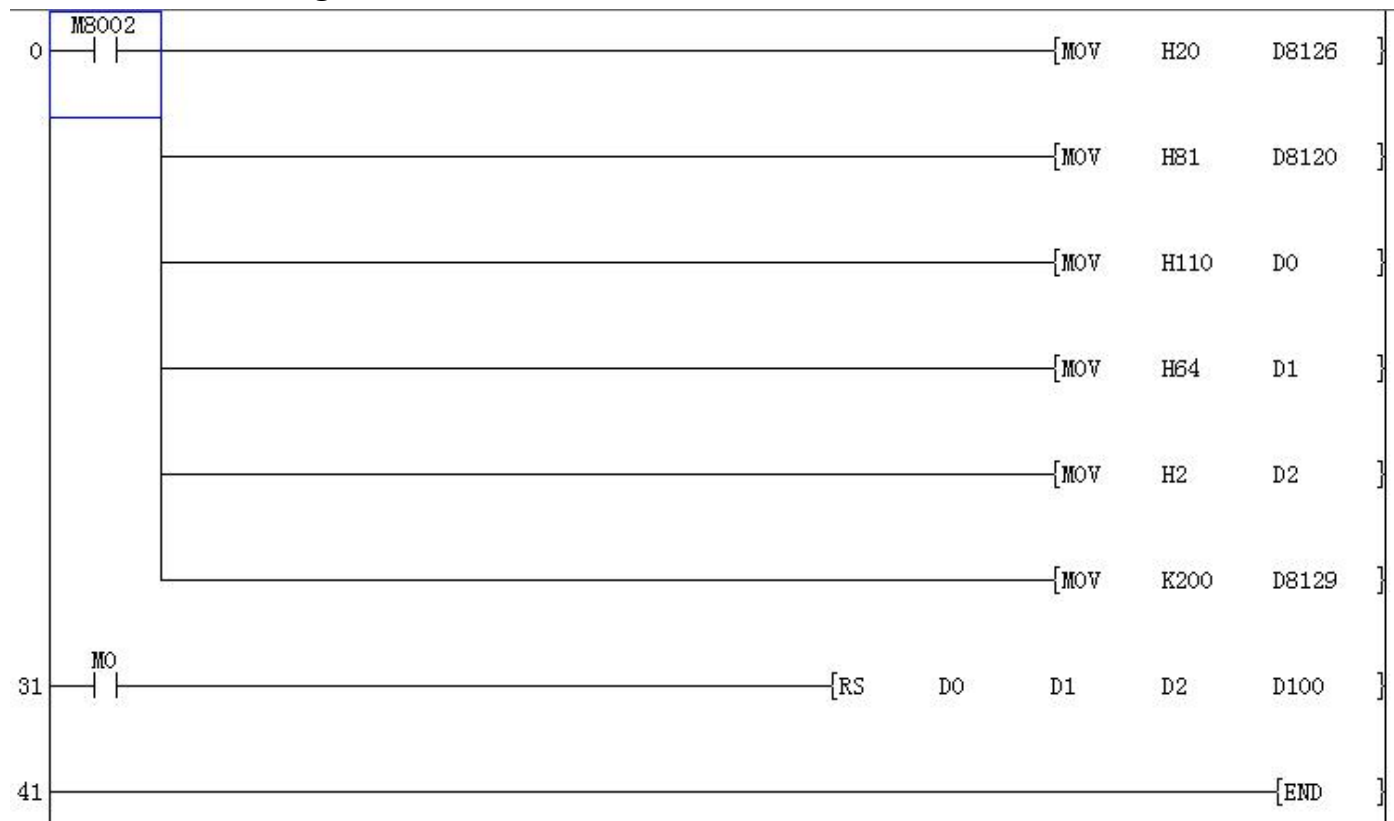
4. Write single register



5. Write continuous coils



6. Write continuous registers



7. PLC is slave device



8. WECON PLC Protocol (COM2)

