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DINSTAR DAG1000-4O Analog VoIP Gateway Installation Guide

Contents

DINSTAR DAG1000-4O Analog VoIP Gateway

Product Information

The Dinstar VoIP Gateway is a telecommunications device that allows for the conversion of voice calls between traditional telephone lines and internet-based voice services. It comes in various models, including DAG1000-4O, DAG1000-8O, DAG2000-16O, DAG1000-4S4O, and DAG2000-8S8O. Each model has different ports and features to meet different connectivity requirements.

Models and Ports

Port Type	Model	WAN Ports	LAN Ports	FXS Ports	FXO Ports
WAN	DAG1000-4O	1	2	–	4
WAN	DAG1000-8O	1	2	–	8
WAN	DAG2000-16O	1	3	–	16
WAN + LAN	DAG1000-4S4O	1	2	4	4
WAN + LAN	DAG2000-8S8O	1	3	8	8

Description of Indicators

Indicator	Status	Description
PWR	On	The gateway is powered on.
PWR	Slow Flashing	The gateway is powered off or there is no power supply.
RUN	Fast Flashing	The gateway is running improperly.
RUN	On	The gateway is running properly.
FXS	On	The FXS port is idle or faulty.
FXS	Off	The FXS port is currently occupied by a call.
FXO	On	The FXO port is idle or faulty.
FXO	Off	The FXO port is currently occupied by a call.
WAN/LAN	Green Flashing	The gateway is not connected to the network or the network connection is improper.
WAN/LAN	On	The gateway is properly connected to the network.
WAN/LAN	Off	The network speed is set to work at 10Mbps.
WAN/LAN	Off	The network speed is set to work at 100Mbps.

Installation Attentions

- Anti-jamming: To reduce interference with telephone calls, it is highly recommended to place the telephone lines connected to the gateway away from power cables.
- Power supply: DAG1000-4O, DAG1000-8O, and DAG1000-4S4O models require a 12VDC power adapter. DAG2000-16O and DAG2000-8S8O models accept AC input voltage of 100-240V. Ensure a safe and stable power supply.
- Network bandwidth: Ensure sufficient network bandwidth to guarantee stable operation of the gateway.
- Temperature and humidity: Install the gateway in an equipment room with appropriate temperature and humidity to avoid malfunctions.
- Ventilation: Avoid overheating by not piling up the gateway with other devices and ensuring good ventilation around the gateway.
- Mechanical load: Place the gateway steadily to avoid damage. It is advised to horizontally place the gateway on a flat surface or a cabinet.

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
Email: **support@dinstar.com**
Web: **www.dinstar.com**

Models and Ports

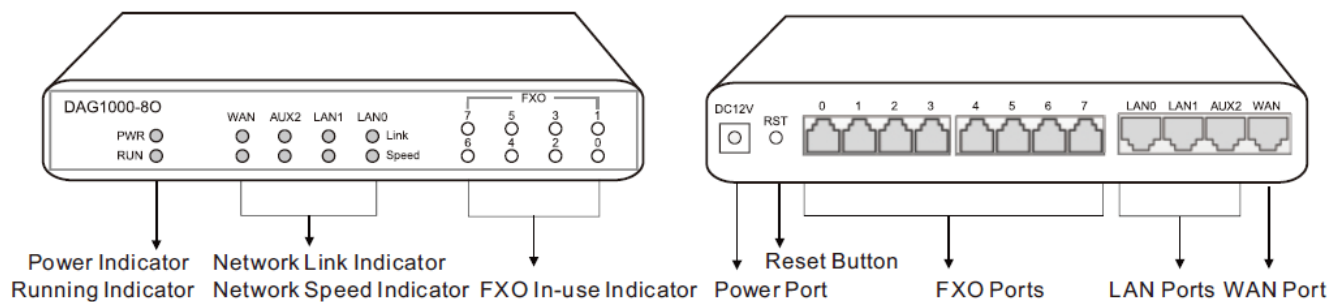| Port Type / Model	WAN	LAN	FXS	FXO
DAG1000-4O	1	2	/	4
DAG1000-8O	1	2	/	8
DAG2000-16O	0	3	/	16
DAG1000-4S4O	1	2	4	4
DAG2000-8S8O	0	3	8	8

Please confirm your product model before installation and follow the installation guideline for the model
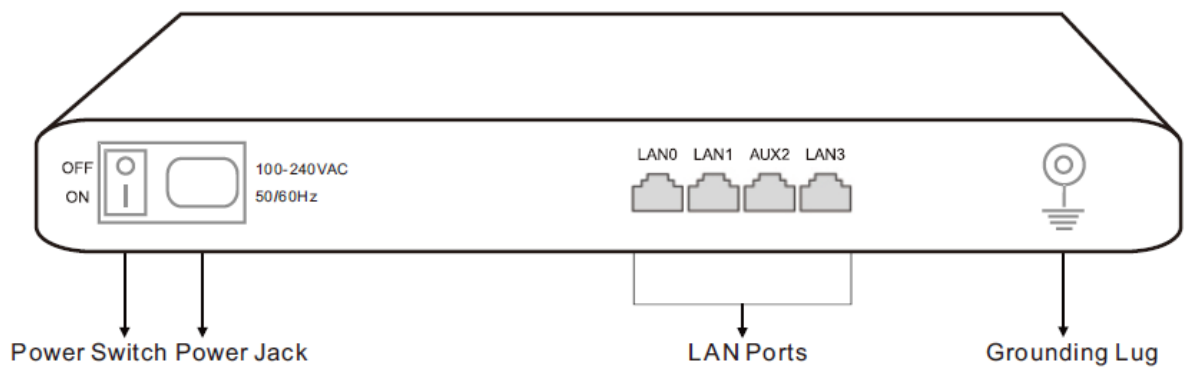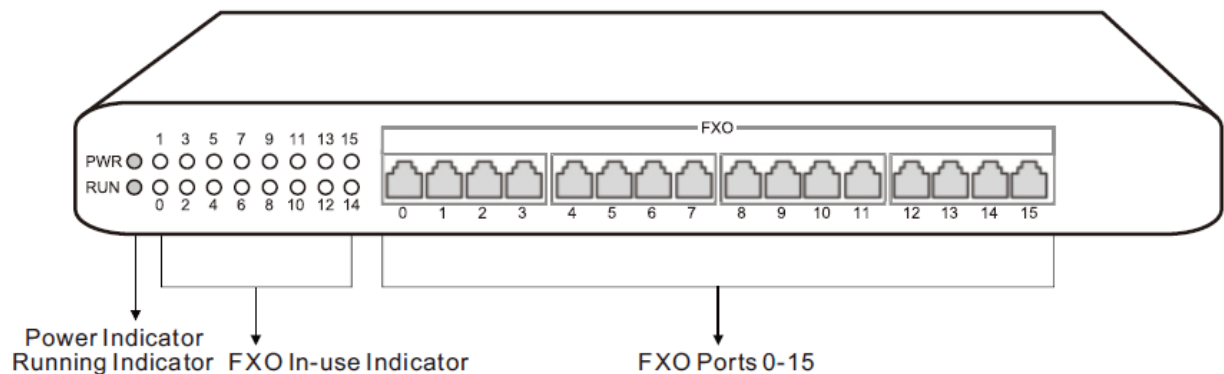
Description of Indicators

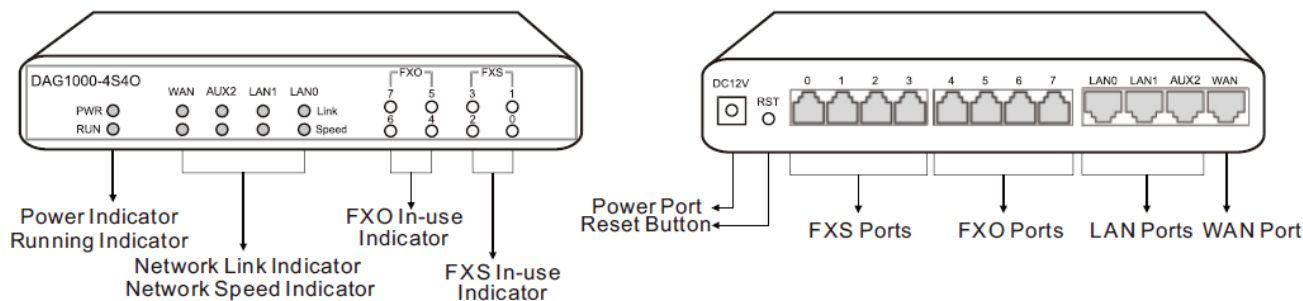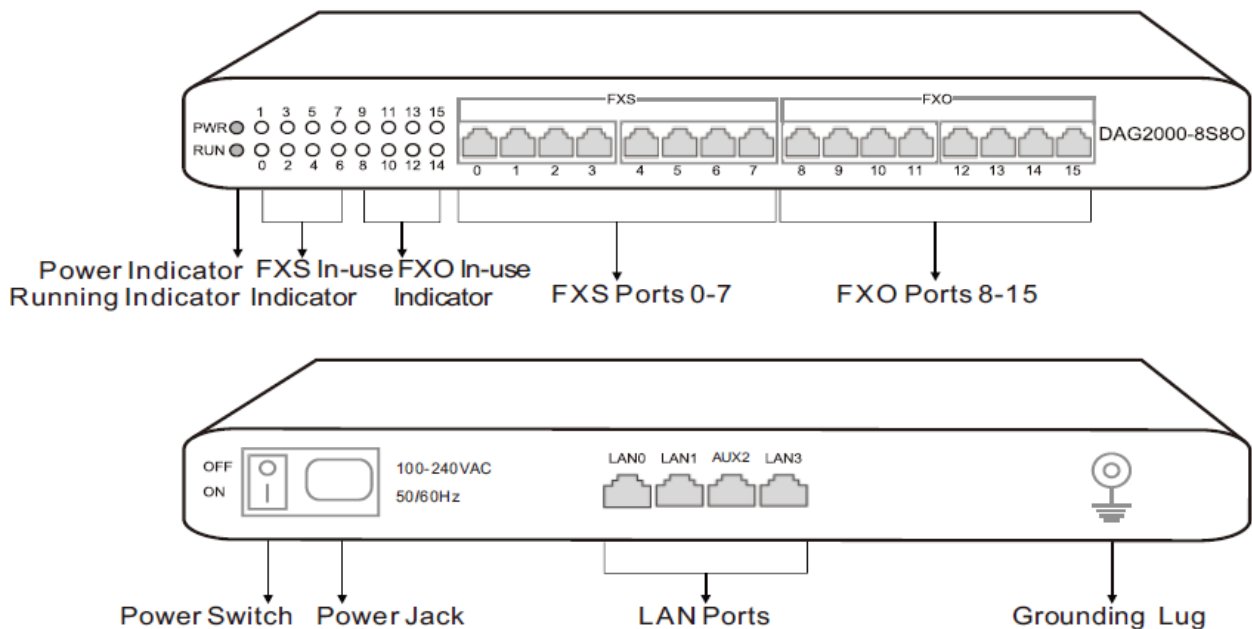| Indicator	Definition	Status	Description
PWR	Power Indicator	On	The gateway is powered on
		Of f	The gateway is powered off or there is no power supply
RUN	Running Indicator	Slow Flashing	The gateway is running properly
		Fast Flashing	If there is a SIP account registered successfully, the indicator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

Indicators and Ports

DAG1000-4O/DAG1000-8O

DAG1000-8O (top diagram labels)

Power Indicator / Running Indicator Network Link Indicator / Network Speed Indicator FXO In-use Indicator

Reset Button / Power Port FXO Ports LAN Ports WAN Port

DAG1000-8O PWR RUN WAN AUX2 LAN1 LAN0 Link Speed FXO 7 5 3 1 6 4 2 0

DC12V RST 0 1 2 3 4 5 6 7 LAN0 LAN1 AUX2 WAN

DAG2000-16O

PWR RUN 1 3 5 7 9 11 13 15 0 2 4 6 8 10 12 14 FXO 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Power Indicator / Running Indicator FXO In-use Indicator FXO Ports 0-15

OFF ON 100-240VAC 50/60Hz LAN0 LAN1 AUX2 LAN3

Power Switch Power Jack LAN Ports Grounding Lug

DAG1000-4S4O

DAG1000-4S4O PWR RUN WAN AUX2 LAN1 LAN0 Link Speed FXO 7 5 6 4 FXS 3 1 2 0

Power Indicator / Running Indicator Network Link Indicator / Network Speed Indicator FXO In-use Indicator FXS In-use Indicator

DC12V RST 0 1 2 3 4 5 6 7 LAN0 LAN1 AUX2 WAN

Power Port / Reset Button FXS Ports FXO Ports LAN Ports WAN Port

DAG2000-8S8O

Power Indicator | FXS In-use Indicator | FXO In-use Indicator | FXS Ports 0-7 | FXO Ports 8-15
Running Indicator

Power Switch | Power Jack | LAN Ports | Grounding Lug

Installation Attentions

- Anti-jamming: to reduce 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.

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.

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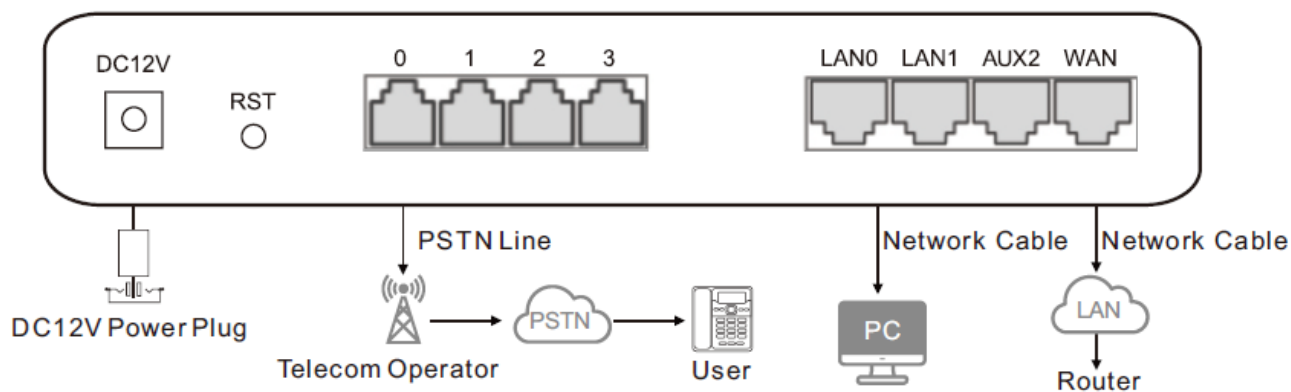
Connection Diagram for DAG2000-16O

- Connect gateway with network, and connect gateway with power input.
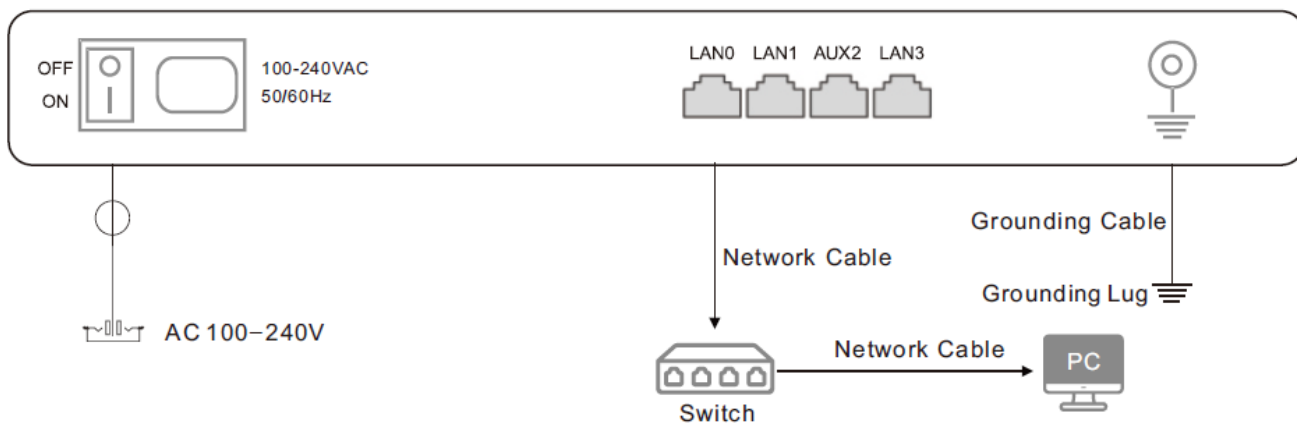
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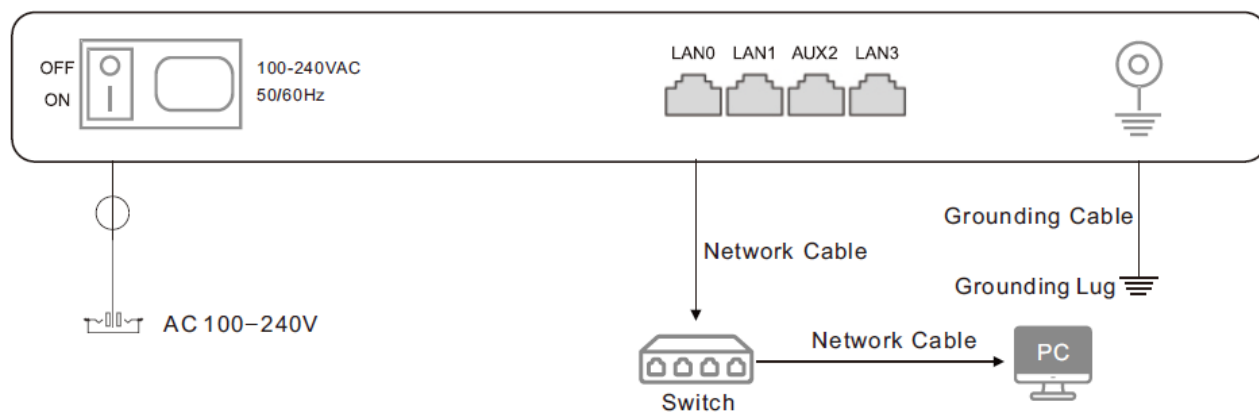
Connect FXO port with PSTN line.
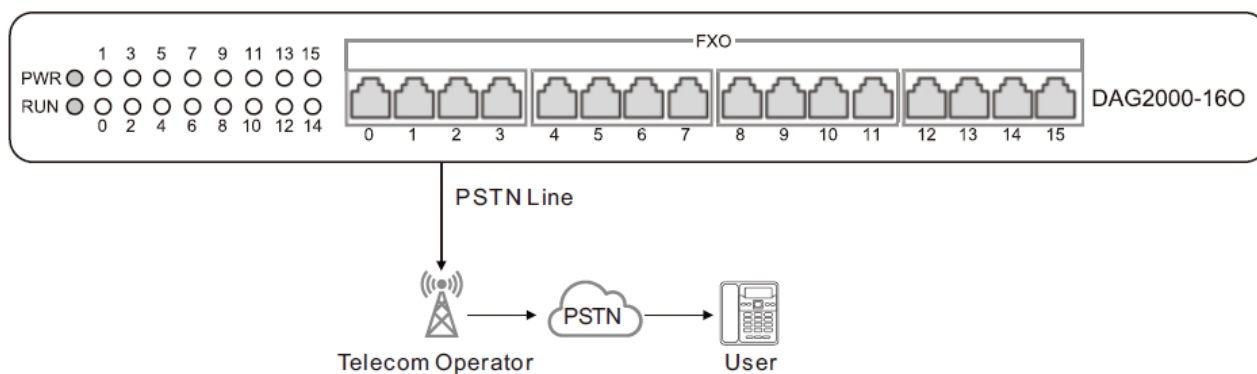
Connection Diagram for DAG1000-4S4O

Connect gateway with network, and connect gateway with power input. Connect FXS port with Telephone line, and connect FXO port with PSTN line.
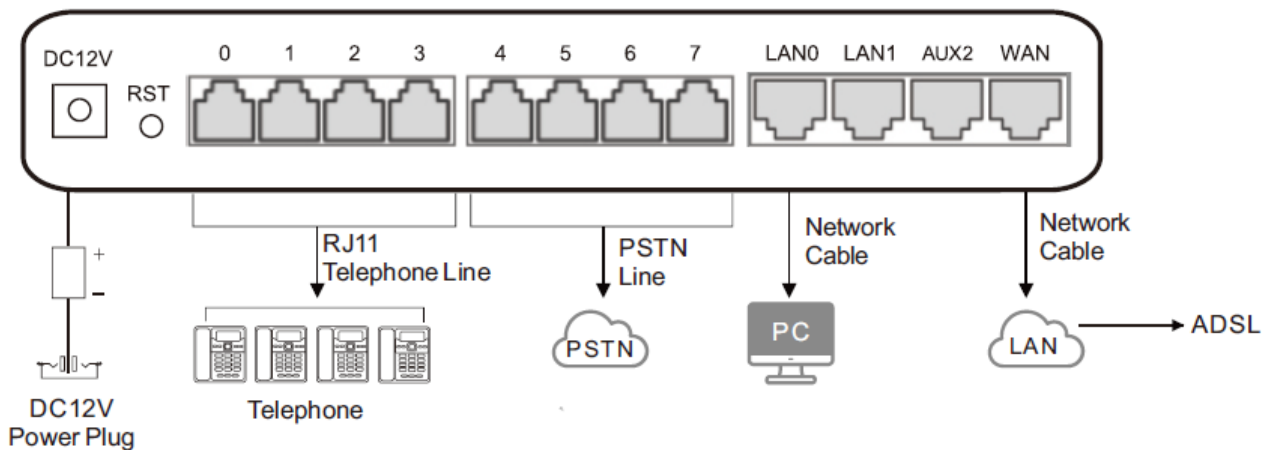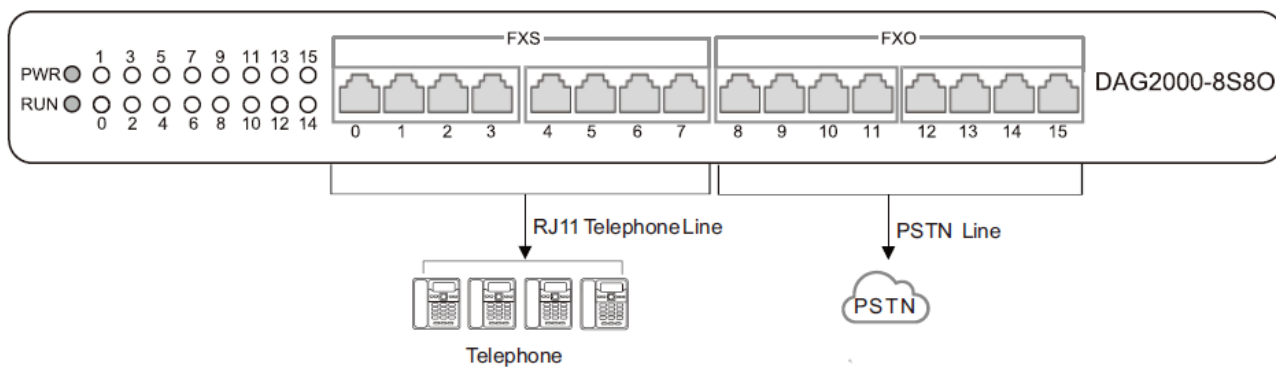
Connection Diagram for DAG2000-8S8O

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

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

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'.
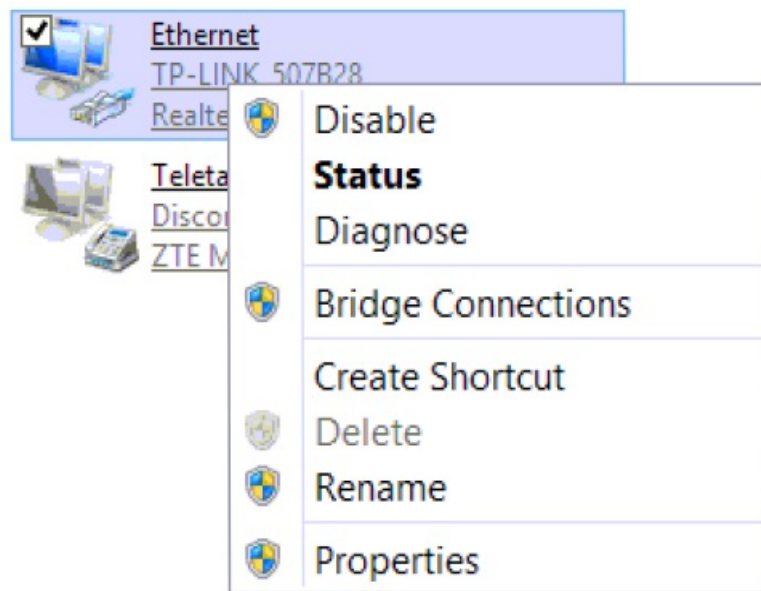
2. Double-click 'Internet Protocol Ve 2 rsion 4 (TCP/IPv4)'.
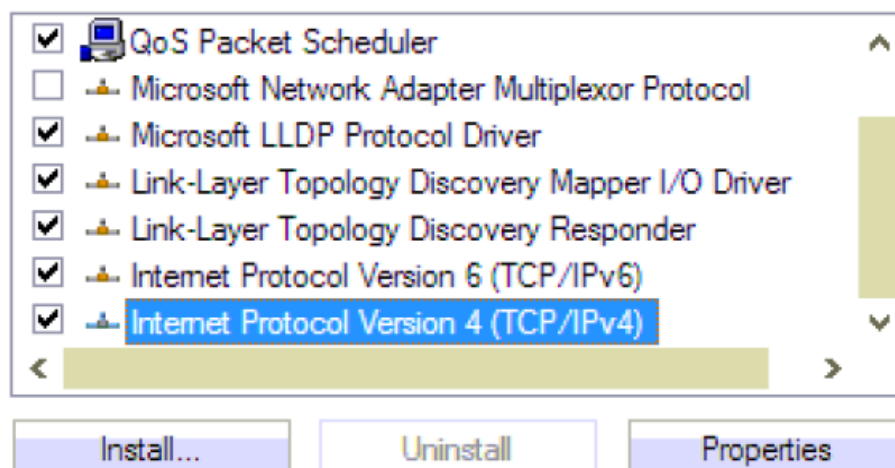
3. Select 'Use the following IP address', and then enter an available IP address '192.168.11.XXX' which is at the same network segment with '192.168.11.1
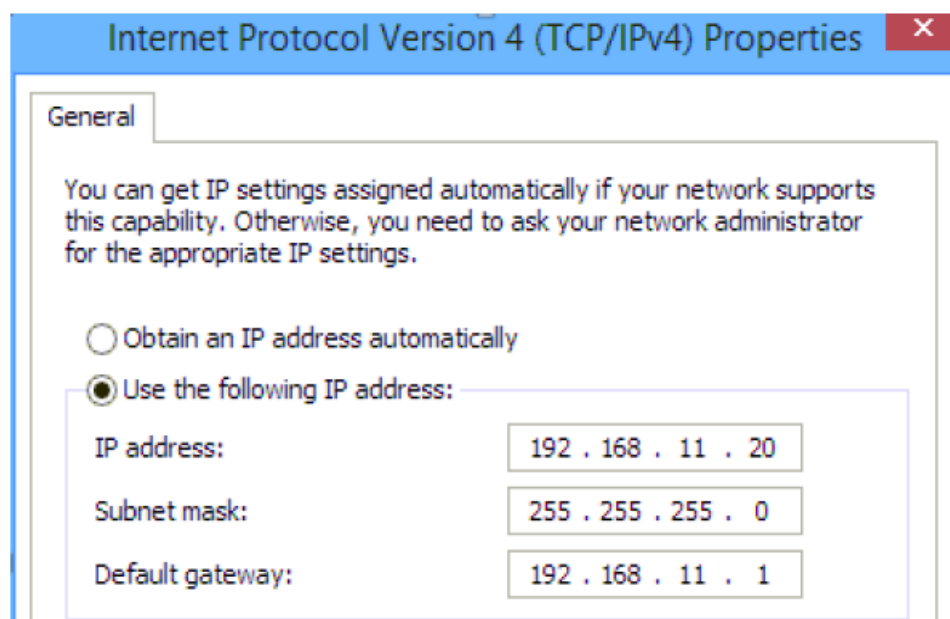
Log in Web Management System

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.
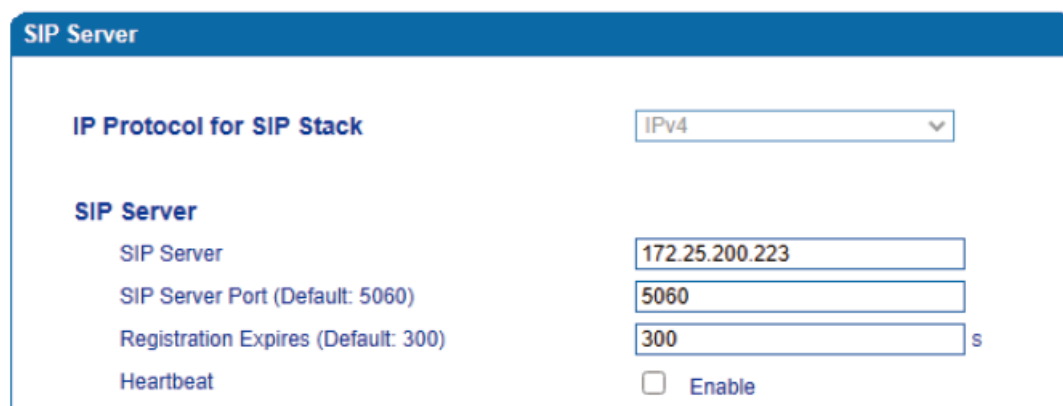
Modify Gateway's IP Address

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

Basic Configurations of FXS

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.

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.

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

Basic 10 Configurations of FXO

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

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.

Configure IP Trunk

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

Create Outbound Route

On the interface, Call & Routing→<IP→Tel Routing> click Add 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>.

Create Inbound Route

On the Call & Routing→<Tel→IP/Tel Routing> interface, click Add 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>.

Configure FXO Parameters

On the Advanced →FXS/FXO interface, configure the gateway to detect CID after ring or before ring, and enable 'Send Original CID when call from PSTN'. Format of "from" field is set as 'CID/CID' when CID is available, while format of "from" field is set as'Display/User ID' when CID is unavailable.

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.

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	50 Ohm
AC Impedance	◉ Impedance Value ○ Country
Impedance Value	600 Ohm
Impedance Auto Test	Start Test

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.

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:
    - dial *166*000000#;
    - press the RST button for 7 seconds;
    - Log in the gateway and then click 'Tools →Factory Reset', then click Apply and restart the gateway.
- Dial *111# to restart the gateway.

FAQ

1. What if the caller number is not displayed when a call comes from PSTN ?
    1. A. Consult the telecom operator about whether the CID function has been enabled, or connect the PSTN line with a telephone to check it;
    2. 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.
   What if the gateway's IP address is forgotten ?
    1. Dial the number of PSTN line first, and then dial *158# to query the IP address of LAN port of the gateway.
3. How to restore factory default settings ?
    1. A. Press the RST button for 7 seconds;
    2. B. Dial the number of PSTN line first, and then dial *166*000000#. After that, restart the gateway.
    3. C. Log in the gateway and then click Tools → Factory Reset, then click Apply and restart the gateway.

IP COMMUNICATION SOLUTIONS Shenzhen Dinstar Co., Ltd.

Web: **www.dinstar.com**

Documents / Resources

	DINSTAR DAG1000-4O Analog VoIP Gateway [pdf] Installation Guide DAG1000-4O Analog VoIP Gateway, DAG1000-4O, Analog VoIP Gateway, VoIP Gateway, Gateway

References

- **D VoIP Gateway | IP PBX | IP Phone Session Border Controller SIP Intercom DINSTAR**

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