Instructions of Coolmay

HMI Ethernet port

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V1901

CATALOG

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Read the network address information of each HMI.

HMI internal registers:

LW8209 LW8210 LW8211 LW8212……IP address

LW8213 LW8214 LW8215 LW8216……Subnet mask

LW8217 LW8218 LW8219 LW8220……Gateway

LW8221 LW8222 LW8223 LW8224 LW8225 LW8226……MAC address

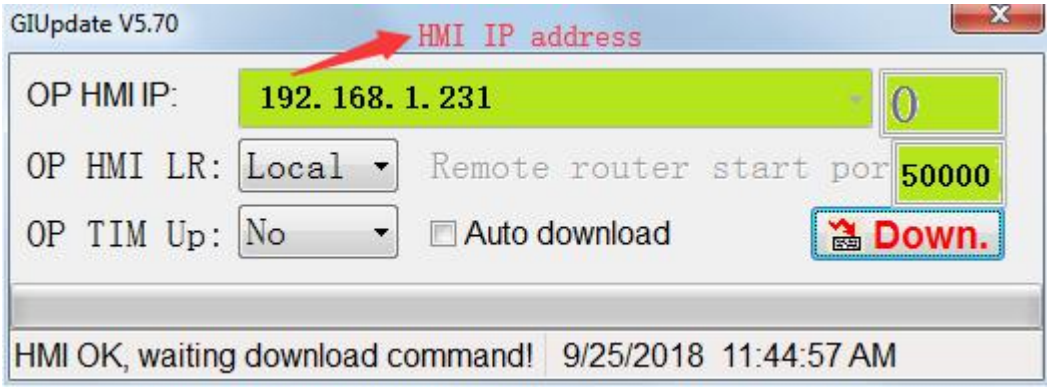
Note: ★ The gateway must be set to match the router or switch gateway to which it is connected.

★ The IP address must be set in the network segment of the router or switch to which it is connected.

I. Steps for downloading and monitoring the HMI program on the internet

1. Download

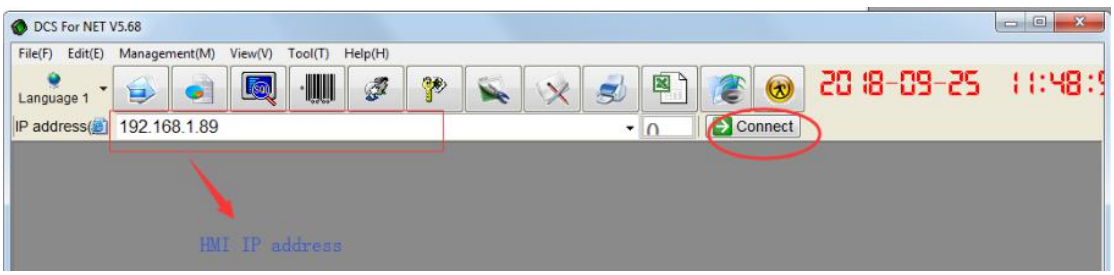
If the HMI IP address is 192.168.1.231, the IP address downloaded in the HMI software is also set to 192.168.1.231, and then click download to download the compiled HMI program to the HMI.



2. Monitoring:

Click on Ethernet monitoring

Set the IP address to the corresponding HMI IP address and click Connect.



II. Steps of remote download and monitor the HMI program with the external network

1. If two existing HMIs are required to remotely download and monitor the touch screen program through the external network

a. The IP address of HMI 1 is 192.168.1.231, the rule name is customized, the external port protocol is ALL, the port is set to 50000, the internal port is set to 6666.

The IP address of HMI 2 is 192.168.1.232, the rule name is customized, and the external port protocol is selected. ALL, the port is set to 50001, and the internal port is set to 6666.

Note 1:

If you have multiple HMIs, you must select a router that supports destination port mapping (internal ports).

Note 2:

"Destination IP address": It is the HMI IP address.

"Starting port" / "End port" / "External port": The value ranges from 1024 to 65535 (recommended a larger value).

"Destination port mapping" / "Internal port": The 6666 port is used by default by the keyboard, so the input 6666 is fixed here.

b. Setting up as shown below.

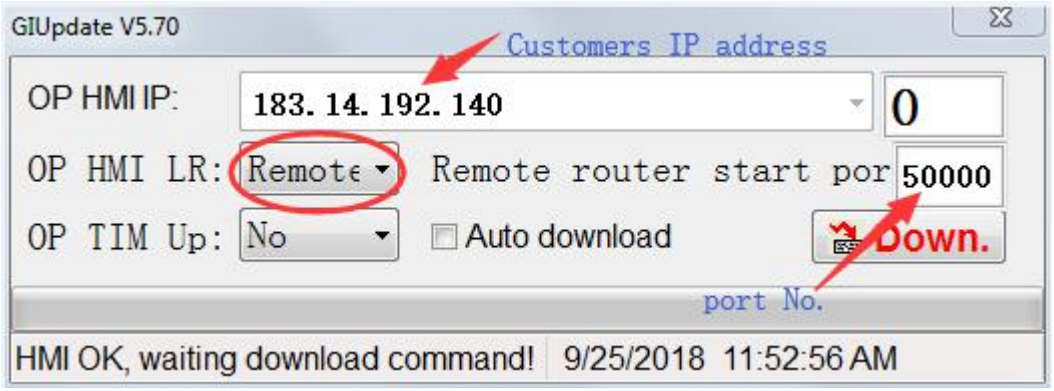
c. Check the external network IP address in the router, which is now 183.14.112.140.

Note: If the company does not apply for a static IP address, the external network IP captured by the modem is dynamically allocated. That is, each time the modem is restarted or redialed, an external network IP is re-randomly acquired. For this reason, customers using Dynamic IP are advised to re-login to the Router Port Configuration window each time they use Remote Ethernet Monitoring or Remote Upload to view and determine the external IP address for the time period.

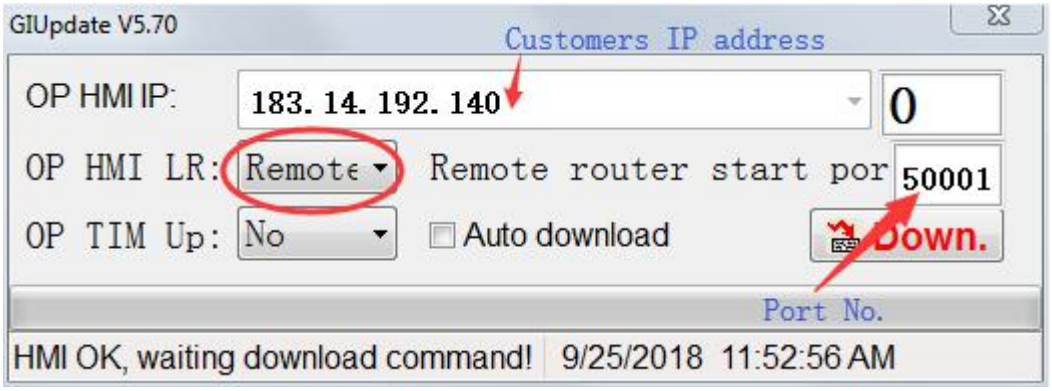
Remote end.

1. Remotely use the HMI software to download the program.

Download the HMI 1 program

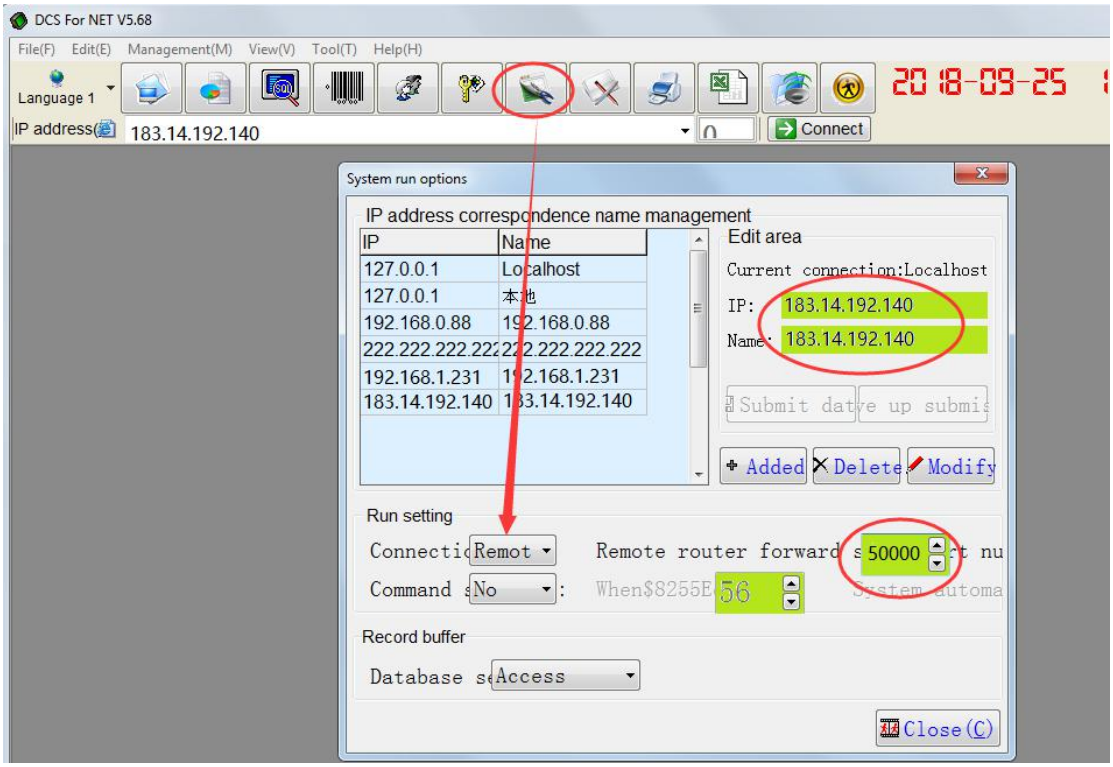


Download the HMI 2 program.

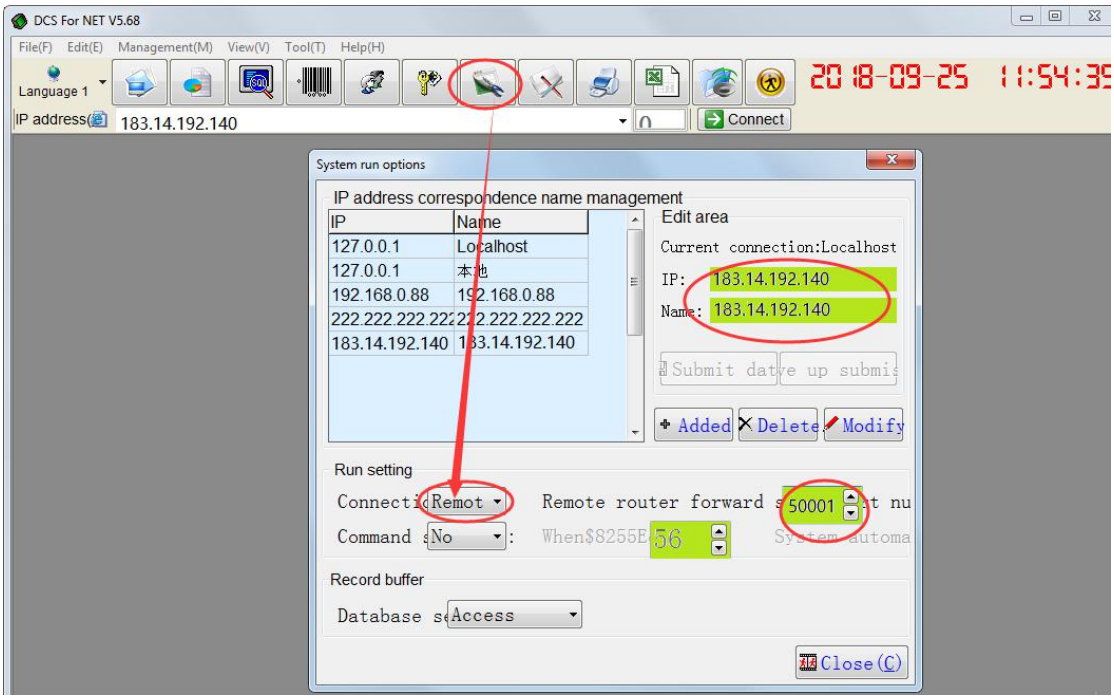


2. Click Ethernet monitoring

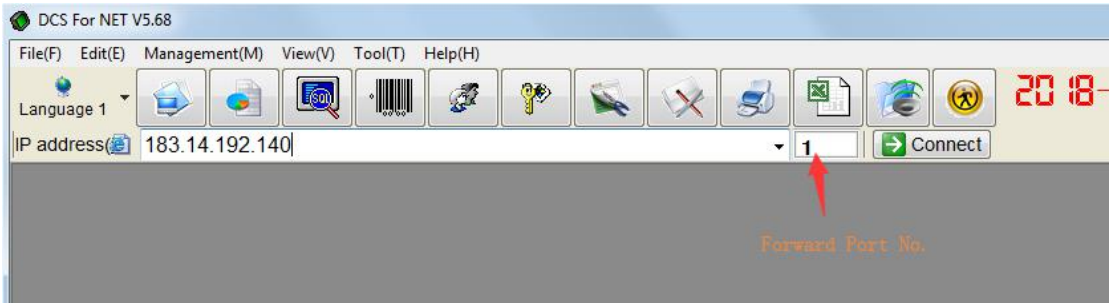
Monitor the HMI 1: Add the remote connection in the system running option, change the connection mode to remote, change the port number to 50000, change the IP address to the IP address of the corresponding external network where the HMI is located, now it is 184.14.112.140, then click connect.



Monitor the HMI 2: Add the remote connection in the system running option, change the connection mode to remote, change the port number to 50001, change the IP address to the IP address of the corresponding external network where the HMI is located, now it is 183.14.122.140, then click connect.



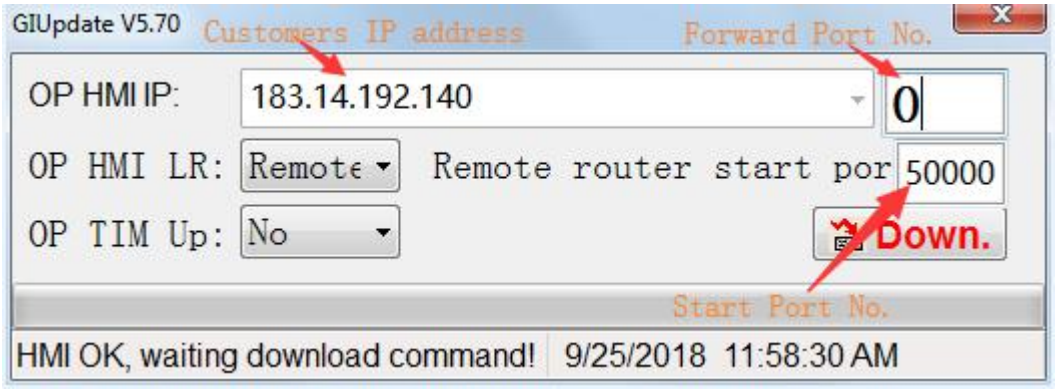
Or change the IP address to the external network IP. Now it is 183.14.192.140, set the forwarding port to 1, and then click connect..



Remarks:

Instructions of "Router Forwarding Start Port" and "Forwarding Port" in the remote monitoring/ remote download function of the external network:

E.g. Remote download window.



Thereinto,

OP man-machine location: remote.

IP address: 183.14.192.140 (external network IP address).

Remote Router Forwarding Port + Forwarding Port Number = Destination Mapping Port in the gateway configuration.

For example,

There are 3 HMIs, and each has been configured with the corresponding router forwarding port as follows, the external network IP: 183.14.112.140.

HMI 1:

IP: 192.168.1.231---- Starting port: 50000---- End port: 50000---- Internal port: 6666

HMI 2:

IP: 192.168.1.232---- Starting port: 50001---- End port: 50001 ---- Internal port: 6666

HMI 3:

IP: 192.168.1.233---- Starting port: 50002---- End port: 50002 ---- Internal port: 6666

In the "OP Series HMI Program Download" window:

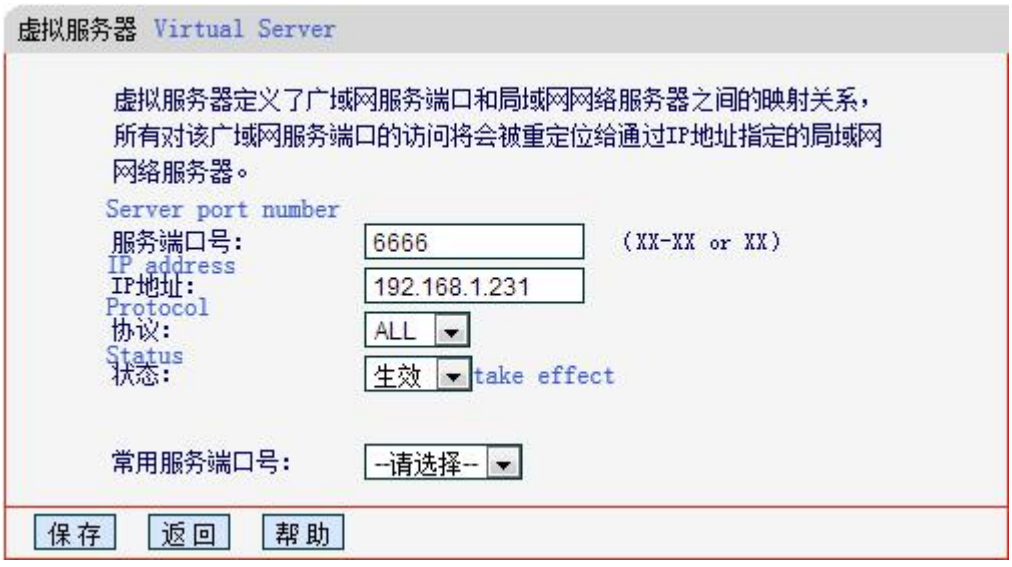
1) Input: IP address 183.14.192.140---- Remote router forwarding start port number 50000 + forwarding port number 0--- or remote router forwarding start port number 50000---- update HMI 1

2) Input: IP address 183.14.192.140---- Remote router forwarding start port number 50000 + forwarding port number 1--- or remote router forwarding start port number 50001---- update HMI 2

3) Input: IP address 183.14.192.140---- Remote router forwarding start port number 50000 + forwarding port number 2 --- or remote router forwarding start port number 50002---- update HMI 3

2. If the router does not support the internal port mapping function, it can only support one HMI to remotely download and monitor the HMI program through the external network.

a. The IP address of the touch screen is 192.168.1.231, the rule name is customized, the external port protocol is ALL, and the port is set to 6666.



b. It is shown as below after settings.

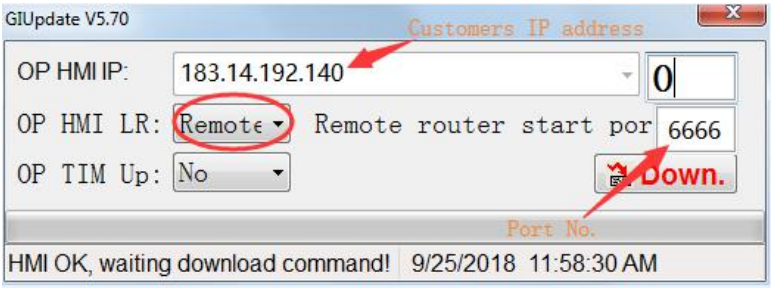
c. Check the external network IP address in the router, which is now 183.14.112.140.

Note: If the company does not apply for a static IP address, the external network IP captured by the modem is dynamically allocated. That is, each time the modem is restarted or redialed, an external network IP is re-randomly acquired. For this reason, customers using Dynamic IP are advised to re-login to the Router Port Configuration window each time they use Remote Ethernet Monitoring or Remote Upload to check and determine the external IP address for the time period.

Remote end:

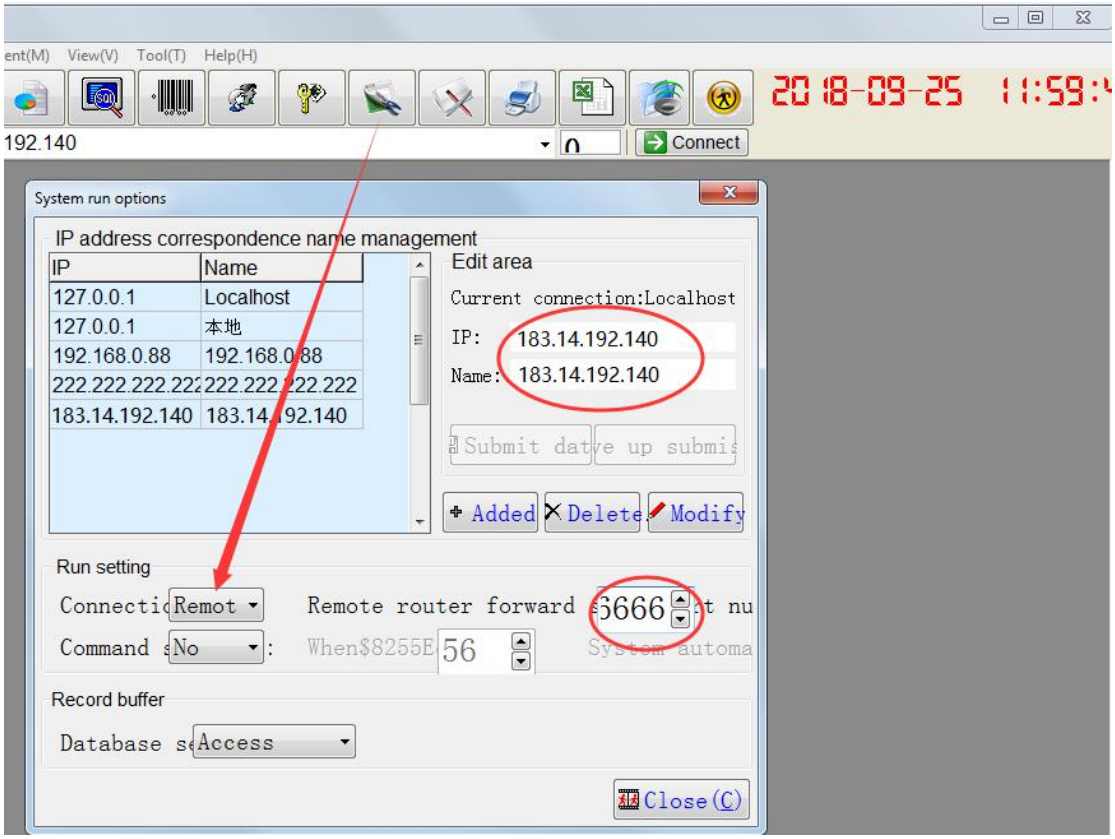
1. Remote use HMI software to download programs.

Download HMI program.



2. Click Ethernet monitoring.

In the system operation option, add the remote connection, the connection mode is changed to remote, the port number is changed to 6666, and the IP address is changed to the IP address of the corresponding external network where the HMI is located. It is now 183.14.122.140, and then click connect.



III. Setting steps of HMI Ethernet port with MODBUS TCP protocol

Note: Modbus TCP and Free Protocol (TCP/IP) protocols are supported only for above HMI version V5.73. When the HMI is used as a modbus host and the Free Protocol (TCP/IP), the function of downloading the program from the network port can be used. When the modbus slave is used, the function of the network port download program is not available.

1. HMI as host

a. Set the communication parameters of the HMI network port

Communication port: Ethernet

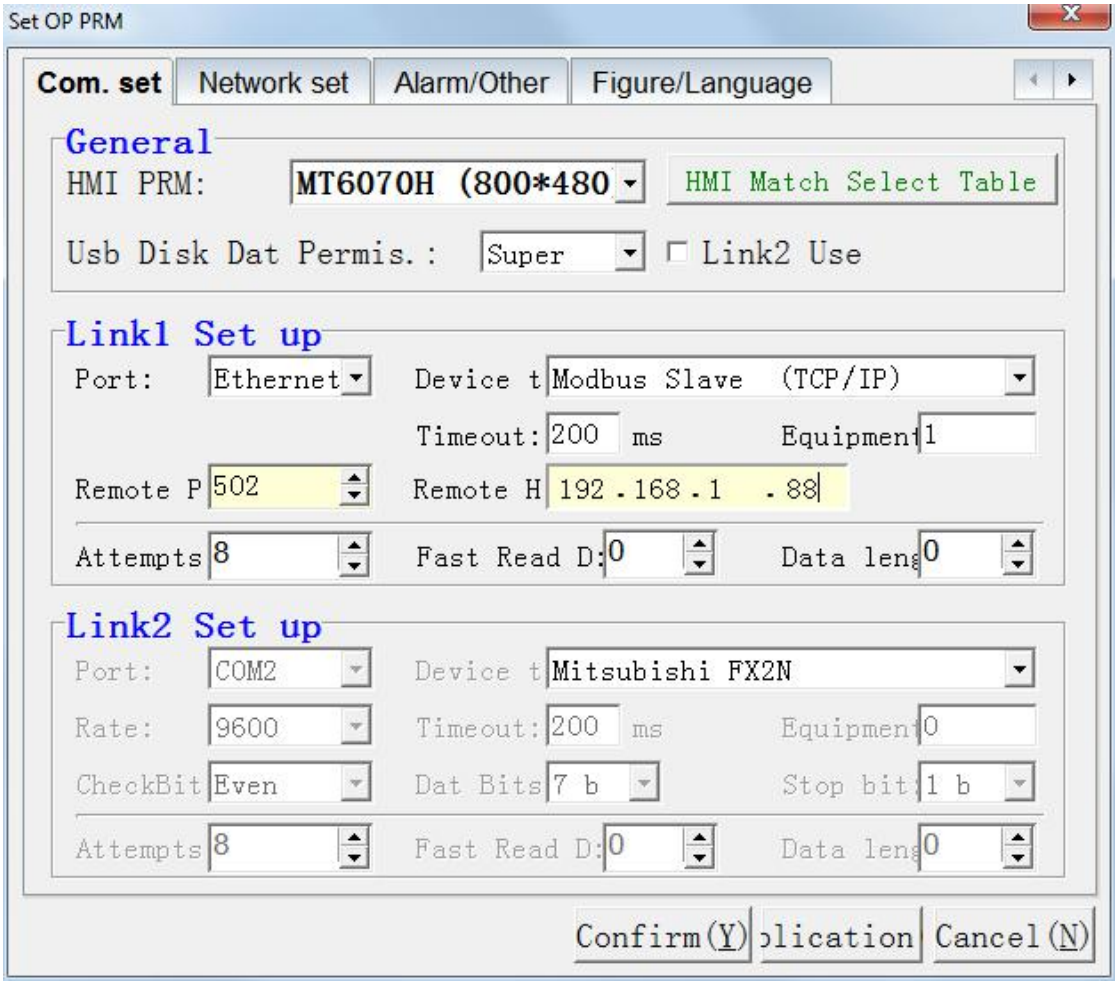
Remote port: The default is 502. (Set to match the remote host, which is the local port of the device communicating with the HMI network port)

Device Type: Modbus Slave (TCP/IP) Note: It refers to the type of device that communicates with the HMI.

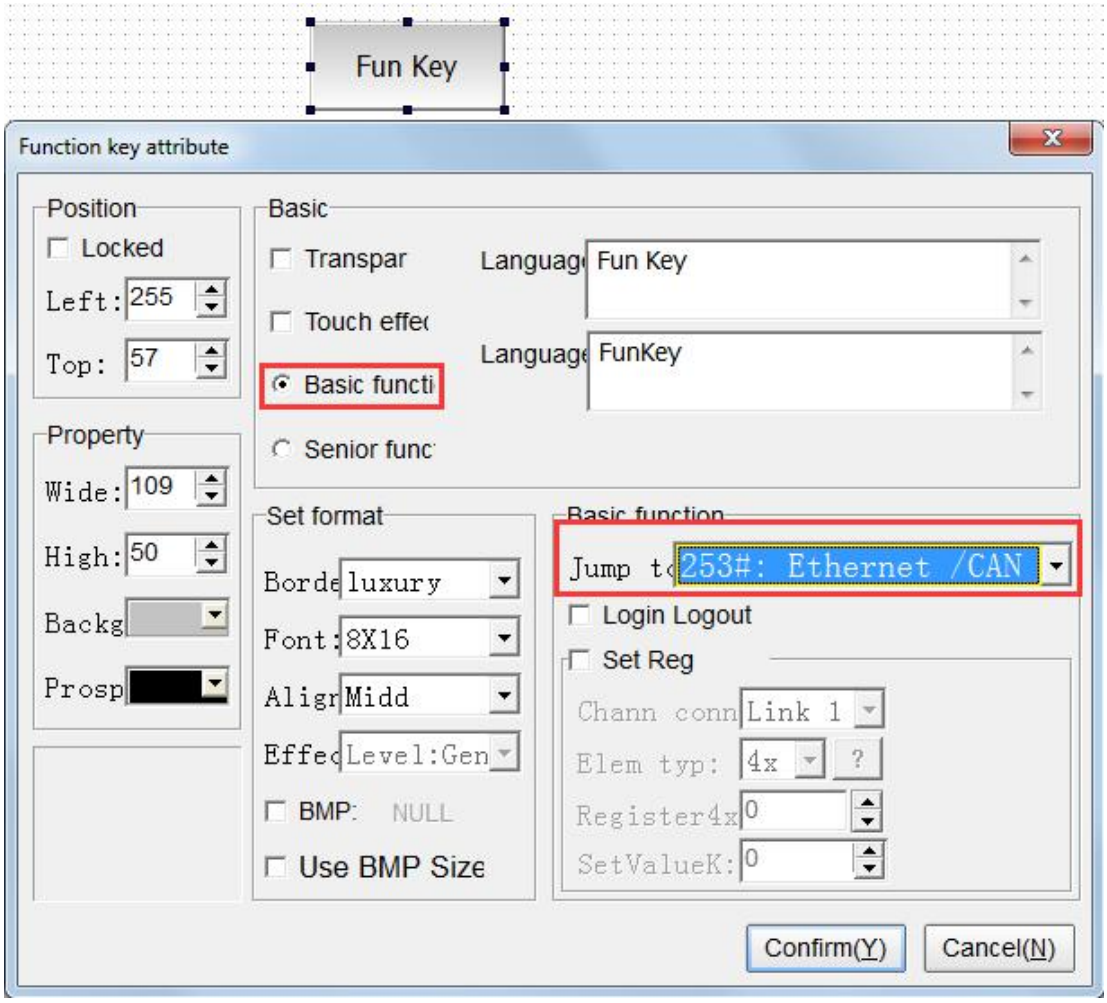
Communication timeout: 200ms

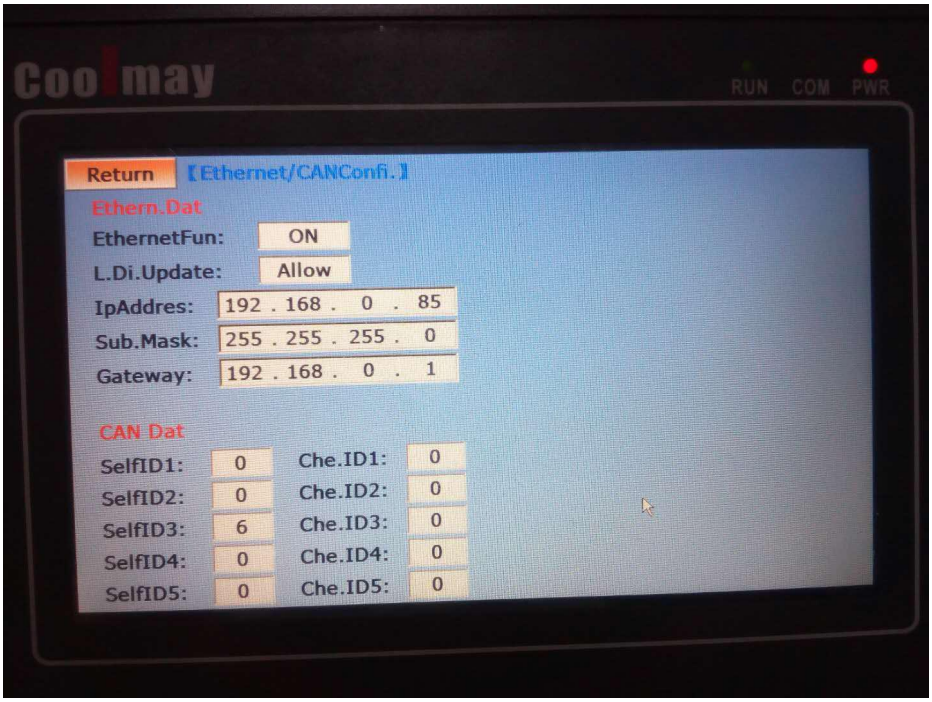
Device ID: 1 (default is 1)

Remote host: The IP address of the device that communicates with the touch screen. (Example: 192.168.1.88)



b. Place a function key on the screen to jump to the Ethernet/CAN configuration screen No. 253. After downloading the program, you can click this function key to jump to the HMI built-in screen to set the local IP of the touch screen (set to the IP address of the network segment where the touch screen is located). After setting the IP of the HMI, you need to power off and restart the HMI to take effect.


Fun Key
Function key attribute
Position
Locked
Left: 255
Top: 57
Property
Wide: 109
High: 50
Backg
Prosp
Basic
Transpar
Touch effe
Basic functi
Senior func
Languag Fun Key
Languag FunKey
Set format
Borde luxury
Font: 8X16
Align Midd
Effe Level:Gen
BMP: NULL
Use BMP Size
Basic function
Jump t 253#: Ethernet /CAN
Login Logout
Set Reg
Chann conn Link 1
Elem typ: 4x ?
Register4x 0
SetValueK: 0
Confirm(Y)
Cancel(N)


Coolmay
RUN COM PWR
Return 【Ethernet/CANConfi.】
Ethern.Dat
EthernetFun: ON
L.Di.Update: Allow
IpAddres: 192 . 168 . 0 . 85
Sub.Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 0 . 1
CAN Dat
SelfID1: 0
SelfID2: 0
SelfID3: 6
SelfID4: 0
SelfID5: 0
Che.ID1: 0
Che.ID2: 0
Che.ID3: 0
Che.ID4: 0
Che.ID5: 0

Ethernet function: Yes

Remote update HW6: Yes

IP address: Set to the IP of the network segment where the HMI is located. Example: 192.168.0.85

Subnet mask: The default is 255.255.255.0

Default gateway: The gateway is the one where the HMI is located. Example: 192.168.0.1

Note: The HMI local IP can also be set by direct register corresponding register.

HMI internal registers:

LW8209 LW8210 LW8211 LW8212.....IP address

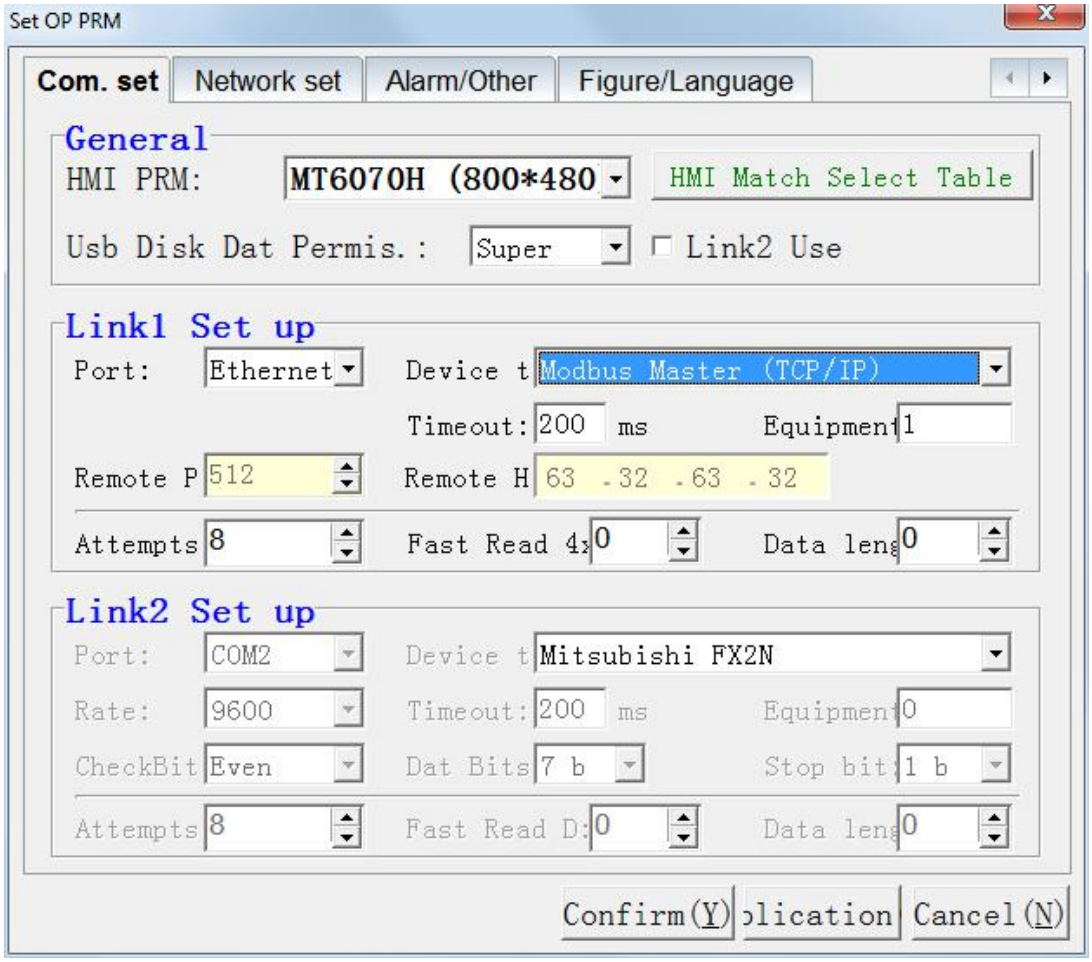
LW8213 LW8214 LW8215 LW8216.....Subnet mask

LW8217 LW8218 LW8219 LW8220..... Gateway

LW8221 LW8222 LW8223 LW8224 LW8225 LW8226.....MAC address

2. HMI as slave

a. Set the HMI communication parameters



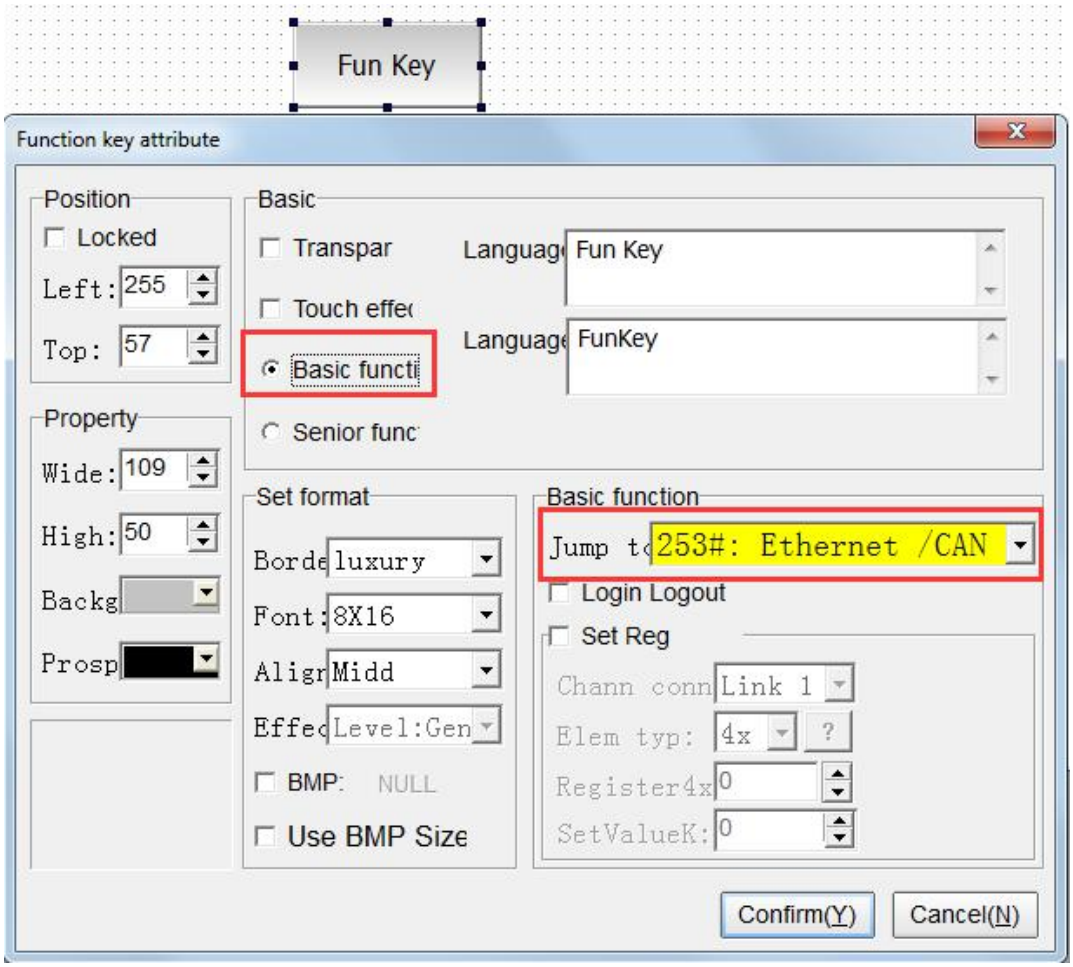
Communication port: Ethernet

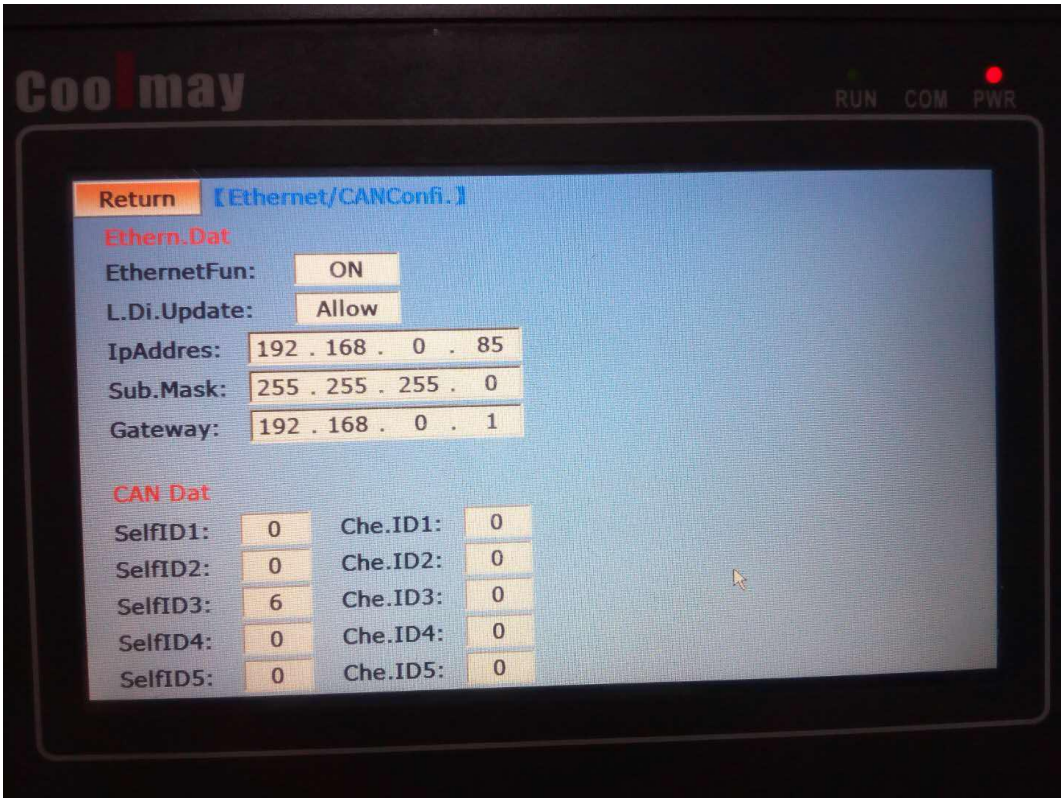
Device Type: Modbus Master (TCP/IP) Note: It refers to the type of device that communicates with the HMI.

Communication timeout: 200ms

Device ID: 1 (default is 1)

b. Place a function key on the screen to jump to the Ethernet/CAN configuration screen No. 253. After downloading the program, you can click this function key to jump to the touch screen built-in screen to set the local IP of the touch screen (set to the IP where the HMI is located). After setting the HMI IP, you need to power off and restart the HMI to take effect.


Fun Key
Function key attribute
Position
Locked
Left: 255
Top: 57
Property
Wide: 109
High: 50
Backg
Prosp
Basic
Transpar
Touch effe
Basic functi
Senior func
Language Fun Key
Language FunKey
Set format
Borde luxury
Font: 8X16
Align Midd
Effe Level:Gen
BMP: NULL
Use BMP Size
Basic function
Jump t 253#: Ethernet /CAN
Login Logout
Set Reg
Chann conn Link 1
Elem typ: 4x ?
Register4x 0
SetValueK: 0
Confirm(Y)
Cancel(N)


Coolmay
RUN COM PWR
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【Ethernet/CANConfi.】
Ethern.Dat
EthernetFun: ON
L.Di.Update: Allow
IpAddres: 192 . 168 . 0 . 85
Sub.Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 0 . 1
CAN Dat
SelfID1: 0
SelfID2: 0
SelfID3: 6
SelfID4: 0
SelfID5: 0
Che.ID1: 0
Che.ID2: 0
Che.ID3: 0
Che.ID4: 0
Che.ID5: 0

Ethernet function: Yes

Remote update HW6: Yes

IP address: Set to the IP of the network segment where the HMI is located. Example: 192.168.0.85

Subnet mask: The default is 255.255.255.0

Default gateway: The gateway is the one where the HMI is located. Example: 192.168.0.1

Note: The HMI IP can also be set by direct refer to the register.

HMI internal registers:

LW8209 LW8210 LW8211 LW8212.....IP address

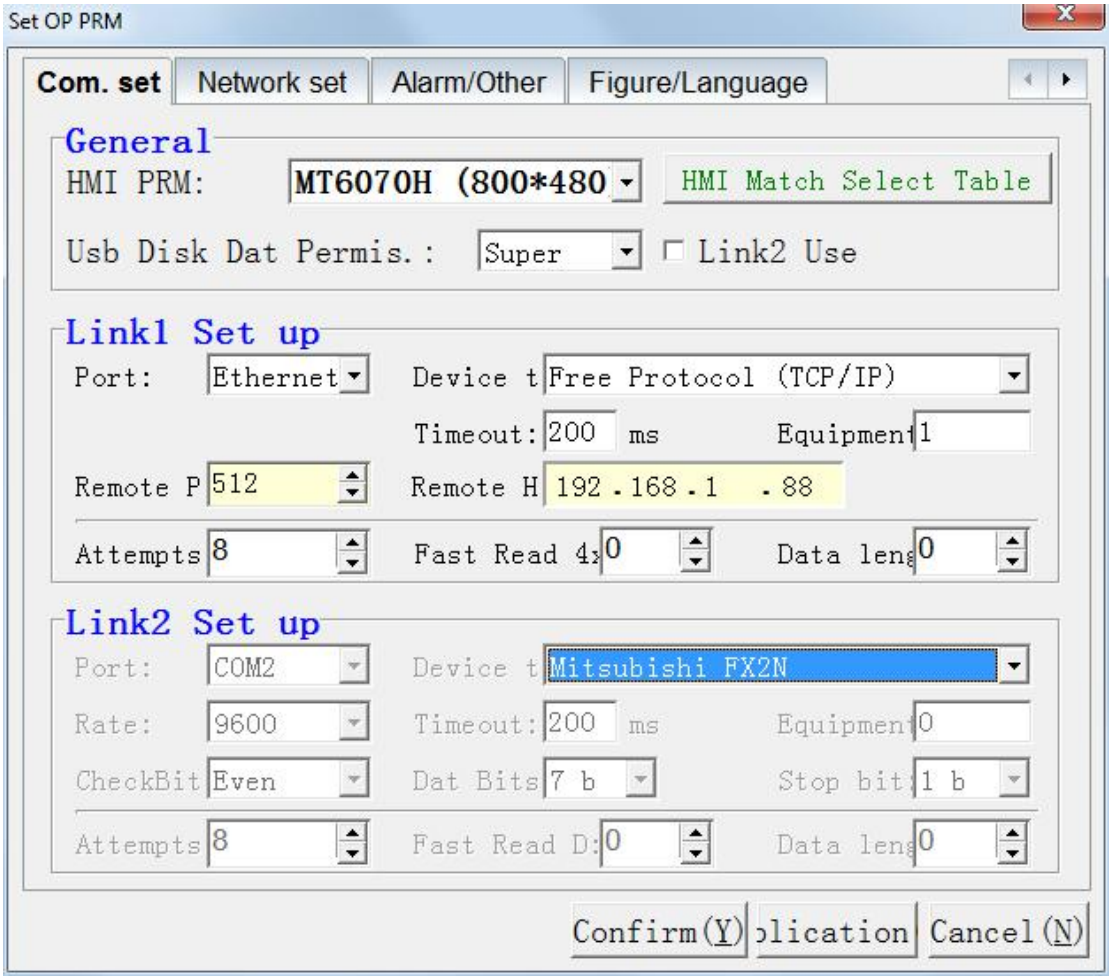
LW8213 LW8214 LW8215 LW8216.....Subnet mask

LW8217 LW8218 LW8219 LW8220..... Gateway

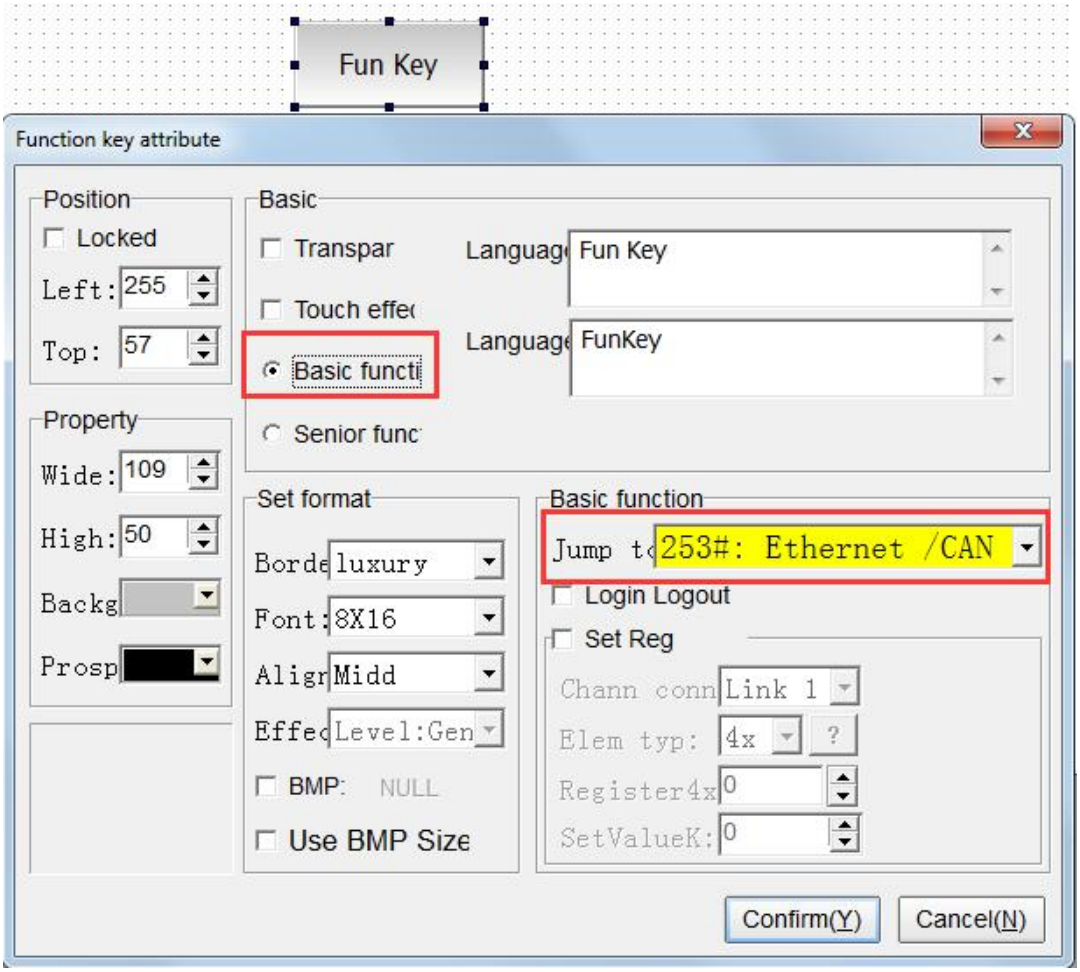
LW8221 LW8222 LW8223 LW8224 LW8225 LW8226.....MAC address

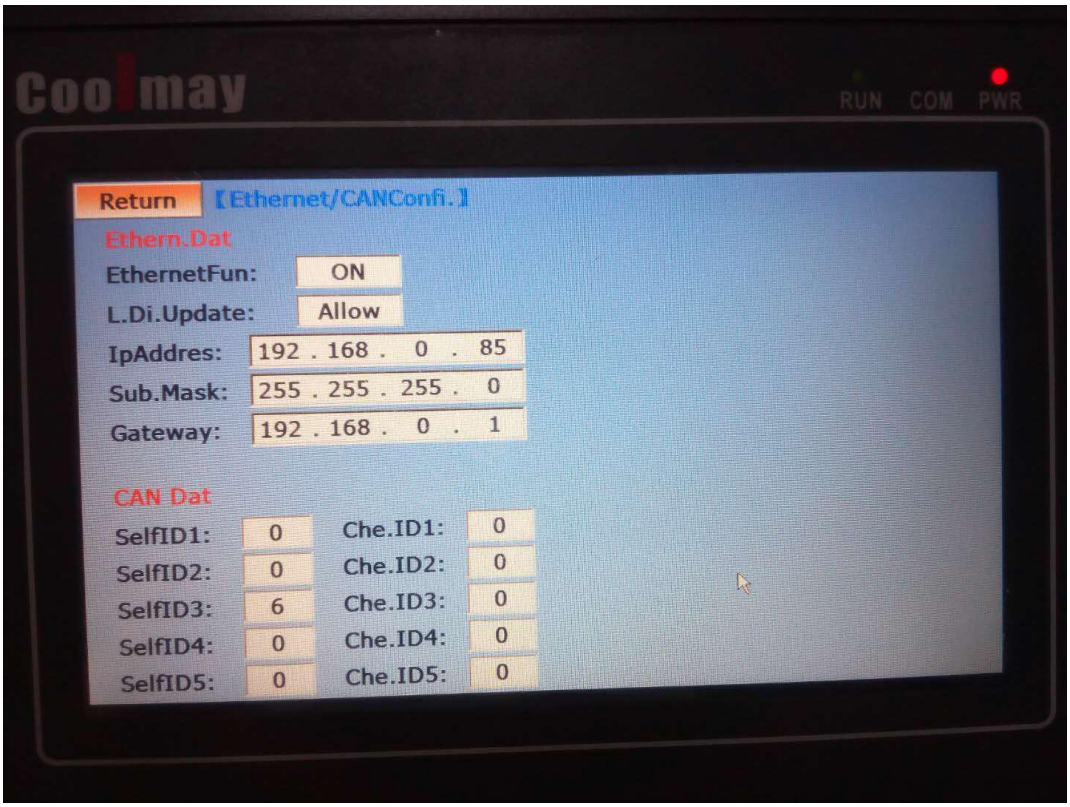
IV. Setting steps of HMI Ethernet prot with Free Protocol

1. Setting communication parameters of HMI Ethernet



a. Place a function key on the screen to jump to the Ethernet/CAN configuration screen No. 253. After downloading the program, you can click this function key to jump to the HMI built-in screen to set the local HMI IP (set to the one where the HMI is located). After setting the HMI IP, you need to power off and restart the HMI to take effect.


Fun Key
Function key attribute
Position
Locked
Left: 255
Top: 57
Property
Wide: 109
High: 50
Backg
Prosp
Basic
Transpar
Touch effe
Basic functi
Senior func
Language Fun Key
Language FunKey
Set format
Borde luxury
Font: 8X16
Align Midd
Effe Level:Gen
BMP: NULL
Use BMP Size
Basic function
Jump t 253#: Ethernet /CAN
Login Logout
Set Reg
Chann conn Link 1
Elem typ: 4x ?
Register4x 0
SetValueK: 0
Confirm(Y)
Cancel(N)


Coolmay
RUN COM PWR
Return 【Ethernet/CANConfi.】
Ethern.Dat
EthernetFun: ON
L.Di.Update: Allow
IpAddres: 192 . 168 . 0 . 85
Sub.Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 0 . 1
CAN Dat
SelfID1: 0
SelfID2: 0
SelfID3: 6
SelfID4: 0
SelfID5: 0
Che.ID1: 0
Che.ID2: 0
Che.ID3: 0
Che.ID4: 0
Che.ID5: 0

Ethernet function: Yes

Remote update HW6: Yes

IP address: Set to the IP of the network segment where HMI is located. This example is: 192.168.0.85

Subnet mask: The default is 255.255.255.0

Default gateway: The gateway is the one where the HMI is located. This example is: 192.168.0.1

Note: The HMI IP can also be set by direct setting corresponding register.

HMI internal registers:

LW8209 LW8210 LW8211 LW8212.....IP address

LW8213 LW8214 LW8215 LW8216.....Subnet mask

LW8217 LW8218 LW8219 LW8220..... Gateway

LW8221 LW8222 LW8223 LW8224 LW8225 LW8226.....MAC address

The HMI uses the macro RXD/TXD to write and receive data. The specific instructions are as follows:

TXD → Send data, such as TXD (A1, A2) (Communication protocol must be Free Protocol)

It is to send data from the A1 address to LINK1/LINK2, and select the corresponding UART port, and send A2 bytes in total. The data format is only Word (1 Word = 2 bytes).

RXD → Receive data, such as RXD (A1, A2) (Communication protocol must be Free Protocol)

Select the corresponding UART port from LINK1/LINK2 to receive the data to the start address specified by A1. If A2 specifies K, it is specified to read K bytes. If A2 specifies LW, all bytes of the buffer are read. The number of bytes read is placed in the address specified by A2. The format of the stored data is determined by the LW address specified by A2+1.

Set "0" to return in bytes.

Set "1" to return by word [high byte first]

Set "2" to return by word [low byte first]