

Demo for Free Protocol


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1. Overview and Operation

Even if EB8000 does not provide an essential driver for communication with a device, users can still use macro function to control the device. The data sent with OUTPORT and INPORT must follow the protocol of the device.

Free Protocol Application - Direct Control of "MODBUS RTU" DEVICE

 0x1

4x1

0

4x2

0

SET 0x1 ON

SET 0x1 OFF

LW30

0

0

WRITE (4x1, 4x2)

LW30~31 -> 4x1~4x2

Response length :

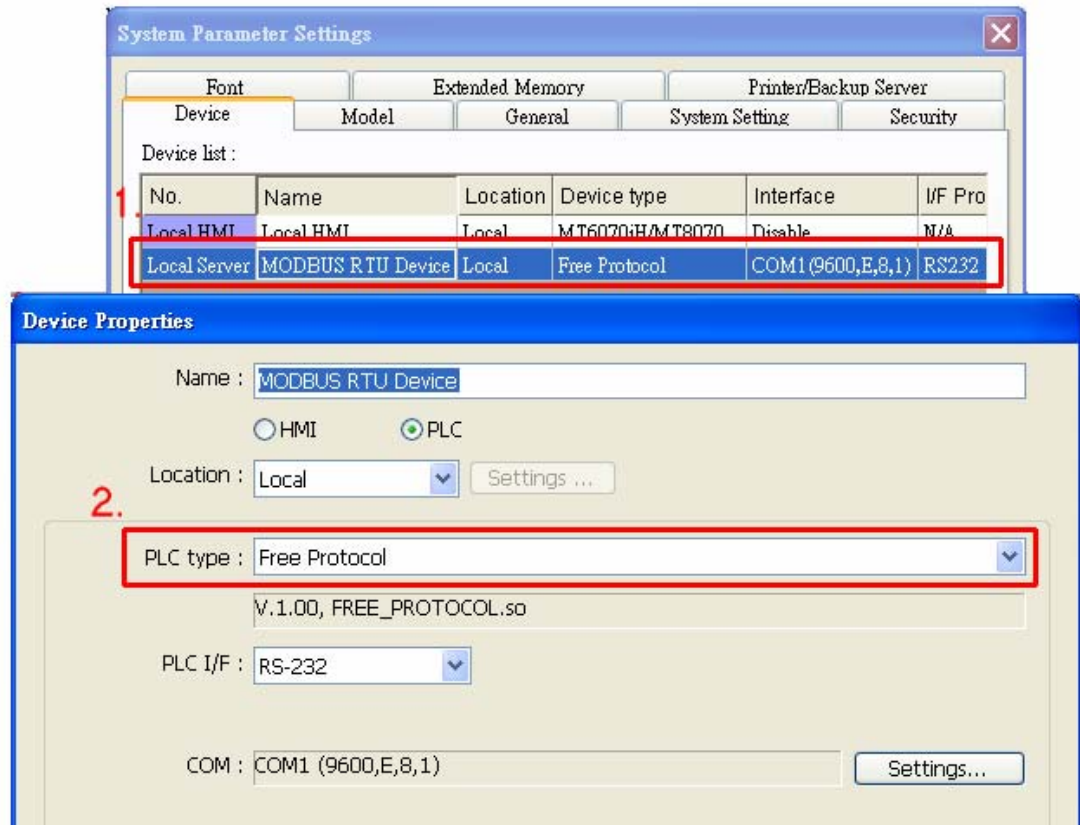
0

Response

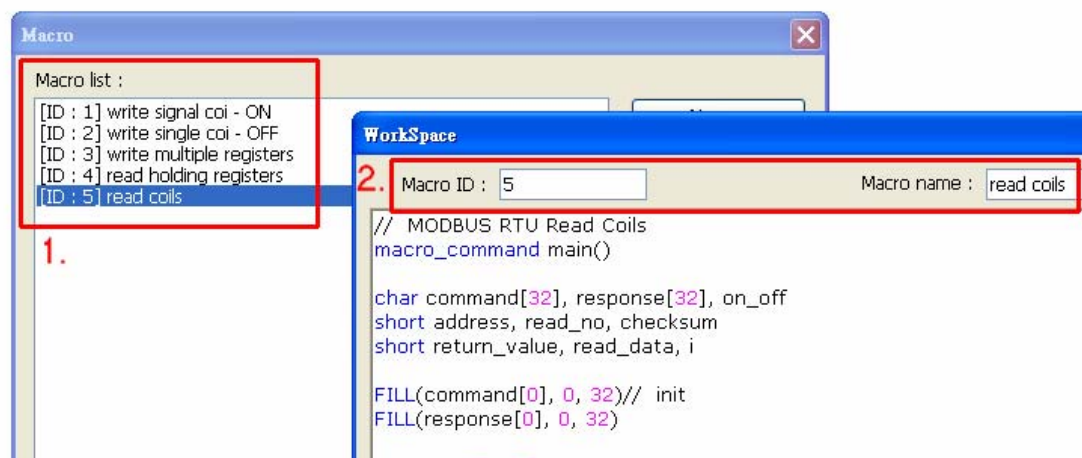
0000	0000	0000	0000	0000	0000	0000	0000
0000	0000	0000	0000	0000	0000	0000	0000

2. Setting Up the Screen

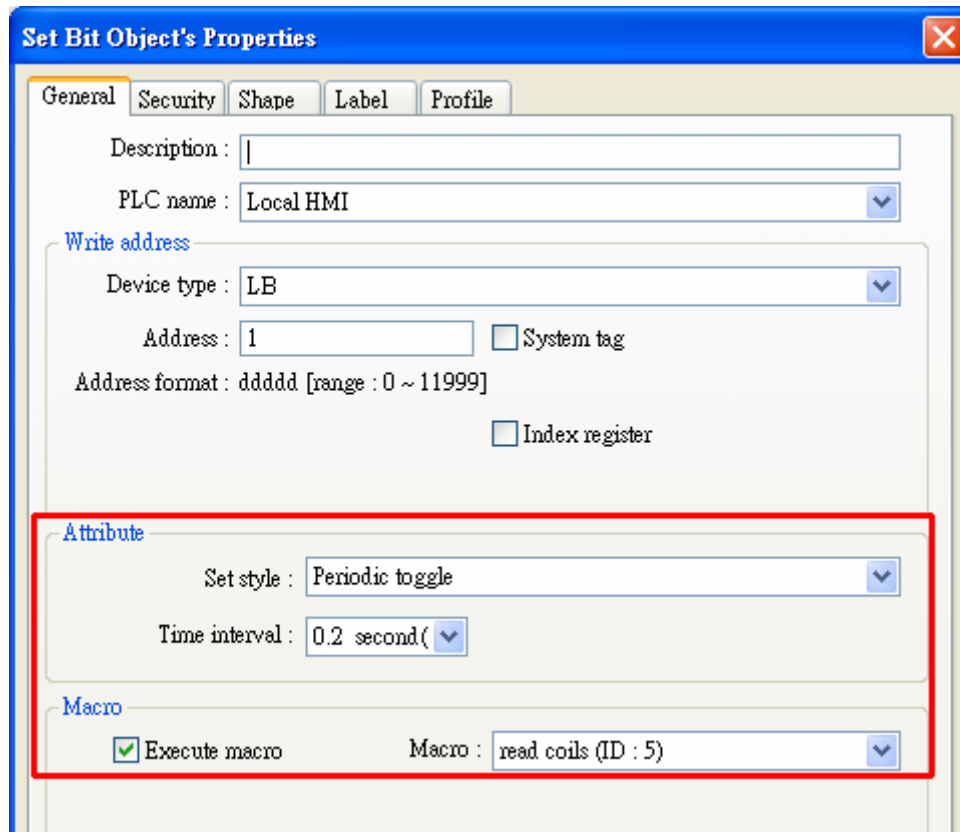
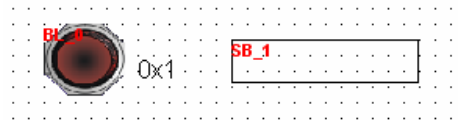
1. Create a new device in the device table. The device type of the new device is set to "Free Protocol" and named with "MODBUS RTU device" as follows:



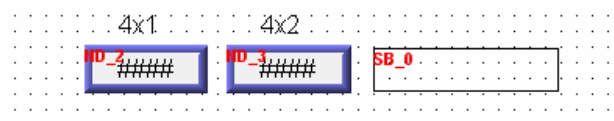
2. Create some different commands in macro list. About the detailed macro instructions please refer to the Macro Reference.

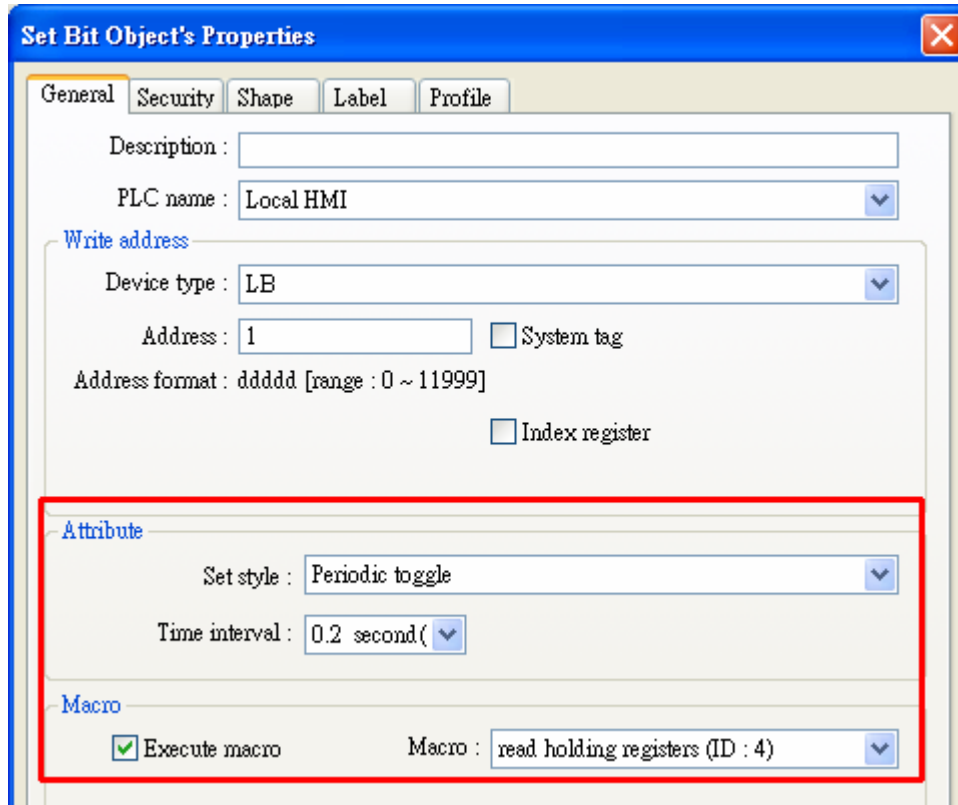


- Set up the Bit Lamp to read LB0 and the Set Bit object to trigger the macro (ID5). The Bit Lamp will show the device current status.



- Set up the Numeric objects to read LW100~101 and the Set Bit object to trigger the macro (ID4). The Numeric Display object will read the device current value.





Set Bit Object's Properties

General Security Shape Label Profile

Description :

PLC name : Local HMI

Write address

Device type : LB

Address : 1 ☐ System tag

Address format : ddddd [range : 0 ~ 11999]

☐ Index register

Attribute

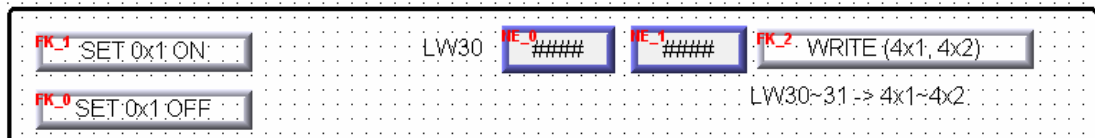
Set style : Periodic toggle

Time interval : 0.2 second

Macro

☒ Execute macro Macro : read holding registers (ID : 4)

5. Create two Function Keys to trigger macro (ID1 and 2). It will set ON or OFF of the 0x1 status. Also set up two numeric input objects (LW30~31) for inputting the value and to trigger macro (ID3) writing the value to device register by the other Function Key object.



FK_1 SET 0x1 ON

FK_0 SET 0x1 OFF

LW30

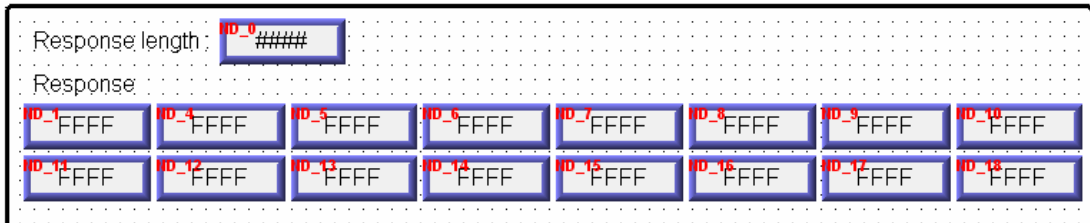
ME_0 #####

ME_1 #####

FK_2 WRITE (4x1, 4x2)

LW30~31 => 4x1~4x2

6. Create some Numeric objects to read Response length and Response data.



Response length : ME_0 #####

Response :

MD_1 FFFF	MD_4 FFFF	MD_5 FFFF	MD_6 FFFF	MD_7 FFFF	MD_8 FFFF	MD_9 FFFF	MD_10 FFFF
MD_11 FFFF	MD_12 FFFF	MD_13 FFFF	MD_14 FFFF	MD_15 FFFF	MD_16 FFFF	MD_17 FFFF	MD_18 FFFF

3. Object

The objects used in this demo project are listed below.

Object	ID	Detail
Bit Lamp	BL0	Read the 0x1 status. (LB0)
Sit Bit	SB1	Trigger the macro ID5.
	SB0	Trigger the macro ID4.
Numeric Display	ND2	Device value (4x1).
	ND2	Device value (4x2).
Function Key	FK1	Set 0x1 ON
	FK0	Set 0x1 OFF
	FK2	Write (4x1, 4x2)
Numeric Display	ND0	Response length
	Others ND	Response data