COOLMAY HMI

1-Install COOLMAY HMI soft and the very special driver :

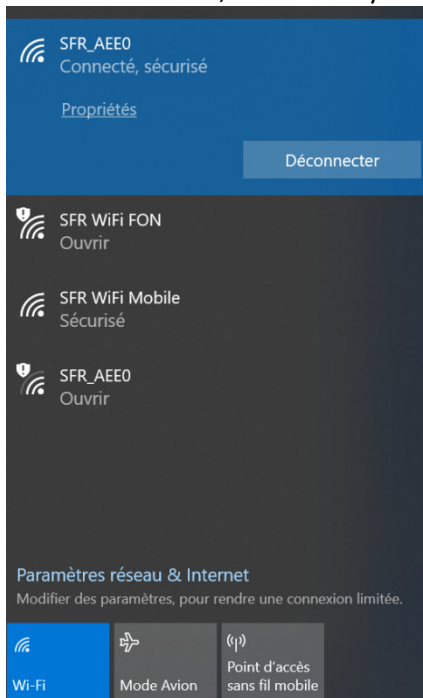Install COOLMAY HMI and link the diplay like this :

- Special USB wire to the USB port of your PC
- The ethernet wire directly on the ethernet shield of your Arduino.
- Power on the display

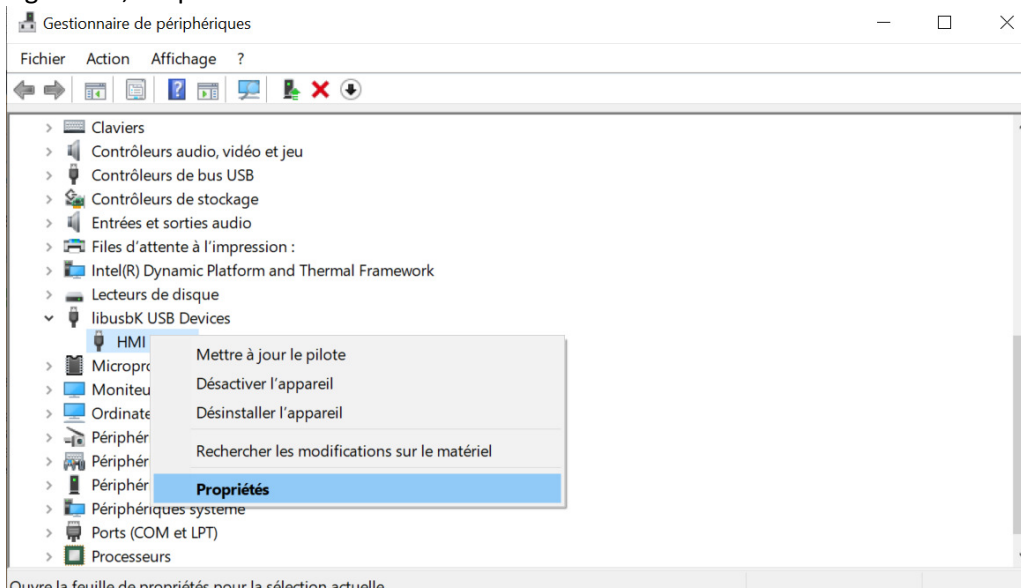Have a look on the peripheral devices on your PC :

The device appears as USB device

In the network list, there is only other networks.

It appears as HMI RNDIS, the wifi embedded functions are disabled. You need to install the driver in order to activate the wifi embeded on your display.

Right click, Properties :

Update the driver :

Look for the driver in the PC :

Go to the COOLMAY file you have just installed :

Mettre à jour les pilotes - HMI RNDIS

Rechercher des pilotes sur votre ordinateur

Rechercher les pilotes à cet emplacement :

C:\Kinco\Kinco HMIware v2.5\driver   Parcourir...

☑ Inclure les sous-dossiers

→ Choisir parmi une liste de pilotes disponibles sur mon ordinateur
Cette liste affichera les pilotes disponibles compatibles avec l'appareil, ainsi que tous les pilotes dans la même catégorie que l'appareil.

Suivant   Annul

AaBbCc AaB AaBbCc. AaBbCcDa   A

Rechercher un dossier   ✕

Sélectionnez le dossier qui contient les pilotes de votre matériel.

- 📹 Vidéos
- 💻 Disque local (C:)
  - 📁 AdwCleaner
  - 📁 FreeStyler
  - 📁 Kinco
  - 📁 Micrelec
  - 📁 OA30_TOOL
  - 📁 PerfLogs
  - 📁 Program Files (x86)
    - 📁 Adobe
    - 📁 Arduino
    - 📁 Artistic Licence
    - 📁 Bonjour
    - 📁 Common Files
    - 📁 CoolMay
      - 📁 CoolMayHMI
        - 📁 Examples
        - 📁 library
        - 📁 RunDat
    - 📁 Crouzet Automatismes
    - 📁 Ets3PlugIn

Dossier :   CoolMayHMI

OK   Annuler

Mettre à jour les pilotes - HMI RNDIS

Rechercher des pilotes sur votre ordinateur

Rechercher les pilotes à cet emplacement :

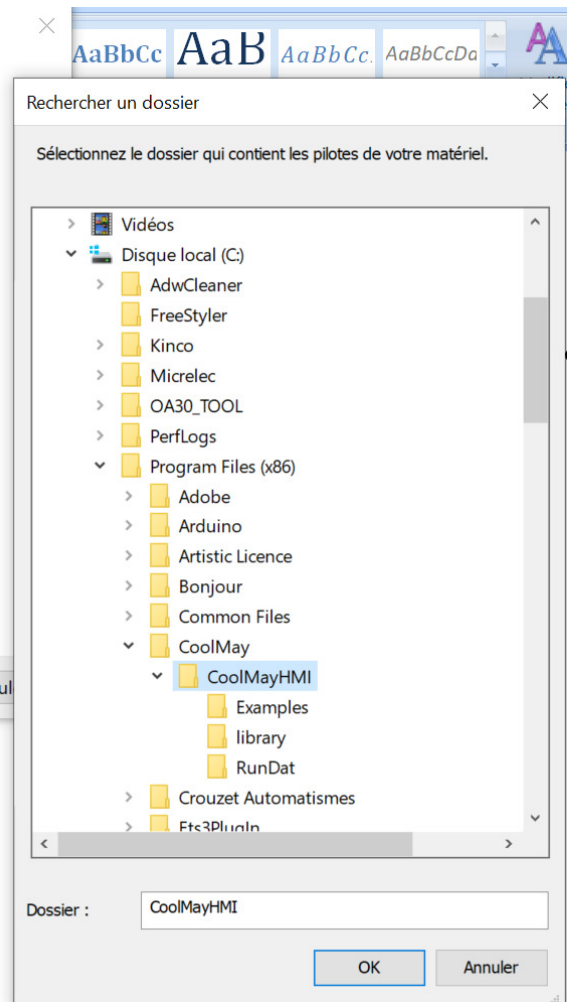C:\Program Files (x86)\CoolMay\CoolMayHMI   Parcourir...

☑ Inclure les sous-dossiers

→ Choisir parmi une liste de pilotes disponibles sur mon ordinateur
Cette liste affichera les pilotes disponibles compatibles avec l'appareil, ainsi que tous les pilotes dans la même catégorie que l'appareil.

Suivant   Annuler

Click on choose in a list : CoolMayHMI

×

← 🖥 Mettre à jour les pilotes - HMI RNDIS

Choisissez le pilote de périphérique à installer pour ce matériel.

Sélectionnez le fabricant et le modèle de votre périphérique matériel et cliquez sur Suivant. Si vous avez un disque qui contient le pilote que vous voulez installer, cliquez sur Disque fourni.

☑ Afficher les matériels compatibles

Modèle
🖳 HMI RNDIS
🖳 Périphérique série USB
    CoolMayHMI

⚠ **Ce pilote n'a pas été signé numériquement !**   Disque fourni...
Pourquoi la signature du pilote est-elle importante ?

Suivant   Annuler

Done :

⌃

🖥 Mettre à jour les pilotes - CoolMayHMI #3

Windows a mis à jour vos pilotes

Windows a terminé l'installation des pilotes pour cet appareil :

🖥 CoolMayHMI

Fermer

It has been transform as a network connector :

And a new network (the display's one) appears in the list as undentified network with no internet communication.
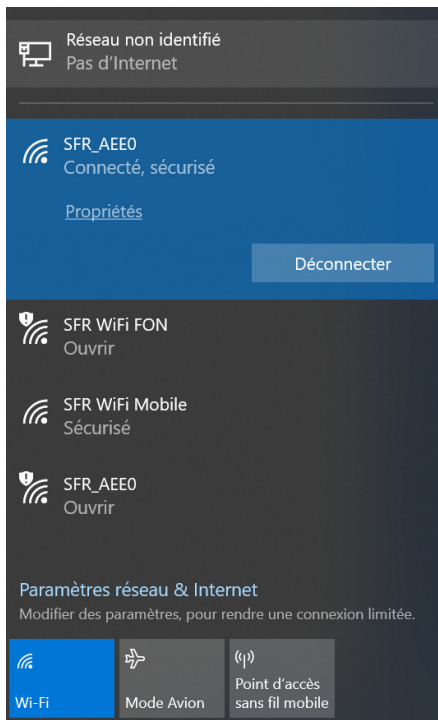
Now you're able to download the sketch you'll done with CoolmayHMI software.

2-IP adresses settings:

You will have to work with 2 different addresses on your display :
- One is used to download the program
- The other is made for communicate with the ethernet peripheral device (Arduino , PLC….)

2-1 IP address for download :

You must use an IP address like 222.222.222.9 because the basic address of the display is 222.222.222.222
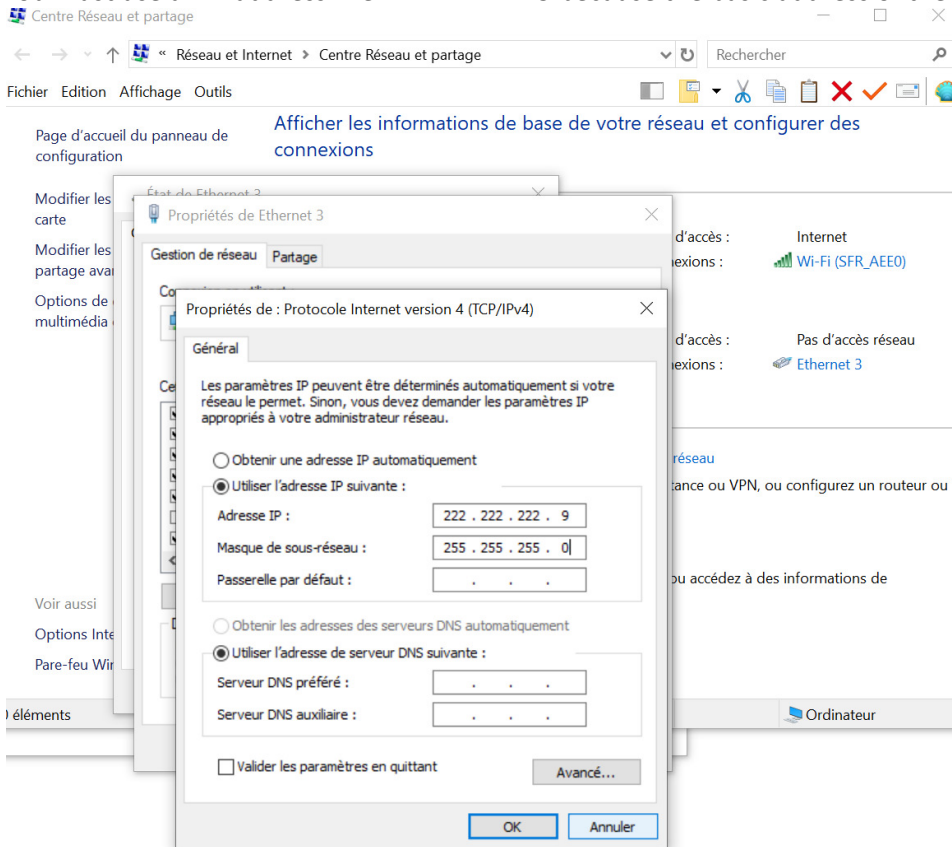
2-2 IP address for communication with other devices :

Open COOLMAYHMI soft
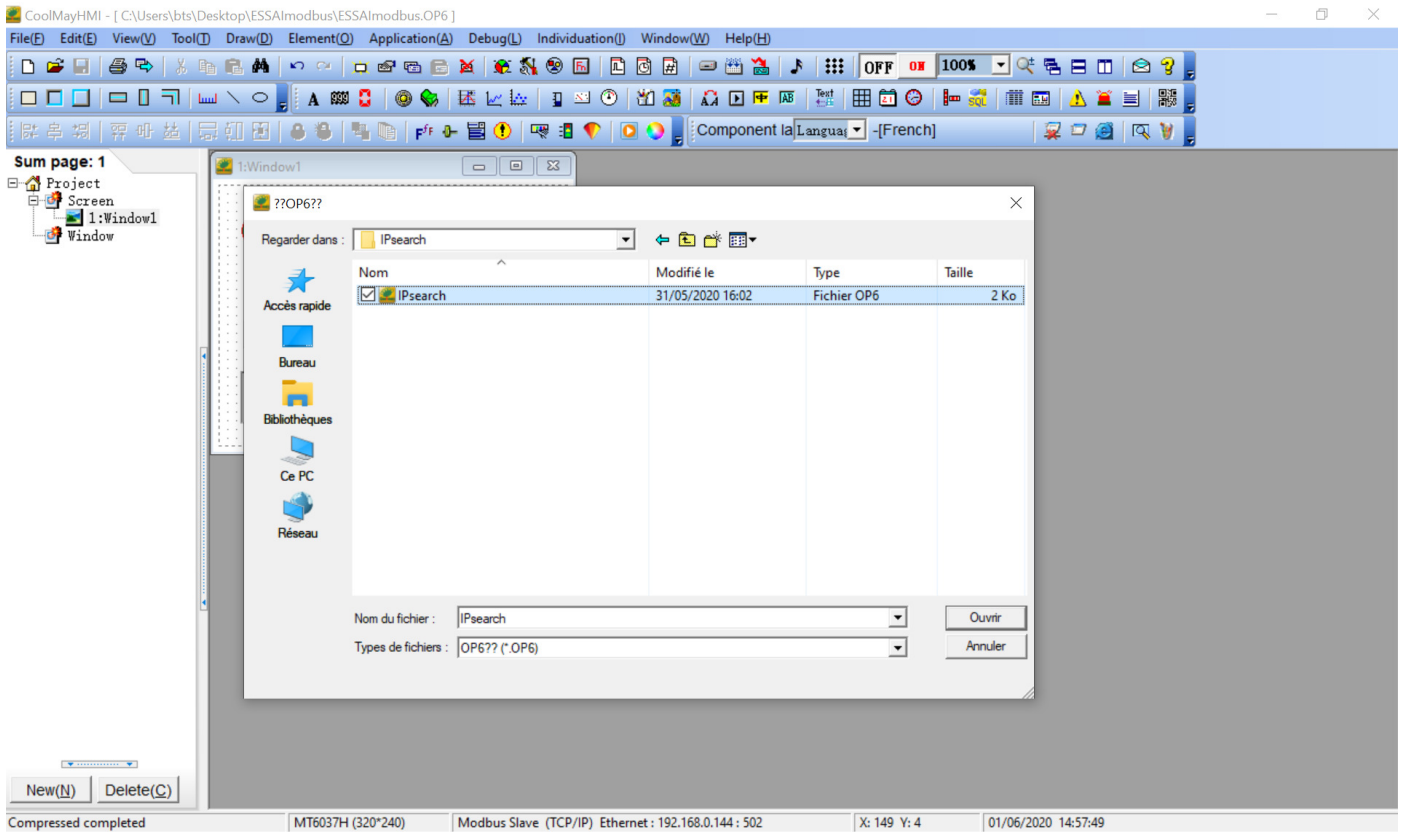
And open the home made sketch IP search :

Welcome to CoolMayHMI Edit

New file

Open the last edit file

Open file

Open example libr.

Open the existing project...

http://www.coolmay.net
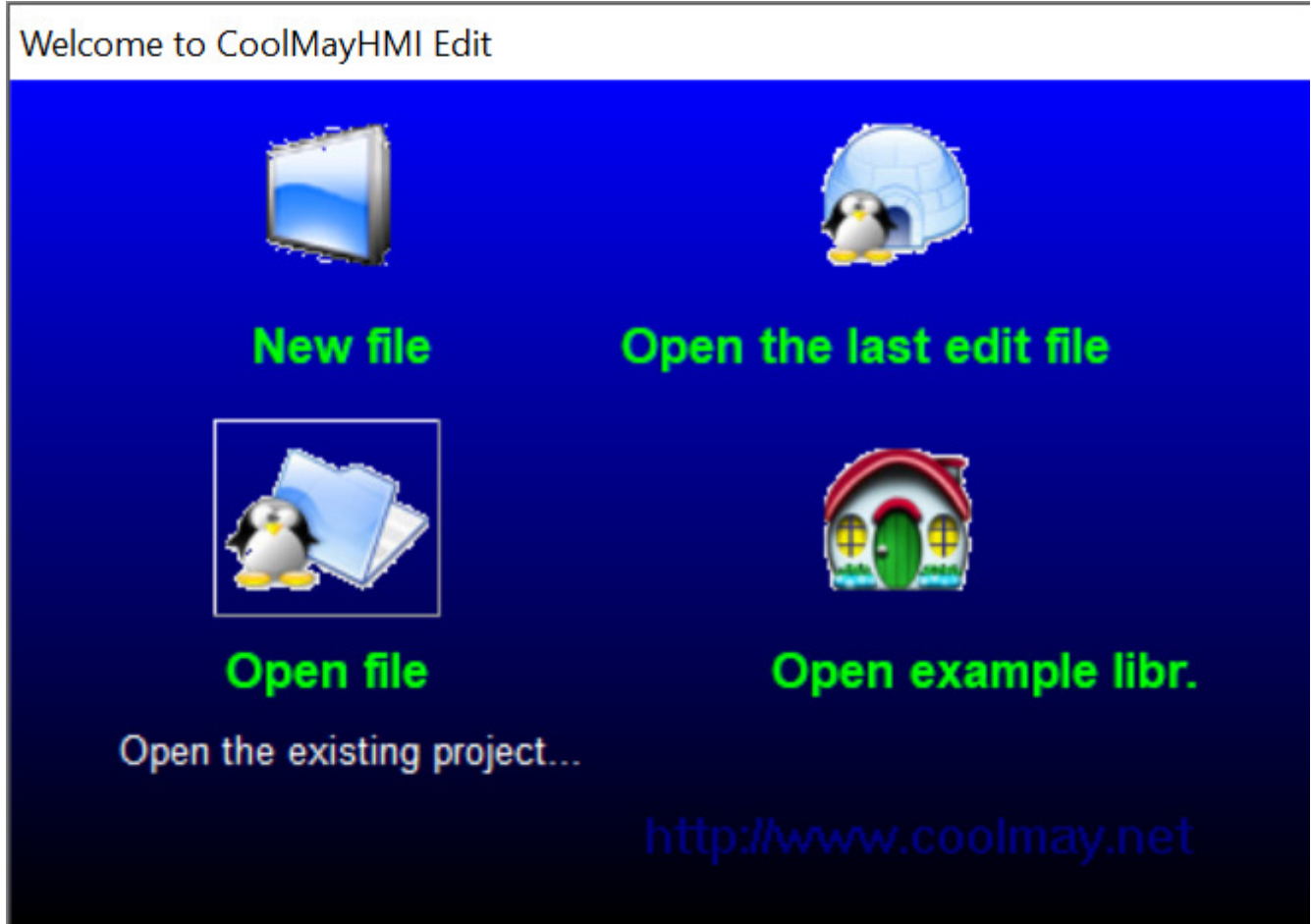
You will use this sketch to read/write the LAN settings of the display :
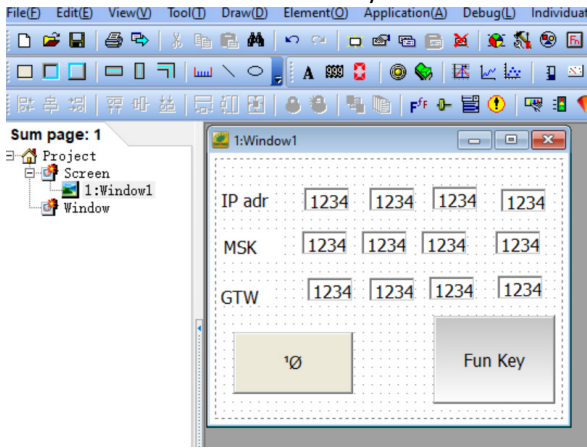
The address of each register is describe below and must be this :
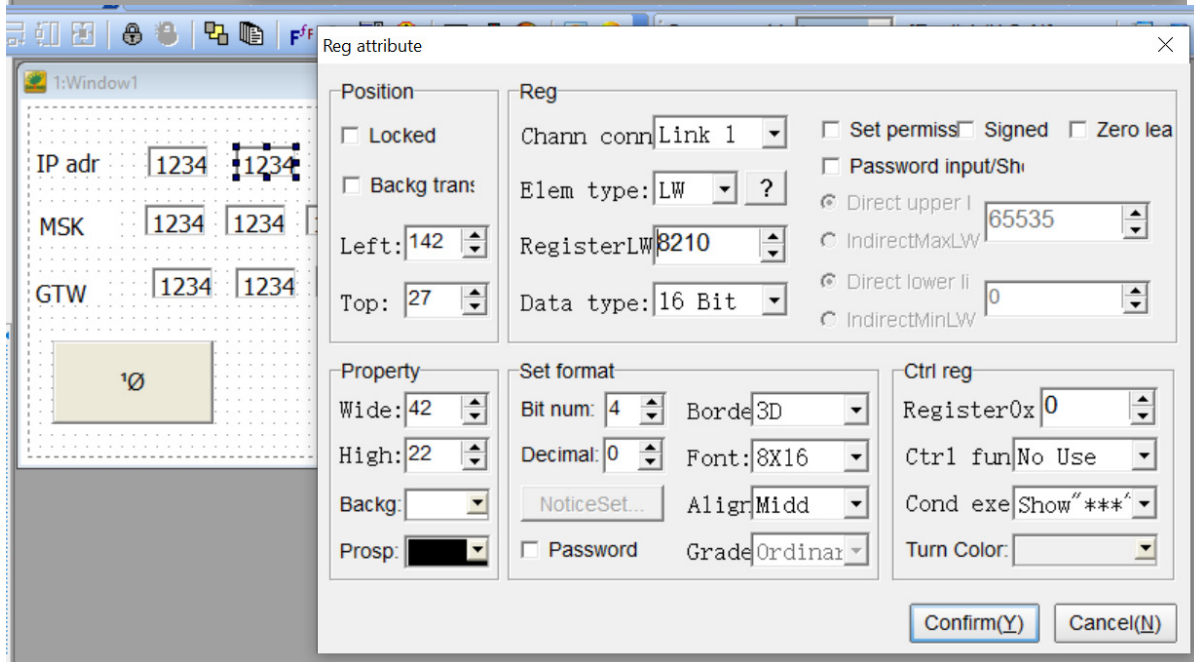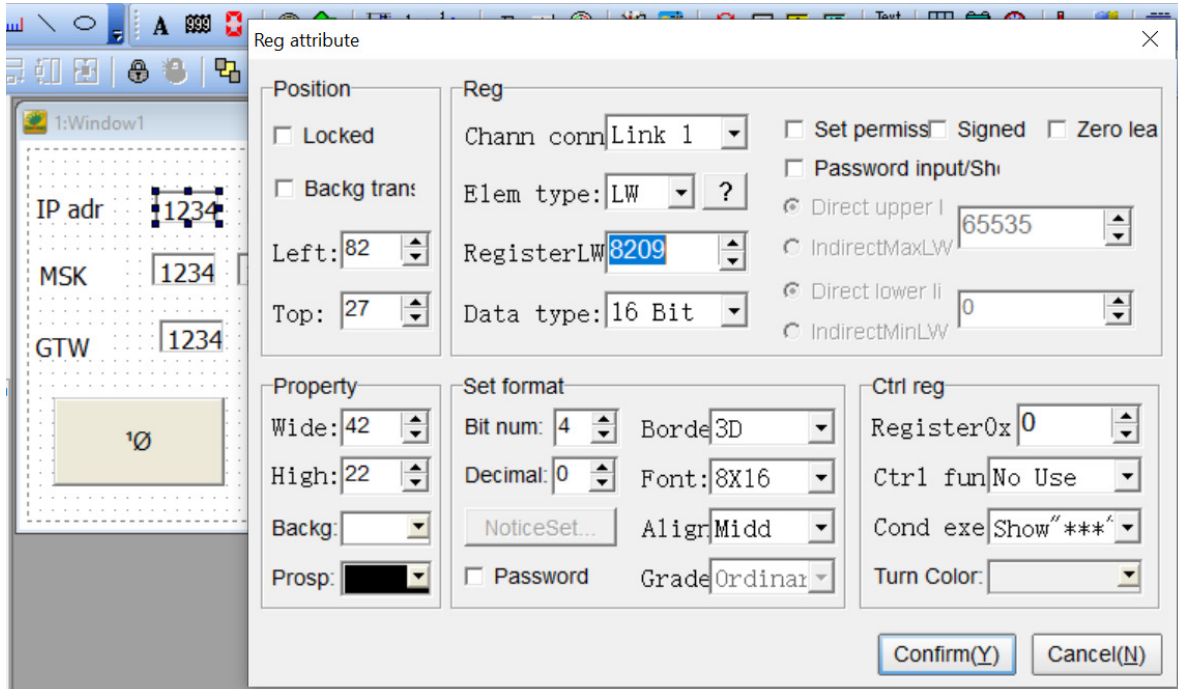
Dialog 1 (Window1 — IP adr / MSK / GTW)

Reg attribute ✕

Position
☐ Locked
☐ Backg trans
Left: 200
Top: 26

Reg
Chann conn: Link 1
Elem type: LW ?
RegisterLW 8211
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sho
● Direct upper l 65535
○ IndirectMaxLW
○ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password
Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Dialog 2

Reg attribute ✕

Position
☐ Locked
☐ Backg trans
Left: 263
Top: 28

Reg
Chann conn: Link 1
Elem type: LW ?
RegisterLW 8212
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sho
● Direct upper l 65535
○ IndirectMaxLW
○ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password
Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Dialog 3

Reg attribute ✕

Position
☐ Locked
☐ Backg trans
Left: 80
Top: 67

Reg
Chann conn: Link 1
Elem type: LW ?
RegisterLW 8213
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sho
● Direct upper l 65535
○ IndirectMaxLW
○ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password
Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Window1 (background)

IP adr   1234 1234 1234 1234
MSK   1234 1234 1234 1234
GTW   1234 1234 1234 1234

'Ø   Fun Key

Window 1 (top):

1:Window1

IP adr 1234 1234
MSK 1234 1234
GTW 1234 1234

'0

Reg attribute

Position
☐ Locked
☐ Backg trans
Left: 135
Top: 67

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8214
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l   65535
○ IndirectMaxLW
◉ Direct lower li   0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password

Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Window 1 (middle):

1:Window1

IP adr 1234 1234 1234
MSK 1234 1234 1234
GTW 1234 1234 1234

'0 Fu

Reg attribute

Position
☐ Locked
☐ Backg trans
Left: 190
Top: 67

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8215
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l   65535
○ IndirectMaxLW
◉ Direct lower li   0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password

Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Window 1 (bottom):

1:Window1

IP adr 1234 1234 1234 1234
MSK 1234 1234 1234 1234
GTW 1234 1234 1234 1234

'0 Fun Key

Reg attribute

Position
☐ Locked
☐ Backg trans
Left: 258
Top: 67

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8216
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l   65535
○ IndirectMaxLW
◉ Direct lower li   0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4
Decimal: 0
NoticeSet...
☐ Password

Borde 3D
Font: 8X16
Align Midd
Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***"
Turn Color:

Confirm(Y) Cancel(N)

Window 1 (top)

1:Window1

Reg attribute ✕

IP adr 1234
MSK 1234 1
GTW 1234
¹Ø

Position
☐ Locked
☐ Backg trans
Left: 85
Top: 110

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8217
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l 65535
○ IndirectMaxLW
◉ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4 Borde 3D
Decimal: 0 Font: 8X16
NoticeSet... Align Midd
☐ Password Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***´
Turn Color:

Confirm(Y) Cancel(N)

Window 1 (middle)

1:Window1

Reg attribute ✕

IP adr 1234 1234
MSK 1234 1234 1
GTW 1234 1234
¹Ø

Position
☐ Locked
☐ Backg trans
Left: 142
Top: 110

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8218
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l 65535
○ IndirectMaxLW
◉ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
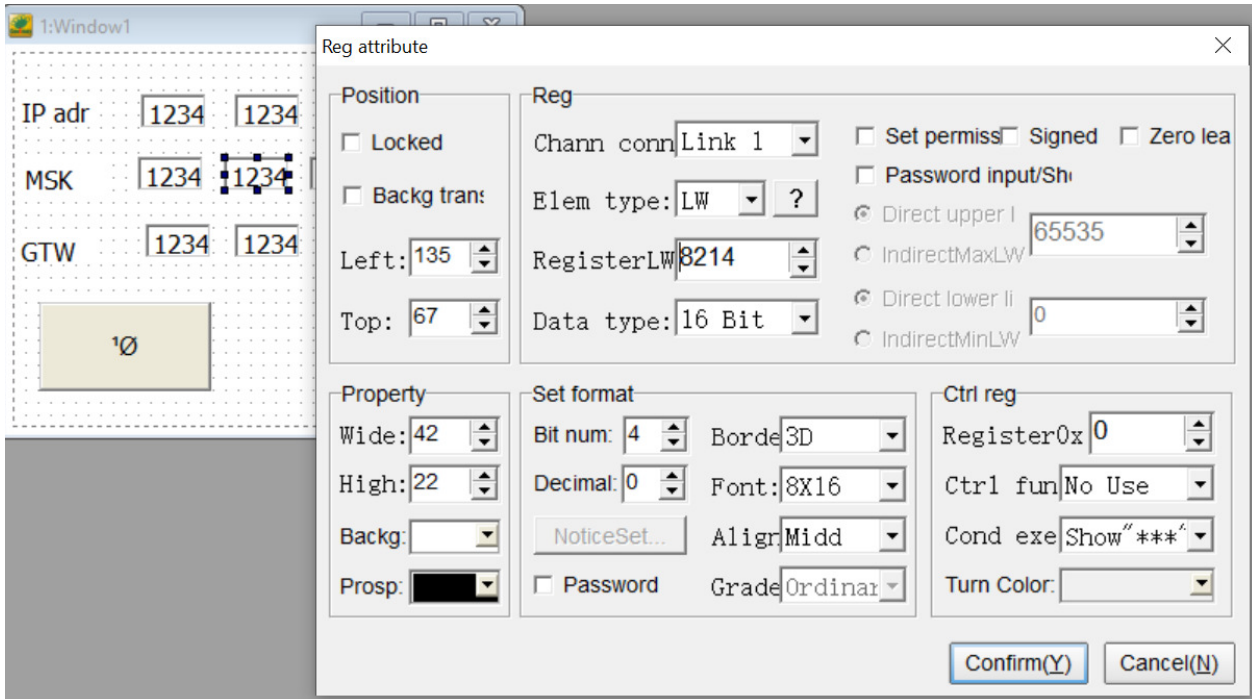Bit num: 4 Borde 3D
Decimal: 0 Font: 8X16
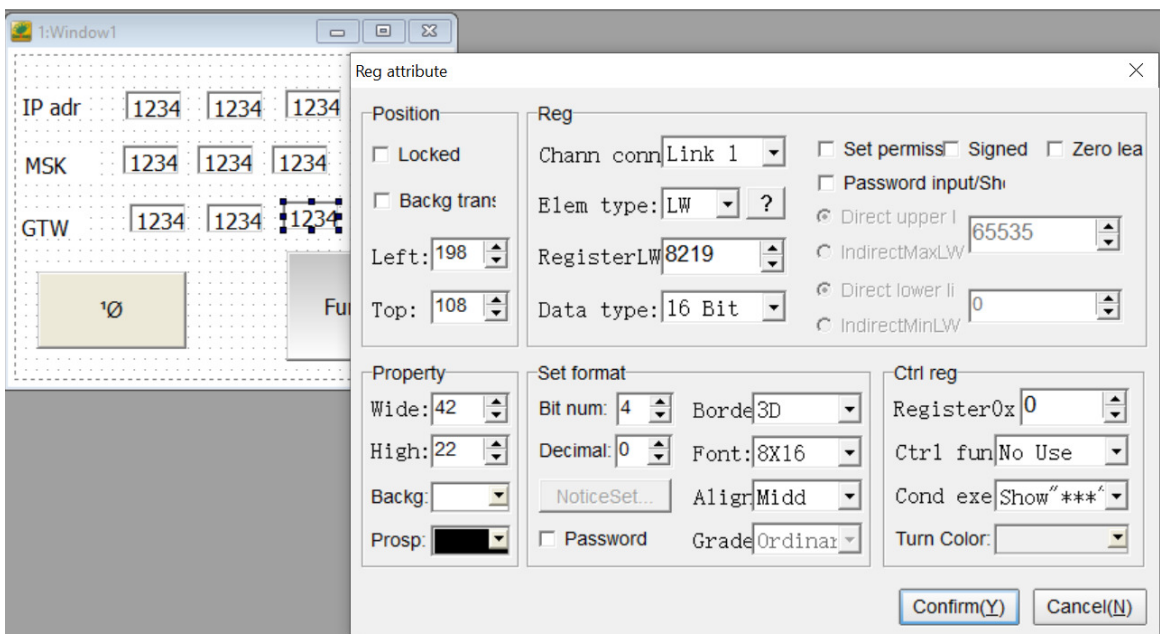NoticeSet... Align Midd
☐ Password Grade Ordinar

Ctrl reg
Register0x 0
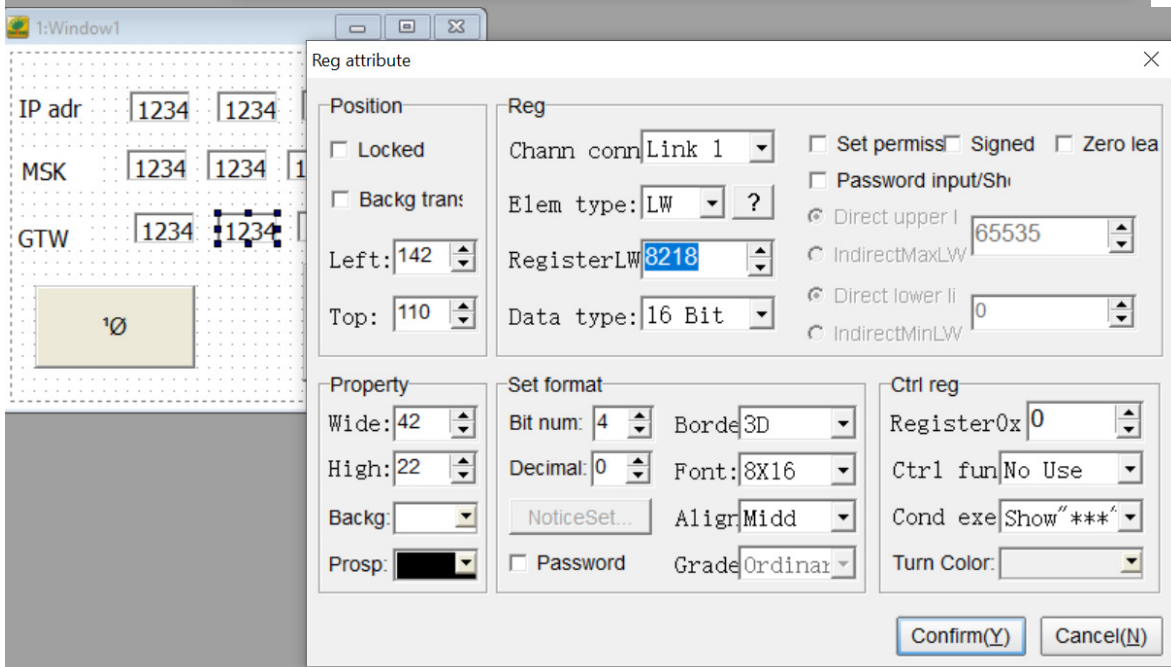Ctrl fun No Use
Cond exe Show"***´
Turn Color:

Confirm(Y) Cancel(N)

Window 1 (bottom)

1:Window1

Reg attribute ✕

IP adr 1234 1234 1234
MSK 1234 1234 1234
GTW 1234 1234 1234
¹Ø Fu

Position
☐ Locked
☐ Backg trans
Left: 198
Top: 108

Reg
Chann conn Link 1
Elem type: LW ?
RegisterLW 8219
Data type: 16 Bit

☐ Set permiss ☐ Signed ☐ Zero lea
☐ Password input/Sh
◉ Direct upper l 65535
○ IndirectMaxLW
◉ Direct lower li 0
○ IndirectMinLW

Property
Wide: 42
High: 22
Backg:
Prosp:

Set format
Bit num: 4 Borde 3D
Decimal: 0 Font: 8X16
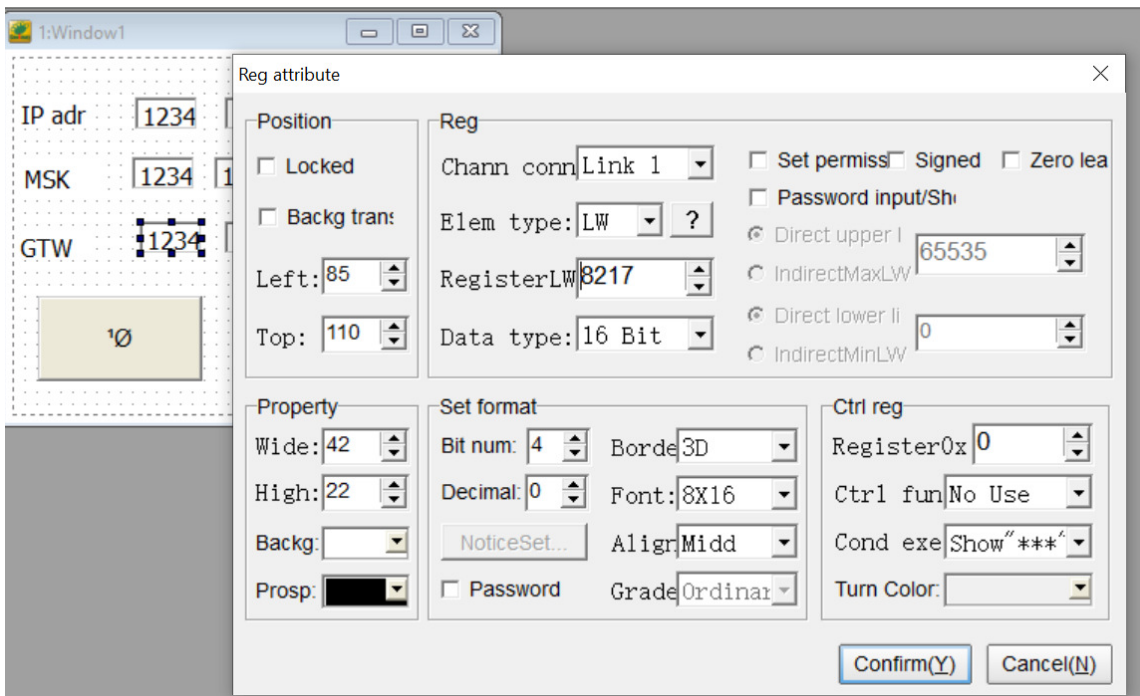NoticeSet... Align Midd
☐ Password Grade Ordinar

Ctrl reg
Register0x 0
Ctrl fun No Use
Cond exe Show"***´
Turn Color:

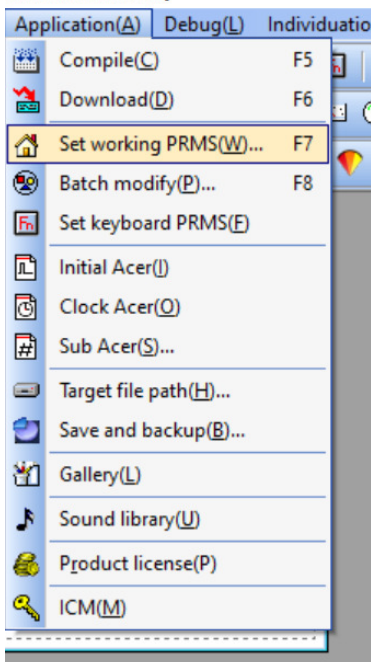Confirm(Y) Cancel(N)

Reg attribute ✕

Position
- ☐ Locked
- ☐ Backg trans
- Left: 263
- Top: 108

Reg
- Chann conn Link 1
- Elem type: LW ?
- RegisterLW 8220
- Data type: 16 Bit
- ☐ Set permiss ☐ Signed ☐ Zero lea
- ☐ Password input/Sh
- ⦿ Direct upper l 65535
- ○ IndirectMaxLW
- ⦿ Direct lower li 0
- ○ IndirectMinLW

Property
- Wide: 42
- High: 22
- Backg:
- Prosp:

Set format
- Bit num: 4   Borde 3D
- Decimal: 0   Font: 8X16
- NoticeSet...   Align Midd
- ☐ Password   Grade Ordinar

Ctrl reg
- Register0x 0
- Ctrl fun No Use
- Cond exe Show"***"
- Turn Color:

Confirm(Y) Cancel(N)

Function key attribute ✕

Position
- ☐ Locked
- Left: 201
- Top: 145

Property
- Wide: 112
- High: 81
- Backg
- Prosp

Basic
- ☐ Transpar   Language Fun Key
- ☐ Touch effec
- ☐ Visible Ctrl   Language FunKey
- ⦿ Basic functi
- ○ Senior func

Set format
- Borde luxury
- Font: 8X16
- Align Midd
- Eff.: Level1:Ger
- ☐ BMP: NULL
- ☐ Use BMP Size

Basic function
- Jump to 253#: Ethernet /CAN
- ☐ Login Logout
- ☐ Set/Ctrl Reg
- Chann conn Link 1
- Elem typ: 4x ?
- Register4x 0
- SetValueK: 0

Confirm(Y) Cancel(N)

Now network settings :

Application(A) Debug(L) Individuation

- Compile(C)   F5
- Download(D)   F6
- Set working PRMS(W)... F7
- Batch modify(P)... F8
- Set keyboard PRMS(F)
- Initial Acer(I)
- Clock Acer(O)
- Sub Acer(S)...
- Target file path(H)...
- Save and backup(B)...
- Gallery(L)
- Sound library(U)
- Product license(P)
- ICM(M)

I choose 192.168.0.144 for the Arduino (the slave)

Set OP PRM   ✕

| Com. set | Network set | Alarm/Other | Figure/Language | ◀ ▶ |

General
HMI PRM: MT6037H (320*240) ▾   HMI Match Select Table

Usb Disk Dat Permis.:   Super   ▾ ☐ Link2 Use

Link1 Set up
Port: Ethernet ▾   Device t Modbus Slave (TCP/IP)   ▾
                        Timeout: 200 ms   Equipment 1
Remote P 502   ⬍   Remote H 192.168.0   .144
Attempts 8   ⬍   Fast Read 4x 0   ⬍   Data leng 0   ⬍

Link2 Set up
Port: COM2   ▾   Device t Mitsubishi FX2N   ▾
Rate: 9600   ▾   Timeout: 200 ms   Equipment 0
CheckBit Even   ▾   Dat Bits 7 b ▾   Stop bit 1 b ▾
Attempts 8   ⬍   Fast Read D: 0   ⬍   Data leng 0   ⬍

Confirm(Y) plication Cancel(N)

Set the address where to download the skestch : 222.222.222.222

Set OP PRM   ✕

| Com. set | Network set | Alarm/Other | Figure/Language | ◀ ▶ |

RS485/CAN_Bus Multi com.
Cntrlr ID addr Standard ▾   Extded com. ID swi 35 ms ⬍ t
Ex.mode StartI 1   ⬍   Each ID addr. reg 100   ▾
MultiHMI Share OFF   ▾

Ethernet settings
Remote IP2: 222.222.222.222
Remote IP3: 222.222.222.222
Remote IP4: 222.222.222.222
Remote IP5: 222.222.222.222

System Time Syn.
☐ Auto sync function
Syn. interval (Hc 12   ⬍
FromRegister 4x 200   ⬍
*Take 6 consecutive reg HH:MM:SS YY

Interactive
☐ Auto transformation display s Link 1 ▾ Register4x 0   ⬍
☐ Report current pic. No. (OP- Link 1 ▾ Register4x 0   ⬍
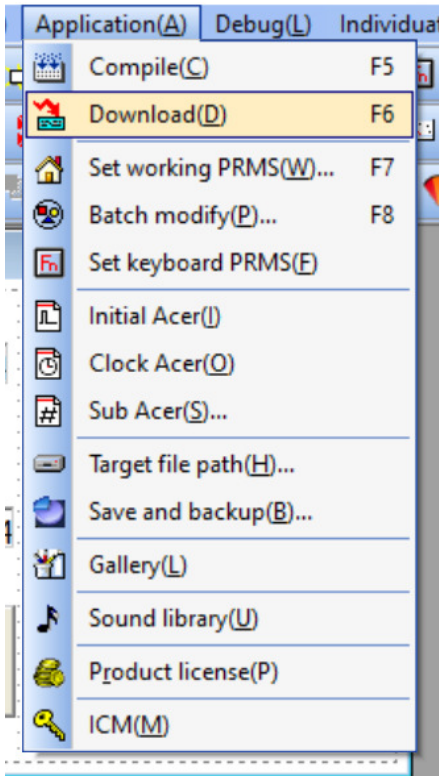
Confirm(Y) plication Cancel(N)
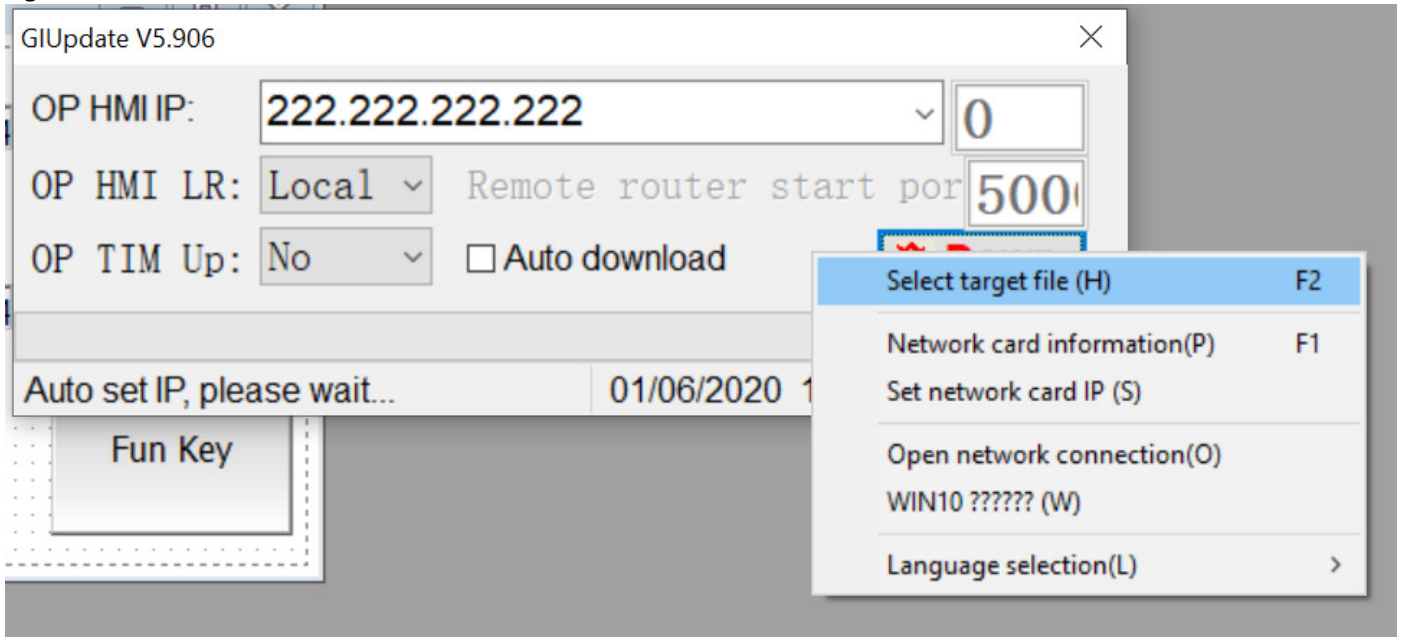
Confirm

Now, Compile :
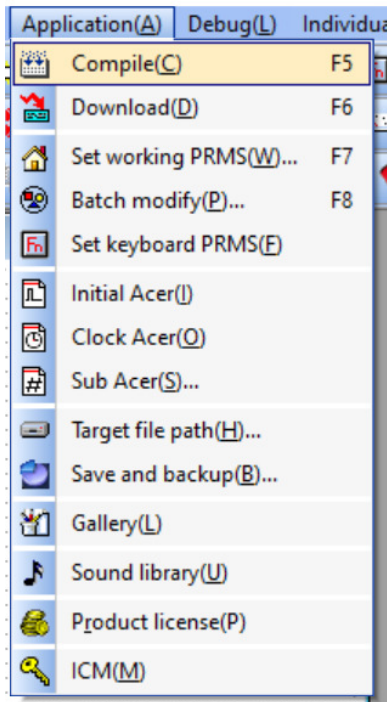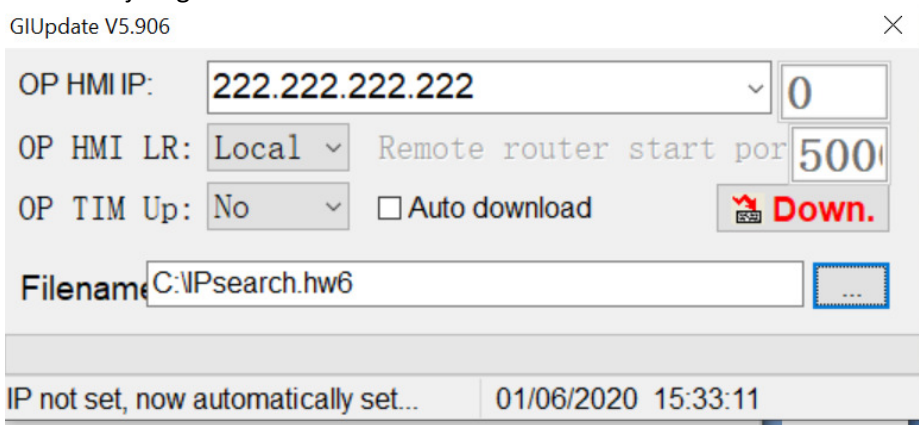

Done and generated in xxx.hw6 under c:/
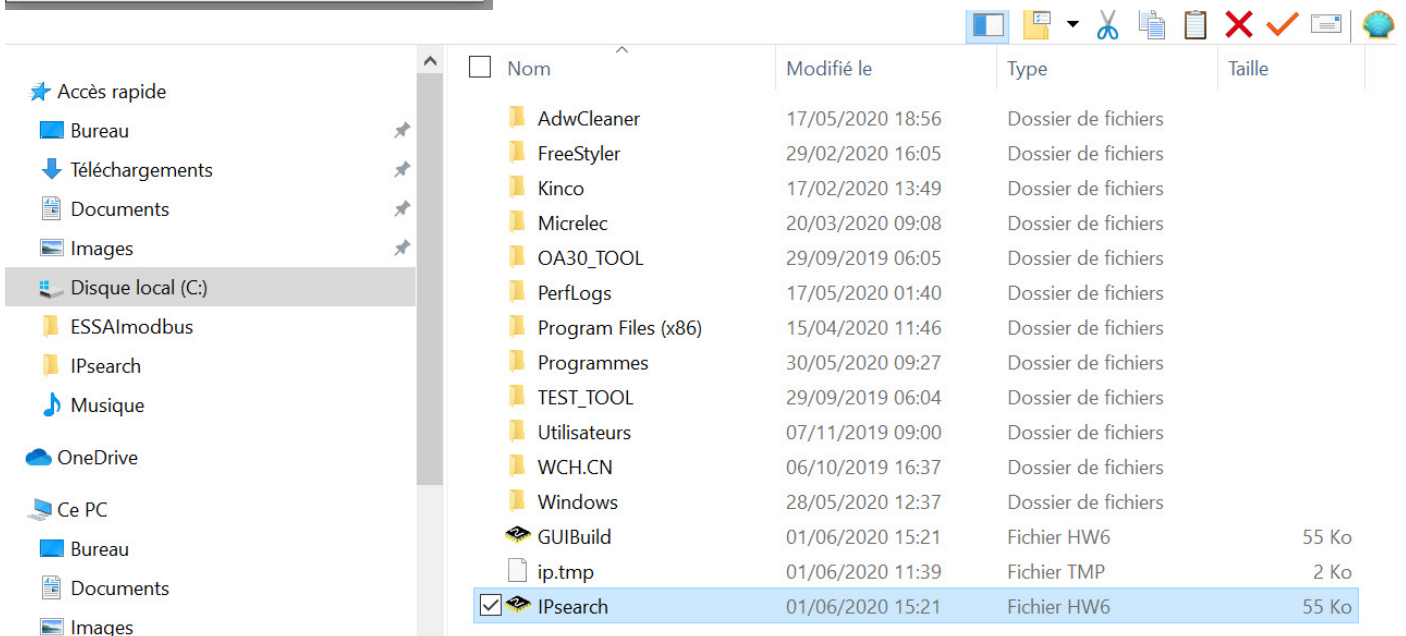
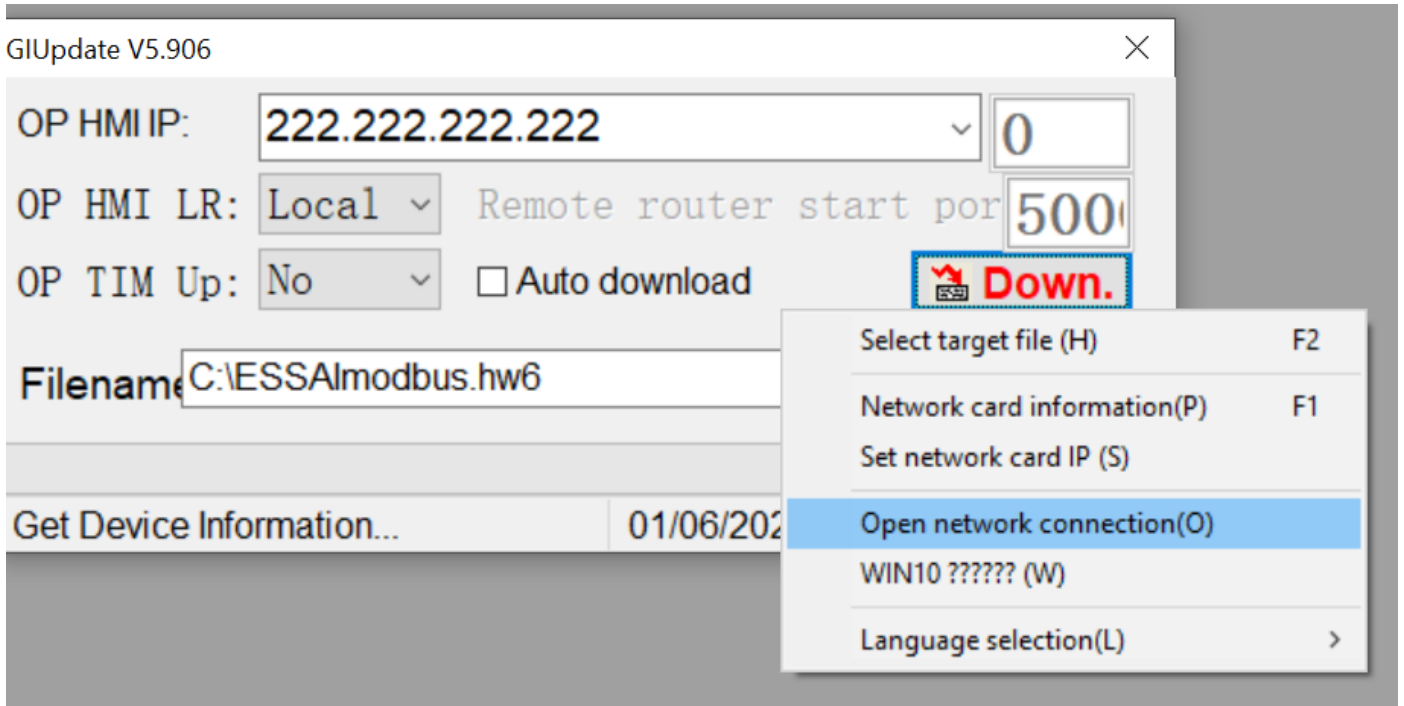Now you are able to download the sketch :
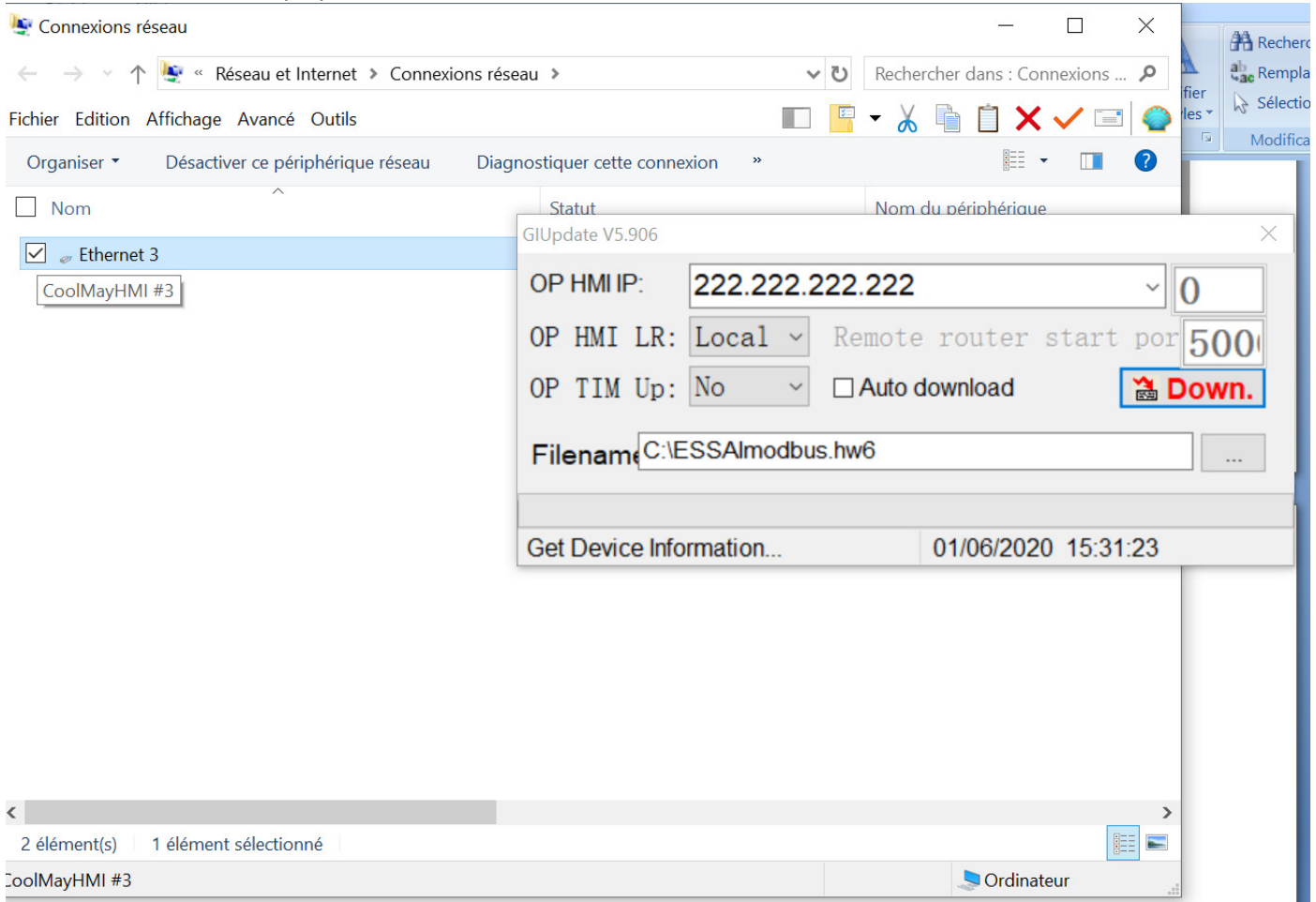
Right click :

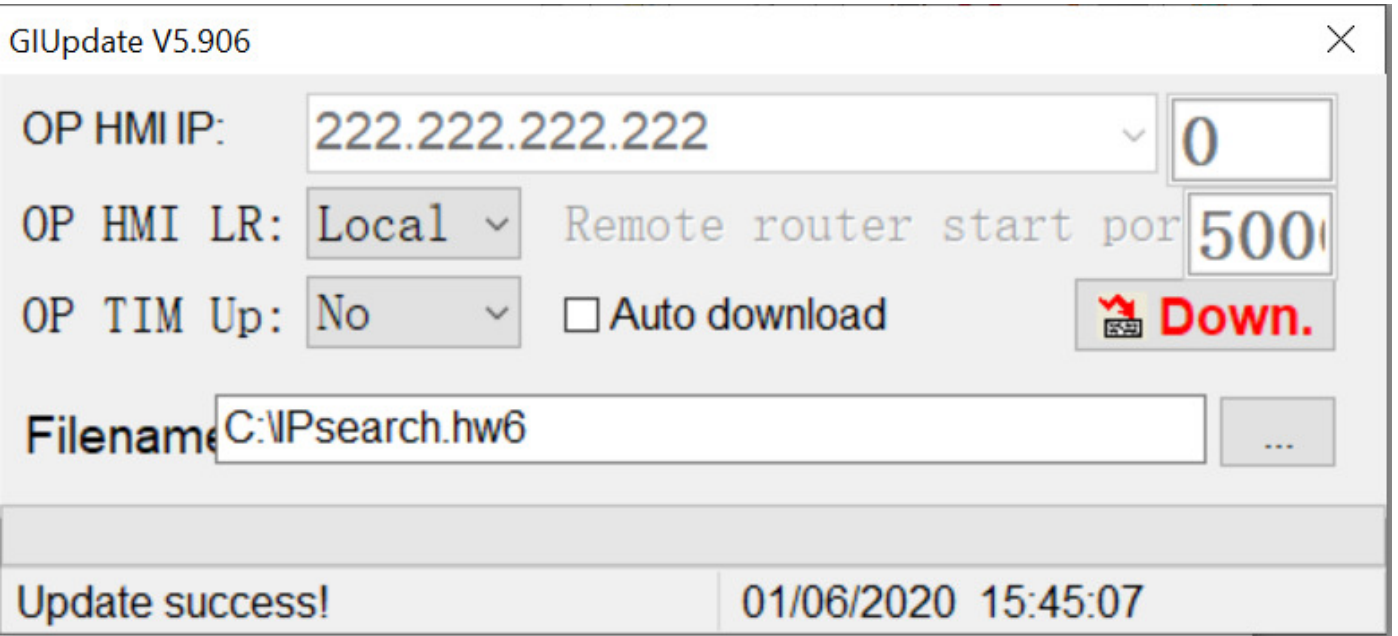Select the just generated file :

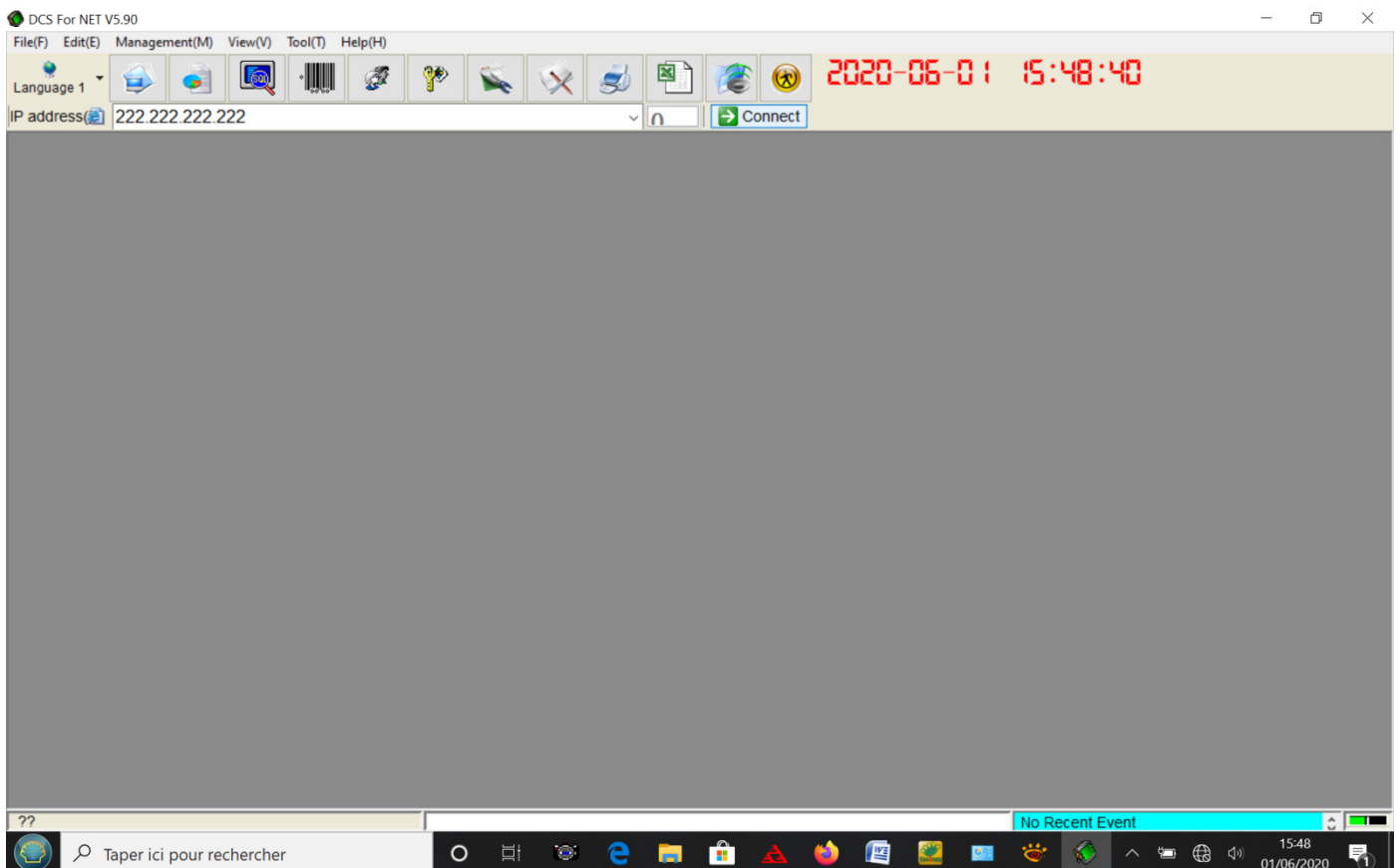Select the network where to download (created when driver update)
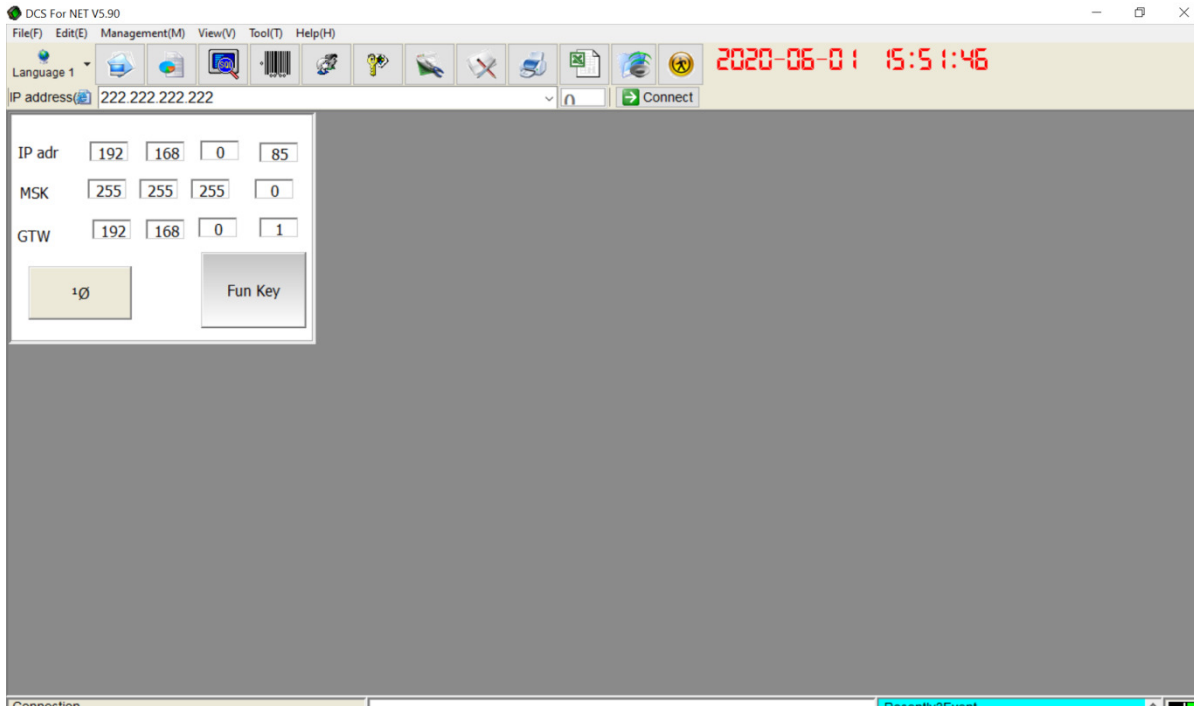
Select the wlan of the display :
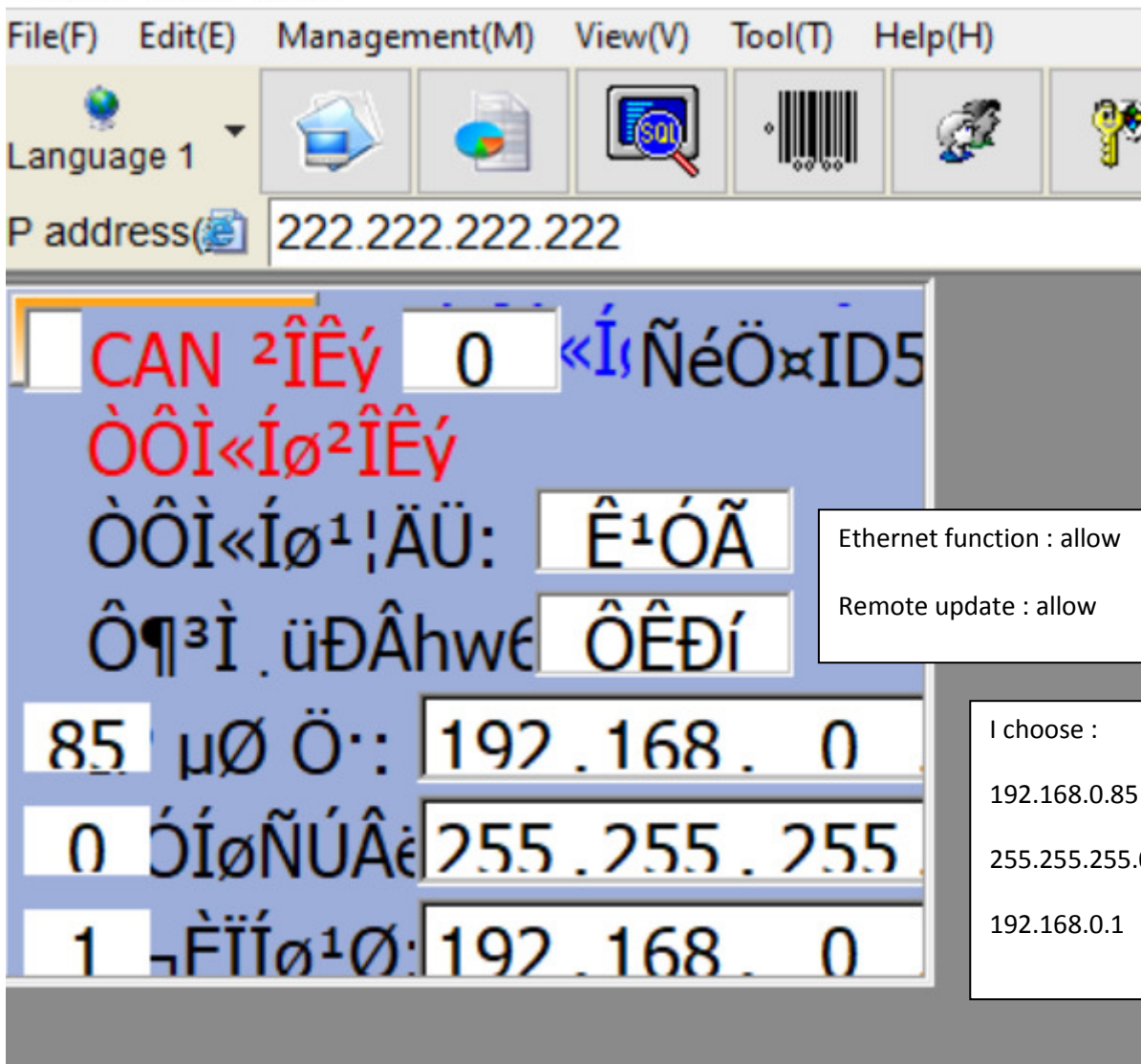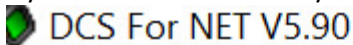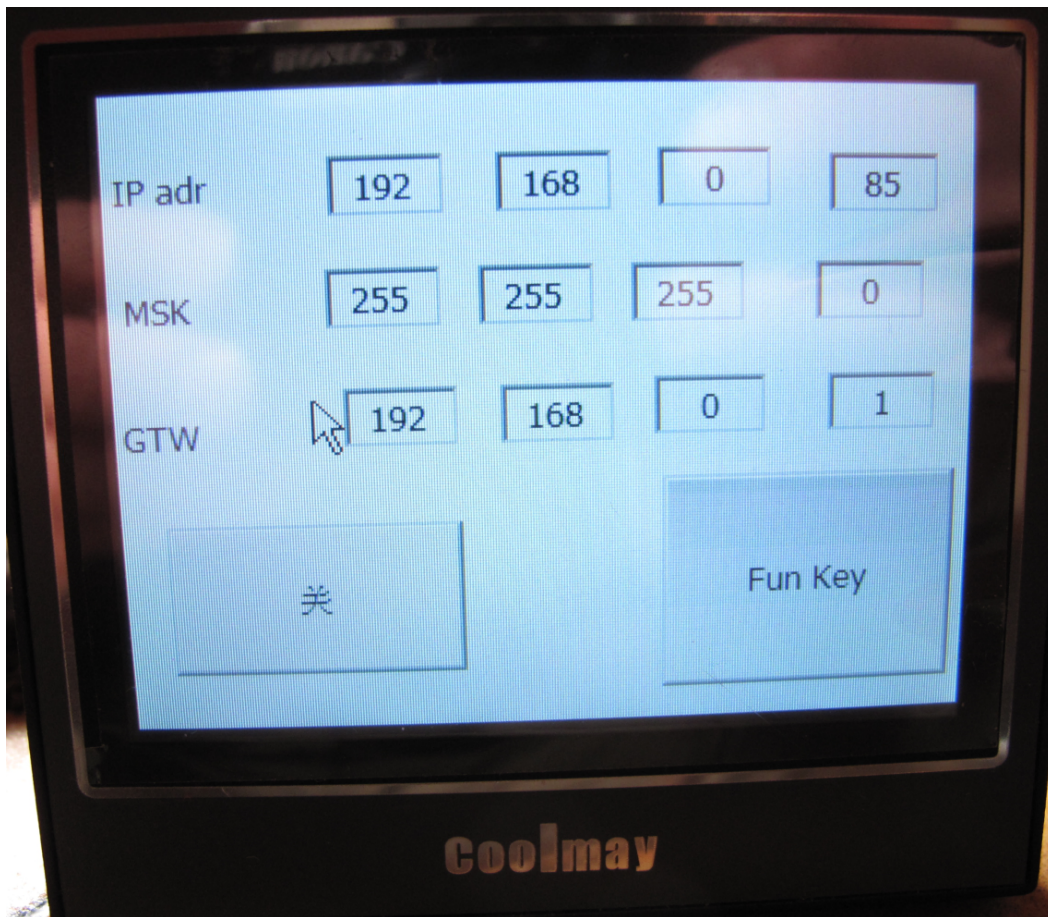

Down :

Success.

Ethernet monitor F11 :

Connect :

It displays what you seen on your display screen : more easy than on the real screen to change settings

If you click on Function Key :

Ethernet function : allow
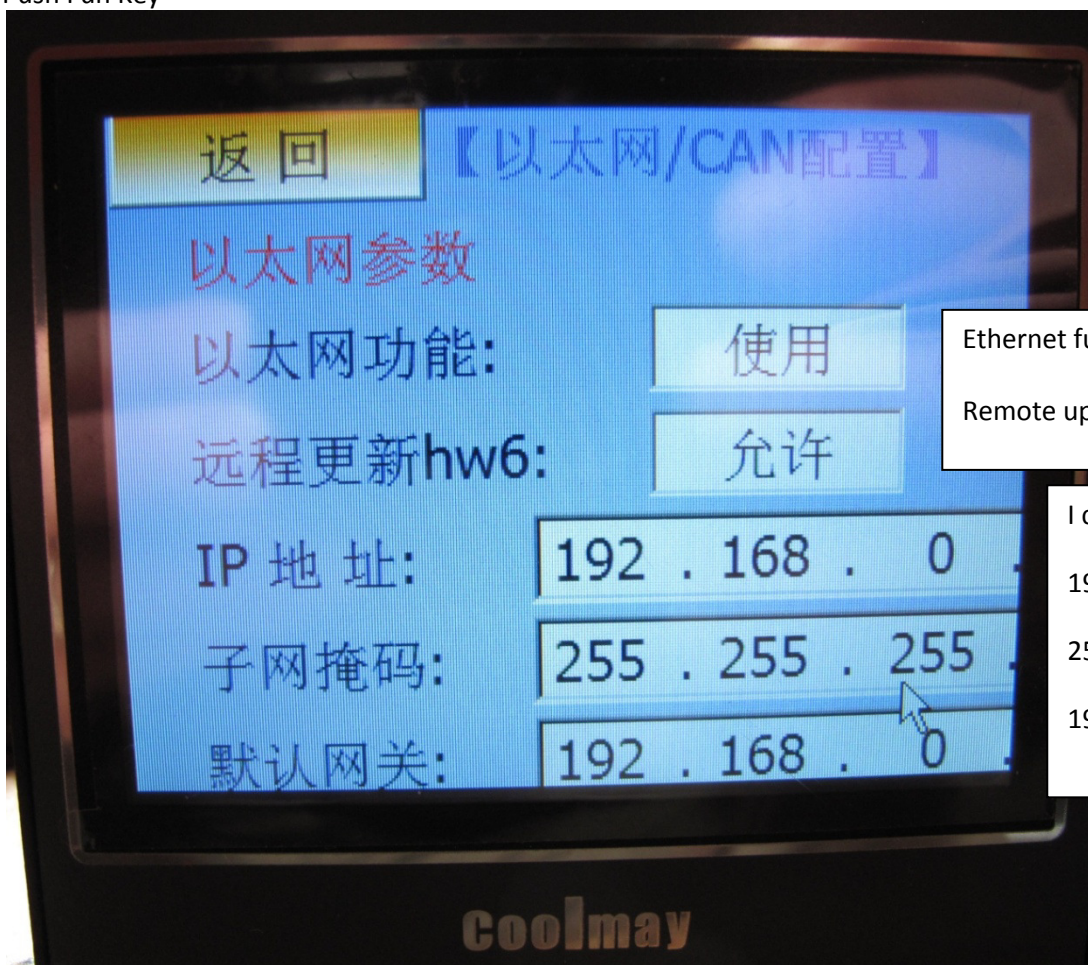
Remote update : allow

I choose :

192.168.0.85

255.255.255.0
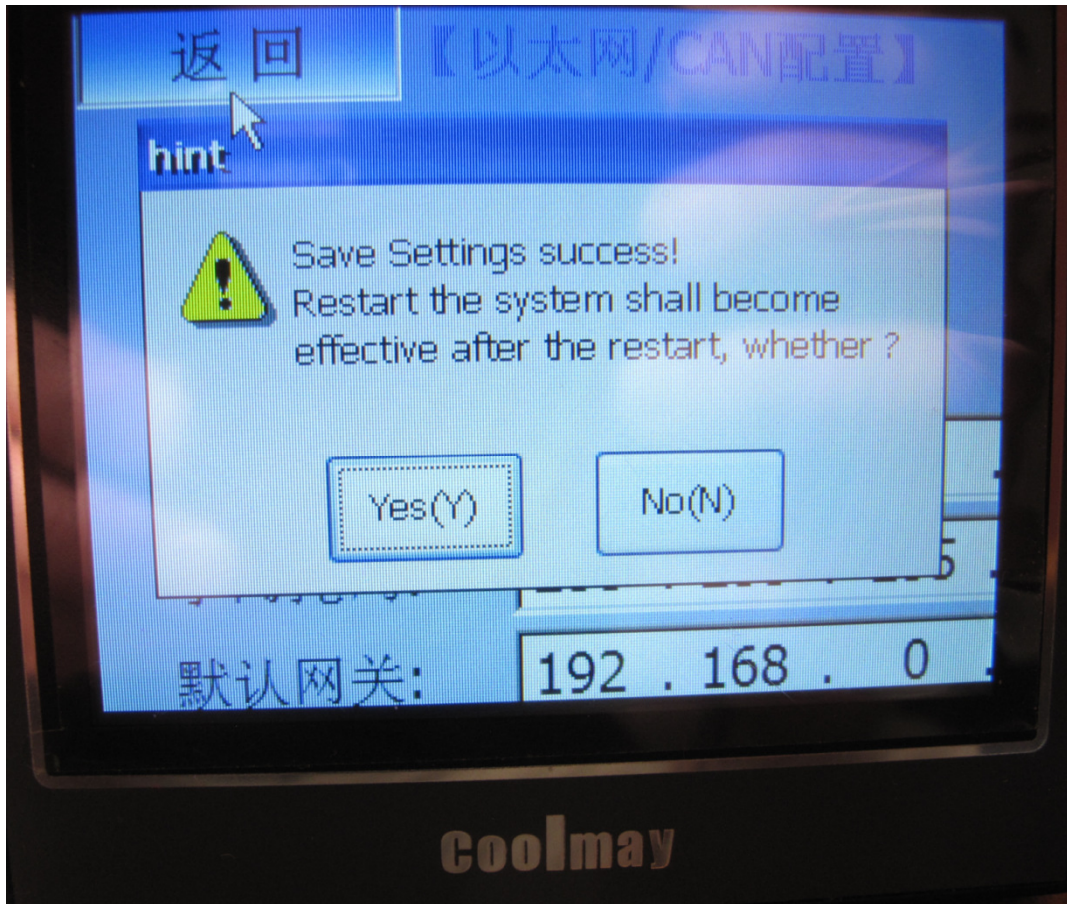
192.168.0.1

On the real screen :

Push Fun Key

Ethernet function : allow

Remote update : allow

I choose :

192.168.0.85

255.255.255.0

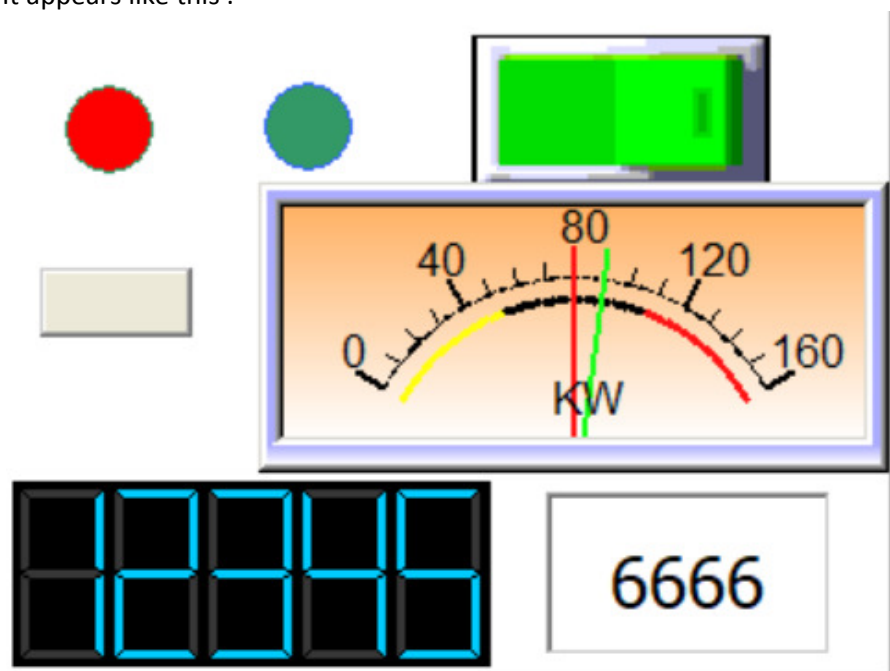192.168.0.1

Push YES twice and the lan address is memorized.

3-HMI example : modbus TCP between COOLMAY HMI and Arduino board :

3-1 The dashboard :

I created a simple dashboard with :
-lights
-switch
-pushbutton
-meter
-digital panel meter
It appears like this :

The settings of each items :

Bit operation button

Position
- ☐ Locked
- Left: 12
- Top: 92

Property
- Wide: 55
- High: 25
- Font: 8X16
- Align: Midd

Control | Outline | Text Set. | *

Register
- Chann conn: Link 1
- Elem typ: 4x ?
- Register4x 20 . 0

Ctrl register
- ☐ Visibil cont
- ☐ Write addr.and addr. differen
- WriteToRegister0x: 0

Function
- ○ SetON   ○ SetOFF
- ◉ Keep type   ○ Alternatin
- ☐ Min.Press 0. 0 Sec
- ☐ First Confirm

Protect
- ☐ Password
- Grade Ordinary

Confirm(Y) Cancel(N)

Instrument attribute

Position
- ☐ Locked
- Left: 91
- Top: 62

Property
- Wide: 228
- High: 105
- Outer
- Backg

Reg/scale
- Chann conn: Link 1
- Elem typ: 4x ?
- Register4x 42
- Main scale 5
- Full quota 160
- Zero quota 1
- Show unit KW
- The second 3 nt. :

Position data/Target/Scope
- ☑ Display coordir
- ☑ Display the targe
- ☑ Display range m
- Target a 50
- %are   or:
- Target p   : High ar   lor
- Tick mar   Low reg 33
- Dynamic   er: High re 33

Scale mark
- ☑ Display scale m
- Bit num: 3
- Decimals 0
- Maximum 160
- Minimum 0

Confirm(Y) Cancel(N)

Digital display attribute

Position
- ☐ Locked
- Left: 3
- Top: 168

Property
- Wide: 173
- High: 67
- Backg

Basic
- Show forma Register
- Chann conn Link 1
- Elem typ: 4x ?
- Register4x: 41
- Data type: 16 Bit
- Display digit 5
- Decimals: 0
- Figure bl 2
- Pen secti 5 h
- ☐ Signed number
- ☐ Backg Transpa
- Off:
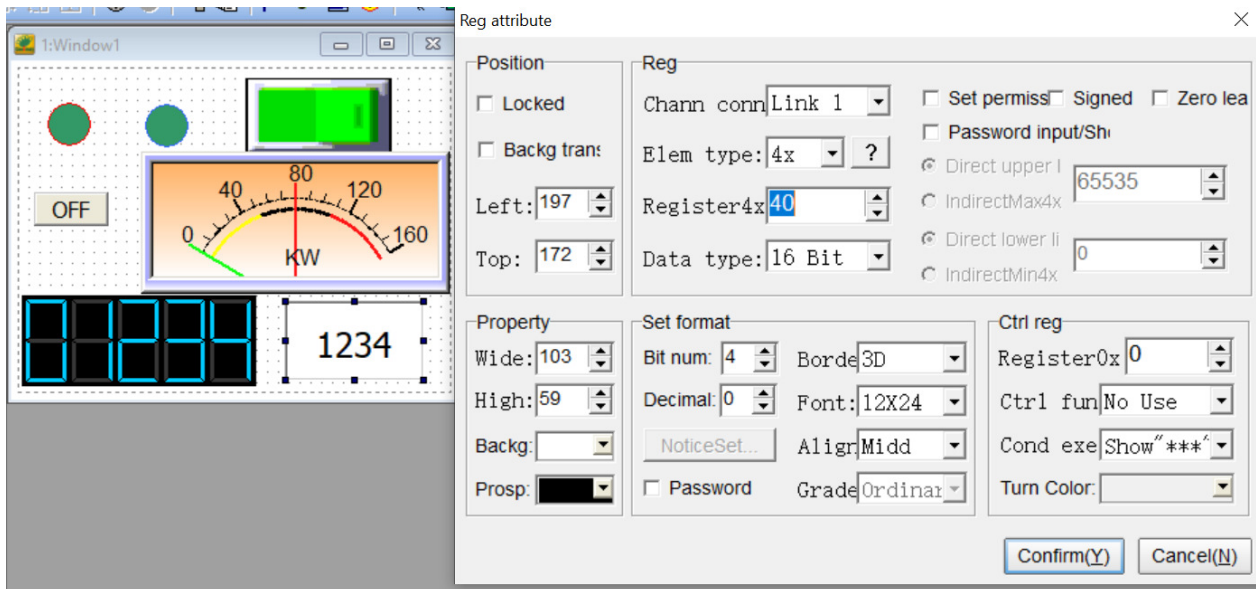- On:

Confirm(Y) Cancel(N)

3-2 The Arduino sketch :

```
Light §

#include <SPI.h>
#include <Ethernet.h>

#include "Mudbus.h"

Mudbus Mb;
//Function codes 1(read coils), 3(read registers), 5(write coil), 6(write register)
//signed int Mb.R[0 to 125] and bool Mb.C[0 to 128] MB_N_R MB_N_C
//Port 502 (defined in Mudbus.h) MB_PORT

void setup()
{
  uint8_t mac[]     = { 0x90, 0xA2, 0xDA, 0x00, 0x51, 0x06 };
  uint8_t ip[]      = { 192, 168, 0, 144 };
  uint8_t gateway[] = { 192, 168, 0, 1 };
  uint8_t subnet[]  = { 255, 255, 255, 0 };
  Ethernet.begin(mac, ip, gateway, subnet);
  //Avoid pins 4,10,11,12,13 when using ethernet shield
  delay(5000);   //Time to open the terminal
  pinMode(7, OUTPUT);
  pinMode(9, OUTPUT);
}

void loop()
{
  Mb.Run();
  //Analog inputs 0-1023
  //Mb.R[9] = 15;
  Mb.R[10] = 1;
  digitalWrite(7, Mb.R[20]);
  Mb.R[40] = 6666;
  Mb.R[41] = 12345;
  Mb.R[42] = 90;
}
```
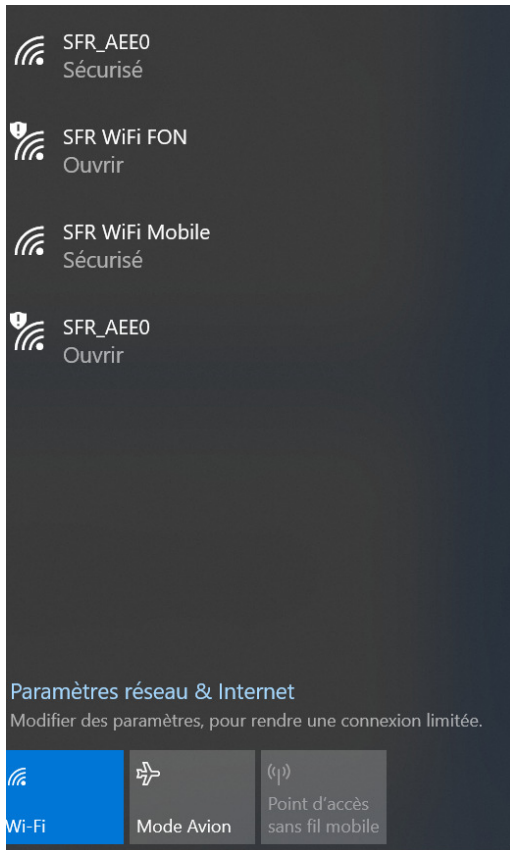
Be carefull : the modbus address under arduino ide is the same on the display : there is no usual offset.
Example : Mb.R[40] on Arduino is readable by 40040 on the screen.

3-3 Security on the network :

There is no settings on WPA,PSK key what ever.... on this screen. The only way to be safe, after yours downloads, is to disconnect the USB wire of the screen : then the wlan disapears of the list :

Your system still works.