MODBUS TCP/IP (0x/1x Range Adjustable)

Supported Series : Modbus RTU TCP/IP device.
Website : http://www.modbus.org

HMI Setting:

Parameters	Recommended	Options	Notes
PLC type	MODBUS TCP/IP (0x/1x Range Adjustable)		
PLC I/F	Ethernet		
Port no.	502		
PLC sta. no.	1	0~255	

Online simulator	YES
Extend address mode	YES

Device Address:

Bit/Word	Device type	Format	Range	Memo
B	0x	DDDDD	1 ~ 65535	Output bit
B	1x	DDDDD	1 ~ 65535	Input bit (read only)
B	3x_Bit	DDDDDdd	100 ~ 6553515	Input Register bit (read only)
B	4x_Bit	DDDDDdd	100 ~ 6553515	Output Register bit
B	6x_Bit	DDDDDdd	100 ~ 6553515	Output Register bit
B	0x_multi_coils	DDDDD	1 ~ 65535	Write multiple coils
W	3x	DDDDD	1 ~ 65535	Input Register (read only)
W	4x	DDDDD	1 ~ 65535	Output Register
DW	5x	DDDDD	1 ~ 65535	4x double word swap
W	6x	DDDDD	1 ~ 65535	4x single word write
W	4x string central europe rev	DDDDD	1 ~ 65535	

Note1: EBPro V6.03.02 or later supports 64 bits data type **(cMT Series only),** but please note that the address limit range is 48 bits in maximum..

Note2:

Address type “5x” is mapping to Hold Reg. The communication protocol of “5x” is almost the same as “4x” except that “5x” swaps double words.

If 4x contains the following information:

Address	1	2	3	4	5	6	...
Data in word	0x1	0x2	0x3	0x4	0x5	0x6	
Data	0x0201		0x0403		0x0605		

For 5x, it will be:

Address	1	2	3	4	5	6	...
Data in word	0x1	0x2	0x3	0x4	0x5	0x6	
Data	0x0102		0x0304		0x0506		

Modbus RTU function code:

0x	0x01 Read coil	0x05 Write single coil
0x_multi_coils	0x01 Read coil	0x0f Write multiple coils
1x	0x02 Read discrete input	N/A for writing operation
3x	0x04 Read input register	N/A for writing operation
4x	0x03 Read holding register	0x10 Write multiple registers
5x	0x03 Read holding register	0x10 Write multiple registers

(Note: reverse word order in double words format)

3xbit is equivalent to 3x

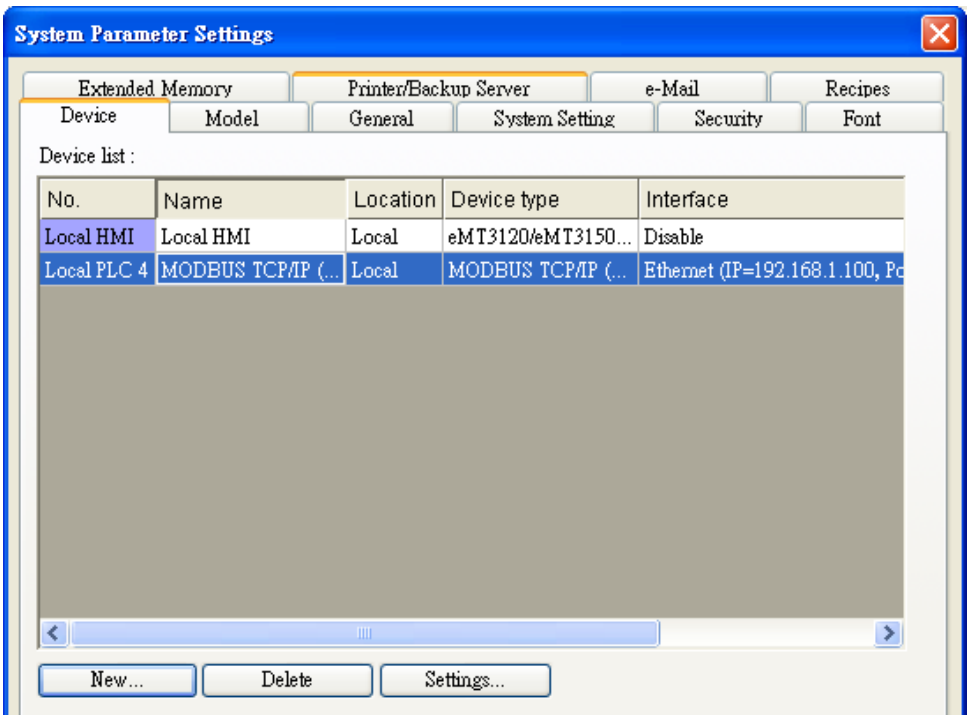
4xbit is equivalent to 4x

6x	0x03 Read holding register	0x06 Write single register

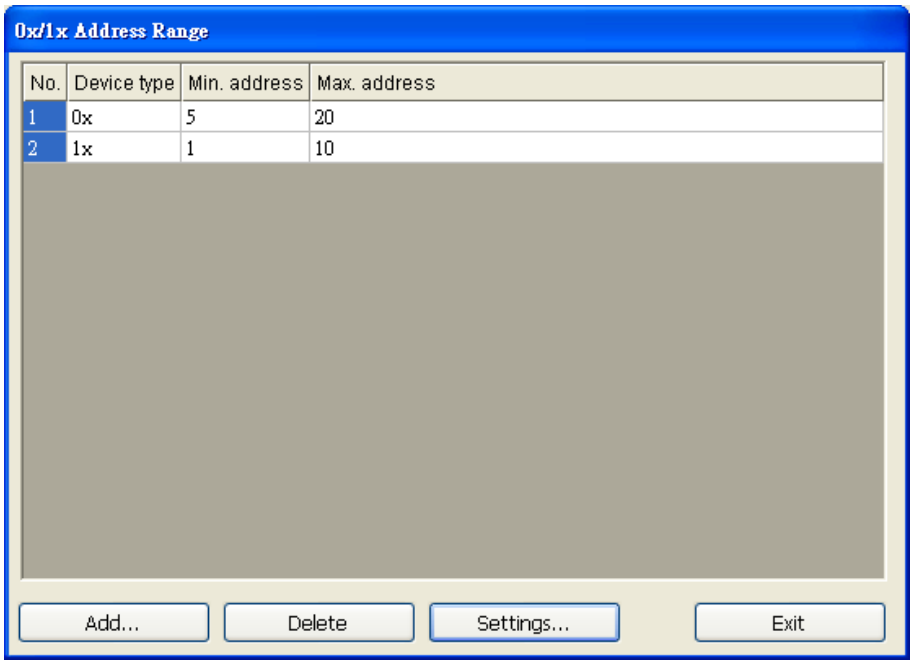
(Note: 6x is limited to device of one word only)

Setting Instructions:

1. Go to [System Parameter Settings]  ，click [New] to add a new device -MODBUS TCP/IP (0x/1x Range Adjustable)，as shown below:



2. Click [Add Address Range Limit] button, Users can define 0x and 1x address range in [0x 1x Address Range] dialog box, referring to bit range of the device used.



Add：Set [Station No.], [Device Type], [Max. Address] then click [OK] to finish adding as below:

Delete：The selected items will be deleted.

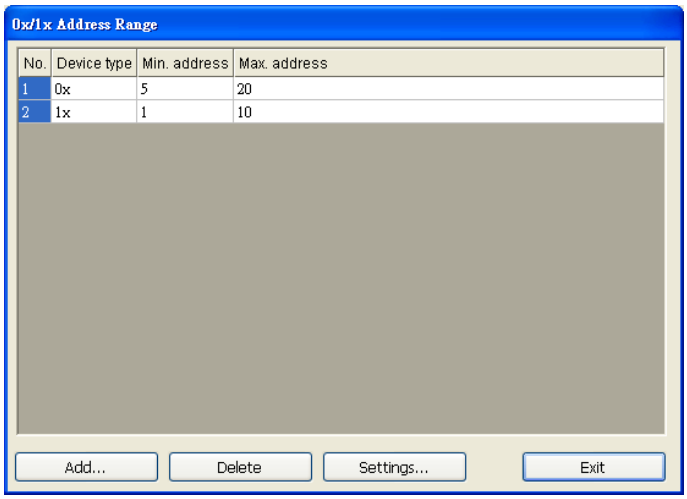
Settings：Set [Station No.], [Device Type], [Max. Address] then click [OK] to finish adding as below:

Example：

Take 0x and 1x as example, the settings depend on bit range of different PLC types.

For 0x, [Device Type] **0x**, [Min. Address]**5**,[Max. Address] **20**.

For 1x, [Device Type] **0x**, [Min. Address]**1,**[Max. Address] **10**.



After completing all settings above, the communication is enabled.

Wiring Diagram:

Diagram 1

Ethernet cable: