

# Quick Installation Guide

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- ☑ DAG1000-4O
- ☑ DAG1000-8O
- ☑ DAG2000-16O
- ☑ DAG1000-4S4O
- ☑ DAG2000-8S8O

## THANKS FOR CHOOSING DINSTAR'S VOIP GATEWAY!

Please read this guide carefully before installing the gateway. If you need any technical support, please contact us.

Tel: +86 755 61919966

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Web: [www.dinstar.com](http://www.dinstar.com)

## 1 Models and Ports

| Port Type<br>Model | WAN | LAN | FXS | FXO |
|--------------------|-----|-----|-----|-----|
| DAG1000-4O         | 1   | 2   | /   | 4   |
| DAG1000-8O         | 1   | 2   | /   | 8   |
| DAG2000-16O        | 0   | 3   | /   | 16  |
| DAG1000-4S4O       | 1   | 2   | 4   | 4   |
| DAG2000-8S8O       | 0   | 3   | 8   | 8   |

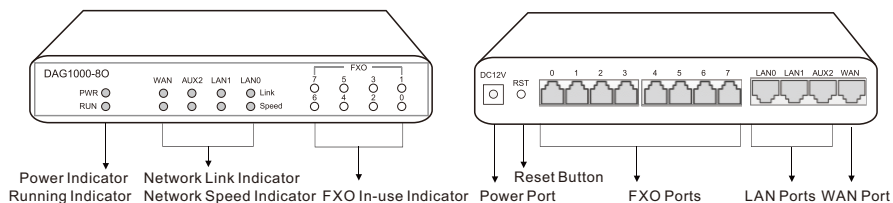
- Please confirm your product model before installation and follow the installation guideline for the model.

## 2 Description of Indicators

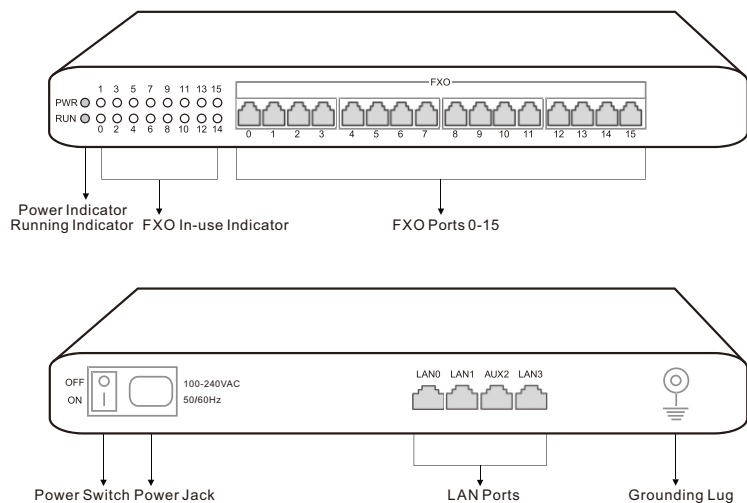
| Indicator | Definition                 | Status         | Description                                                                       |
|-----------|----------------------------|----------------|-----------------------------------------------------------------------------------|
| PWR       | Power Indicator            | On             | The gateway is powered on                                                         |
|           |                            | Off            | The gateway is powered off or there is no power supply                            |
| RUN       | Running Indicator          | Slow Flashing  | The gateway is running properly                                                   |
|           |                            | Fast Flashing  | If there is a SIP account registered successfully, the indicator is fast flashing |
|           |                            | Off            | The gateway is running improperly                                                 |
| FXS       | Telephone In-use Indicator | On             | FXS port is currently occupied by a call                                          |
|           |                            | Off            | FXS port is idle or faulty                                                        |
| FXO       | FXO In-use Indicator       | On             | FXO port is currently occupied                                                    |
|           |                            | Off            | FXO port is idle or faulty                                                        |
| WAN/LAN   | Network Link Indicator     | Green Flashing | The gateway is properly connected to network                                      |
|           |                            | Off            | The gateway is not connected to network or network connection is improper way     |
|           | Network Speed Indicator    | On             | Work at 100Mbps                                                                   |
|           |                            | Off            | Work at 10Mbps                                                                    |

### 3 Indicators and Ports

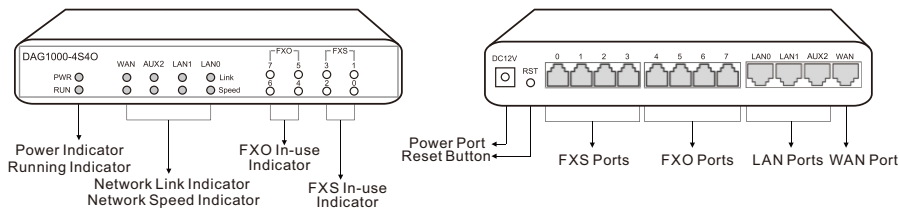
#### ► DAG1000-4O/DAG1000-8O



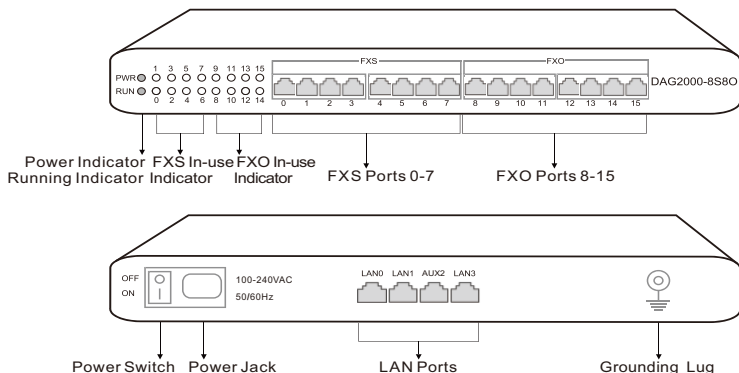
#### ► DAG2000-16O



#### ► DAG1000-4S4O



## ► DAG2000-8S8O



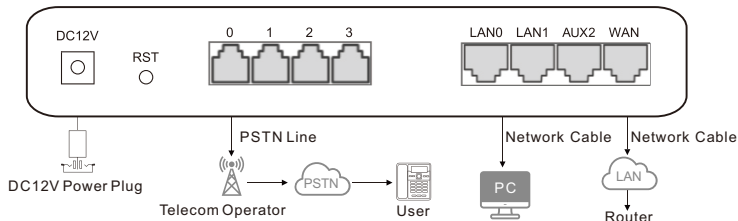
## 4 Installation Attentions

- ◆ **Anti-jamming:** to reduce the interference with telephone calls, it's highly recommended that telephone lines connected to the gateway should be placed away from power cables.
- ◆ **Power supply:** DAG1000-4O, DAG1000-8O and DAG1000-4S4O are equipped with 12VDC power adapter, while DAG2000-16O and DAG2000-8S8O accepts AC input voltage of 100-240V. Please ensure safe and stable power supply.
- ◆ **Network bandwidth:** please ensure there is enough network bandwidth so as to guarantee stabilized running of the gateway.
- ◆ **Temperature and humidity:** to avoid any accident that might cause malfunction, it's advised to install the gateway in an equipment room where temperature and humidity are appropriate.
- ◆ **Ventilation:** to avoid overheating, please do not pile up the gateway with other devices and make sure the gateway has good ventilation around.
- ◆ **Mechanical load:** please make sure the gateway is placed steadily to avoid damage. It's highly advised to horizontally place the gateway on a flat surface or a cabinet.

## 5 Installation Instructions

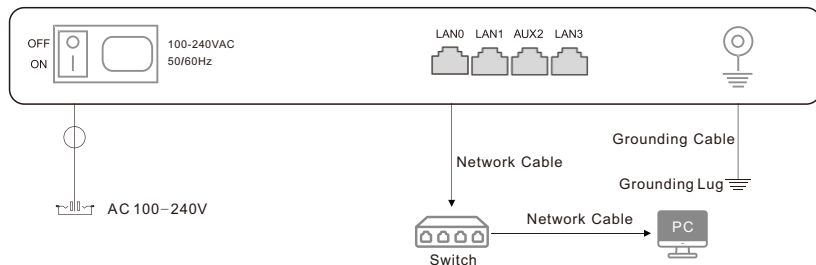
### ► Connection Diagram for DAG1000-4O/DAG1000-8O

- Connect gateway with network, and connect gateway with power input.
- Connect FXO port with PSTN line.

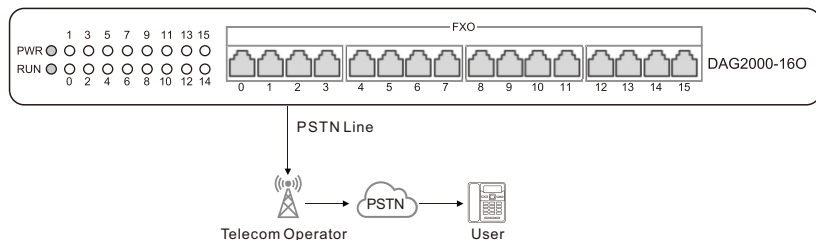


## ► Connection Diagram for DAG2000-16O

- Connect gateway with network, and connect gateway with power input.

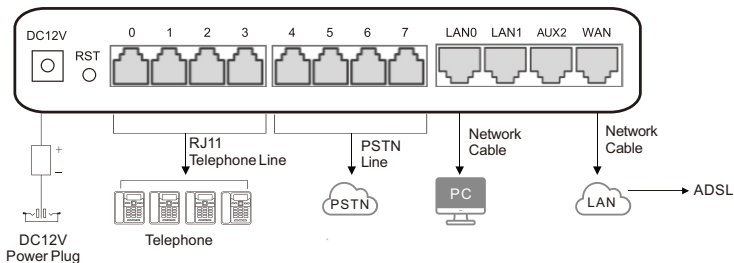


- Connect FXO port with PSTN line.



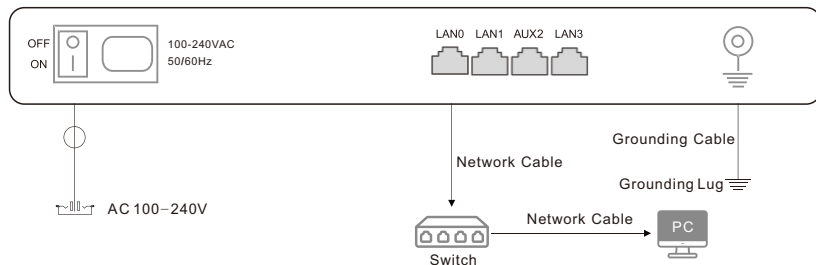
## ► Connection Diagram for DAG1000-4S4O

- Connect gateway with network, and connect gateway with power input.
- Connect FXS port with Telephone line, and connect FXO port with PSTN line.

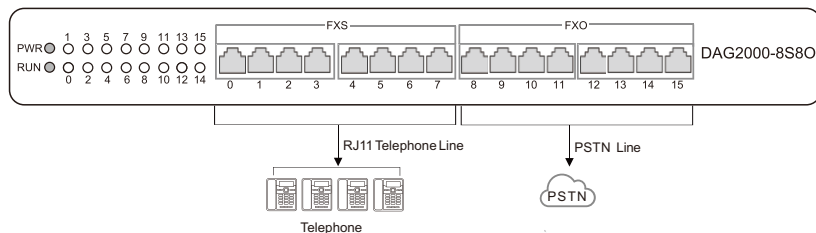


## ► Connection Diagram for DAG2000-8S8O

- Connect gateway with network, and connect gateway with power input.



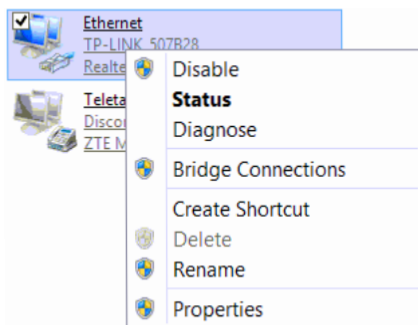
- Connect FXS port with Telephone line, and connect FXO port with PSTN line.



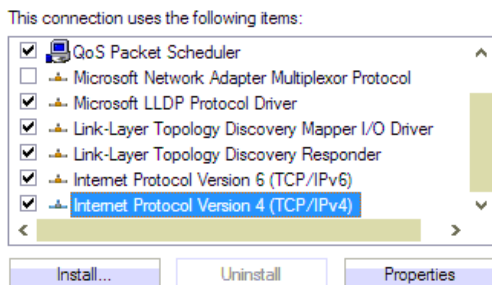
## 6 Modify PC's IP Address

To log in the Web Management System of the gateway, firstly, you need to modify the IP address of PC which is used to access the gateway and to make it at the same network segment with the gateway.

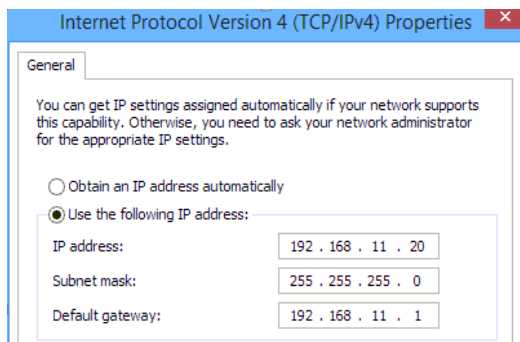
- 1 On the PC, click '**Network (or Ethernet)** → **Properties**'.



- ② Double-click '**Internet Protocol Version 4 (TCP/IPv4)**'.



- ③ Select '**Use the following IP address**', and then enter an available IP address '192.168.11.XXX' which is at the same network segment with '192.168.11.1'.



## 7 Log in Web Management System

Open a web browser and enter the gateway's IP address (default IP is 192.168.11.1). Then input username and password in the displayed login GUI. Both the default username and password are admin.

## 8 Modify Gateway's IP Address

If you want to modify the IP address of the DAG gateway, please click '**Network** → **Local Network**' in the navigation tree on the left of the Web Management System, and then input new IP address and DNS server address on the displayed interface.

## 9 Basic Configurations of FXS

### (1) Configure SIP Server

Log in the Web Management System of the gateway, and then click **SIP Server** in the navigation tree and then enter the address of the SIP server which is to be registered. Click **Save** in the last.

SIP Server

**IP Protocol for SIP Stack**

IPv4

**SIP Server**

SIP Server

172.25.200.223

SIP Server Port (Default: 5060)

5060

Registration Expires (Default: 300)

300 s

Heartbeat

☐ Enable

## (2) Configure SIP Account Information

Click **Port** in the navigation tree on the left, and then click **Add**. Input the SIP account and authentication password assigned by the SIP server.

Port Add

Port

0

Disable Port

☐

Registration

☒ Enable

IP Profile

0 <default>

Tel Profile

0 <default>

Display Name

Amy

SIP User ID

201

Authenticate ID

201

Authenticate Password

\*\*\*\*\*

Offhook Auto-Dial

Auto-Dial Delay Time

DND(Do Not Disturb)

☐ Enable

Caller-ID

☒ Enable

Number for CFU(Call Forwarding Unconditional)

Number for CFB(Call Forwarding Busy)

Number for CFNRy(Call Forwarding No Reply)

Call Waiting

☐ Enable

Play Call Waiting Tone

☐ Enable

Call Waiting Send CID

☐ Enable

Click **Save** and then restart the gateway for the new configurations to take effect.

# 10 Basic Configurations of FXO

## (1) Configure Port Group

You are advised to divide PSTN lines into several groups and then distribute them to different port groups. Generally, PSTN lines belonging to a same telecom operator are distributed to a same port group.

Click **Call & Routing**→**Port Group**, and then click **Add** on the displayed interface.



### Port Group Add

|                       |                                            |
|-----------------------|--------------------------------------------|
| Index                 | 1                                          |
| Registration          | <input checked="" type="checkbox"/> Enable |
| IP Profile            | 0 <default>                                |
| Description           | TELE                                       |
| Display Name          | TELECOM                                    |
| SIP User ID           | 10000                                      |
| Authenticate ID       | 10000                                      |
| Authenticate Password |                                            |
| Offhook Auto-Dial     |                                            |
| Auto-Dial Delay Time  |                                            |
| Port Select           | Cyclic Ascending                           |
| Pick Up on Group      | *#                                         |
| Call Answer Timeout   | 15                                         |
| Select Port Count     | Cyclic Select                              |
| Port                  | Select Port for this Group                 |

When calls come from PSTN to the gateway, the off-hook auto-dial number is generally regarded as the DID (Direct-inward-dial) number or destination number of the SIP server.

Click **Select Port for this Group**, and the following interface will be displayed, and then click **Save** to take effects.

## (2) Configure IP Trunk

On the **Call & Routing**→**IP Trunk** interface, click **Add** to create an IP trunk which connects to a peer SIP server.

### IP Trunk Add

|                |                                 |
|----------------|---------------------------------|
| Index          | 63                              |
| Description    | eLA                             |
| Remote Address | 10.10.0.50                      |
| Remote Port    | 5060                            |
| Heartbeat      | <input type="checkbox"/> Enable |

### (3) Create Outbound Route

On the **Call & Routing**→<IP→<b>Tel RoutingAdd to create an outbound route for the IP trunk.

As shown in the following figure, Caller/Callee Prefix is set as 'any' and calls from IP trunk 63<eLA> are routed to port group 1<TELE>.

The screenshot shows the 'IP->Tel Routing Add' configuration window. It contains the following fields and options:

- Index:** 127
- Description:** outgoing call
- Calls from:** ☒ IP Trunk (63 <eLA>), ☐ SIP Server
- Caller Prefix:** any
- Called Prefix:** any
- Calls to:** ☐ Port (0), ☒ Port Group (1 <TELE>)

### (4) Create Inbound Route

On the **Call & Routing**→<Tel→<b>IP/Tel RoutingAdd to create an inbound route for the IP trunk. As shown in the following figure, Caller Prefix is set as 'any' and calls from port group 1<TELE> are routed to IP trunk 63<eLA>.

The screenshot shows the 'Tel->IP/Tel Routing Add' configuration window. It contains the following fields and options:

- Index:** 127
- Description:** incoming call
- Calls from:** ☐ Port (0), ☒ Port Group (1 <TELE>)
- Caller Prefix:** any
- Called Prefix:** any
- Calls to:** ☐ Port (0), ☐ Port Group (1 <TELE>), ☒ IP Trunk (63 <eLA>), ☐ SIP Server

## 11 Configure FXO Parameters

On the **Advanced** →<b>FXS/FXO

**FXO Parameter**

FXO Concurrent Calls(0 means unlimited)

Incoming Call from PSTN

Configuration by FXO ☒ Enable

Detect CID

Obtain FSK CID from

Send Original CID when Call from PSTN ☒ Enable

Format of "From" field when CID is Available

Format of "From" field when CID is Unavailable

CID : Calling Number

FXO Keep Onhook until Called Answered(Need Enable Auto-Dial) ☒ Enable

Interval of Onhook and Onhook When Called Rejected  ms

Allow Call to SIP Server without Registration ☒ Enable

Ignore Call when SIP Unregistered ☐ Enable

## 12 Configure Priority of Codecs

On the **Advanced**→**Media Parameter** interface, configure the priority of preferred codecs. The gateway supports G.729, G.723, G.711U and G.711A.

**Preferred Vocoder**

|     | Codec Name                         | Payload Type                   | Packetization Time(ms)          | Rate(kbps)                       | Silence Suppression                 |
|-----|------------------------------------|--------------------------------|---------------------------------|----------------------------------|-------------------------------------|
| 1st | <input type="text" value="G711A"/> | <input type="text" value="8"/> | <input type="text" value="20"/> | <input type="text" value="64"/>  | <input type="text" value="Enable"/> |
| 2nd | <input type="text" value="G711U"/> | <input type="text" value="0"/> | <input type="text" value="20"/> | <input type="text" value="64"/>  | <input type="text" value="Enable"/> |
| 3rd | <input type="text" value="G723"/>  | <input type="text" value="4"/> | <input type="text" value="30"/> | <input type="text" value="6.3"/> | <input type="text" value="Enable"/> |

## 13 Configure Impedance Value

To improve the compatibility of FXO ports, the gateway provides auto test to get the most matched impedance value.

On the **Advanced**→**FXS/FXO** interface, click **Start Test** and then the gateway will automatically detect the best impedance for FXO lines. After the test is complete, save the impedance value.

DC Impedance

AC Impedance ☒ Impedance Value ☐ Country

Impedance Value

Impedance Auto Test

## 14 More Details

This document only provides instructions for quick installation and basic configuration. For detailed configuration and parameter explanation, please make reference to user manual or ask for online technical support.

## 15 Basic Operations

- ◆ Dial \*158# to query the IP address of LAN port of the gateway;
- ◆ Dial \*159# to query the IP address of WAN port of the gateway;
- ◆ Dial \*114# to query the telephone number of a FXS port;
- ◆ Dial \*165\*000000# to restore default IP address, user name and password;
- ◆ Restore factory default settings:
  - (1)dial \*166\*000000#;
  - (2)press the **RST** button for 7 seconds;
  - (3)Log in the gateway and then click '**Tools** →**Factory Reset**', then click Apply and restart the gateway.
- ◆ Dial \*111# to restart the gateway.

## 16 FAQ

- (1) What if the caller number is not displayed when a call comes from PSTN ?
  - A. Consult the telecom operator about whether the CID function has been enabled, or connect the PSTN line with a telephone to check it;
  - B. On the **Advanced**→**FXS/FXO** interface, check the gateway is configured to detect CID before ring or after ring, and then check whether "Send Original CID when Call from PSTN" is enabled or not.
- (2) Can the gateway be connected with PSTN lines from different telecom operators ?  
Yes, it can be realized by creating port groups to manage PSTN lines belonging to different telecom operators.
- (3) What if the gateway's IP address is forgotten ?  
Dial the number of PSTN line first, and then dial \*158# to query the IP address of LAN port of the gateway.
- (4) How to restore factory default settings ?
  - A. Press the **RST** button for 7 seconds;
  - B. Dial the number of PSTN line first, and then dial \*166\*000000#. After that, restart the gateway.
  - C. Log in the gateway and then click **Tools** → **Factory Reset**, then click **Apply** and restart the gateway.

IP COMMUNICATION SOLUTIONS

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