IP Camera function

1. General

1) Firstly, user need to activate camera according to the manufacturer's hand book. And then, open onvif protocol; otherwise, it cannot be used in wecon HMI;

2) Set camera username and password, it is recommend that user sets same username and password for plenty of cameras;

3) It is essential to make sure camera and HMI are in same LAN;

4) Camera object can work individually without camera search module;

5) When HMI and camera are connected directly, please use static IP for both HMI and IP camera. For example HMI IP is 192.168.1.1, gateway is 192.168.1.1. Camera IP is 192.168.1.2, gateway is 192.168.1.1;

Table 1-1 IP settings

	HMI	Camera
Type	Static IP	Static IP
IP	192.168.1.1	192.168.1.2
Gateway	192.168.1.1	192.168.1.1

6) User name and password should be confirmed before use. Do not try with the incorrect user incorrect name and password to search or connect the camera. After more than a certain number of tries, the camera will be locked. During this period, the camera will reject any connection. Generally, it takes half an hour to unlock. User need to wait;

7) It is not suggested to connect the same camera with PI8000 and PI9000 series HMIs at the same time, otherwise IP camera will show blurred screen;

8) For PI8000 series HMI, only one camera object can be added in project, and PI9000 can support 4 cameras objects in one project;

9) When the camera is disconnected due to network reasons, it will try to reconnect every 20 seconds. (frequent retry action may be considered as virus behavior);

2. Instructions for camera settings

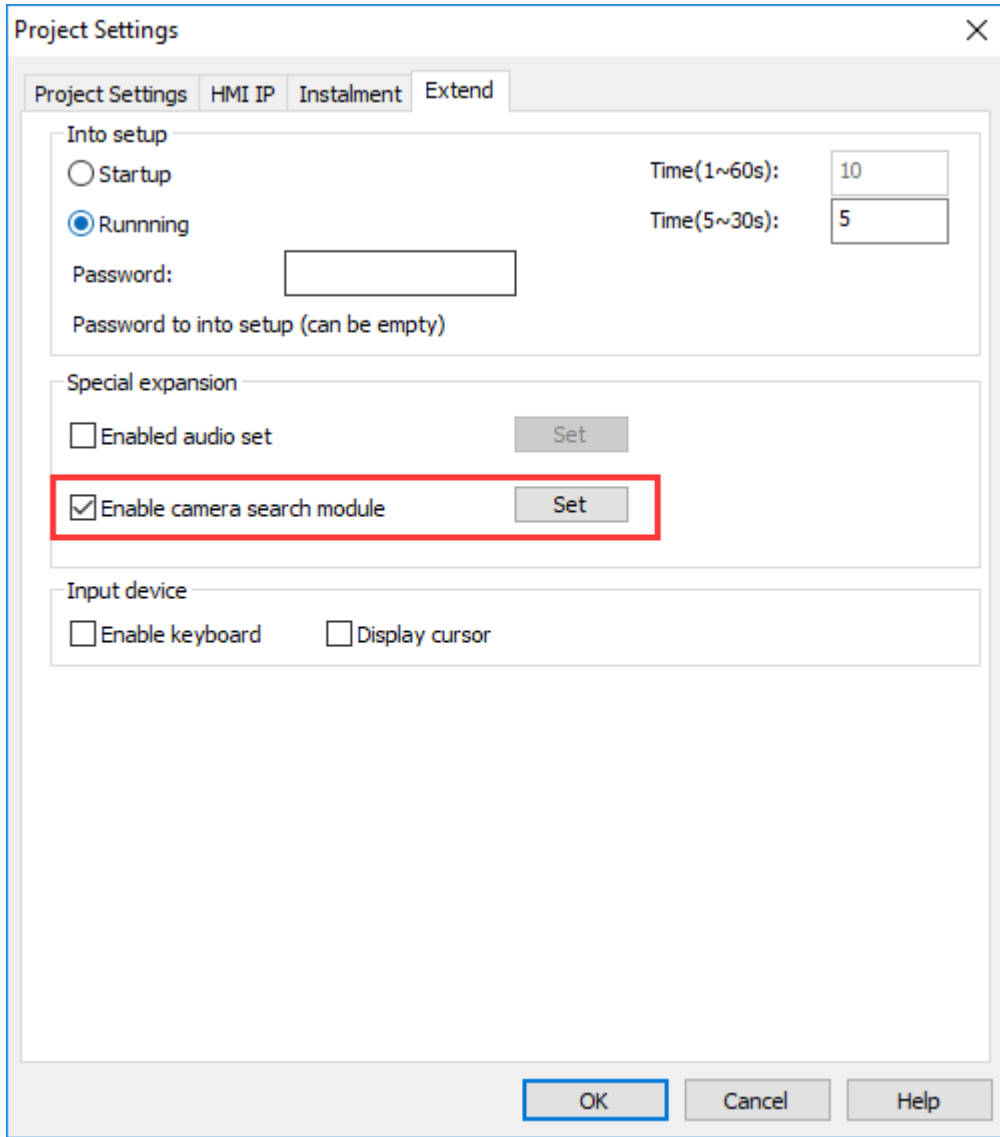1) Enable the camera function in Project settings as Figure 1 shows;
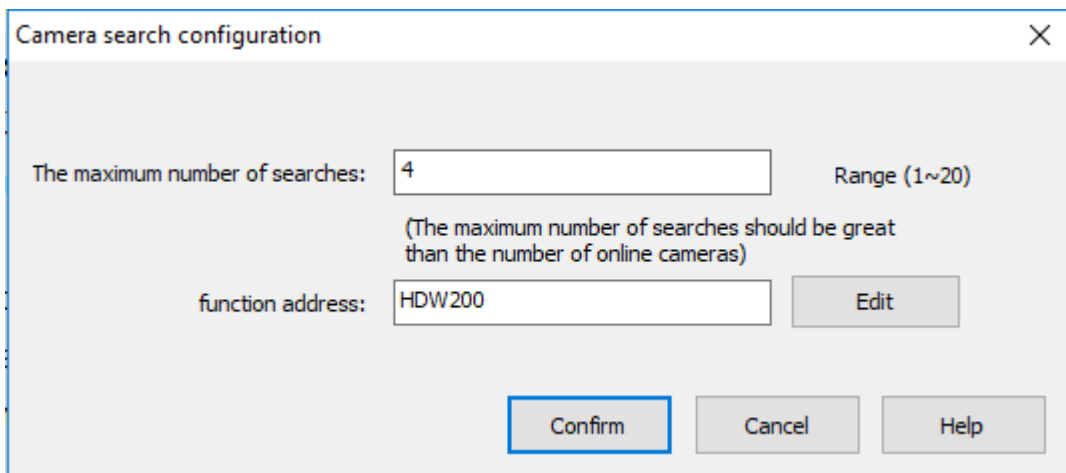
Figure 2-1

2) Function address

Figure 2-2

For example, if the function address is HDW200, the functional address is divided as shown in Table 2-1, and the search result address is shown in Table 2-2.

Table 2-1

Register	DescrIPtion	Length
HDW200	username	20 words
HDW220	password	20 words
HDX240.0	Falling edge trigger search	1 bit
HDX240.1	Search status 0 means the search is complete; 1 means searching;	1 bit
HDW241	First search result	80 words
HDW321	Second search result	80 words
…	…	…

Table 2-2

Register	DescrIPtion	Length
HDW241	IP address	16 words
HDW257	Password correct	1 word
HDW258	Device SN code	43 words
HDW301	IP camera alias	20 words

The username and password here need to be entered manually. When searching for the camera, it will try to use this username and password to log in every IP camera and store the result of login in. If the password is correct, the "password correct" address will be displayed as 1 and the device serial number will be displayed. If the "password correct" address is 0, the device serial number will not be displayed.

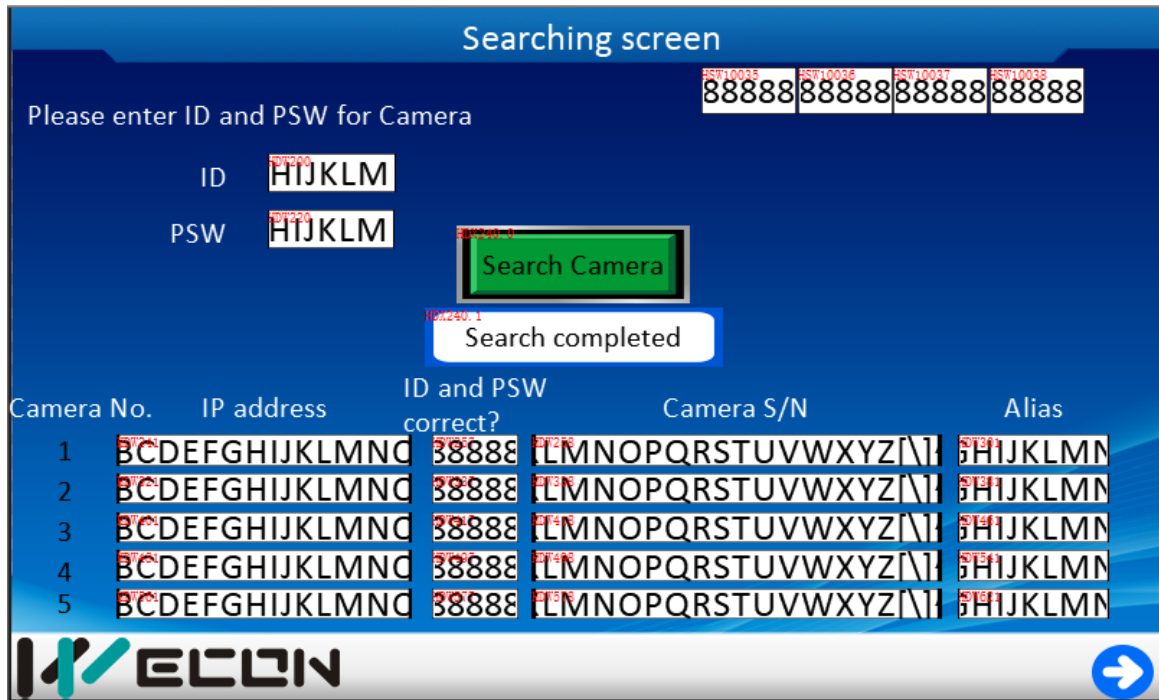3) Compile and download, trigger search to get camera information in LAN

Figure 2-3

3. Camera object settings

1) Select camera display object,as Figure 3-1 shows;

Figure 3-1 IP camera object in PIStudio

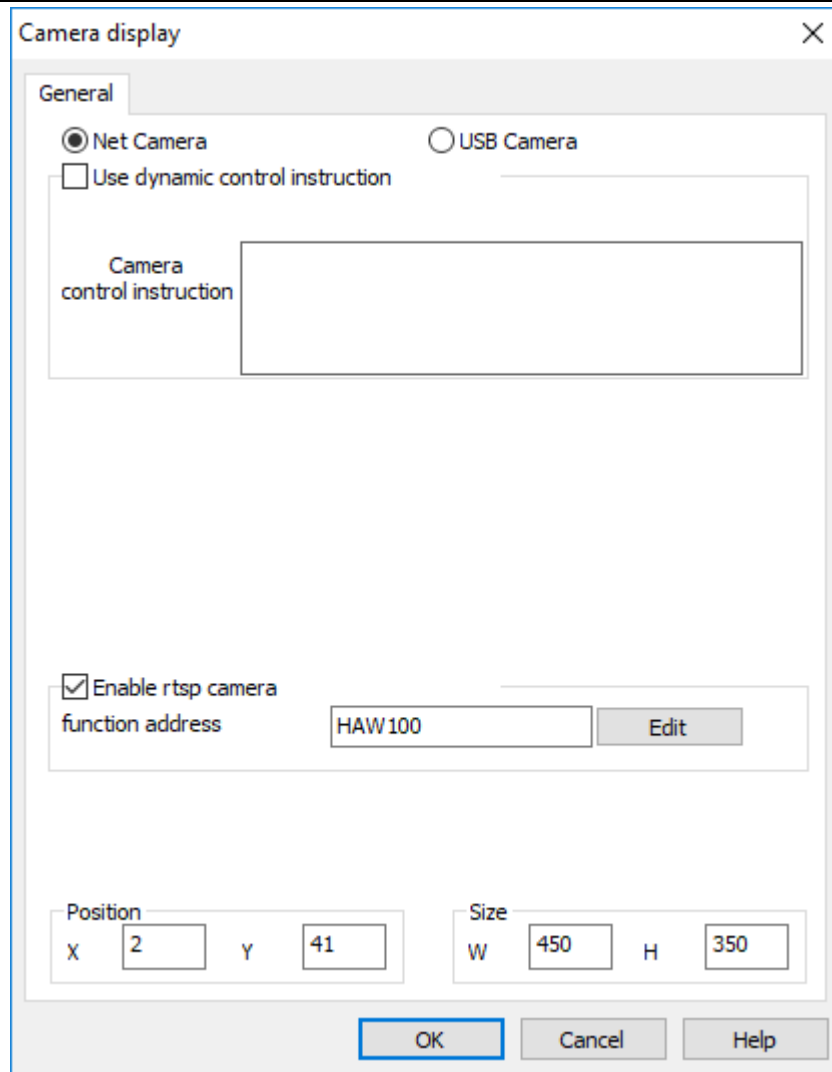2) Select the Net Camera and check the rtsp option as Figure 3-2 shows;

Figure 3-2

3) Function address

If the function address is set to HAW100, the function address is divided as shown in Table 3-1, and each bit of control address is assigned with a function, as shown in Table 3-2. Different values of camera status address indicate different meanings. As shown in Table 3-3, the screenshot address values means different save path (Table 3-4). For example, the value is 1 means save path is Flash/IPCameraScreenShot.

Table 3-1

Register	DescrIPtion	Length
HAW100	User name	20 words
HAW120	password	20 words
HAW140	Alias	20 words
HAW160	Device serial number	43 words
HAW203	Camera ID	1 word

HAW204	Camera Control	1 word
HAW205	Camera status	1 word
HAW206	Screenshot save location	1 word

Table 3-2

Register	DescrIPtion
HAX204.0	Open camera
HAX204.1	Close camera
HAX204.2	Camera up
HAX204.3	Camera down
HAX204.4	Camera left
HAX204.5	Camera right
HAX204.6	screenshot
HAX204.7	Binding camera
HAX204.8	Set Alias

Table 3-3

Register	DescrIPtion
0	Disconnected
1	connected
2	connecting

Table 3-4

Register	DescrIPtion
0	Screenshot is saved in flash
1	Screenshot is saved in U disk
2	Screenshot is saved in SD card

4. Operating procedures

1) Fill in the camera ID address with the camera serial number searched by the camera search module, and trigger the binding address to fill in user name and password.

2) If user does not enable the camera search module, then they need to manually enter the information of this camera, including user name, password, device serial number. Device serial number can be

obtained by viewing the camera label.

Figure 4-1

Figure 4-2 Serial code

3) After triggering the IP camera successfully, we could see the monitor screen and we could also set a alias for the camera or control the movement of the camera(up, down, left and right, some IP camera can not support the movement) or the screenshot. These operations cannot be performed with the camera off.

Figure 4-3 Monitor interface

5. Supported model

In theory, all cameras that support ONVIF protocol and H.264 encoding can be used. The following models are tested camera models.

1) Hikvision
   - DS-2CD1321D-I
   - DS-2CD3T20FD-I3W
   - DS-2CD1221D-I3
   - DS-2CV3Q21FD-IW
2) Dahua
   - DH-IPC-HFW1025D
   - DH-IPC-HFW1235M-I1

6. Note

1) The alias of the camera exists in the user database. This database is retained when the user database is selected when downloading the project, otherwise the database will be deleted;
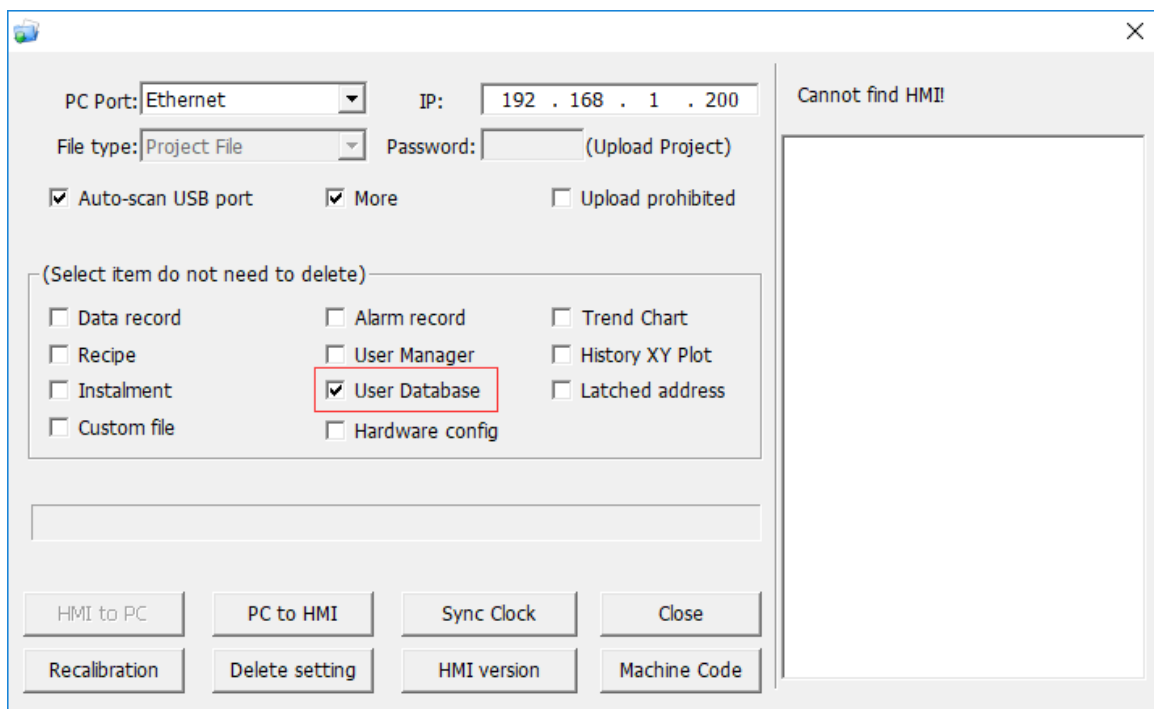

Figure 6-1

2) So far, remote access HMI screen can't view IP camera screen;

3) PI8000 series HMI only support one IP camera, PI9000 series HMI can support four IP cameras at the same time;

4) This function requirs special HMI model, please consult the salesman before purchasing.

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