

Tilgin Home Gateway HG1350 & HG1550 series



Quick Guide

tilgin

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1. Introduction

This Quick Guide contains start-up instructions for installing Tilgin Home Gateways HG1350, HG1550 series. Follow the instructions to connect and start-up the Home Gateway. As starting-up the Home Gateway, your Operator provides automatic service provisioning meaning new software will be downloaded automatically with service settings and configurations. Check the instructions from your Operator for any additional settings.

The Home Gateway you have received enables the services from your Operator and Operator and can become the full service node in your home.

2. Delivered with the Home Gateway

Confirm that you have received the following:

Content in packages for HG1350 & HG1550 models

All models:	Qty
HG1350 or HG1550 series Gateway	1
AC/DC adapter 100-240V-12VOUT 2000mA	1
Power cord	1
Antenna (Only wireless models)	1
Drill Guide for Wall mounting HG1xxx	1
Quick Guide (this document)	1
EULA, End User LicenseTerms and Conditions	1

Your Operator might also include additional cables or country specific phone plugs.

3. Installing your Home Gateway

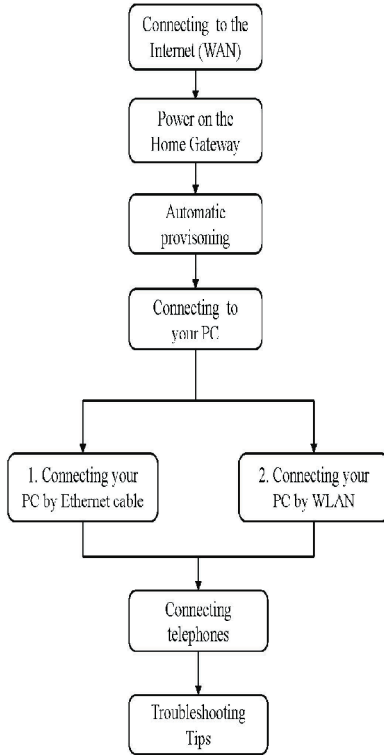
The Home Gateway is designed to be a plug & play device when pre-configured and managed by your Operator. However, the level of configuration needed can vary from completely plug & play to full manual configuration, depending on what your Operator offers. Follow any specific configuration instructions you may have received from your Operator.

Home Gateways must always be installed away from heat sources and direct sunlight.

Home Gateways and power supplies are electrical devices that can overheat without ventilation. Place on a firm and flat surface and do not cover or crowd them with objects or clothing that prevents good ventilation.

IMPORTANT! Remove the protective plastic from both top and bottom before installing the Home Gateway.

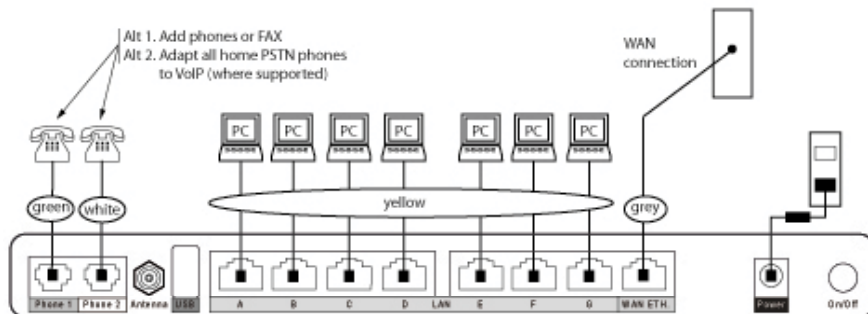
The flowchart below describes the procedures to install your Home Gateway and is in detail explained in the following pages



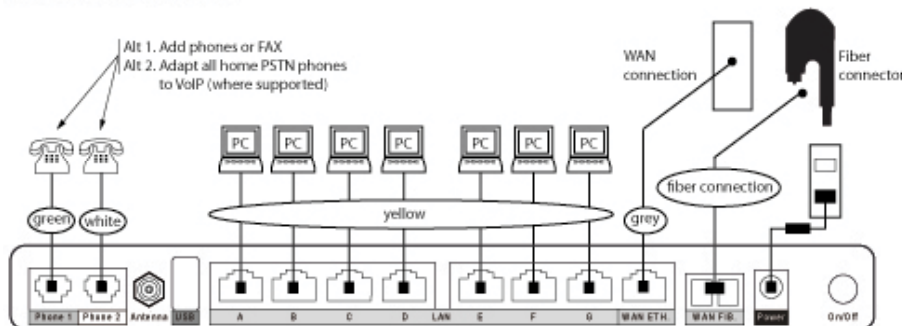
Home Gateway cable attachments

Each outlet and its connected cable is color coded.
See more instructions below

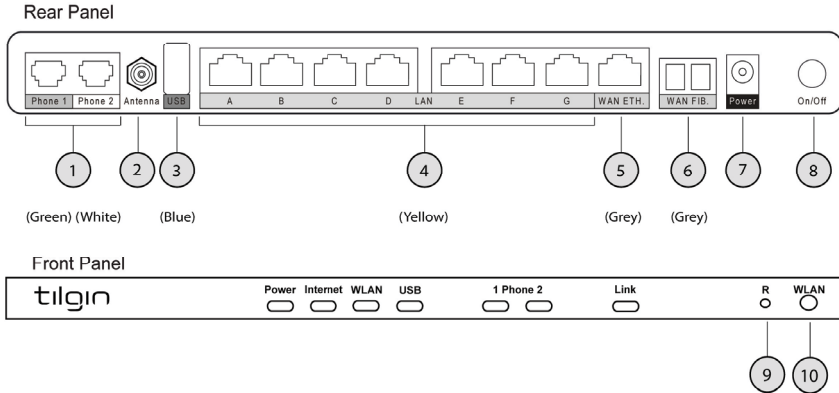
HG1300 Cable Connections



HG1500 Cable Connections



Home Gateway Interfaces



Pos	Interface	Outlet & Cable Color Codes	Function
1	Phone 1 & Phone 2	Green (Phone 1) White (Phone 2)	Connect analogue phones or faxes
2	Antenna		Antenna for wireless LAN
3	USB Host	Blue	Connect USB Devices
4	LAN Ports: A,B,C,D,E,F,G	Yellow	Connect Ethernet cables (RJ-45) to the Local Area Network
5	WAN ETH	Grey	Connect Ethernet cable (RJ-45) the to the Wide Area Network
6	WAN FIB	Grey	Connect optical fiber connector to the Wide Area Network (HG1500 models)
7	Power Input	Black	Connect the power adapter
8	On / Off		Button for turning the Home Gateway on or off
9	Reset		Button for factory reset
10	WLAN		Button for turning wireless LAN on or off and for setting up wireless security

Connecting to the Internet (WAN)

1. Check your delivery against the content list. (See **2. Delivered with your Home Gateway**)
2. Attach the Home Gateway antenna

Depending on type of Home Gateway supplied by your Operator the Home Gateway can be connected to Internet in two alternative ways:

1. Ethernet connection
Connect the Ethernet cable into the WAN port (#5) on the Home Gateway and into your Ethernet Internet access port.
2. Fiber termination
 - a) If there is no fiber termination unit installed connect the fiber directly in the Home Gateway WAN/FIB port (#6).
 - b) If a fiber termination unit is installed connect the fiber to the Home Gateway and to the fiber termination unit. See **15. Mounting the HG1500 series on FTU** at the end of this guide.

Note that the fiber connection protection cover should be pre-installed by a professional installer.

Power on the Home Gateway

1. Connect the Power cord to the AC/DC adapter.
2. Connect the AC/DC Adapter power cord to the power connector [see # 7 on the **Home Gateway Interfaces** page] on the back of the unit.
3. Plug the Power cord into a power source.
4. Push the ON/OFF button (#8) on the rear side to ON.
5. Check that the Power LED on the front panel is lit (red).
See the **LEDs Front and Rear Panel** page.



Automatic Provisioning

The Home Gateway will automatically attempt to establish a connection to your Operator. If the device has been properly connected, an automatic configuration will begin.

The Home Gateway is pre-loaded with software but it will always download newer software and settings from the Operator.

The software upgrade procedure may take several minutes and during this time the Power LED on the Front Panel normally flashes rapidly red or light stable red. If a fault occurs the Power LED will either be out or flash slowly. When the Power LED is steady green, the unit is operational. If the Power LED on the device doesn't switch to green after 30 minutes, then reboot (push Power On/Off). If problem still is unsolved contact your service Operator.

For more information about LED status see **LEDs Front and Rear Panel**.

Connecting the Home Gateway to your PC

There are two ways to connect the Home Gateway with your PC either with Ethernet cable (yellow) or with WLAN.

Note: Connect your PC to only one interface of the Home Gateway (Ethernet or WLAN).

1. Connecting to your PC by Ethernet cable

Connecting the Home Gateway to your PC using an Ethernet cable (yellow) requires that your PC have an Ethernet port installed.

If not, you can install an Ethernet card or use the wireless LAN installation method instead (See **2.Connecting your PC by WLAN** below).

1. The yellow Ethernet cable should be connected to one of the LAN ports marked A – G. (# 4 on the Home Gateway Interfaces page).
2. The other end of the yellow Ethernet cable should be connected to the Ethernet port on the PC.

2. Connecting to your PC by WLAN

This is only for models supporting wireless access. Make sure your PC has wireless support.

If your device does not already have built in wireless support, you may choose to install a wireless LAN card and then you need to configure the WLAN card.

Note: In order for WLAN access to work, it must be enabled as part of your service contract with your service Operator

WPS setup (If supported on your PC)

Wi-Fi Protected Setup (WPS) is a standard created by the Wi-Fi Alliance to make it easy to set up a secure wireless home network. Tilgin Home Gateways support two WPS methods for a user to add new devices to the network:

1. PIN Method, in which a PIN is read from a sticker on the new wireless device.
2. PBC Method, in which the user pushes a button, either an actual or virtual one, on both the Home Gateway and the new wireless device.
 - To set WLAN On: push the WLAN button for 3-5 seconds.
 - To set the WLAN OFF: push WLAN button shortly.

Select method	
PBC	- Push button on front
	- Push button in Web GUI
PIN	- Enter/set the PIN code in Web GUI
WPS interface	- Use the preconfigured default SSID
	- None
	- Auto

The WLAN light (on the front of the Home Gateway) will light green when functioning correctly. (See the **LEDs Front and Rear Panel** page).

Configuring WLAN Cards for Windows devices

Your wireless LAN card should be packaged with a profile configuration utility. Install and run this utility. It will guide you through configuring your PC WLAN card and connecting to the Home Gateway.

If you have received instructions from your service Operator regarding WLAN security level settings, you should follow these instructions when running the profile configuration utility.

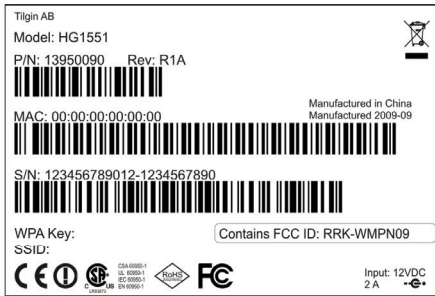
If the instructions provided with the WLAN card fail, and/or your service Operator does not recommend specific WLAN settings, use the default WLAN port settings below.

Default WLAN port settings

Check the parameters for WLAN are set according to SSID and WPA Key found on the casing label on the bottom of the Home Gateway.

- SSID = Tilgin-<12 random characters>
Example: **Tilgin-1wa23sbg9skm**
- Channel = Auto
- Wireless Security Level = WPA key

Note: Your service Operator may instruct you to use a WPA key that they provide to you, or use the WPA key printed on the label on the bottom of the Home Gateway.



After saving the new WLAN profile, make sure your PC network settings are configured properly. (See **Configuring your PC**)

Configuring your Windows PC

Your PC must be configured properly to be able to surf the Internet and the PC's network card and network properties must be configured to obtain an IP address from the Home Gateway's built-in DHCP server.

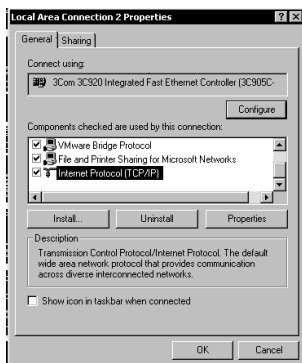
This means that you must check to see that your PC's network settings are set to TCP/IP protocol and that the IP address is obtained automatically (see below).

Check the Network Settings for Windows computers

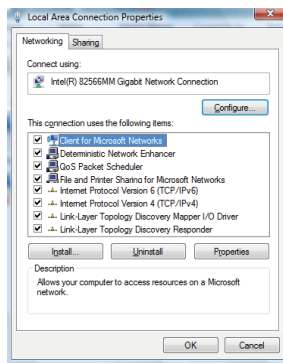
For Windows-based machines, follow the procedure below.

This procedure applies to both cabled Ethernet and WLAN installations.

1. Right click on the Network Neighborhood or My Network Places on the START menu.
2. Select Properties from the menu.
3. If multiple network connections are available on the PC, right click on :
 - a) Local Area Connection (for an Ethernet installation)
 - b) Wireless Network Connection
 - c) Select Properties.

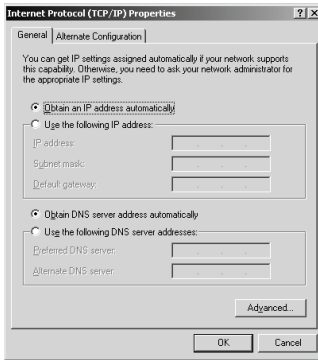


Windows XP

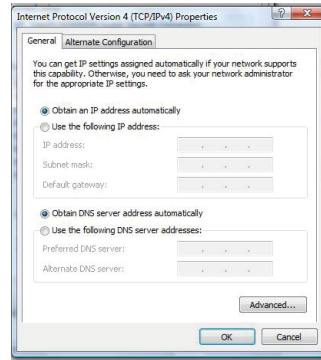


Windows Vista

4. Select the General tab (Windows XP) or Networking tab (Windows Vista).
5. Identify the TCP/IP -> network card entry.
6. Highlight the TCP/IP -> network card entry.
7. Click Properties
8. Click Obtain an IP address automatically.



Windows XP



Windows Vista

9. Click the OK button and close the dialog box. Then click the OK button again to save the changes and exit Network Properties.

For WLAN connection:

1. Click on Wireless Network Connection and select Properties.
2. Click on Wireless Network Connections
3. Click on Refresh Network list
4. Identify our Wireless network by comparing SSID on the product label on your Home Gateway with the SSID in the wireless connection list shown.
5. Click on the identified network It should then show "Connected" .
6. Enter the Network key (WPA Key on the label).
7. Click on Connect
8. The chosen Network should then show "Connected".

Connecting a single analogue Telephone or other analogue equipment

If you have a subscription for IP telephony, you can connect touch-tone telephones to port (#1) (Phone1 or Phone2). (Each port can handle up to five telephones in cascade.) see **Adapt all household Telephones** below.

The phones connected to the Home Gateway are adapted for VoIP calls.

Adapt all household Telephones

All of the phones in your household can be connected to the Home Gateway using a country specific phone plug and a special cable (both supplied by your provider). Plug the special cable into the phone port (#1) (Phone1 or Phone2) on the Home Gateway and then into the specific phone plug that should be connected on the main telephone socket on your wall.

DO NOT use an ordinary telephone cable for this purpose. It requires a special cable and can be different from country to country.

This option must be supported in your country and by your service provider.



LEDs Front and Rear Panel

Front panel LEDs indicates the status of power and Gateway connections. Ethernet LEDs are located on the rear.



LED	Signaling	Indication
Power	OFF	No power
	RED, Stable	Not ready, boot in progress
	RED, Slow Flash	Upgrade failed/No contact with ACS/VCM
	RED, Rapid Flash	Upgrading or connecting
	GREEN, Stable	Normal operation. Boot ready, contact established with ACS or configured not to contact ACS
Internet	RED, Stable	No internet connection
	GREEN, Stable	IP address obtained on internet connection.
WLAN	OFF	Wireless function disabled
	GREEN	Wireless function enabled.
	GREEN, Slow Flash	WPS in progress
	GREEN, Rapid Flash	WPS failed
	GREEN Short Flash	WPS succeeded
USB	OFF	Not connected
	GREEN, Stable	Connection established
Phone 1 & 2	OFF	No telephone services configured
	GREEN, Rapid Flash	One or more telephone services failed to register
	GREEN Short Flash	Message waiting
	GREEN, Stable	The telephone services to your service Provider is OK
Link	OFF	Fiber not connected
	GREEN, Stable	Fiber connectivity
Ethernet Connectors (Rear, yellow)	GREEN, Rapid Flash	Traffic activity
	YELLOW, OFF	10M
	YELLOW, Stable	100M
WAN Ethernet Connector (Rear, Grey)	GREEN	Link
	GREEN Rapid Flash	Activity
	YELLOW, 1 Flash	10M
	YELLOW, 2 Flash	100M
	YELLOW, 3 Flash	1000M

4. Troubleshooting Tips

- When no green light is seen for the WAN indicator after connecting to the port (back of Home Gateway), check that the power cord is properly connected.
- Check Cable connections.
- Verify that the LEDs lights according to the table in **LEDs Front and Rear Panel** page.
- If Power LED not stable green after 30 minutes reboot (push Power On/Off)
- If Power LED still not stable green after reboot contact your service operator.
- If you do not hear a dial tone after hook off on the telephone handset, check that the telephone line cord from the telephone is connected to the unit.
- When slow on no connection over WLAN, turn WLAN OFF then ON by pressing WLAN button twice. The Auto channel feature then search for best channel and select it.
- **If these actions do not solve the problem, contact your service Operator or vendor that supplied your Home Gateway**



5. Safety Information

Tilgin IPRG AB products are designed and tested to meet the international Safety of Information Technology Equipment standard. This standard provides general safety design requirements that reduce the risk of both personal injury and product injury, protecting against the following hazards:

- Electric shock (hazardous voltage levels)
- Fire (overload, temperature, material flammability)
- Energy (high energy circuits or potential burn hazards)
- Heat (accessible parts of the product at high temperatures)
- Radiation (noise, etc.)

6. Safety Recommendations

When using the product and to ensure general safety, you are instructed to follow these guidelines:

- Use only the power supply adapter that comes with the package. Replacement power supply adapters can be obtained from an authorized Tilgin distributor.
- Do not open or disassemble this product.
- Place on a firm and flat surface.
- Gateways and power supplies are electrical devices that can overheat without ventilation. Do not cover or crowd them with objects or clothing that prevents good ventilation.
- Do not expose the product to liquid or moisture.
- Do not expose the product to lit candles, cigarettes, open flames, etc.
- Do not drop, throw or try to bend the product.
- Do not allow children to play with the product, as it contains small parts that could be detached and create a choking hazard.
- Use only original Tilgin components and replacements parts. Failure to do so may result in performance loss, damage to the product, fire, electric shock or injury. It will also invalidate the warranty.
- Avoid using the unit during an electrical storm. There may be a remote risk of electric shock from lightning.
- Treat the product with care, keep it in a clean and dust free place. Use only a soft, damp cloth to clean the product.

All use of the product is subject to the Safety Recommendations above. Tilgin IPRG AB waives all and any liability for damages caused to i) the product or any other property or ii) yourself or any other individual as a consequence of using the product in ways that deviate from the safety recommendations set out above.

7. Power Supply

Do not use any other power supply than the one delivered by Tilgin. Using the wrong power supply could be hazardous to you or the product.

The power supply is approved by one or more of the following safety organizations:



8. Approvals and Conformity

Tilgin Home Gateways specified in this document are also subject to FCC approval.

Declaration of Conformity (United States only)



This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT

NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Declaration of Conformity



Tilgin IPRG AB

Box 1240
164 28 Kista
Sweden

Declares that:

Equipment: Home Gateways
Products: Tilgin Gateways
Product versions: HG1351 HG1551, HG1558
fulfill the essential requirements in accordance with the following
Directives:

1999/5/EC	The R&TTE Compatibility Directive
2004/108/EC	The Electromagnetic Compatibility Directive
2006/95/EC	The Low Voltage Directive (and their amending Directives)

The following standards were applied:

EMC – Emission	EN 55022:1998,-A1:2000,-A2:2003 (Class B)
EMC – Immunity	EN 55024:1998,-A1:2001,-A2:2003 EN 61000-4-2,-3,-4,-5,-6,-11
EMC - Radio	EN 300 328:V1.7.1
EMC – WLAN	EN 301 489-1, EN 301 489-17:V1.2.1
Safety	EN 60950-1:2006

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

A handwritten signature in black ink, appearing to read 'Ola Berglund', is written over a dotted line.

Ola Berglund President Tilgin AB

January 28, 2009

9. Technical Specifications

Dimensions	BxHxD = 282x174x36	
Weight	0.65 Kilograms	
Operating voltage	See the supplied power adapter	
Operating frequency	See the supplied power adapter	
Temperature	Operating	0°C to 45°C 32°F to 113°F
	Non-operating	-20°C to 60°C/ -4°F to 140°F
Humidity (relative, non-condensing)	Operating	10% to 90%
	Non-operating	5% to 95%

10. Environmental Information

The equipment you purchased has required the extraction and use of natural resources for its production. It may contain substances that are hazardous to your health and to the environment. To avoid putting such substances into our environment and to reduce pressure on our natural resources, we ask that you reuse or recycle your end-life equipment by using an accredited electronics take-back system.

The symbols below indicate that this product should be reused or recycled and not simply discarded. Please locate and use an appropriate reuse and recycling site. If you need more information on collection, reuse and recycling systems, contact your local or regional waste administration. You may also contact your equipment provider for more information on the environmental performances of these products.



11. Warranty

No warranty, express or implied, with respect to the product is extended directly to you from or on behalf of Tilgin IPRG AB. Limited warranties may be granted to you by the equipment provider in its capacity as reseller of the product. Please contact your equipment provider for information regarding warranties for the product.

12. Notice of Copyright and Patent Protection

This product incorporates technology which is copyrighted or patented or otherwise protected under intellectual property laws and treaties and proprietary to Tilgin IPRG AB or Tilgin's third party licensors. All use of the products is subject to the applicable End User License Terms and Conditions provided in conjunction with the product.

13. How to Wall mount the Home Gateway

Wallmounting Instruction

The device can be mounted on the wall.

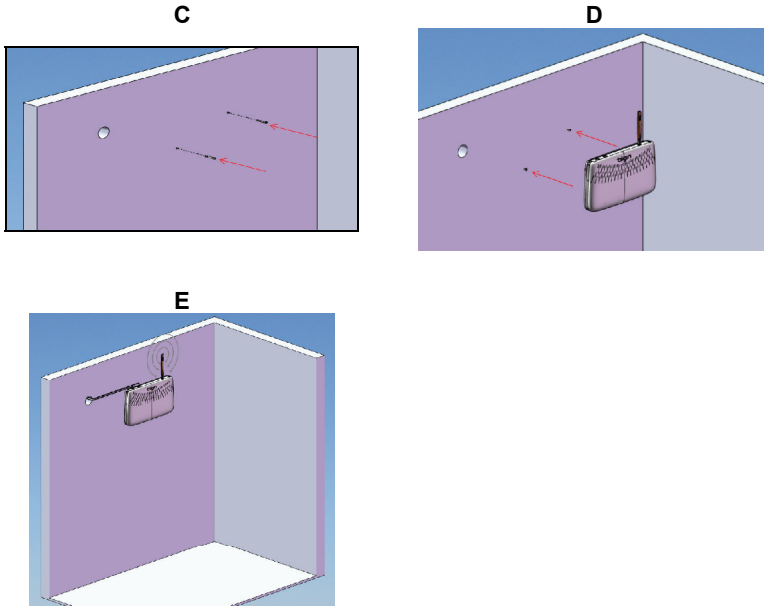
To install: see below text and figure.C - E

See Drill Guide for wall mounting appended in the gift box, for drilling correctly spaced holes.

The template shows an outline view of the product with two indicated drill locations.

- A. Mark the drill locations
 - B. Drill two holes.
 - C. Screw appropriate screws to the wall where the device is to be placed.
 - D. Let the bottom of the device face the wall and mount the device on the screws.
 - E. Connect the cables to the rear panel.
- F. For mounting the HG1550 series onto the MSA Fiber Termination Unit,
See **15. Mounting the HG1500 Series on FTU.**

Figure. Mounting the device to the wall:

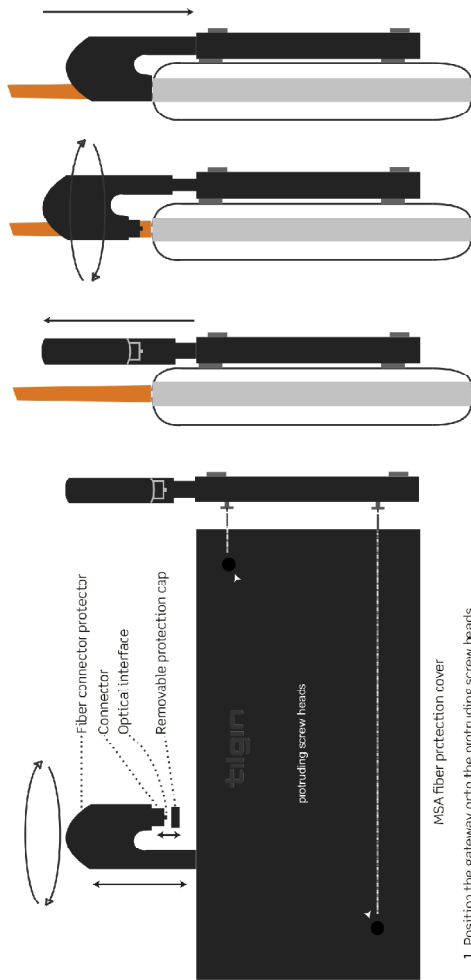


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14. Used Acronyms

DHCP	Dynamic Host Configuration Protocol
FTU	Fiber Termination Unit
GUI	Graphical User Interface
LAN	Local Area Network
PBC Method	Push Button Connect method
PSTN	Public Switched Telephone Network
SSID	Service Set Identifier
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access
WPS	Wi-Fi Protected Setup

15. Mounting the HG1500 series on FTU



1. Position the gateway onto the protruding screw heads
2. Lift the fiber connector protector upwards and remove the protection cap.
3. Turn the fiber connector protector 90 degrees clockwise.
4. Push the fiber connector protector downwards carefully until the connector is inserted firmly into the WAN connection port on the HG unit.

Mounting the HG 1500 series onto the MSA Fiber termination unit

IMPORTANT: The MSA fiber termination unit is expected to be pre-installed by professional optical fiber engineers before you mount the gateway onto it. The optical interface is extremely sensitive. Please use all caution when lowering the fiber connector protector into the WAN connection port. Do not touch the optical interface.

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