

Tilgin Home Gateway HG2300 series



Quick Guide

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1 Introduction

The home gateway you have received enables services provided by your operator and can become the full service node in your home.

This Quick Guide contains start-up instructions for installing Tilgin Home Gateways HG2300 series. When following the instructions to connect and start-up the home gateway it will automatically connect to your operators network for enabling services offered by your operator. If provided, check the instructions from your operator for additional steps needed when connecting and powering up the device.

2 Delivered with the home gateway

Confirm that you have received the following:

Content in packages for HG2300 models

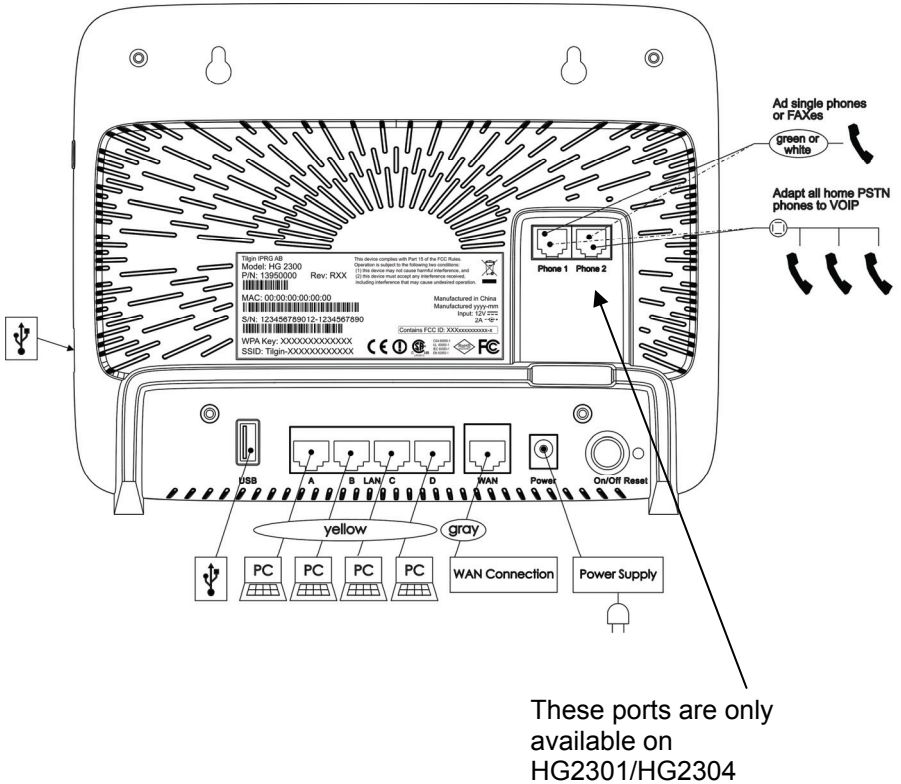
All models:	Specific	Qty
HG2300 series gateway		1
HG2300 foot stand/wall bracket	Optional	1
AC/DC adapter 100-240V-12V Out		1
Power cord (black) for EU standard		1
Ethernet cable (yellow)		1
Quick Guide (this document)		1
EULA, End User License Terms and Conditions		1

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

3 Home Gateway Overview

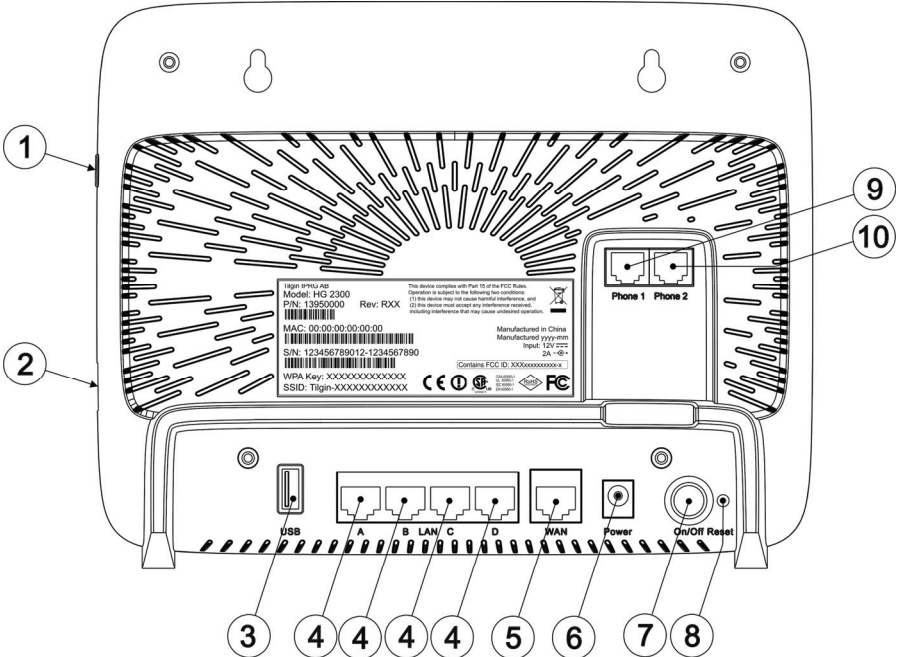
3.1. Home Gateway cable attachments

See more instructions below (Picture shows HG2301)



3.2. Home Gateway Interfaces

Rear panel (Backside) (Picture shows HG2301)









Pos	Interface	Outlet & cable color codes	Function
1	Multipurpose ECO button	Green	<p>-Connects to Wireless Local Area Network (WLAN) ON or OFF</p> <p>-Sets up Wireless Protected Setup (WPS)</p> <p>Note: The function of the ECO mode button can be configured in the Web GUI or setup by the operator. The default configuration switches WLAN on/off.</p>
2 3	USB Host Ports		Connects USB Device
4	LAN ports: A,B,C,D	Yellow	Connects Ethernet cables (RJ-45) to the home computers and other devices
5	WAN	Gray	Connects to WAN(Internet)
6	Power Input	Black	Connects the power adapter
7	ON / OFF		Button for turning the home gateway on or off
8	Reset		Button for factory reset
9	Phone 1	Green	Connects analogue phones or fax equipment
10	Phone 2	White	

3.3. LEDs Front Panel

Front panel LEDs indicates the home gateway and its connection status
(Picture shows HG2301)



LED	Signaling	Indication
 power	OFF	No power
	RED, Stable	Not ready, boot in progress
	RED, Slow flash	Connection to operator failed/
	RED, Rapid flash	Upgrading or connecting
	GREEN, Stable	Normal operation.
 ECO	OFF	Normal mode
	GREEN, Slow flash	ECO mode (low power mode)
www Internet	RED, Stable	No internet connection obtained
	GREEN, Stable	Connection to internet established
 USB	OFF	Not connected
	GREEN, Stable	Connection established
 Phone 1  Phone 2	OFF	No telephone services configured
	GREEN, Rapid flash	One or more telephone services failed
	GREEN Short flash	Message waiting
	GREEN, Stable	The telephone service is available
WAN	OFF	No link
	GREEN, Rapid flash	Traffic activity
	GREEN, Stable	Link 10/100M
	YELLOW, Stable	Link 1000M
 Wireless	OFF	Wireless function disabled
	GREEN	Wireless function enabled.
	GREEN, Slow flash	WPS in progress
	GREEN, Rapid flash	WPS failed
	GREEN Short flash	WPS succeeded
LAN A,B,C,D	OFF	No link
	GREEN, Rapid flash	Traffic activity
	GREEN, Stable	Link 10/100M
	YELLOW, Stable	Link 1000M

4 Installing your Home Gateway

When the home gateway is connected, it will automatically be provisioned by your operator. However, the level of configuration can vary from a completely automatic configuration to full manual configuration, depending on what your operator offers.

Follow the specific configuration instructions you may have received from your operator.

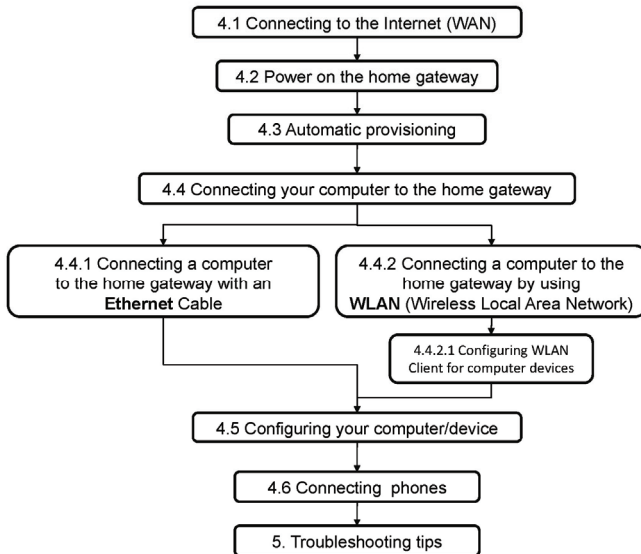
The home gateway use Web GUI pages for local configuration with your computer. Pages available in the Web GUI depend on your operator's offering.

Home gateways and power supplies are electrical devices that can overheat without ventilation.

Place standing or wall mounted on a firm and flat surface and do not cover or crowd them with objects or clothing that prevents good ventilation.

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

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



4.1 Connecting to the Internet (WAN)

Connect the Ethernet cable into the WAN port (#5 on the **Home Gateway Interfaces** page) and into your Ethernet access port. (**Home Gateway cable attachments**)

4.2 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 (#6) on the backside of the unit.
3. Plug the power cord into a power outlet.
4. Push the ON/OFF-Button (#7) on the backside to ON
5. Check that the power LED on the front panel is lit (red).

4.3 Automatic Provisioning

When the home gateway is 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 your operator.

Just wait until the power LED is stable green, which normally takes a few minutes, but may take up to 30 minutes. If the LED still does not show stable green after 30 minutes, then reboot (push power ON/OFF-button). If problem persists, contact your operator.

For more information about the LED status, see **LEDs Front panel**.

4.4 Connecting a computer to your Home Gateway

There are two ways to connect a computer to your home gateway, either with the **Ethernet cable** or by using **WLAN (Wireless Local Area Network)**. Other Ethernet devices or WLAN enabled clients may use same methods to connect.

Note: Some computers can have problems when connecting both Ethernet and WLAN simultaneously.

4.4.1 Connecting a computer by Ethernet cable

Connect the Ethernet port on your computer with an Ethernet cable to one of the LAN ports marked A – D.

4.4.2 Connecting a computer by using WLAN (Wireless LAN)

WPS method

The Tilgin home gateway supports the Wi-Fi Protected Setup (WPS) feature to make it easy to set up a secure wireless home network.

Two WPS methods are supported, **PIN** and Push Button Connect (**PBC**).

If your wireless device/adaptor supplier does not support WPS setup, the WLAN connection with the home gateway can be setup manually.

WPS-PIN method

1. Enable the WLAN by pressing the ECO mode button (#1) once. The WLAN LED on the front panel will turn green when enabled.
2. Enter the PIN code, provided by your wireless device/adaptor supplier, in the local Web GUI of the home gateway.

WPS-PBC method

1. Enable the WLAN by pressing the ECO mode button (#1) once. The WLAN LED on the front panel will turn green when enabled.
2. Press the ECO mode button (#1) again for 5-10 seconds to enable the PBC function on the home gateway.
3. Press the PBC button on your wireless device/adaptor.

Manual method

The WLAN settings are configured manually according to operator specific WLAN settings or by using the default WLAN settings of the home gateway.

Note: Your wireless device/adaptor usually has a connection guide or wizard that will guide you through configuration and connecting to the home gateway.

You should follow these instructions and take into account any WLAN security level settings provided by your operator.

If the instructions provided with the WLAN client fail, and/or your operator does not recommend specific WLAN settings, use the default WLAN port settings described in chapter 4.4.2.1 *Configuring WLAN Client for computer devices*.

4.4.2.1 Configuring WLAN Client for computer devices

The Wireless LAN configuration is dependent on your computer/operating system. For more detailed instructions refer to your computer operating systems Help.

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

If the configuration fail, and/or your operator do not recommend specific WLAN settings, use the default WLAN port settings below.

Default WLAN port settings

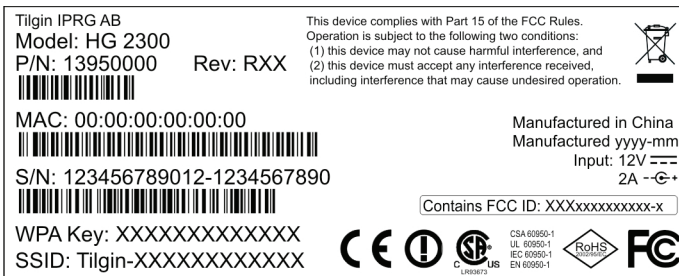
Check that the parameters for WLAN are set according to SSID and WPA key found on the casing label on the back of the home gateway.

SSID = Tilgin-<12 random characters>

Example: **Tilgin-1wa23sbg9skm**

Channel = Auto

Note: Your 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 backside of the home gateway.



Make sure your WLAN profile is saved, and make sure your computer network settings are configured properly.

4.5 Configuring your computer/device

Your computer must be configured properly to be able to connect to the Internet and the computers 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 that your computer network settings are set to TCP/IP protocol and that the IP address will be obtained automatically.

For detailed instructions how to set up your home network check instructions/Help for your operating system on your computer.

4.6 Connecting phones / equipment

You can connect your analogue phones/equipment to the home gateway.

The devices connected to the gateway are adapted for VoIP calls.

Mind that you might need a country specific phone plug and a special phone cable (both supplied by your operator) to connect multiple analogue devices.

If your services do not include telephony, contact your operator.

4.6.1 Connecting a single analogue phone/equipment

Connect the device to either port (#9) or (#10).

4.6.2 Connecting multiple analogue phones/equipment

All of the phones in your household can be connected to the home gateway using a country specific phone plug and a special Phone cable.

Each port can handle up to five devices in cascade. In this case, **DO NOT** connect any of the home gateway phone ports to the Phone Socket on the wall.

Plug the special cable into one of the phone ports (#9) or (#10) and then into the specific phone plug connected on the main phone socket on the wall.

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

This option must be supported in your country and by your operator.

5 Troubleshooting Tips

If the home gateway is not working as expected, please try out the following troubleshooting tips.

- Check the cable connections.
- Check if the power LED is lit. If not switch the ON/OFF button to ON. Check that the power cord is attached in both ends.
- If the power LED not lights stable green within 30 minutes reboot (push power ON/OFF)
- If the power LED still not lit stable green after reboot contact your service operator.
- If the WAN indicator does not lit green (www) (front of home gateway), check that the Ethernet cable is properly connected.
- Verify that the LEDs lights according to the table in LEDs front panel page.
- Verify that you can hear a dial tone after hooking off the Telephone receiver. If not check that the Telephone line cord from the Telephone is connected to one of the phone ports.
- When there is slow, or no connection over WLAN, push the ECO mode button (WLAN OFF). Now press the ECO mode button again (WLAN ON). The Auto channel feature then searches for the best channel and select it.
- If your operator provides Web GUI access, status information is available via a computer login to the home gateway. Please see information provided by your operator.

If these actions still do not solve the problem, contact your operator or the vendor that supplied your home gateway.

6 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.)

7 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 of power adapter can be obtained from an authorized Tilgin distributor.
- Do not open or disassemble this product.
- Place on a firm and flat surface using the foot stand/wall bracket
- 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.

8 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:



Declaration of Conformity



Tilgin IPRG AB
Box 1240
164 28 Kista
Sweden

Declares that:

Equipment: Home Gateways
Products: Tilgin Gateways
Product versions: HG2301, HG2302, HG2303, HG2304

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	EN55022: 2006+A1:2007 (Class B)
EMC – Immunity	EN55024: 1998+A1:2001+A2:2003
	EN 61000-4-2,-3,-4,-5,-6,-11
EMC - Radio	EN 300 328:V1.7.1
EMC – WLAN	EN301489-1: V1.8.1 EN301489-17: V2.1.1
Safety	EN 60950-1:2006+ A11:2009

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.



.....
Mats Victorin CEO Tilgin IPRG AB

November 15, 2010

9 FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two 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.

CAUTION: Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance."

10 Technical Specifications

Max dimension incl.	BxHxD = 240x175x82 mm	
Max dimension excl.	BxHxD = 220x175x65 mm	
Weight	0.6 kilograms	
Operating voltage	See the supplied power adapter	
Operating frequency	See the supplied power adapter	
Temperature	Operating	0°C to 40°C
		32°F to 104°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%

11 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 operator for more information on the environmental performances of these products.



Power Saver Reminder

If not using WLAN it is recommended to shut it down by pushing the ECO mode button (#1) (OFF).

12 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.

13 Notice of Copyright and Patent Protection

This product incorporates technology, which is copyrighted, 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.

14 How to Mount the Home Gateway

14.1 Desk Top Mount

If you want to have the home gateway standing on a level surface

1. Connect the cables.
2. Arrange the cables and fix them under the hooks
3. Put the foot stand/wall bracket on a level surface
4. Place the device on the foot stand/wall bracket on the slot Fig 1
5. Snap the home gateway in the slots Fig 2

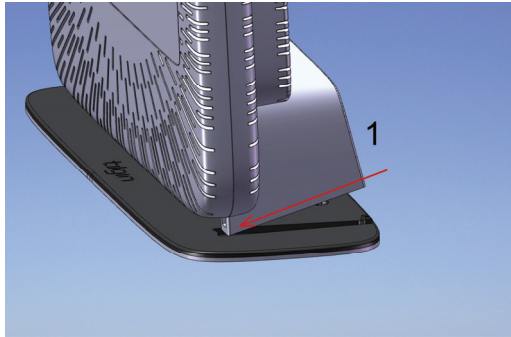


Fig. 1

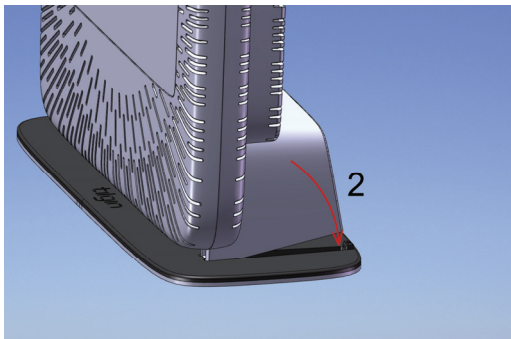


Fig. 2

14.2 Wall Mount

If you want to mount your product on a wall

1. Use the foot stand/wall bracket to mark the drill holes. Fig 3.
The wall bracket is used both for wall mounting and as a foot stand.
2. When you have marked the drill locations on your wall, drill two holes and mount the wall bracket with two suitable screws. Fig 3
3. Connect the cables to the ports on the rear panel. Fig 4
4. Hang the device on the foot stand/wall bracket hooks. Fig 5 and Fig 6

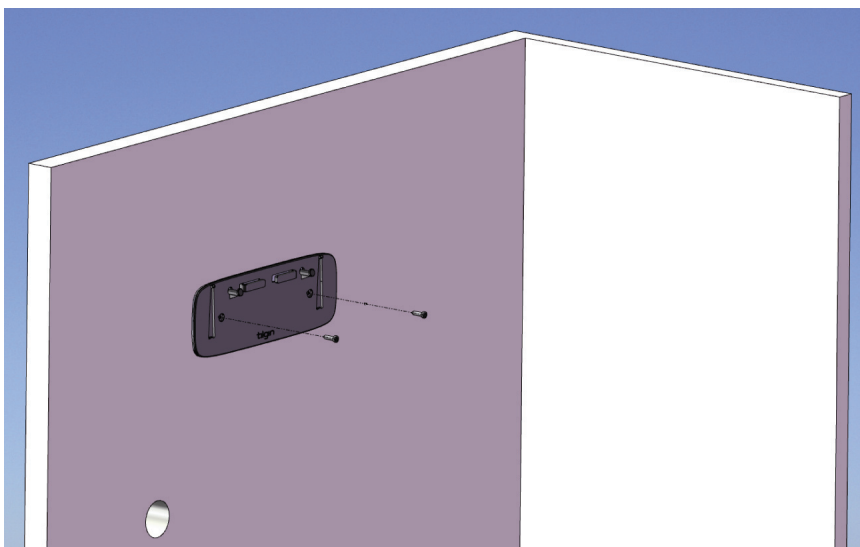


Fig. 3

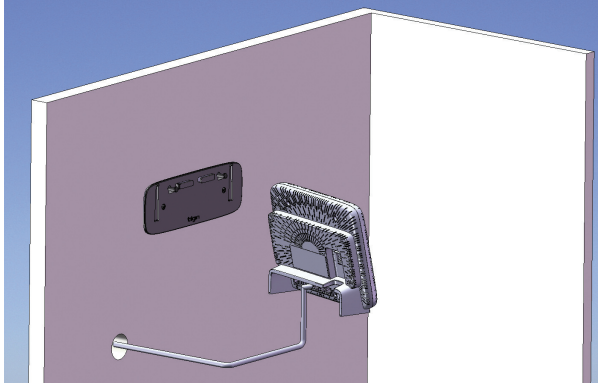


Fig. 4

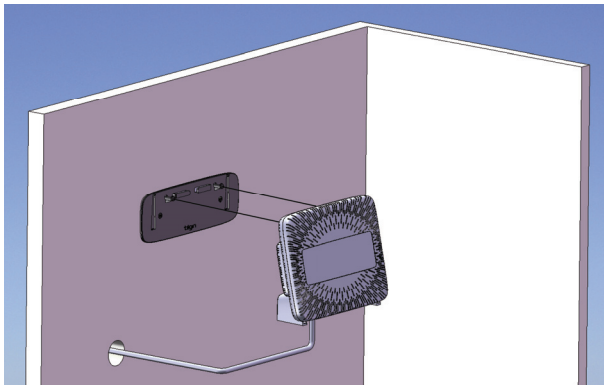


Fig. 5

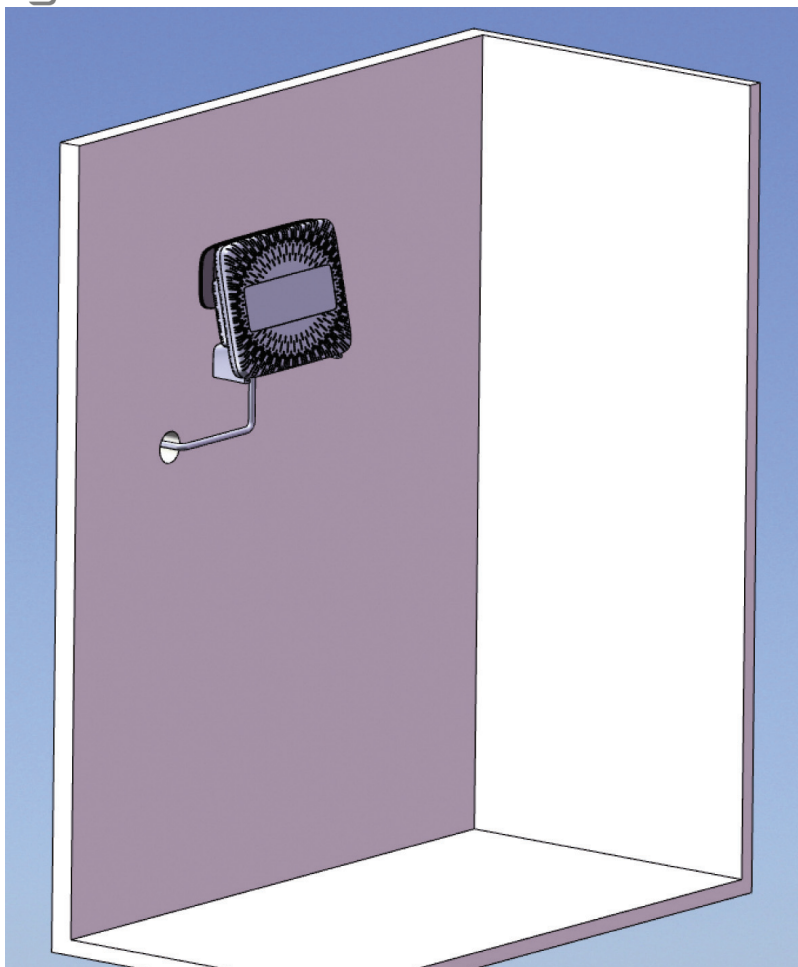


Fig. 6

15 Used Acronyms

DHCP	Dynamic Host Configuration Protocol
GUI	Graphical User Interface
LAN	Local Area Network
LED	Light Emitting Diode
PBC Method	Push Button Connect method
SSID	Service Set Identifier
VoIP	Voice over IP
WAN	Wide Area Network
Wi-Fi	Trademark for Wi-Fi Alliance
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access
WPS	Wi-Fi Protected Setup

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