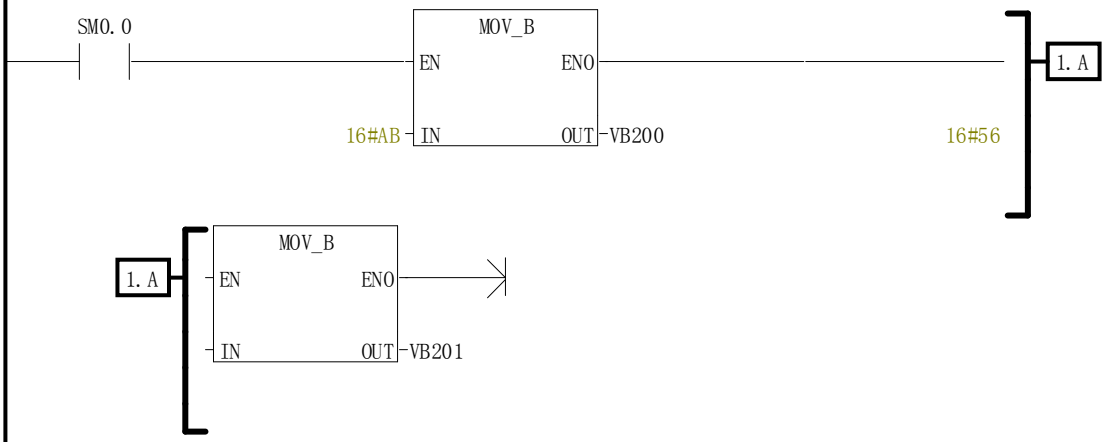
块：： 主程序
作者：：
创建日期：： 2013.03.05 15:35:30
上次修改日期：： 2016.04.12 10:27:43

	地址	符号	变量类型	数据类型	注释
1	.	.	TEMP	.	.
2	.	.	TEMP	.	.
3	.	.	TEMP	.	.
4	.	.	TEMP	.	.

程序注释

程序段 1

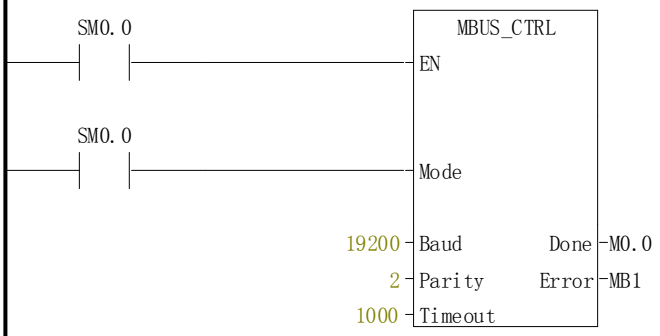
清零的数据内容



程序段 2

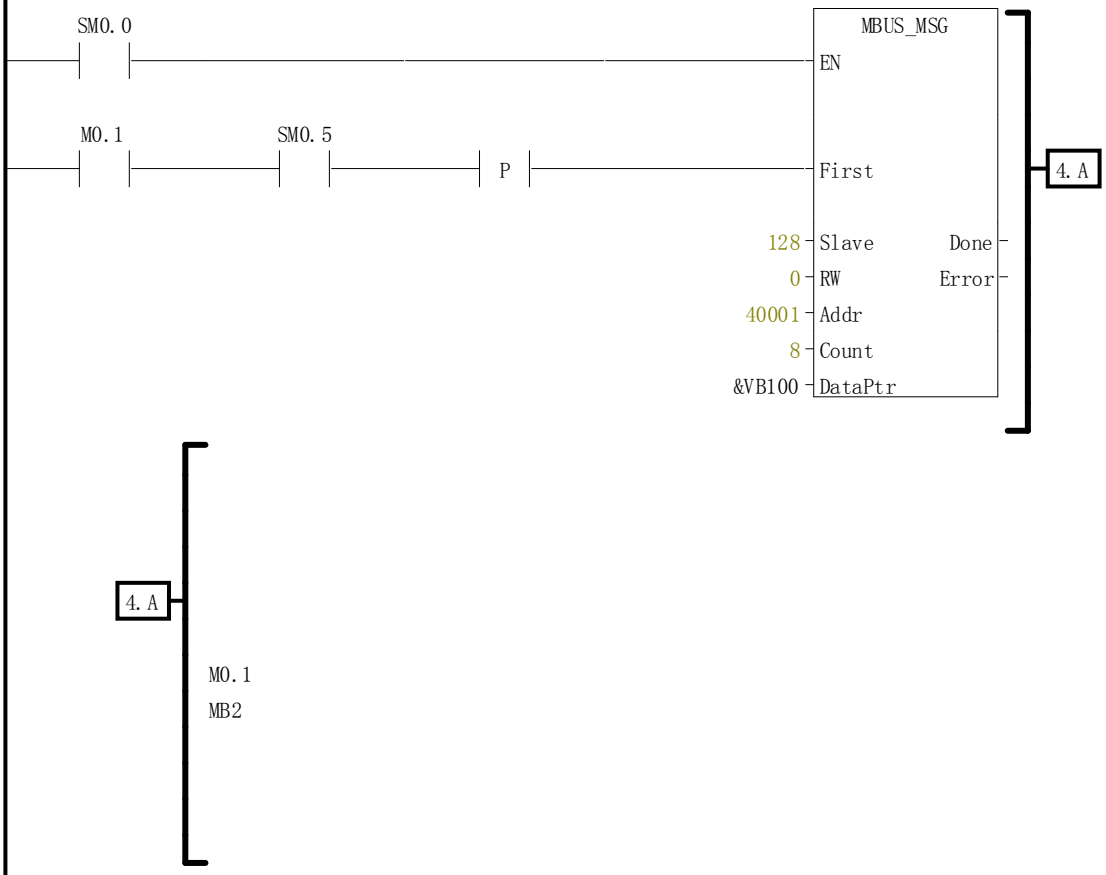
程序段 3

系统参数设置



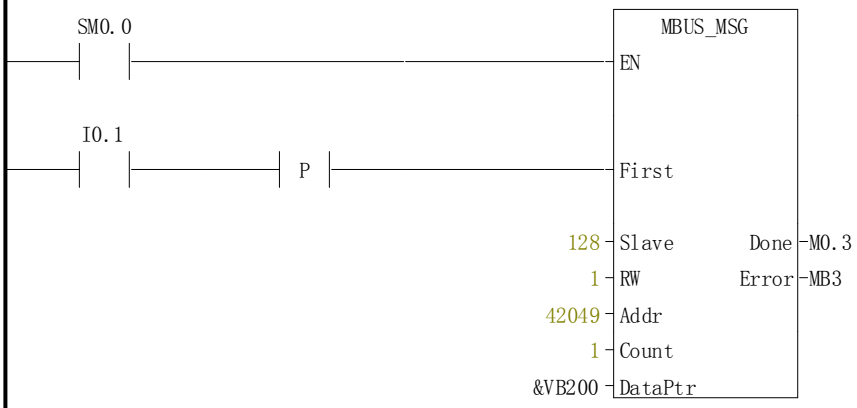
程序段 4

读数据



程序段 5

写清零指令当地址为0X0800对应的PLC地址42049，为全清零



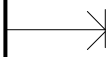
块：： SBR_0
作者：：
创建日期：： 2013.03.05 15:35:30
上次修改日期：： 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	EN	IN	BOOL	.
2	.	.	IN	.	.
3	.	.	IN_OUT	.	.
4	.	.	OUT	.	.
5	.	.	TEMP	.	.

子程序注释

程序段 1

网络标题
网络注释



块：： MBUS_CTRL
作者：：
创建日期：： 2005.12.01 8:45:14
上次修改日期：： 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	EN	IN	BOOL	.
2	L0.0	Mode	IN	BOOL	1 = Modbus, 0 = PPI (stop Modbus)
3	LD1	Baud	IN	DWORD	1200, 2400 ... 115200
4	LB5	Parity	IN	BYTE	0 = none, 1 = odd, 2 = even
5	LW6	Timeout	IN	INT	slave response timeout in milliseconds
6	.	.	IN	.	.
7	.	.	IN_OUT	.	.
8	L8.0	Done	OUT	BOOL	Done flag (always set)
9	LB9	Error	OUT	BYTE	Error status
10	.	.	OUT	.	.
11	LD10	AC0save	TEMP	DWORD	.
12	LD14	AC1save	TEMP	DWORD	.
13	LD18	AC2save	TEMP	DWORD	.
14	LD22	AC3save	TEMP	DWORD	.

This code is property of Siemens Energy & Automation, Inc. and is part of the Modbus Master Protocol Library.

MBUS_CTRL

This library function will initialize and monitor the Modbus communications.

NOTE: This function MUST be called every scan for the Modbus master to operate correctly!

NOTE: The Modbus master library utilizes the user interrupts for some functions. The user interrupts must not be disabled.

The passed parameters are:

Inputs: EN Enable - Must be enabled every scan (use SM0.0)

Mode Modbus enable/disable
1 = Enable Modbus master protocol
0 = Disable Modbus master protocol (re-enable PPI system protocol)

Baud Baud rate
1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200

Parity Parity bit enable and selection
0 = No parity
1 = Odd parity
2 = Even parity

Timeout Number of milliseconds to wait for the response.
Allowed range is 1 millisecond thru 32767 milliseconds.
A typical value would be 1000 milliseconds (1 second).

This value should be set to a value large enough so that the slave device has time to respond at the selected baudrate. The timeout is used to determine if the slave device is responding to a request. The timeout value determines how long the Modbus master will wait for the first character of the response after the last byte of the request has been sent.

Outputs: Done Always 1

Error Error code (valid when Done = 1)
0 = no error

1 = Parity selection is not valid
2 = Baud rate selection is not valid
3 = Timeout selection is not valid
4 = Mode selection is not valid

Version Information:

Version 1.0	01-Dec-2005 Created Modbus master library
	15-Feb-2006 Corrected problem in Net 19 of MBUS_MSG.
Version 1.1	23-May-2006 Added Net 21 in MBUS_CTRL to reload mModbusCharTimeout if user overrides default.

块：： MBUS_MSG
作者：：
创建日期：： 2005.12.01 8:46:21
上次修改日期：： 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	EN	IN	BOOL	.
2	L0.0	First	IN	BOOL	New message (Set to a 1 for only one scan for a new request)
3	LB1	Slave	IN	BYTE	Slave address (0 - 247)
4	LB2	RW	IN	BYTE	Read = 0, Write = 1
5	LD3	Addr	IN	DWORD	Modbus addr (ie 40001)
6	LW7	Count	IN	INT	Number of elements (1- 120 words or 1 to 1920 bits)
7	LD9	DataPtr	IN	DWORD	Pointer to data (ie &VB100)
8	.	.	IN	.	.
9	.	.	IN_OUT	.	.
10	L13.0	Done	OUT	BOOL	Done flag (0 = busy, 1 = done)
11	LB14	Error	OUT	BYTE	Error (0 = no error)
12	.	.	OUT	.	.
13	LD15	AC0save	TEMP	DWORD	.
14	LD19	AC1save	TEMP	DWORD	.
15	LD23	AC2save	TEMP	DWORD	.

This code is property of Siemens Energy & Automation, Inc. and is part of the Modbus Master Protocol Library.

MBUS_MSG

This library function will build and transmit a Modbus request.

The passed parameters are:

Inputs : EN Enable

First New message flag - set to a value of 1 for one scan for a new request

Slave Modbus slave address (1 - 247 for slaves, 0 = broadcast address)
The broadcast address (0) can only be used for write requests.

RW Read/Write
Read = 0
Write = 1
Discrete outputs (coils) and holding registers support both read and write.
Discrete inputs (contacts) and input registers can only be read.

Addr Modbus address of data (i.e. 40001)
00001 thru 00xxx - discrete outputs (coils)
10001 thru 10xxx - discrete inputs (contacts)
30001 thru 30xxx - input registers
40001 thru 40xxx - holding registers

Count Number of elements (bits or words)
Address 00xxx - number of bits to read or write
Address 10xxx - number of bits to read or write
Address 30xxx - number of input register words to read
Address 40xxx - number of holding register words to read or write

The Modbus master will read or write a maximum of 120 words of data.

DataPtr Pointer to data (i.e. &VB250)
The DataPtr input is the address where the returned data is to be written (in the case of a read request) or where the data is to come from (in the case of a write request). This value is passed into MBUS_MSG as a

pointer (i.e. &VB250)

The bit data (addresses 0xxxx and 1xxxx) areas are read and written as packed bytes, that is, 8 bits are packed into each byte. The least significant bit of the first data byte is the addressed bit number.

NOTE: If only a single bit is written then the bit must be in the Least Significant Bit of the byte (pointed to by DataPtr).

Outputs: Done Message complete flag
0 = message in progress
1 = message complete

Error Error code (valid when Done = 1)
0 = no error
1 = Parity error in response
2 = not used
3 = Receive timeout (no response from slave)
4 = Error in request parameter (slave address, Modbus address, count, RW)
5 = Modbus/Freeport is not enabled
6 = Modbus is busy with another request
7 = Error in response (response was not for the requested operation)
8 = CRC error in response (checksum)

101 = Slave does not support the requested function
102 = Slave does not support data address (range of start address plus length)
103 = Slave does not support the data type
104 = Slave device failure
105 = Slave accepted the message but response is delayed
106 = Slave is busy and rejected the message
107 = Slave rejected the message
108 = Slave memory parity error

NOTE: Only one MBUS_MSG box can be active at a time. MBUS_MSG will return error code 6 if more than one
MBUS_MSG box is activated at the same time.

块：： MBUSM1
作者：：
创建日期：： 2005.12.01 8:46:36
上次修改日期：： 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	EN	IN	BOOL	.
2	.	.	IN	.	.
3	.	.	IN_OUT	.	.
4	LW0	crc	OUT	WORD	.
5	.	.	OUT	.	.
6	LW2	count	TEMP	INT	.
7	LD4	ptr	TEMP	DWORD	.

This code is property of Siemens Energy & Automation, Inc. and is part of the Modbus Master Protocol Library.

MBUSM1 - Calculate a CRC.

This subroutine calculates the CRC value for the message using the painfully slow bit by bit method. The CRC is calculated on ModbusBufr using the first byte of this buffer as the byte count. The CRC is written into the buffer after the data.

Inputs: none

Outputs: crc CRC value

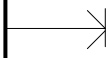
块：: INT_0
作者：:
创建日期：: 2013.03.05 15:35:30
上次修改日期：: 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	.	TEMP	.	.
2	.	.	TEMP	.	.
3	.	.	TEMP	.	.
4	.	.	TEMP	.	.

中断程序注释

程序段 1

网络标题
网络注释



块：: MBUSM2
作者：:
创建日期：: 2005.12.01 8:46:47
上次修改日期：: 2013.03.12 11:23:46

	地址	符号	变量类型	数据类型	注释
1	.	.	TEMP	.	.
2	.	.	TEMP	.	.
3	.	.	TEMP	.	.
4	.	.	TEMP	.	.

This code is property of Siemens Energy & Automation, Inc. and is part of the Modbus Master Protocol Library.

MBUSM2 - Transmit is complete so start the RCV and capture the timer to time out the receive message.