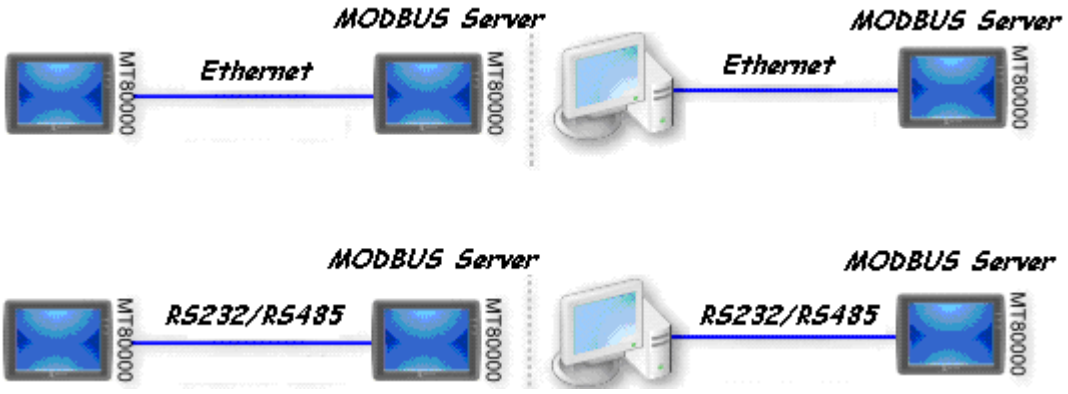
Chapter 26 Example

1. How to set HMI as MODBUS device

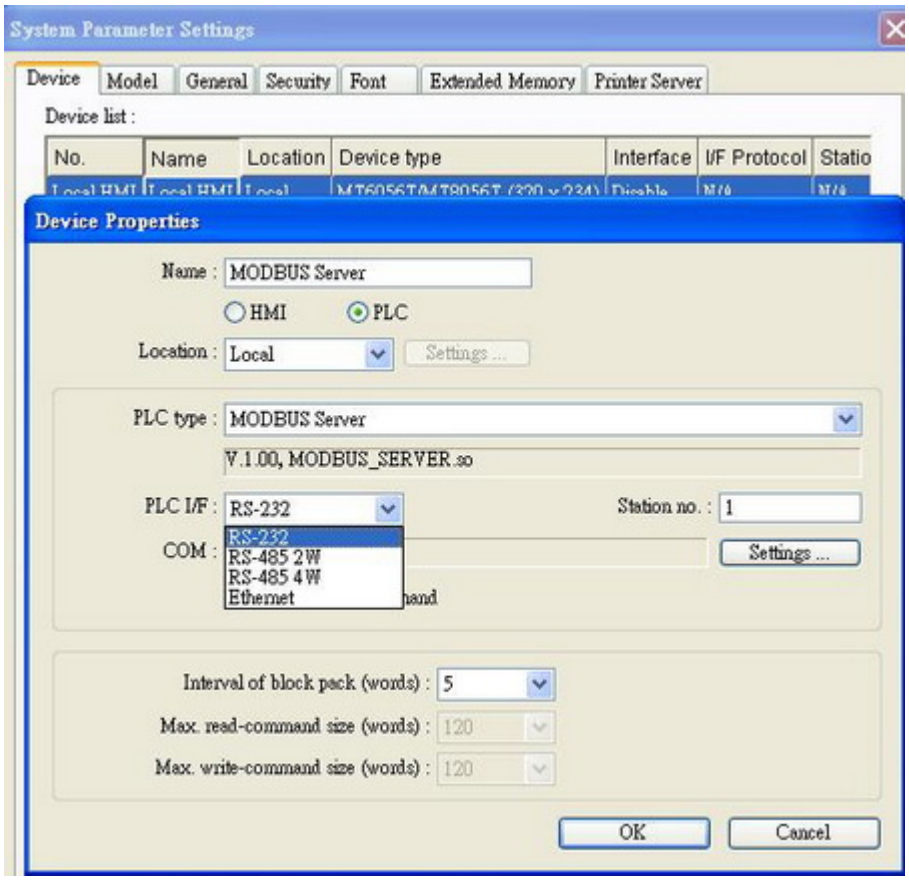
After setting as MODBUS Server, the data of MT8000 can be read or written via MODBUS protocol.



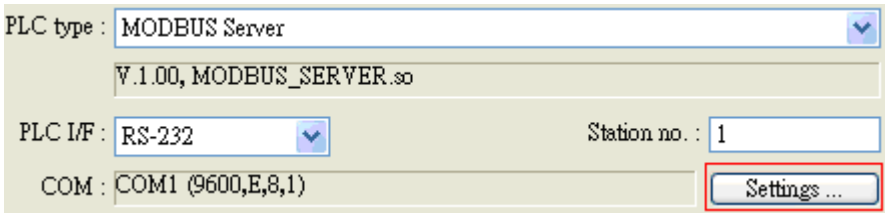
Refer to the above illustration, it shows MT8000 is set as MODBUS Server. The HMI, PC or other devices can use MODBUS protocol to read or write the data from MT8000 via Ethernet or RS232/485 interface. Please follow the steps as below.

(1) Creating a MODBUS Server

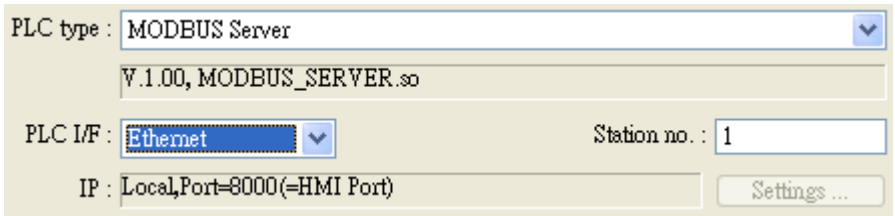
First of all, creating a new device “MODBUS Server” in the Device table of System Parameter Settings, the PLC I/F can be set to anyone of RS232, RS485 2W, RS485 4W ,Ethernet.



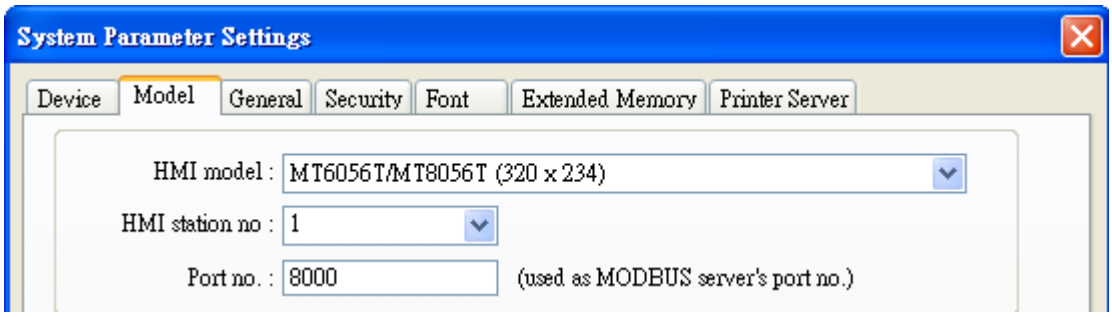
If PLC I/F is set as RS232 or RS485, please fill in COM Port Settings also.



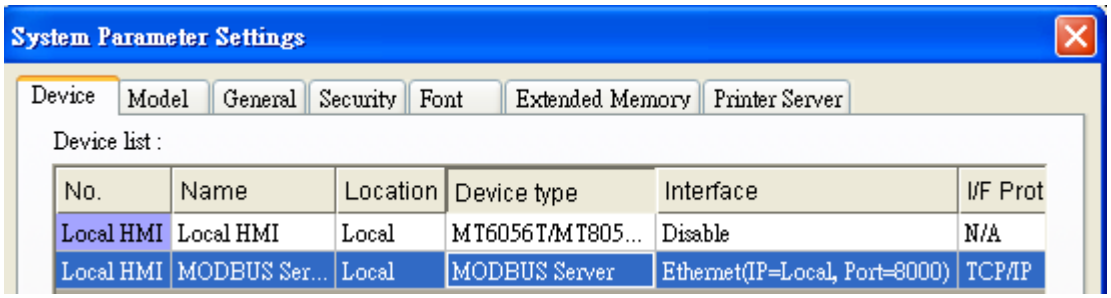
If PLC I/F is set as Ethernet, the IP is the same as HMI.



For MODBUS Server and HMI use the same port no., please change the MODBUS Server port no. on Model tab of System Parameter Settings.



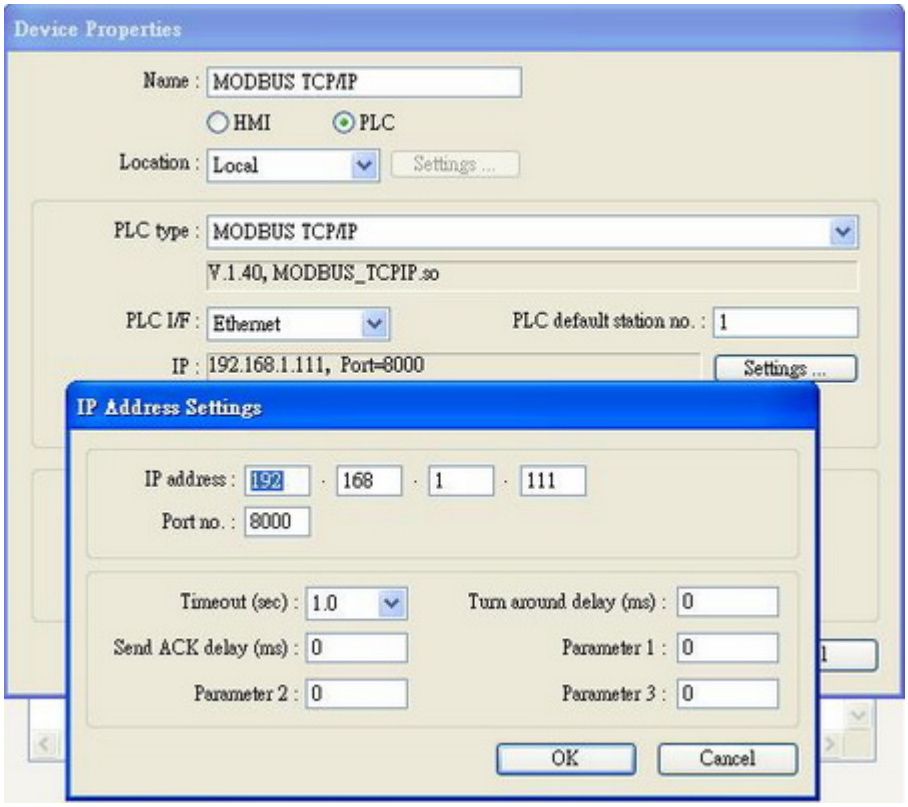
After finishing the setting, MODBUS Server will be list on Device tab.
You can send MODBUS command to read or write the data from MODBUS Server after downloading the file of XOB to HMI.



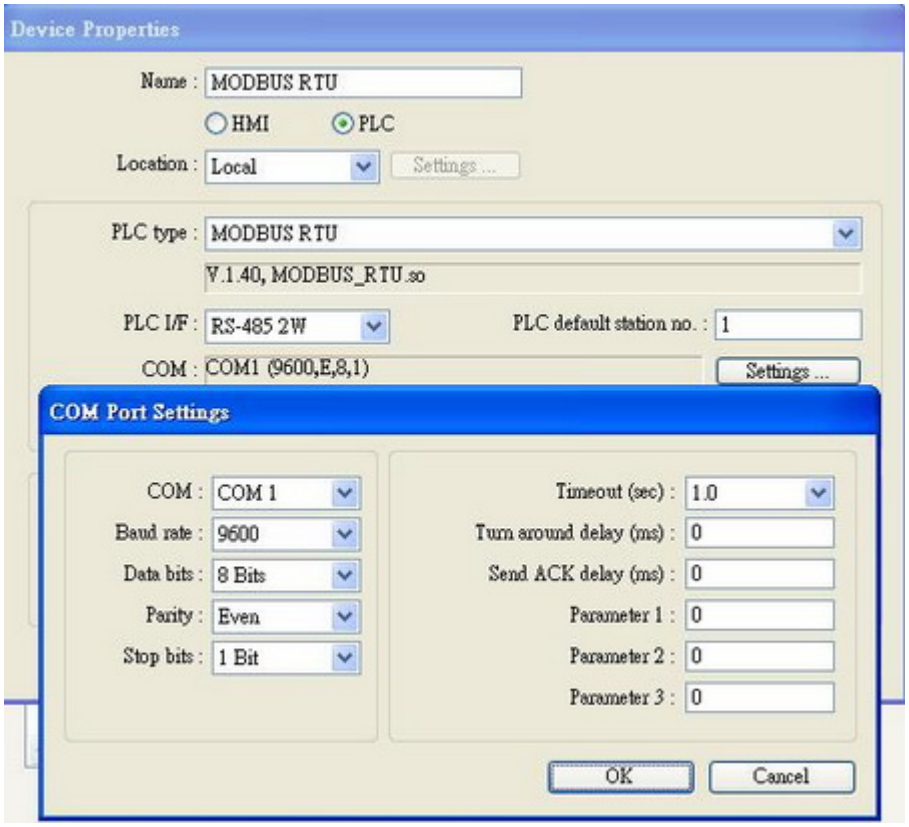
(2) How to read from / write to MODBUS Server

MT8000 (the client) can read from / write to another MT8000 (the server) via MODBUS protocol.

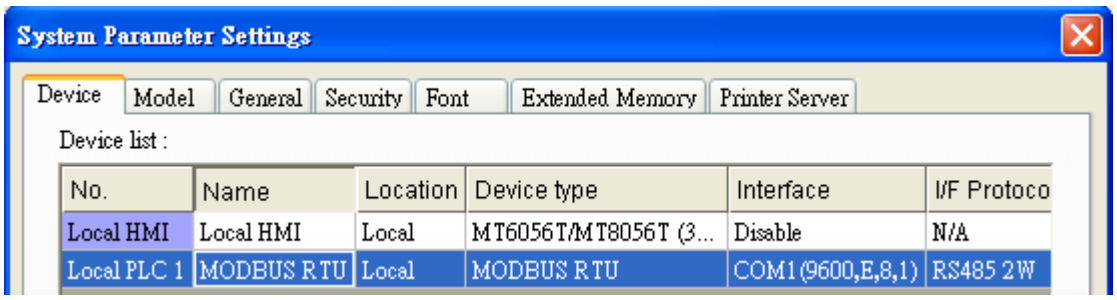
Adding a new device in the client. If client's PLC I/F is set as Ethernet, please select "MODBUS RTU TCP/IP" as PLC type and fill in the correct IP and Port no..



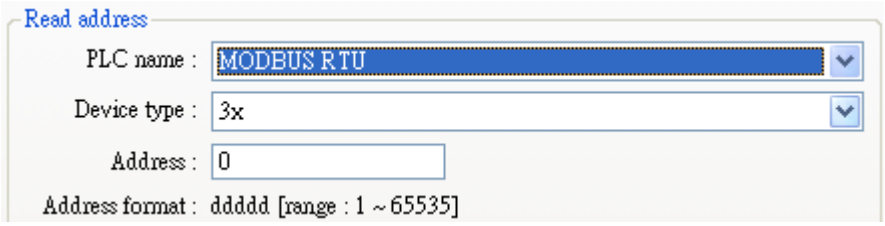
If the client use RS232/485 interface, the PLC type must be set as ”MODBUS RTU”, please make sure the communication parameter setting is correct.



Set and click OK, a new device ”MODBUS RTU” shall be listed in the Device tab.



In the setting page of each object, there is an “MODBUS RTU” in the PLC name selection list, you can then select appropriate device type and address.

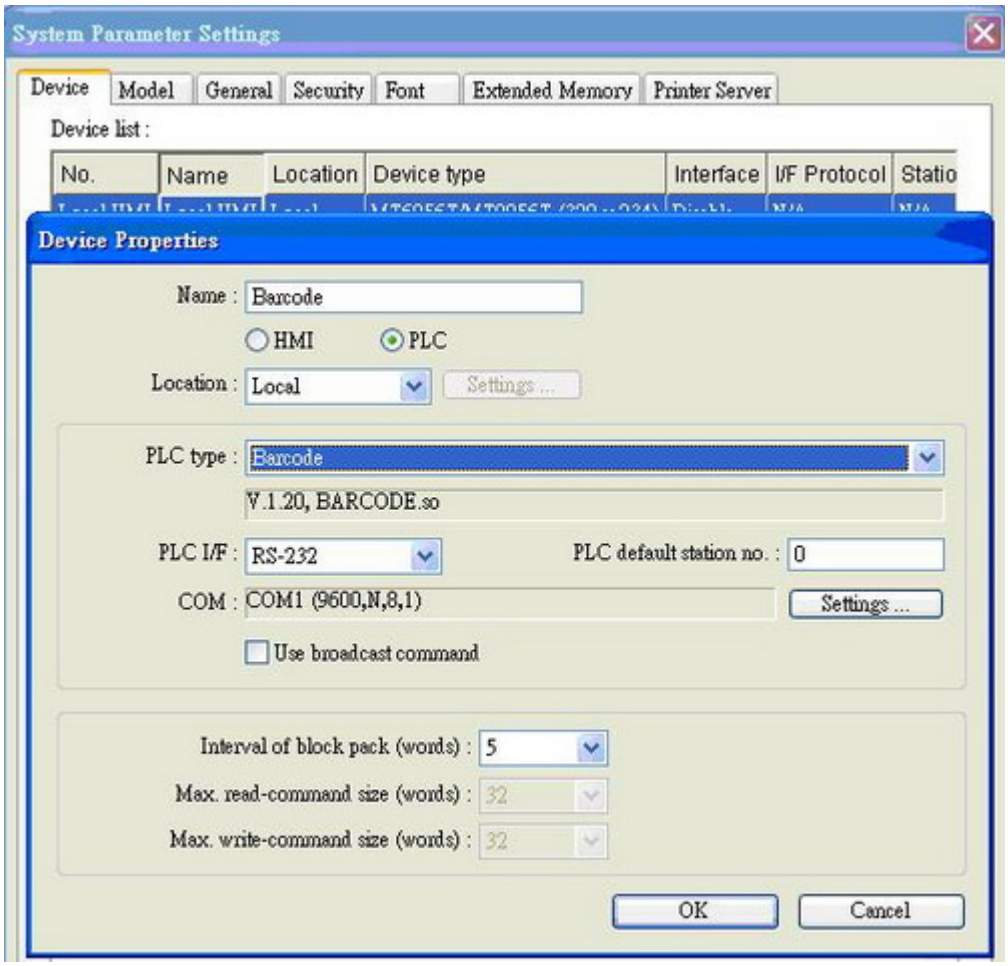


The internal memory of MT8000 is mapping to the Modbus address as below：

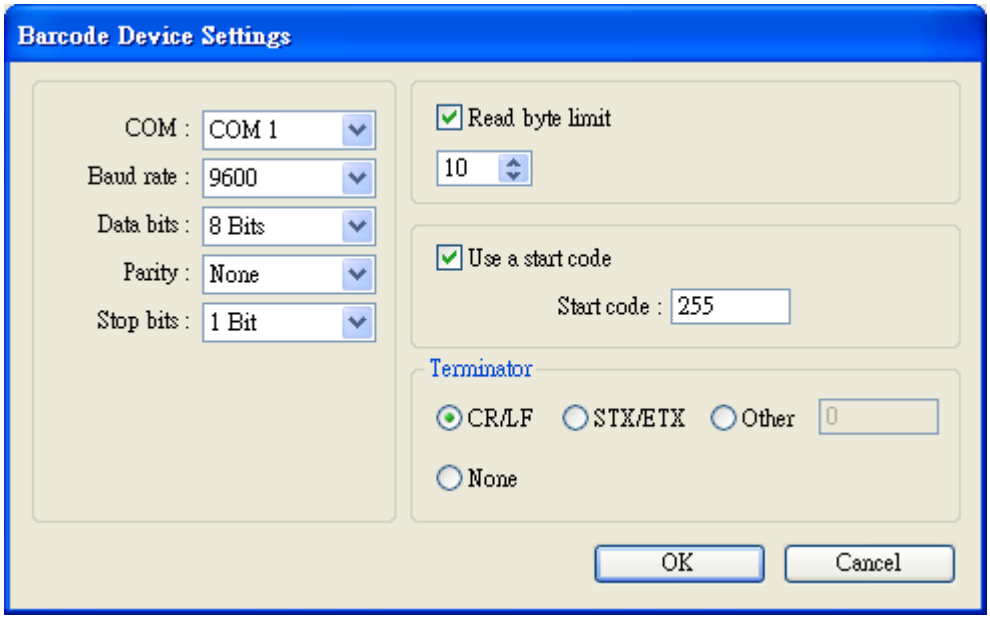
reading / writing	0x/1x(1~9999)	to	reading / writing LB(0~9998)
reading / writing	3x/4x/5x(1~9999)	to	reading / writing LW(0~9998)
reading / writing	3x/4x/5x(10000~75533)	to	reading / writing RW(0~65533)

2. How to use Barcode reader

Please select “Barcode” in PLC device list as follows:



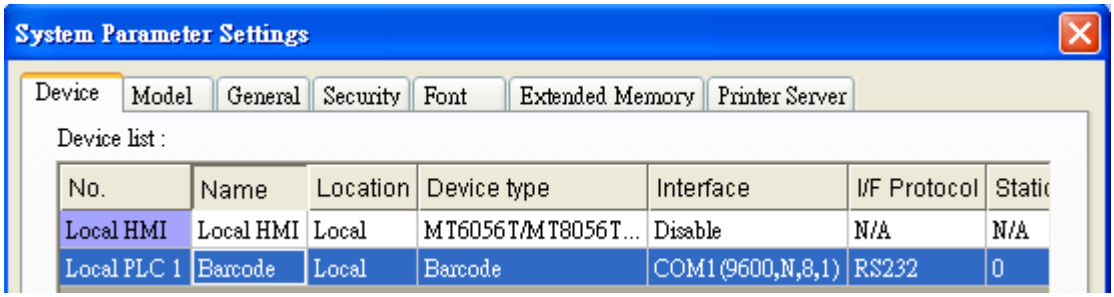
Click the [Settings…], barcode device settings display as below.



COM	Barcode device can be connect to any of COM 1~ COM 3
Baud rate	Set communication parameters accordingly
Data bits	
Parity	
Stop bits	
Read byte limit	This function will restrict the number of byte to read. The range is 10~512 For example: If Read byte limit is set as 10, the barcode device generate data "0x34 0x39 0x31 0x32 0x30 0x30 0x34 0x37 0x30 0x38 0x33 0x38". Only the first 10 bytes is read "0x34 0x39 0x31 0x32 0x30 0x30 0x34 0x37 0x30 0x38"
Use a start code	With this function, the MT8000 will identify the start code in reading the input data from bar code reader. All the data include and before start code will be ignored. All the data after start code will be saved in designated address. For example: if the start code is 255(0xff), and original data are "0xff 0x34 0x39 0x31 0x32 0x30 0x30 0x34 0x37", the data saved in designated device address are "0x34 0x39 0x31 0x32 0x30 0x30 0x34 0x37"
Terminator	Terminator means the end of data, when terminator is detected, it's mean the end of data stream.

	[CR/LF] 0x0a or 0x0d means end of data. **[STX/ETX]** 0x02 or 0x03 means end of data. **[Other]** User can set the terminator manually. **[None]** MT8000 will save all data to designated address of barcode device.

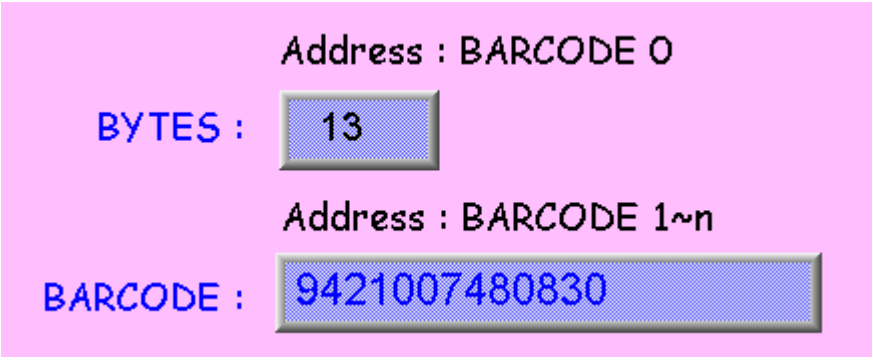
After setting completely, a new barcode device will be list in the device tab.



The Barcode device has two device types (Flag and Barcode).

Device type	Address type	Description
FLAG	bit	FLAG 0 indicates the status of data reading. When reading data is complete, the FLAG 0's states will be changed from OFF to ON.
BARCODE	word	BARCODE 0 Number of bytes of reading data. BARCODE 1~n designate bard code data save address.

The following display shows the configuration of barcode reader data. The data from barcode reader is "9421007480830".The BARCODE 0 and BARCODE 1~n represents number of bytes read from bardcode and the data .



At present, the data of barcode device corresponding address as below:

Barcode corresponding address	**Data**
BARCODE 0	13 bytes(decimal) The real data in the address is 14 bytes = 7 words. If the data is odd, will add a byte (0x00) to make it even.
BARCODE 1	3439HEX
BARCODE 2	3132HEX
BARCODE 3	3030HEX
BARCODE 4	3437HEX
BARCODE 5	3038HEX
BARCODE 6	3338HEX
BARCODE 7	0030HEX
BARCODE 8	empty