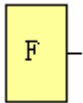


What's new in the xLogicSoft update ?

1. NEW Function Blocks (Page1~14)

- F(digital flag)
- AF(analog flag)
- Modbus Read
- Modbus Write

- **F(digital flag)**

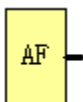


Flags are only used when xLogic works as a master in a communication system. F is digital flag which is used to receive signal 1 or 0(data format is Bit) from slave device and AF is analog flag which is used to receive analog values (data format is Signed short) form slave device. Both of flags (digital/analog) are up to 32 can be used when programming. In your block configuration, you can assign a new number to the flag, provided this flag number does not already exist in your circuit program.

The output always carries the signal of the previous program cycle. This value does not change if the communication were failed .

F=FM

- **AF(analog flag)**

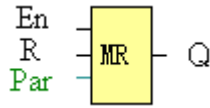


Flags are used only when xLogic works as a master in a communication system. F is digital flag which is used to receive signal 1 or 0(data format is Bit) from slave device and AF is analog flag which is used to receive analog values (data format is Signed short) form slave device. Both of flags (digital/analog) are up to 32 can be used when programming. In your block configuration, you can assign a new number to the flag, provided this flag number does not already exist in your circuit program.

The output always carries the signal of the previous program cycle. This value does not change if the communication were failed.

AF=FAM

● **Modbus Read**



Short description:

When there is a high level at En, the Modbus Read block will be activated and the xLogic SuperRelay can communicate with a peripheral device as a master via RS232 or RS485 interface. Furthermore, the output will be switched on when communication is established successfully. Otherwise the output (Q pin) remains “off” which means communication has failed.

A signal at input R resets output Q and disables this block at the same time

Connection	Description
Input En	A high signal at En input will enable “Modbus Read” function block to be activated
Input R	Reset the value read from peripheral and set the output to 0 via the R (Reset) input. Reset has priority over En
Parameter	<p>Slave address: 1 is default .</p> <p>Communication protocol: Modbus(RTU)</p> <p>Communication parameter: baud rate (BPS),Data bits, Stop bits, Parity, Overtime (response time out)</p> <p>Comm Type: RS232 or RS485(Communication interface of xLogic)</p> <p>Data register Index: High Low /Low High</p> <p>Command: 01 Read coils(0x) 02 Read Discrete Input(1x) 03 Read Holding Registers(4x) 04 Read Input Registers(3x)</p> <p>Register start address, count</p>
Output Q	Q is set or reset depending on the communication status. Successful communication , Q=1; Failed communication ,Q=0;

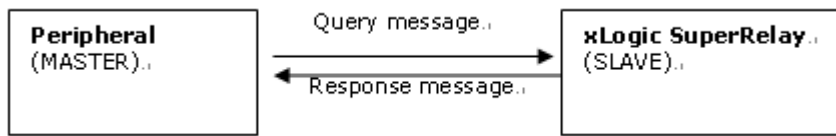
Note: 1. Data register Index: High Low /Low High

For example ,when High Low index was set, one data 0x 00 12 was read and saved to AQ ,AQ= 0X0012; However ,when Low High index was set ,AQ=0x 1200

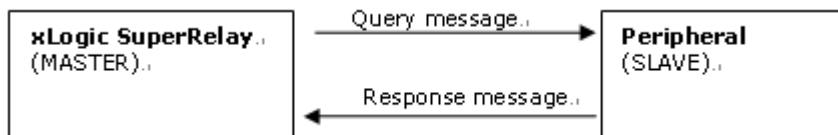
2. Regarding Modbus RTU detail, please refer to our Modbus RTU communication protocol file for it.

Description of the function:

In the configuration of our xLogic communication, the xLogic SuperRelay usually serves as a slave via Modbus RTU Protocol, and can communicate with a master directly. That’s to say, any device communicating with xLogic SuperRelay sends command to it, and the its response will be sent out only when the xLogic SuperRelay has received the command, Just as the below figure shows:

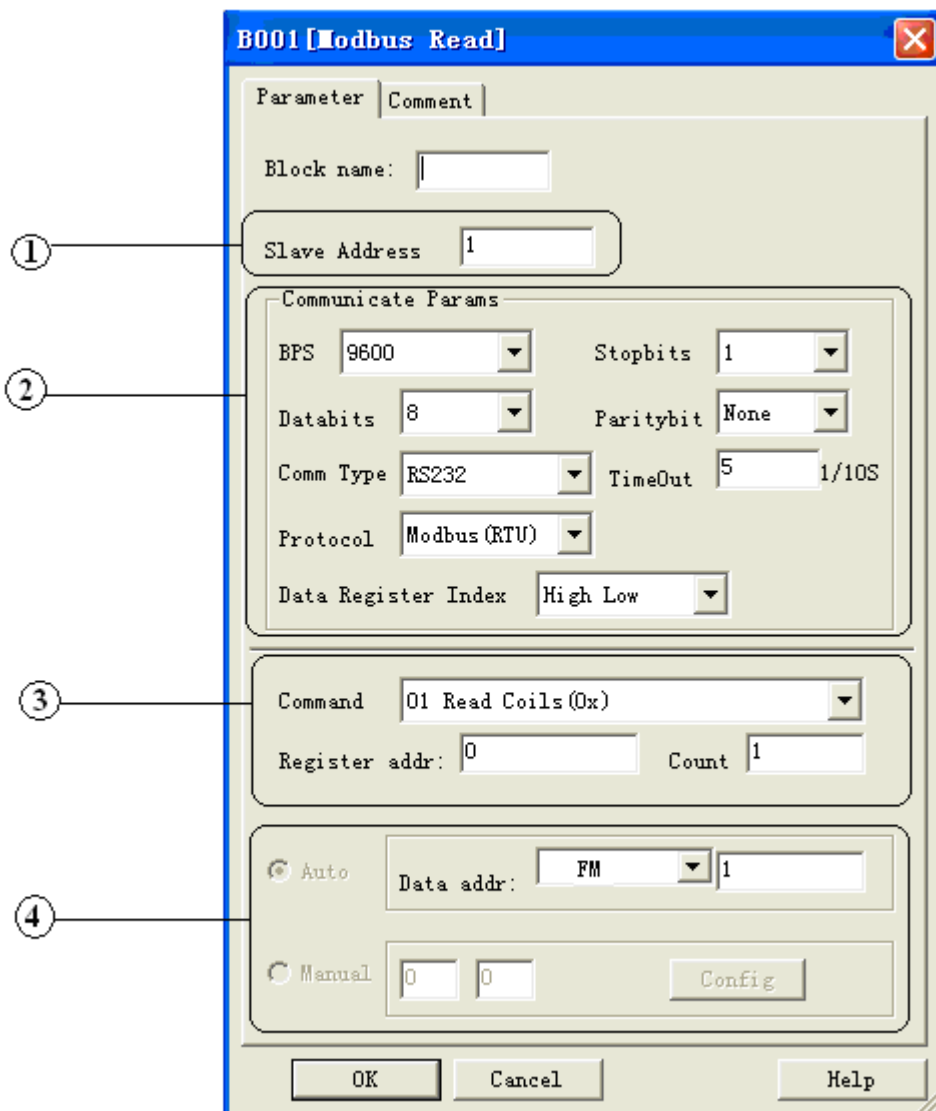


However, the “Modbus Read” or “Modbus Write”(next chapter will introduce it) function block would be utilized if xLogic SuperRelay shall be required to play a role of master to communicate with other devices. As the following figure shows:



When you put Modbus read” or “ Modbus Write” function block in your program and make some configurations, the function that xLogic SuperRelay serves as master will be realized.

The Property in dialog box of “Modbus Read” shows as below figure:



1. Slave Address :1 is default

2. Communication parameters: BPS is baud rate、Stopbits、Databits、Communication type: RS232、RS485 . Actually RS232 or RS485 are just interface of xLogic.

Notes: RS485 interface is only applied to ELC-18 SERIES.

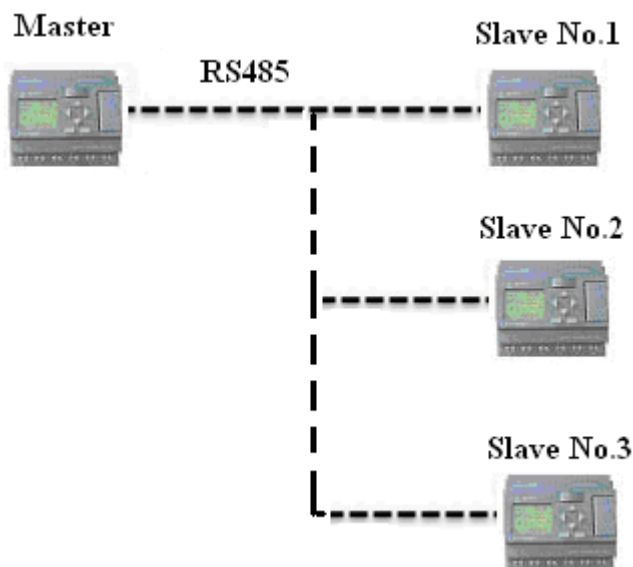
3. Command , register address and register count

Command	Function description	remark
01	Read one group coil status (00000~0XXXX)	Read Coil Status (output)
02	Fetch one group data of the status of switch input (10000~1XXXX)	Read input Status (input relay)
03	Read data of multi-holding register (40000~4XXXX)	Read Holding Registers (Output register)
04	Read data of input registers (3000~3XXXX)	Read Input Registers

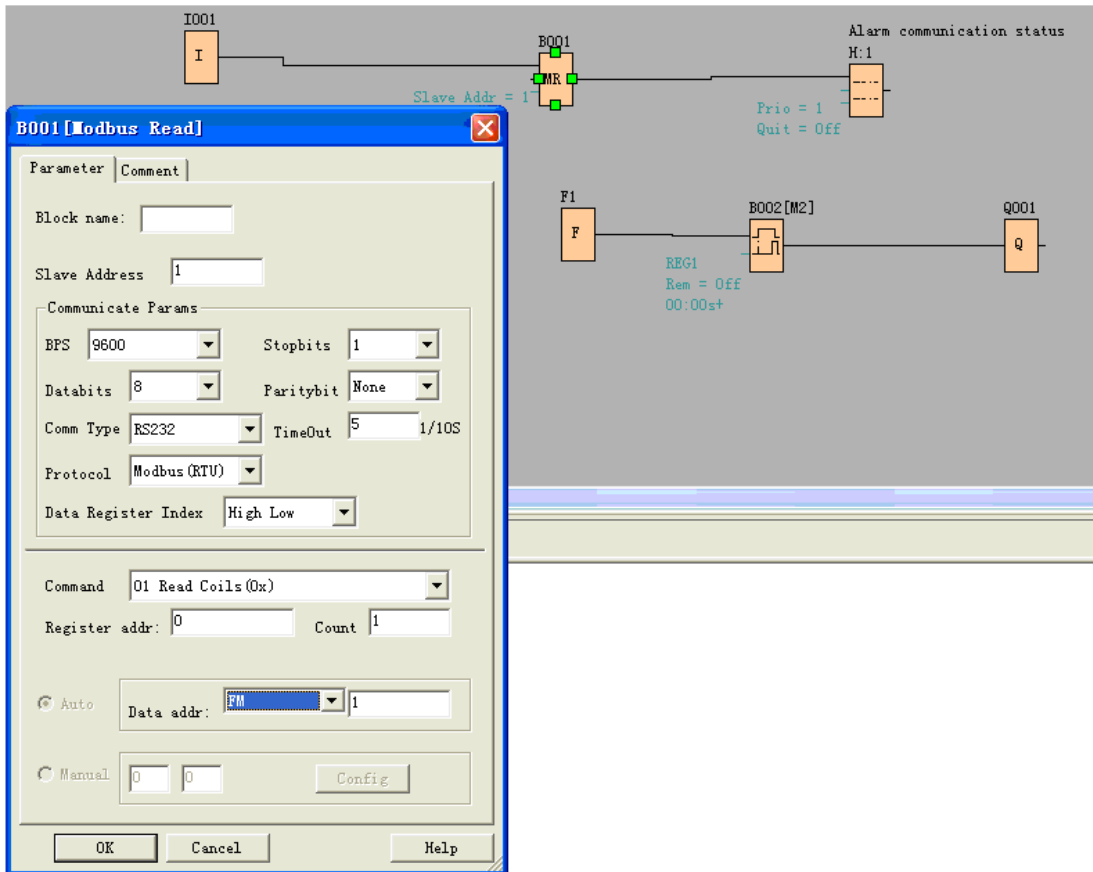
Note: Please use “03” command to read AI/AO of xLogic

4.where to save the data read from Slave.

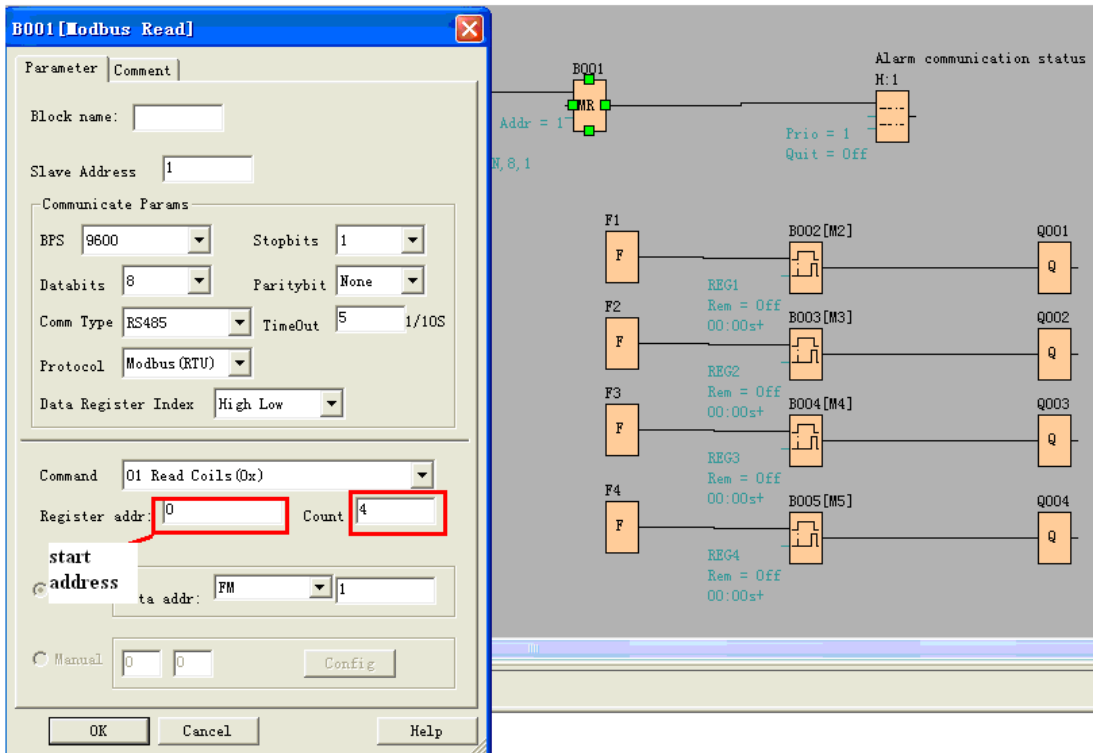
Example: The following we'll take a example that one xLogic (Master) communicate with other xLogic (Slave) via RS485.



Example 1: Get Q1 status of SLAVE1(xLogic) and then save the bit status to FM1.

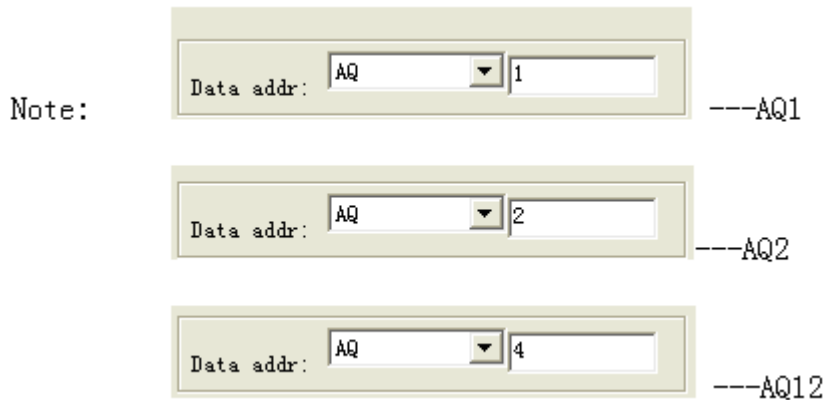
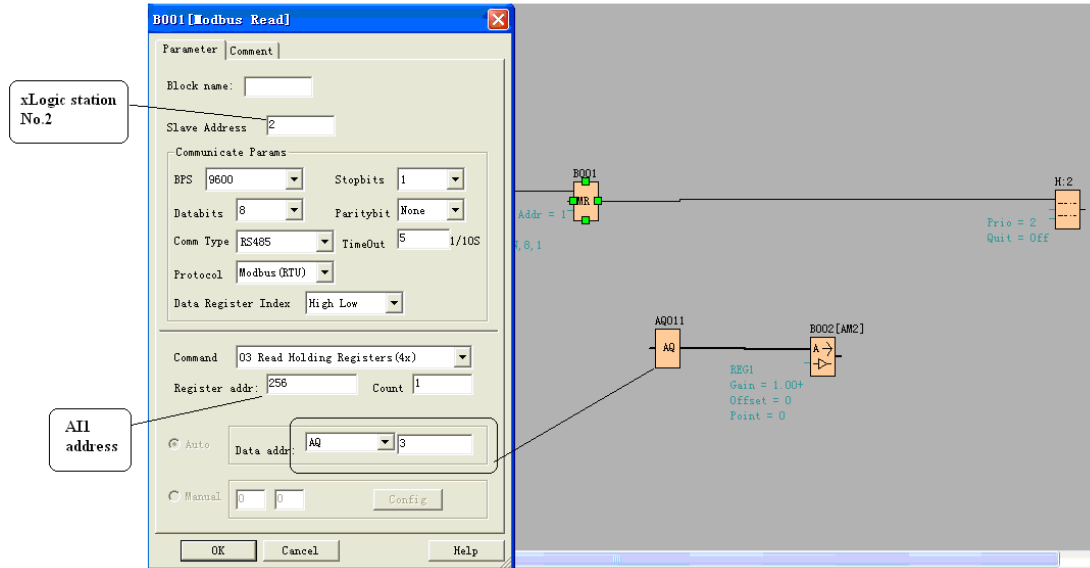


If count was set 4 ,the Q1,Q2,Q3,Q4 of xLogic (station No.1) will be read and save to F1 to F4



F is bit flag . It can be used to receive bit data from slave device.

Example 2 : Get AI value from Slave 2(xLogic with station No.2) and save the data to AQ11



The number setting of Q,I,AQ are continuous .AQ12 can not be set as AQ 12 and should be set AQ 4 as above figure shows.

The following table shows how to set.

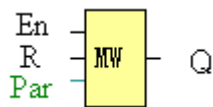
Note : this table also can be applied for the configuration of Modbus Write function block.

MODEL	I, Q, AI, AQ	DIALOG BOX SET
CPU	I1-I18	I1-I12
	Q1-Q6	Q1-Q6
	AI1-AI8	AI1-AI8
	AQ1-AQ2	AQ1-AQ2
Expansion 1 (Address is 1)	I11-I18	I13-I20
	Q11-Q18	Q7-Q14
	AI11-AI18(AI15-AI18 are reserved)	AI9-AI12
	AQ11-AQ12	AQ3-AQ4
Expansion 2 (Address is 2)	I21-I28	I21-I28
	Q21-Q28	Q15-Q22
	AI21-AI28	AI17-AI24
	AQ21-AQ22	AQ5-AQ6
.....		

Data format instruction

Name	Data format
F, I, Q	BIT
AF, AI, AQ,	Signed Short

● Modbus Write



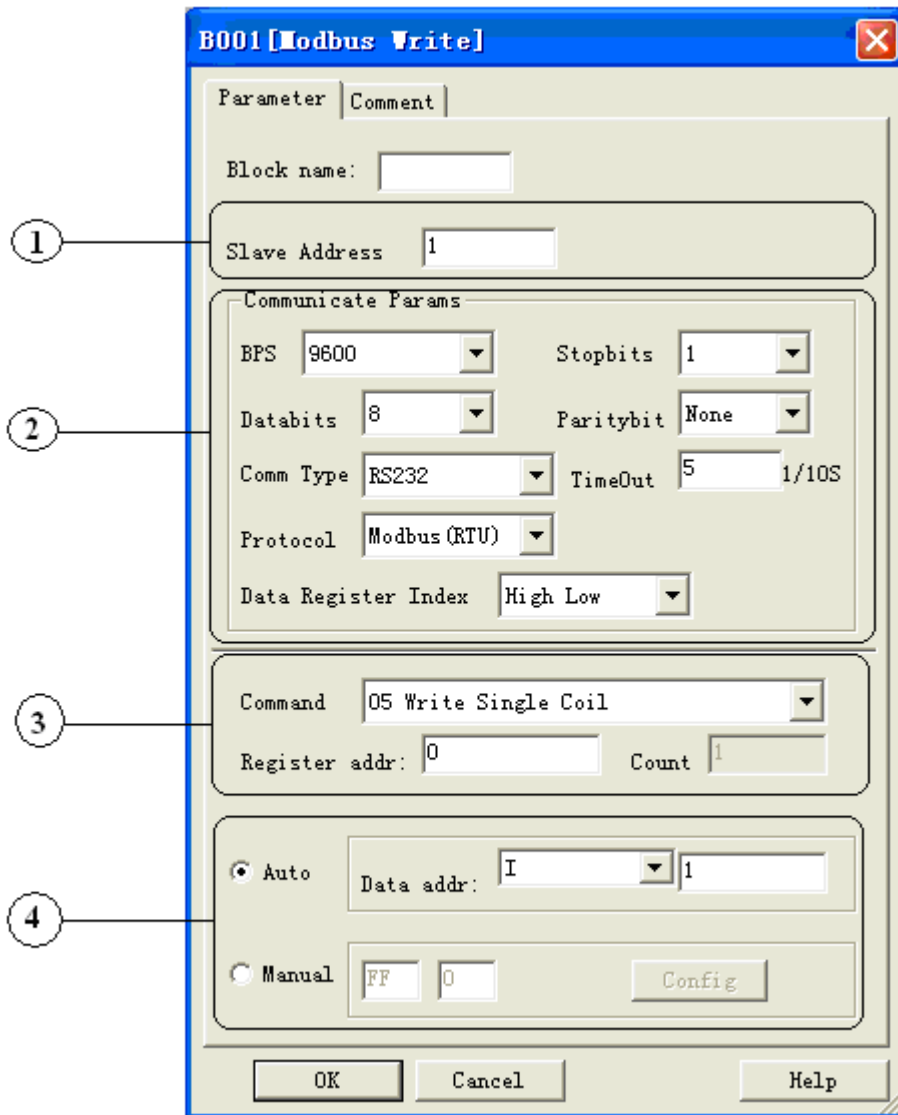
Short description:

When a high level in En, the Modbus Write block will be activated and the xLogic SuperRelay could communicate with peripheral as a master via RS232 or RS485 interface, further the output will be switched on when the communication is established successfully. Otherwise the output (Q pin) is keep “off” it means communication is failed.

A signal at input R resets output Q and disable this block at the same time

Connection	Description
Input En	A high signal at En input will enable “Modbus Write” function block to be activated
Input R	Reset the value read from peripheral and set the output to 0 via the R (Reset) input. Reset has priority over En
Parameter	<p>Slave address: 1 is default .</p> <p>Communication protocol: Modbus(RTU)</p> <p>Communication parameter: baud rate (BPS),Data bits, Stop bits, Parity, Overtime (response time out)</p> <p>Comm Type: RS232 or RS485(Communication interface of xLogic)</p> <p>Data register Index: High Low /Low High</p> <p>Command: 05 Write Single Coil 06 Write Single Register 15 Write Multiple Coils 16 Write Multiple Registers</p> <p>Register start address, count</p>
Output Q	Q is set or reset depending on the communication status. Successful communication , Q=1; Failed communication ,Q=0;

The Property in dialog box of “Modbus Write” shows as below figure:



1. Slave Address:1 is default

2.Communication parameters: BPS is baud rate, Stopbits, Databits, Communication type: RS232, RS485 . Actually RS232 or RS485 are just interface of xLogic.

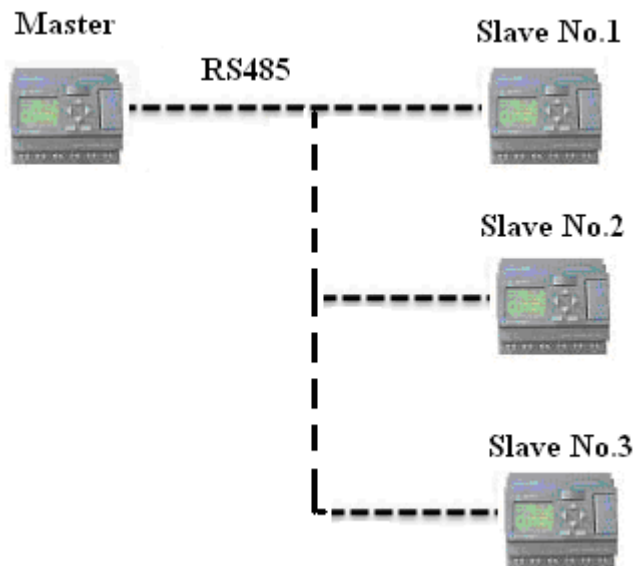
Notes: RS485 interface is only applied to ELC-18 SERIES.

3. Command, register address and register count

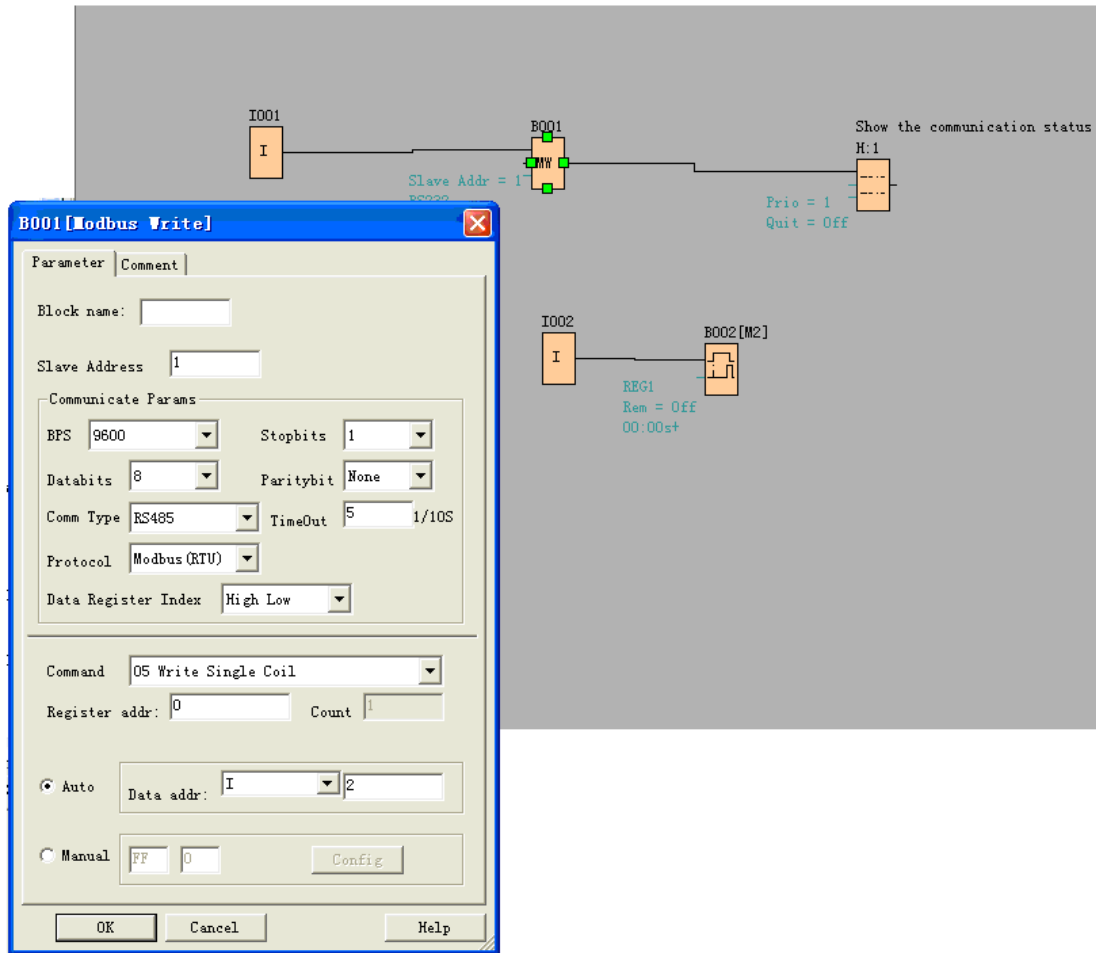
Command	Function description	remark
05	Force the switch status of single coil (00000~0XXXX)	Force Single Coil (output)
06	Pre-set the data of single register (40000~4XXXX)	Set single output register
15	Force multi-coils on/off bit (00000~ 0XXXX)	
16	Write multi-holding registers data (40000~4XXXX)	

4. where is to save the pre-configuration data that would be written to Slave. It contains 2 kind ways to pre-configuration. One is auto mode ,this data uses the flags in the program ,such as FM, AFM ,I, Q and AQ. The manual mode is input a fixed value or bit status .

Example 1



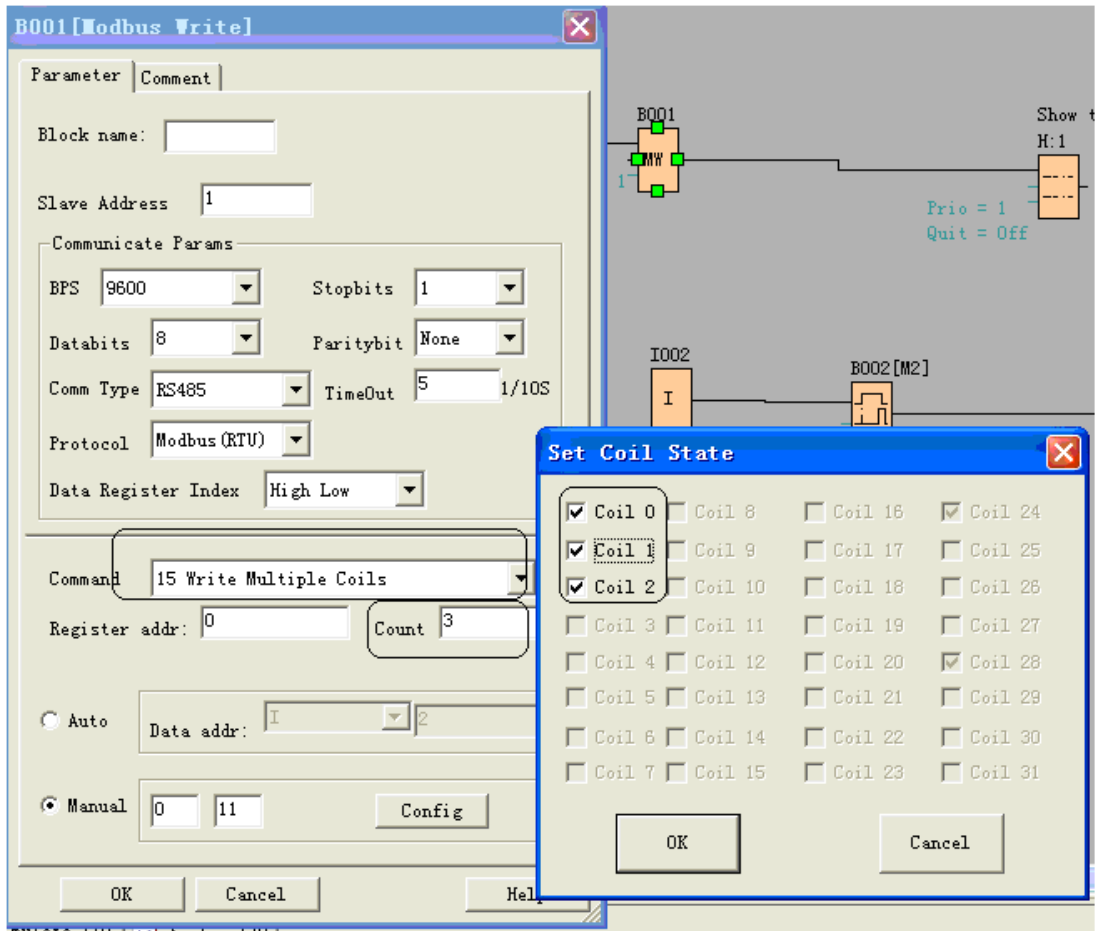
Write the I2 bit status of Master xLogic to Slave xLogic with No.1 and control Q1 of Slave via RS485 port. the program of master can be made as follows:



I1of master is used to control the communication .If I1 is high and the communication is established successfully, one alarm message (text message block) will be displayed on LCD. Then the Q1 of slave No.1 will be controlled by I2 of master. If I2 is high, Q1 of slave No.1 would be ON and if I2 is low ,Q1 of slave would be OFF.

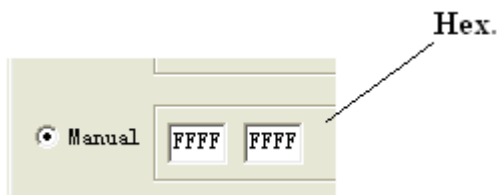
Note: The Q1 must be free, it means the in the program of Slave No.1, the input pin of Q1 must be not linked to other blocks.

Example 2 , manual mode input value



The above configuration is to force Q1,Q2,Q3 of Slave No.1 ON. " Coil 0" means pre-set the BIT 1 and " Coil 0" means pre-set the BIT 0 ,"Coil 0" is corresponding to the start address ,Here is Q1.

Note:The manual input value is Hex data .it contains 4 bytes. If you want to write a decimal value to the register of SLAVE ,please convert it to Hex format.



4.

The following table shows how to set.

Note : this table also can be applied for the configuration of Modbus Read function block

MODEL	I, Q, AI, AQ	DIALOG BOX SET
CPU	I1-I16	I1-I12
	Q1-Q6	Q1-Q6
	AI1-AI8	AI1-AI8
	AQ1-AQ2	AQ1-AQ2
Expansion 1 (Address is 1)	I11-I18	I13-I20
	Q11-Q18	Q7-Q14
	AI11-AI18(AI15-AI18 are reserved)	AI9-AI12
	AQ11-AQ12	AQ3-AQ4
Expansion 2 (Address is 2)	I21-I28	I21-I28
	Q21-Q28	Q15-Q22
	AI21-AI28	AI17-AI24
	AQ21-AQ22	AQ5-AQ6
.....		

Data format instruction

Name	Data format
F, I, Q	BIT
AF, AI, AQ,	Signed Short

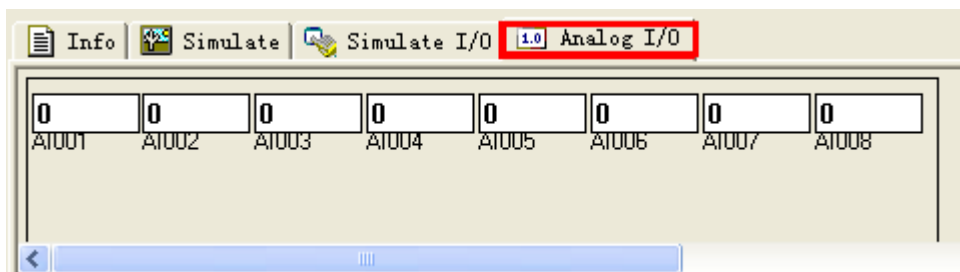
For the detail information about I,AI,Q,AQ, registers address of xLogic ,refer to the RTU protocol file.

2. Changes of the software interface

(1)  and  had been added into our soft

Using these two icons, you can easily get the PLC' time or set its time directly.

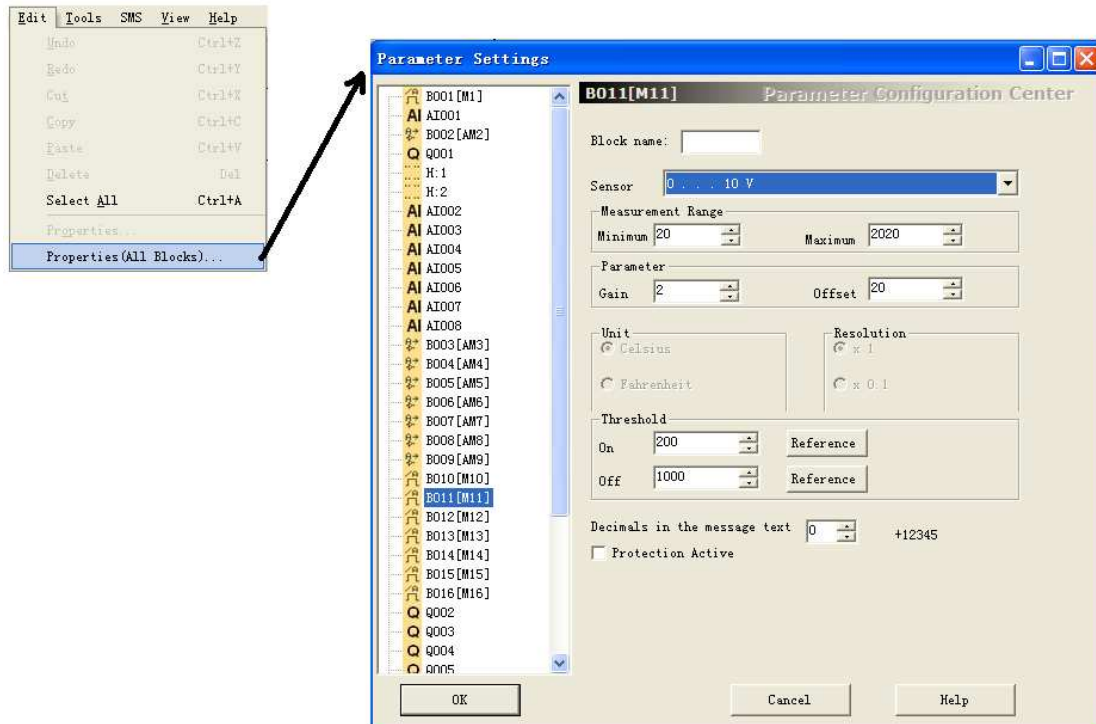
(2)



In the simulation mode, you can modify the value of the AI and AQ.

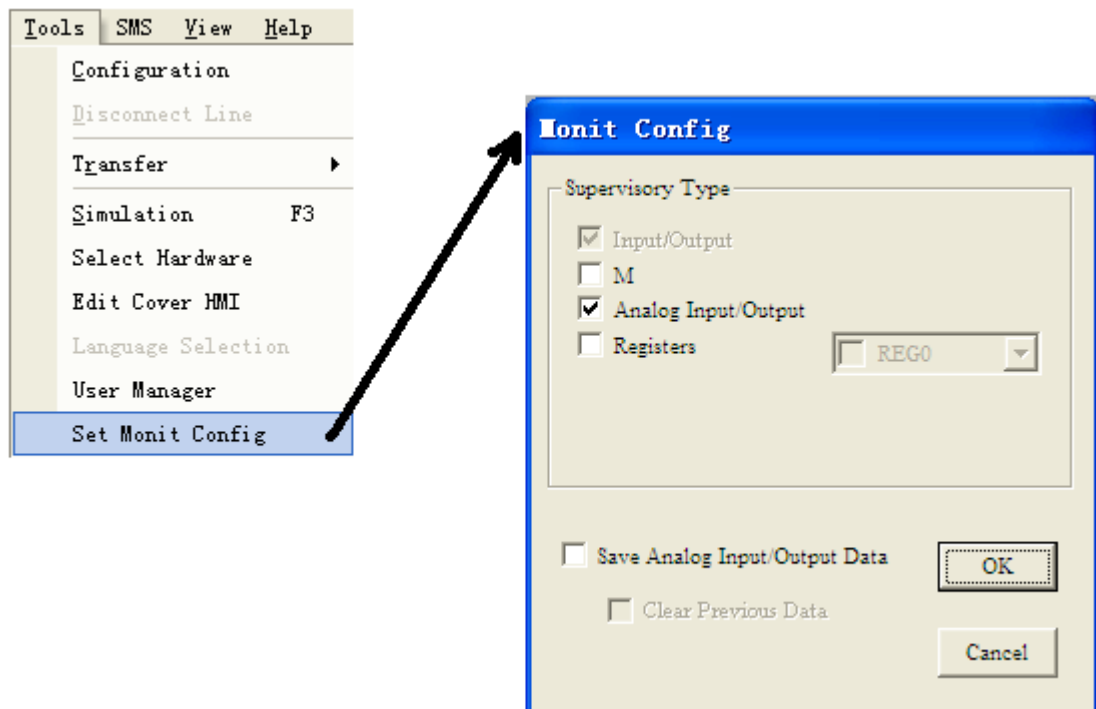
3. Changes of the menu bar

(1)



You can find the block whose parameter you want to modify easily.

(2)



Before clicking the “Online monitor” button, please open the above window, and choose the type of blocks that you want to monitor.