

Topic: How to connect DOP-300 to DIACloud via wired Ethernet and Wi-Fi Dongle

Applicable model	DOP-300S
Keyword	DX-MWB-01N Wi-Fi dongle

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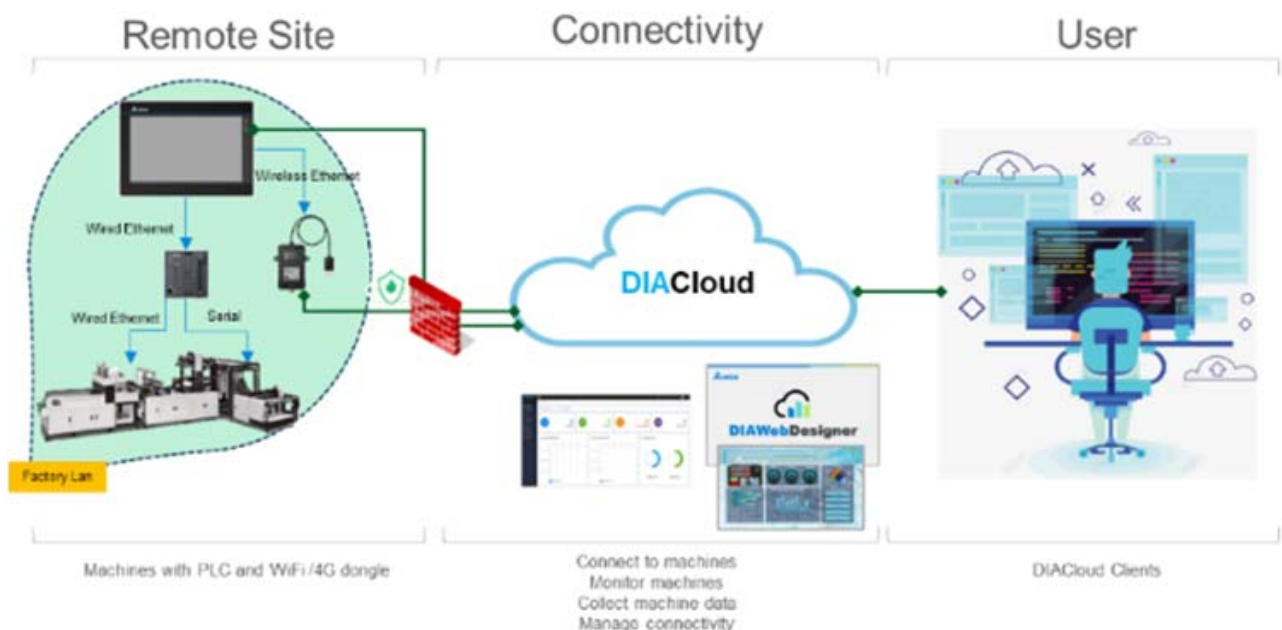
1. Introduction

DIACloud is an IoT cloud platform specially designed for machine manufacturers and end customers. DIACloud allows you to easily create customized dashboards and use them to collect, analyse and utilize data to improve efficiency, help administrators obtain machine status, and monitor device status from anywhere in the world through a web browser on a PC. The HMI has a variety of communication protocols, integrates the lower PLC information and uploads the data to DIACloud for situation room analysis.

2. Scenario

Wi-Fi Dongle and DOP-300S products support remote connection to machines or devices. With these products, machine manufacturers and users can troubleshoot machines, correct PLC errors and operate HMI remotely without traveling.

These products establish secure VLN (Virtual Local Network) connections between users and machines anytime, anywhere. The connection is established through DIACloud, a highly secure industrial cloud platform. The dongle allows connection via 4G or Wi-Fi for easy remote operation in any situation.



3. Hardware/Software Configuration

Software version: DIAScreen1.4.3.45

Firmware version: Ver-1.0132.6.1

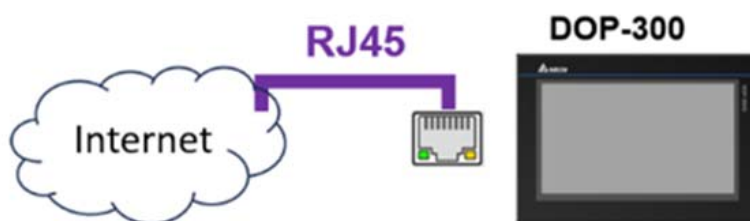
Omron editing software: Sysmac Studio Ver 1.4.0.0.64008

Network Configurator: Version 3.69a

● **Plan 1: DOP-300 + Ethernet**

No.	Device	Type	Quantity
1	HMI	DOP-3S07S3E2	1
2	Cable	RJ45	1

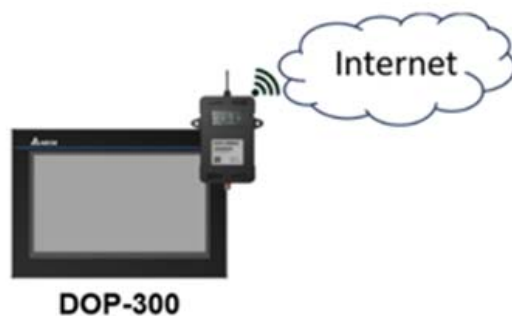
Architecture:



● **Plan 2: DOP-300 + Wi-Fi Dongle**

No.	Device	Type	Quantity
1	HMI	DOP-3S07S3E2	1
2	Dongle	DX-MWB-01N	1

Architecture:



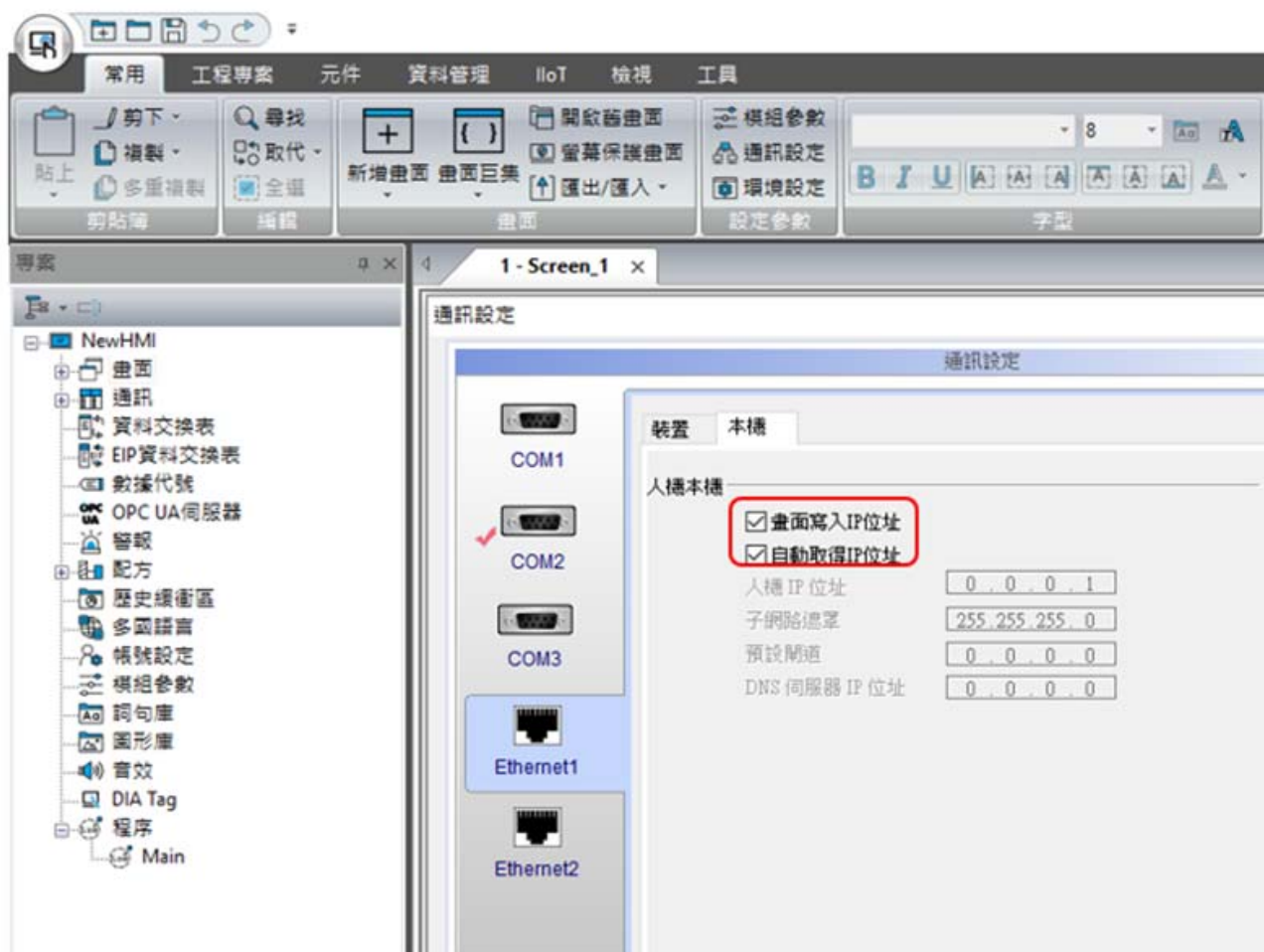
4. Operational Steps

This chapter demonstrates how the HMI connects to DIACloud through wired Ethernet and wireless Ethernet Wi-Fi Dongle respectively:

● Plan 1: DOP-300 with wired Ethernet



1. Set up DOP-3S07S3E: Click **DIAScreen** > Common > Communication Settings > Ethernet 1 > Local > Enter the IP address on the screen and obtain the IP address automatically.



2. Check **Enable cloud template**: Click **DIAScreen** > **IIoT** > **DIACloud** > **Cloud Template**.



The screenshot shows the '雲端模板' (Cloud Template) configuration window. It features a checkbox for '啟用雲端模板' (Enable Cloud Template) which is currently unchecked. To the right, there is a '尚未登入' (Not logged in) status and a '登入' (Login) button. The window is divided into two main sections: '上傳模板' (Upload Template) on the left and '模板資訊' (Template Information) on the right. The '上傳模板' section includes a '模板:' dropdown menu, a '新建模板' (New Template) button, and a '傳輸開始' (Start Transfer) button. The '模板資訊' section displays '模板名稱:' (Template Name) and '機型: DOP-3S07S3E2' (Model: DOP-3S07S3E2), with an '編輯模板' (Edit Template) button below. At the bottom, there are two informational notes in Chinese and two buttons: '確定' (OK) and '取消' (Cancel).

*[當啟用此功能時，人機時間機制會以雲端為主]
*[因此將無法透過其他方式更改時間，如萬年曆、NTP、系統目錄或巨集等功能]

Create a new template > Enter relevant information > Click **OK**.



The screenshot shows the '雲端模板資訊' (Cloud Template Information) window. It contains four input fields: '模板名稱:' (Template Name) with the value 'Test HMI', '機型:' (Model) with the value 'DOP-3S07S3E2', '客戶名稱:' (Customer Name) with the value 'HMI', and '備註:' (Remarks) with the value '0430'. The '備註' field is a text area with a blue border. At the bottom, there are two buttons: '確定' (OK) and '取消' (Cancel).

- Click **Start Transfer** to upload the project and tags to the cloud.



- Enter your account and password and click **Login** > The template is uploaded successfully.

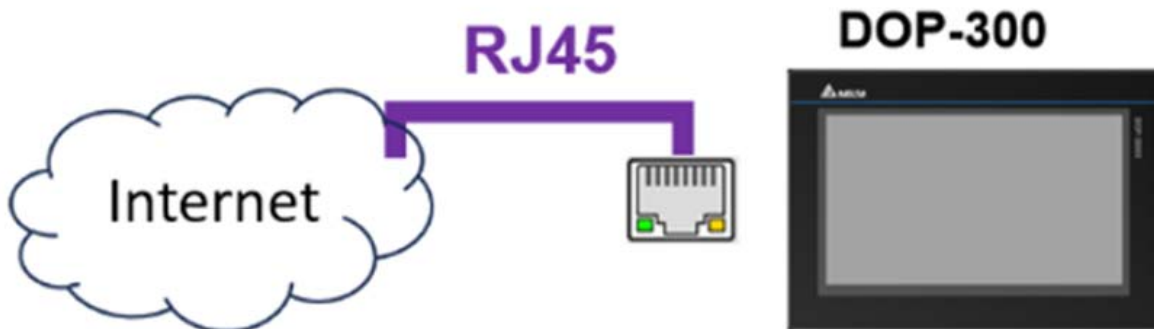


Note: Please go to <https://hms.diacloudsolutions.com/> to register.

- Click **Project** > Download All > Download the project to HMI.



6. After completing the above steps, please connect the HMI and the network through the RJ45 network cable



7. Next, please use barcode or Bluetooth to bind the HMI to DIACloud.

■ Bind HMI to DIACloud through barcode

- a. Press and hold a blank area on the HMI screen for three seconds, and the system directory will appear.



- b. System menu > Click **System Settings** > Click **DIACloud** > Select **Bind HMI page** > Select **Bind HMI to DIACloud**.



c. Install eDIACloud App on iPhone/ Android phone.



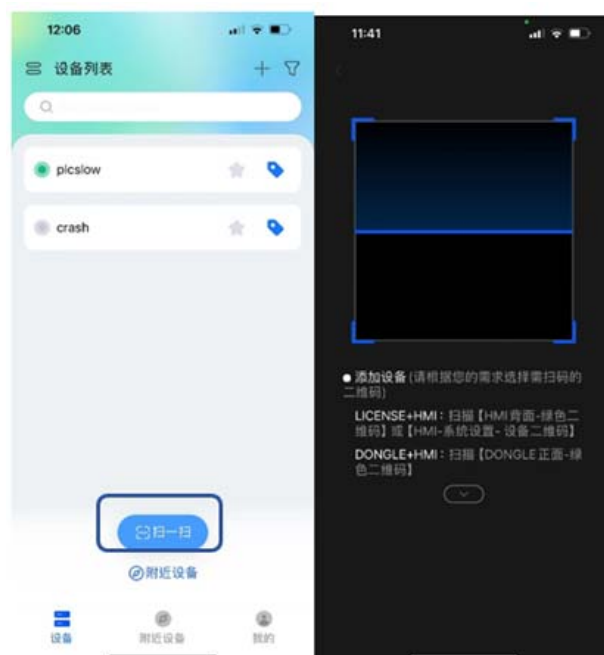
IOS Download link: <https://testflight.apple.com/join/2pkeme9g>

d. Open eDIACloud and log in.

If you have not registered an account yet, please click **Register Now** to register.



e. Click + > Scan > Scan the QRCode on the HMI.



f. Enter the following relevant information and click **OK**.



The image shows a mobile application interface for registering a device. At the top, the status bar shows the time 11:53 and signal strength. Below the status bar is a back arrow. The main form contains several input fields:

- 设备名称* (Device Name): 请输入 >
- 设备SN (Device SN): 请输入 >
- 设备型号 (Device Model): 请输入 >
- 设备分组* (Device Group): 请选择 >
- 关联模板 (Associated Template): 请选择 >
- 设备地址 (Device Address): 请输入 >
- 备注 (Remarks): 0 / 100, 请输入

At the bottom of the form are two buttons: 取消 (Cancel) and 确定 (OK).

■ Bind HMI to DIACloud via Bluetooth



a. Open eDIACloud and log in

If you have not registered an account yet, please click **Register Now** to register.



The screenshot shows the login page for the HMI Cloud Platform. At the top, it says "你好, 欢迎使用HMI云平台" (Hello, welcome to use HMI Cloud Platform). Below this are input fields for "账号" (Account) and "密码" (Password). There is a "记住密码" (Remember password) checkbox and a "忘记密码" (Forgot password) link. A large blue "登录" (Login) button is in the center. Below the login button, it says "没有账号? 立即注册" (No account? Register now), with "立即注册" (Register now) highlighted by a blue box. At the bottom, there is a checkbox for "我已阅读并同意《服务协议》和《隐私政策》" (I have read and agree to the Service Agreement and Privacy Policy).



IOS Download link: <https://testflight.apple.com/join/2pkeme9g>

- b. Click **Nearby** to search for nearby Bluetooth devices, and the scanning results will be displayed on the interface.



- c. Click the device and enter the HMI PIN code.

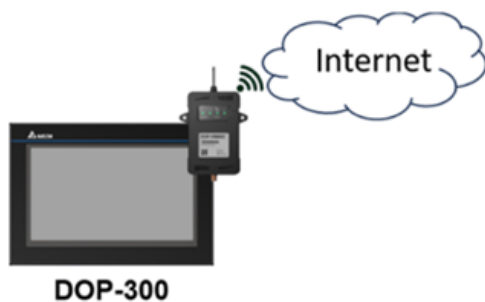


- d. Click **Yes** to bind HMI to DIACloud.



So far, all settings have been completed.

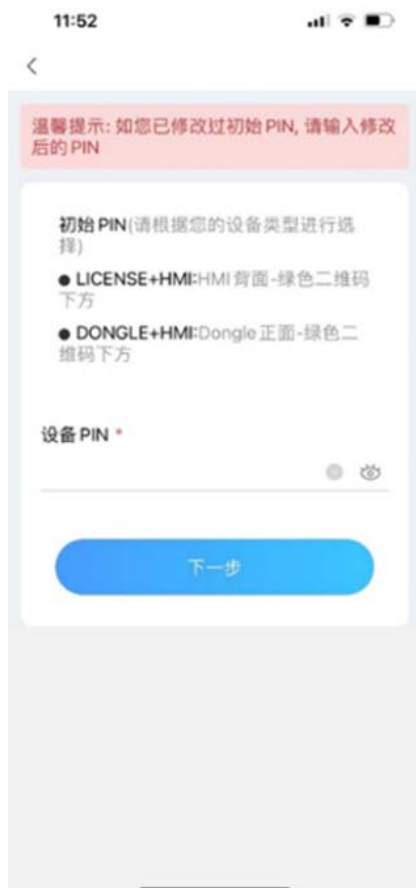
● **Plan 2: DOP-300 with wireless Ethernet (Wi-Fi Dongle)**



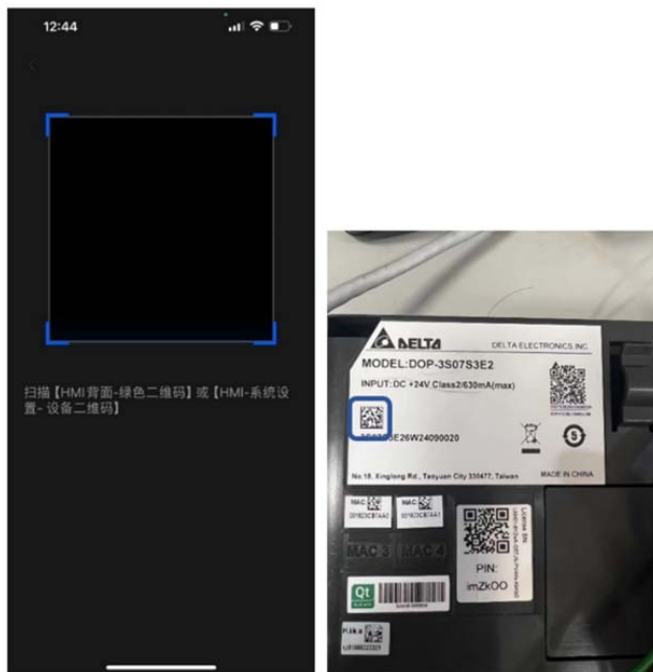
1. Insert DX-MWB-01N into the DOP-300S.
2. Open the eDIACloud App to scan the QRCode on the Wi-Fi Dongle



3. After scanning, the following screen will appear. Please enter the PIN code (please refer to the blue box in the picture above) and click **Next**.



4. Follow the instructions to scan the HMI serial number.



5. After filling in the information, click **OK**. Completing this step means that the HMI binding process has been completed.



6. Download the HMI project: DIAScreen > IIoT page > Cloud template > Check **Enable cloud template**.



雲端模板

☒ 啟用雲端模板

尚未登入

登入

上載模板

模板:

新建模板

傳輸開始

模板資訊

模板名稱:

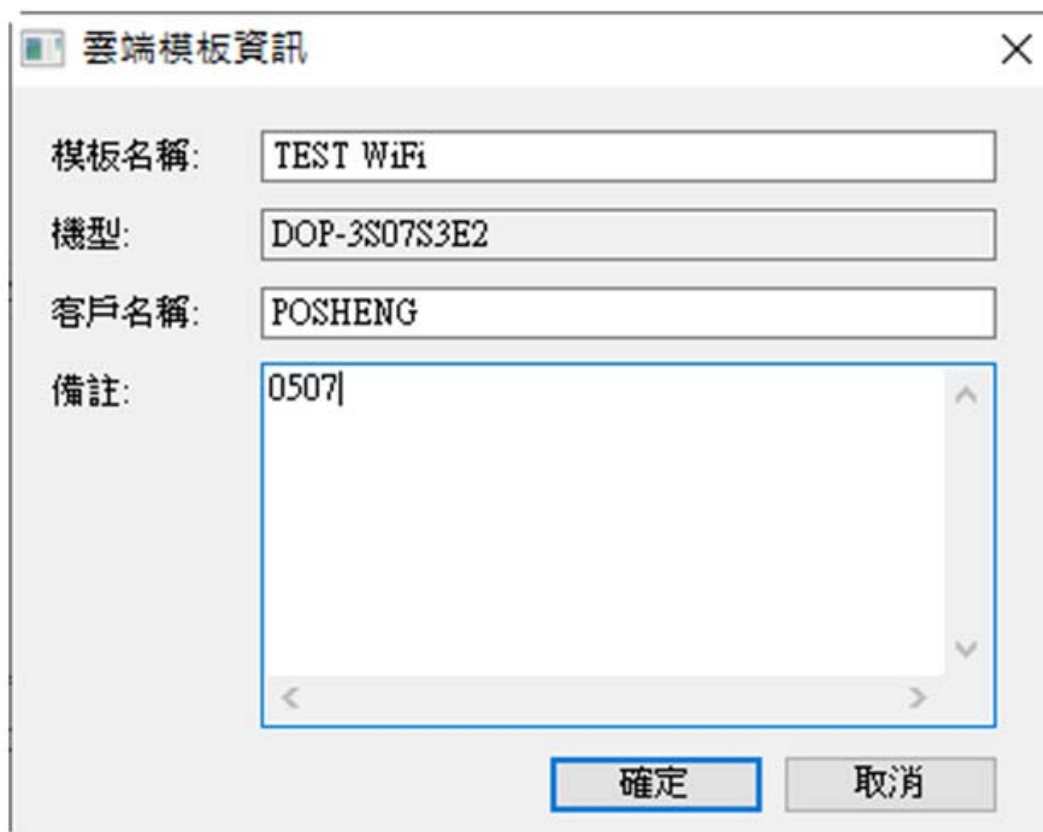
機型: DOP-3S07S3E2

編輯模板

*[當啟用此功能時，人機時間機制會以雲端為主]
*[因此將無法透過其他方式更改時間，如萬年曆、NTP、系統目錄或巨集等功能]

確定 取消

7. Click **New Template** and fill in the relevant information and click **OK**.



雲端模板資訊

模板名稱:

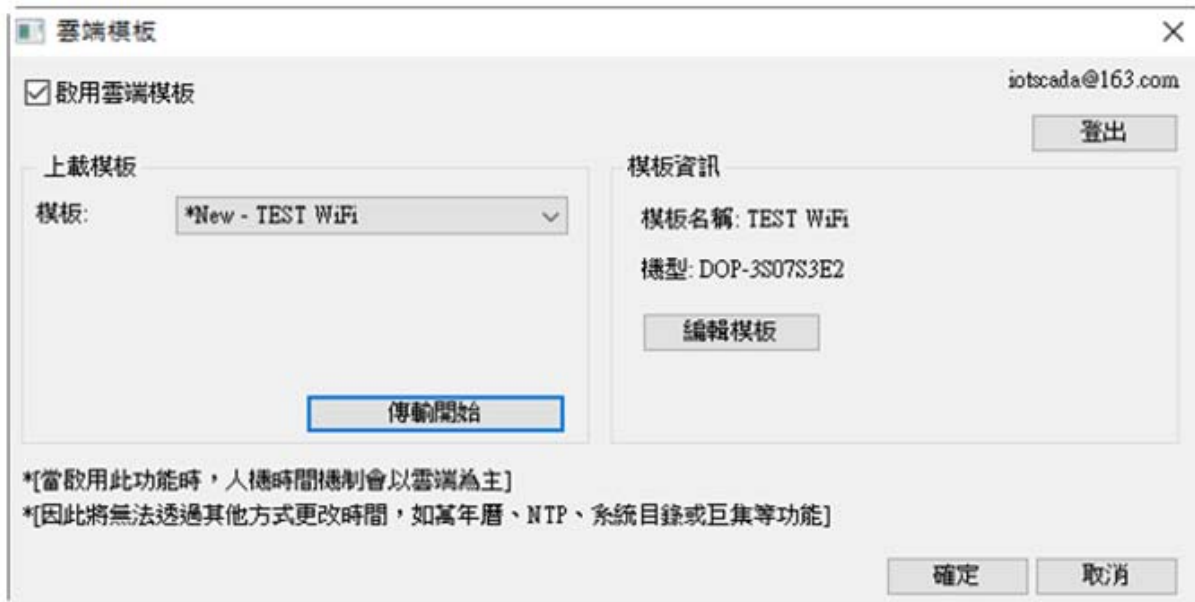
機型:

客戶名稱:

備註:

確定 取消

8. Click **Start Transfer** to upload the project and label settings to the cloud.




9. Enter your account number and password and click **Log In**.



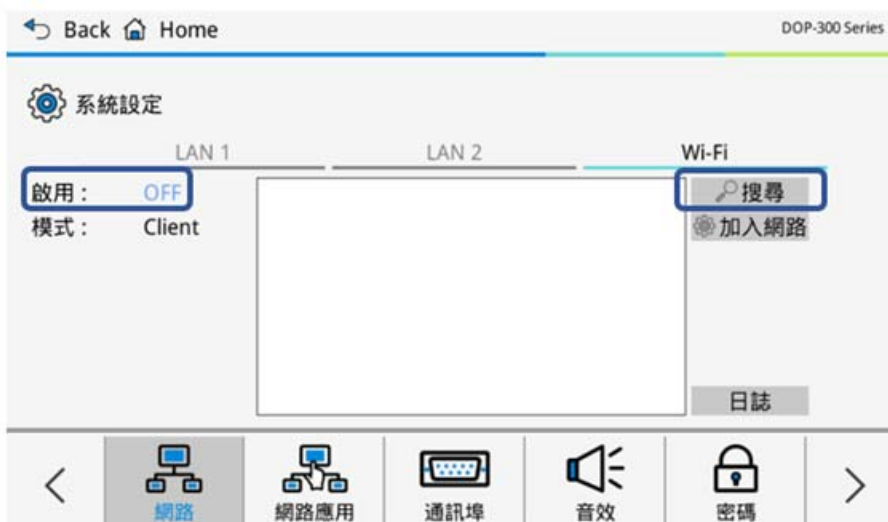
10. Click **Project** > click **Download All to HMI**.



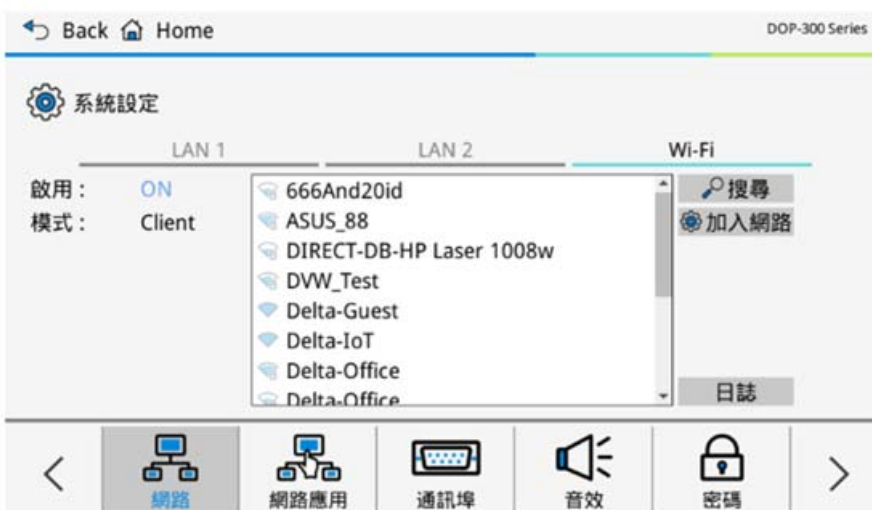
11. Press and hold on a blank area of the HMI screen for three seconds. The system toolbar on the left will appear and click .



12. Click **System Settings** > Network > Wi-Fi > Click the enabled default value from OFF to ON > Click **Search**.



13. After searching, select the network name that can be connected and enter the account number and password to connect.



網路

名稱：Delta-Office

安全性：WPA-EAP

帳號：

密碼： 

☐ 自動連線

連線

取消

After clicking on the network name, you can view the network name related content and connection status.

Back Home

DOP-300 Series

系統設定

LAN 1

LAN 2

Wi-Fi

啟用：ON

模式：Client

Delta-Office

搜尋

狀態	COMPLETED
網路名稱	Delta-Office
MAC	ac:4a:56:ab:2f:85
訊號強度	-54
頻率	2412
安全性	WPA2/IEEE 802.1X/EAP
自動連線	OFF
IP 位址	10.137.99.147
Gateway	10.137.111.254
遮罩	255.255.240.0

網路

5. Function Testing

After completing the steps above, you can see the device status through the following three paths.

- From the website

1. Log in to <https://hms.diacloudsolutions.com/>

登录HMI云平台

账号

iotscada@163.com

密码 ☐ 记住密码

.....

☒ 我已阅读并同意《服务协议》和《隐私政策》


登录

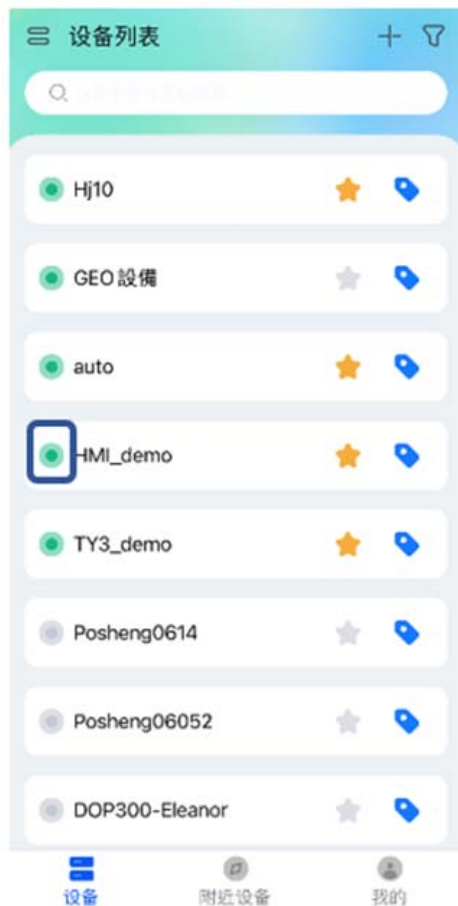
立即注册 忘记密码

2. Click **Device Management** > Device List to check the device connection status.

设备名称	HMI网关状态	HMI与云端同步	关联模板	设备分组	Tunnel状态	操作
H610	在线	待同步	klm_template	台湾测试	离线	 
GEO设备	在线	待同步	GEO_10	默认分组	离线	 
auto	在线	待同步	autotest1047	默认分组	离线	 
HMI_demo	在线	已同步	HMI_demo	默认分组	离线	 
TV3_demo	在线	已同步	TV3_Demotemp	默认分组	离线	 


● From the mobile phone

1. Click  icon to log in and click device.



Note: Green light means successful connection, gray light means offline.

● From the system

1. Press and hold on the blank area of the HMI screen for three seconds. The toolbar on the left will appear. Please click .
2. Click **System Settings** > click **DIACloud** > click **Device Information** > click **Device Status**.



Status:

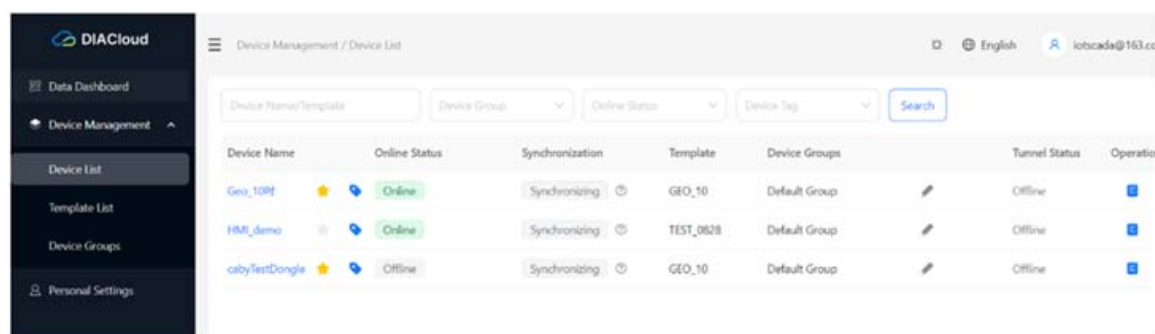
	Name	Description
1	Account unbound	The HMI has not yet bound an account, but can access the external network.
2	Offline	The HMI has not yet bound an account and cannot access the external network.
3	Online	The HMI has been bound to an account and can access the external network.

6. Function Description

When DOP-300 is successfully connected to DIACloud, it can perform VNC and Dashboard Screen functions on the HMI.

VNC: Remotely monitor HMI screen (Note: The HMI VNC Server needs to be enabled).

Dashboard Screen: Use DIAWebDesigner to create a customized situation room panel.



7. Conclusion

This chapter demonstrates how the HMI connects to DIACloud via wired Ethernet and wireless Ethernet (Wi-Fi Dongle).