

# Tilgin Home Gateway HG2280 HG2380 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 Start Guide contains start-up instructions for installing Tilgin Home Gateway HG2280 and HG2380 series.

When following the instructions to connect and start-up the home gateway it will automatically connect to your operator's 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.

Quick Guide available on:

<http://www.tilginsolutions.com/company/support/>

## 2. Delivered with the home gateway

Confirm that you have received the following:

### Content in packages for H2280 HG2380 models

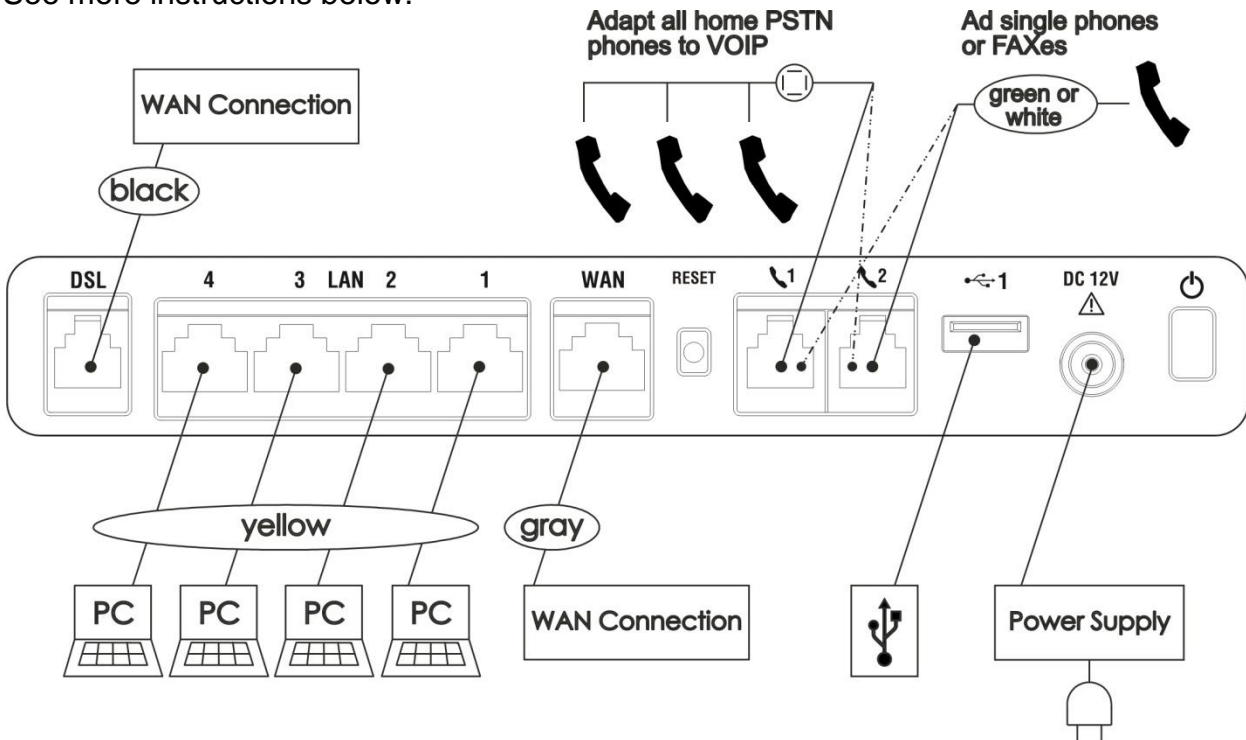
All models:	Specific	Qty
HG2280 or HG2380 series gateway		1
AC/DC adapter: Output 12V/2.5 A or 12V/2.0A		1
Ethernet cable white		1
Quick Guide (this document)		1
EULA, End User License Terms and Conditions		1
Software pre-installed		1

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

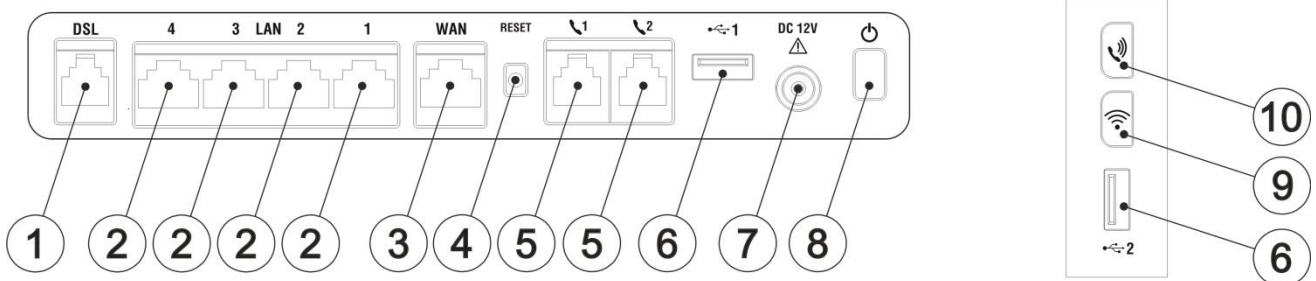
### 3. Home Gateway Overview

#### 3.1. Home Gateway cable attachments

See more instructions below.



#### 3.2. Home Gateway Interfaces

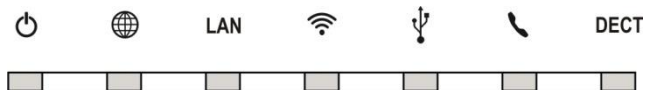


Pos	Interface	Function
1	DSL	Connects to WAN (Internet) using ADSL2+ or VDSL2
2	LAN ports: 1, 2, 3, 4	Connects Ethernet cables (RJ-45) to the home computers and other devices
3	WAN	Connects to WAN (Internet) using Ethernet
4	Reset button	Button for factory reset
5	Phone1 and 2	Connects analogue phones or fax equipment
6	USB Host Ports 1 and 2	Connects USB Device
7	Power Input	Connects the power adapter
8	ON / OFF button	Button for turning the home gateway on or off
9	Wireless LAN(WLAN) ON / OFF	Turn wireless LAN (WLAN) ON or OFF with short press. Activate Wireless Protected Setup (WPS) with push for 10 seconds.
10	Locate handsets	Press to page (locate) all connected handsets.

Note that some product versions have a subset of the interfaces described above

### 3.3. LEDs Front

Front LEDs indicates the home gateway and its connection status.



LED	Signaling	Indication
Power Not applicable to HG2382	ORANGE, Stable	Normal operation
	ORANGE, Rapid flash	Upgrading or connecting to operator
	RED, Stable	Not ready, boot in progress
	RED, Slow flash	Connection to operator failed
	OFF	No power
Power HG2382 only	GREEN, Stable	Normal operation
	ORANGE, Rapid flash	Upgrading or connecting to operator
	ORANGE, Stable	Not ready, boot in progress
	ORANGE, Slow flash	Connection to operator failed
	OFF	No power
Internet	GREEN, Stable	Internet Connectivity Established
	RED, Stable	No internet Connectivity
<b>LAN</b>	GREEN, Stable	Link 10/100M/1000M
	GREEN, Rapid flash	Traffic activity
	OFF	No link
WLAN	GREEN, Stable	Wireless function enabled.
	GREEN, Slow flash	WPS in progress
	GREEN, Short flash	WPS succeeded
	GREEN, Rapid flash	WPS failed
	OFF	Wireless function disabled
USB	GREEN, Stable	Connection established
	OFF	No device connected/detected
Phone Where applicable	GREEN, Stable	Off – hook
	GREEN, Short flash	Ringling
	GREEN, Rapid flash	N/A
	OFF	Disconnect / on-hook
<b>DECT</b> Where applicable	GREEN, Stable	The telephone service is available
	GREEN, Short flash	Message waiting
	GREEN, Rapid flash	One or more telephone services failed
	OFF	VoIP account not registered

Note that some product versions have a subset of the LEDs described above

## 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.

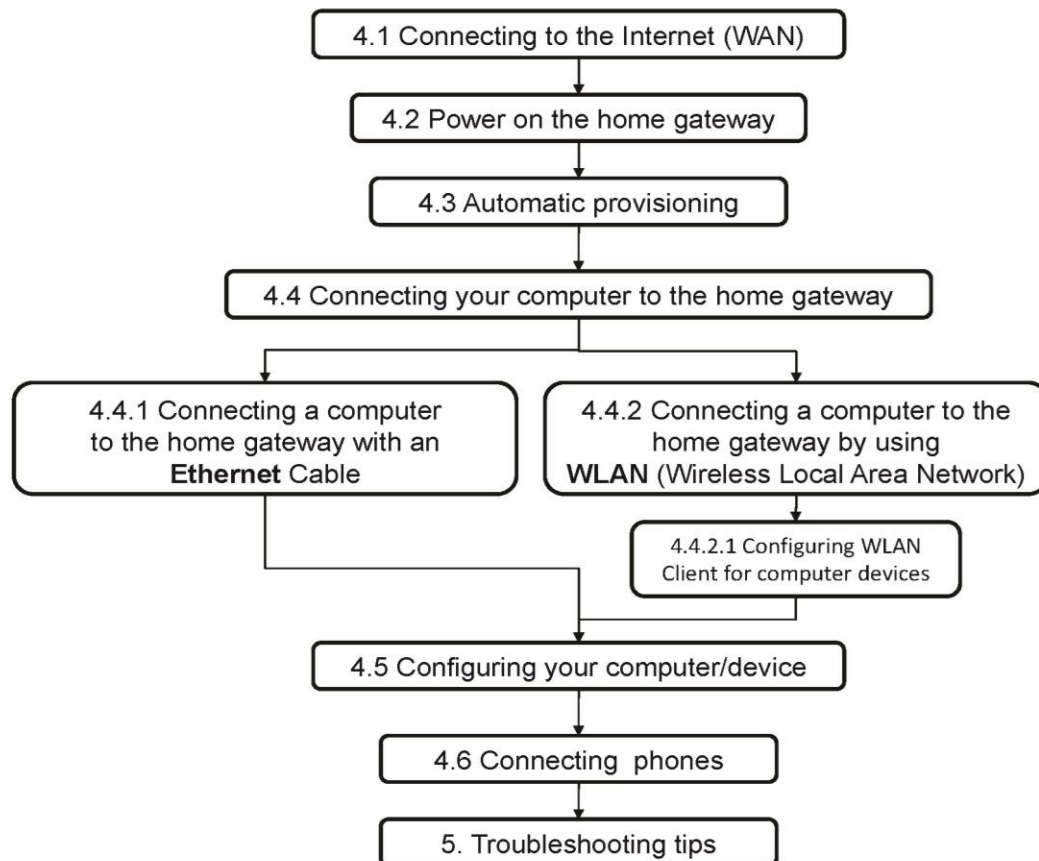
Home gateways and power supplies are electrical devices that can overheat without ventilation.

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.

For best WiFi performance place the unit standing up in a high and free position, preferably in a central location of the home.

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 explained in detail on the following pages.



## 4.1 Connecting to the Internet (WAN)

The operator might offer Internet access using either ADSL2+, VDSL2 or Ethernet access.

Please refer to the documentation provided by the operator for information on how to connect the device to Internet (WAN).

For Internet access using ADSL2+ and VDSL2 technology the internet network cable should be connected to outlet 1 (on the gateway) and to the ADSL2+/VDSL2 outlet offered by the operator, normally the phone socket on the wall. In many cases a splitter must be connected between the gateway and the phone socket on the wall, please refer to instructions provided by the operator for proper connection.

For internet access using Ethernet technology the internet network cable should be connected to outlet #3 (on the gateway) and to the Ethernet access port offered by the operator.

Note that **either outlet 1 or outlet 3 should be used**, not both.

If your gateway first has connected to Internet using ADSL2+ or VDSL2 technology and you later switch to connecting to Internet using Ethernet, or vice versa, the following steps are needed.

- Connect and use the correct WAN cable as described above
- Remove the old WAN cable on the gateway
- **Restart the gateway** by turning off and on the power of the gateway using the ON/OFF-Button (#8).

## 4.2 Connect the power cord to the AC/DC adapter

1. Connect the AC/DC adapter power cord to the power connector (#7) on the backside of the unit.
2. Plug the power cord into a power outlet.
3. Push the ON/OFF-Button (#8) on the backside to ON
4. Check that the power LED on the front side 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 turns stable orange, which normally takes a few minutes, but may take up to 30 minutes. If the LED still has not turned stable orange 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**.



## 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 LAN 1 – LAN 4.

### 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**

-Enable the WLAN by pressing the WiFi-button once (see picture in 3.2 #9). The WLAN LED on the front will turn green when enabled.

-Enter the PIN code, provided by your wireless device/adaptor supplier, in the local Web GUI of the home gateway.

#### **WPS-PBC method**

- Enable the WLAN by pressing the WiFi button once. The WLAN LED on the front will turn green when enabled.

- Press the WiFi button again for 5-10 seconds to enable the PBC function on the home gateway.

- 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

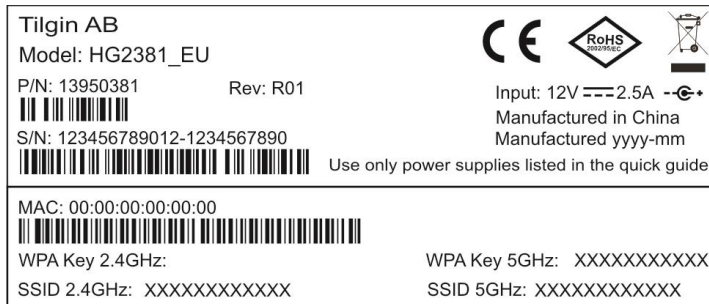
Check that the parameters for WLAN are set according to SSID and WPA key found on the casing label on the back of the home gateway.

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.

### **Connecting a single analogue phone/equipment**

Connect the phone directly to a phone port (see picture in 3.2 #5).

### **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 directly to the phone socket on the wall.

Plug the special cable into one of the phone ports (#5) and then into the specific phone plug connected to 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

## 4.7 Connecting a DECT handset to the home gateway

If your home gateway is equipped with a built in DECT base station, you can connect DECT handsets to your home gateway. For the handsets to work properly, they should support either the CAT-iq or the GAP standard. This is true for most handsets on the market that are reasonably new. It might also be the case that your operator provides a handset together with the home gateway.

To connect (or pair) a handset to the home gateway, press the “Page” button (see picture in 3.2 #10) on the home gateway for 5-10 seconds, the DECT LED will start flashing when the pairing function is activated. Now set the DECT handset in registration mode from the menu of the handset.

If the handset asks for a PIN to identify itself to the home gateway, use “0000” which is the default PIN.

When the pairing is completed, the DECT LED on the home gateway will stop flashing, and the handset will signal that pairing is completed.

Up to 6 handsets can be connected to the home gateway by repeating the procedure above for each handset.

If you have several phone numbers you can change to which phone number a specific handset should be associated from the local GUI of the home gateway.

Note that different handsets behave in different ways and that the description above is a generic description for “any” handset. For details, see the user guide for your DECT handset, or the information received from the operator if the handset was provided together with the gateway.

## 4.8 Locating a DECT handset

A feature in the home gateway allows you to locate connected DECT handsets.

To locate the handsets press and release the “Page” button on the home gateway. All connected handsets will start ringing. Press and release the button again to turn off paging immediately, or wait until paging stops automatically.

## 4.9 Mount the home gateway to the wall

1. Screw two suitable screws to the wall. The screws should be in a horizontal position and with a distance of 178mm. The distance between the screw head and the wall should be approximately 4mm. This could be adjusted depending on the wall structure. Fig 1.
2. Attach the gateway to the screws. Fig 2.

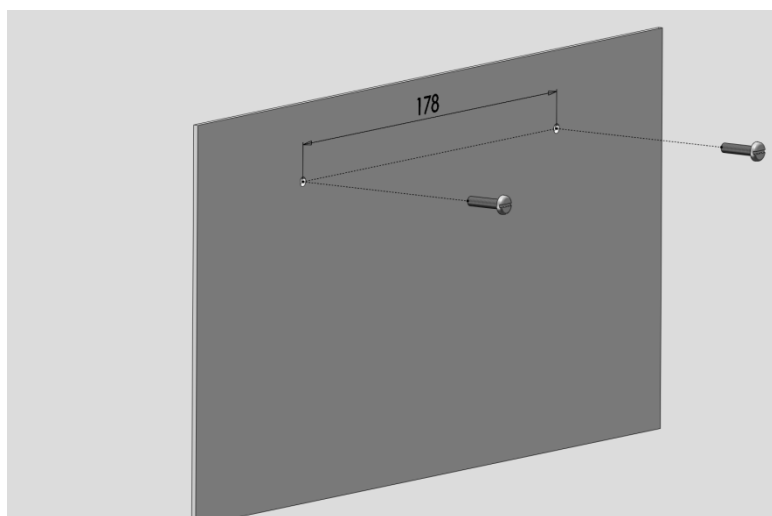


Fig 1

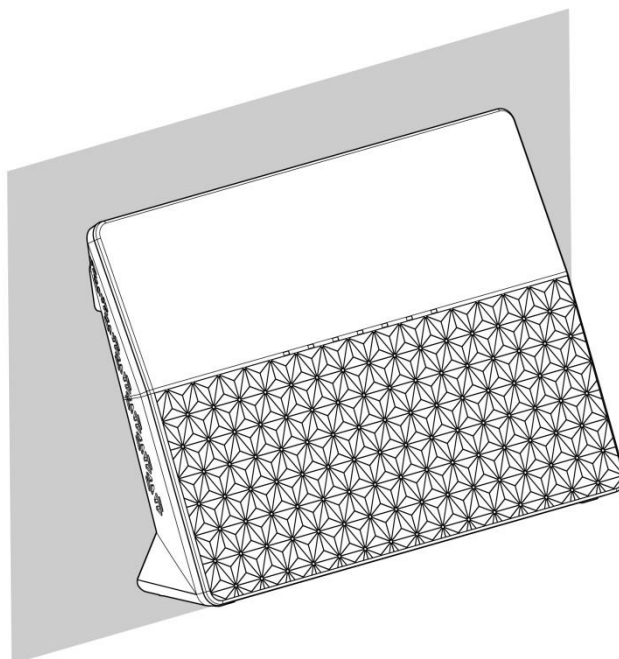


Fig 2

## 5. Troubleshooting Tips

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

- Check that all cables are connected properly.
- Check if the power LED is lit. If not, switch the On/Off button to On.
- If the power LED has not turned stable orange within 30 minutes reboot (push power On/Off). If the power LED still has not turned stable orange after reboot, contact your service operator.
- If the Internet indicator (front of the home gateway) does not lit green check the Ethernet cable is properly connected (WAN connection, see picture in 3.1).
- Verify that the LEDs lights according to the table shown in 3.3.
- 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 WLAN button (WLAN Off). Now press the WLAN button again (WLAN On). The Auto channel feature then searches for the best channel and select it.

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

## 6. Safety Information

Tilgin 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 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.

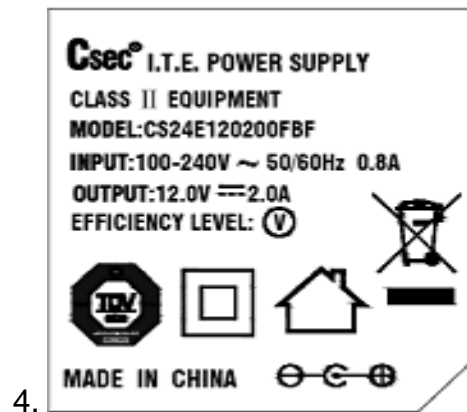
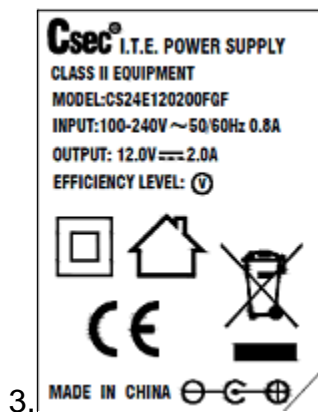
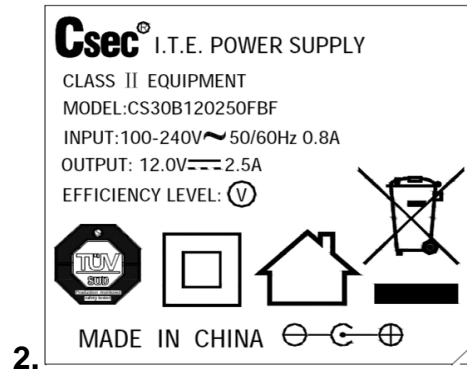
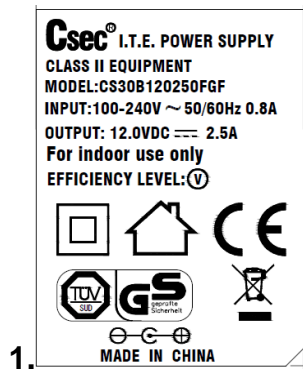
Tilgin waives all and any liability for damages caused to i) the product or any other property or ii) yourself or any other individual as a consequence of using the product in ways that deviate from the safety recommendations set out above.

## 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 shall be installed near the gateway and shall be easily accessible.

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



Power supplies defined for these products.

1. For EU  
CSEC: CS30B120250FGF, Input: 100-240V 50/60Hz 0.8A;  
Output: 12V 2.5A, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.
2. For UK  
CSEC: CS30B120250FBF, Input: 100-240V 50/60Hz 0.8A;  
Output: 12V 2.5A, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.
3. For EU  
CSEC: CS24E120200FGF, Input: 100-240V 50/60Hz 0.8A;  
Output: 12V 2.0A, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.
4. For UK  
CSEC: CS24E120200FBF, Input: 100-240V 50/60Hz 0.8A;  
Output: 12V 2.0A, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.

## 9. Technical Specifications

Max dimension, CPE	W x H x D = 221x158x62mm	
Max dimension, Giftbox	W x H x D = 305x68x168mm	
Weight, Giftbox	0.92kg	
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%

Frequency Band According to Directive 2014/53/EU	Maximum Radio-Frequency Power (EIRP) According to Directive 2014/53/EU
WiFi 2412 – 2472MHz	WiFi 100mW
WiFi 5150 – 5250MHz	WiFi 200mW
WiFi 5250 – 5350MHz	WiFi 100mW
WiFi 5470 – 5725MHz	WiFi 200mW
DECT 1880 – 1900MHz	DECT 250mW

This device is restricted to indoor use when operating in the 5150 MHz - 5350 MHz frequency range in following countries.



BE	EL	LT	PT	BG	ES	LU	RO
CZ	FR	HU	SI	DK	HR	MT	SK
DE	IT	NL	FI	EE	CY	AT	SE
IE	LV	PL	UK				



## 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 operator 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 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, patented, or otherwise protected under intellectual property laws and treaties and proprietary to **Tilgin 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. Acronyms

ADSL2+	WAN access using high speed modem technology.
DECT	Digital Enhanced Cordless Telecommunications
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
VDSL2	WAN access using very high speed modem technology.
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

## 14. Declaration of Conformity

CE Declaration of Conformity available on: <http://www.tilginsolutions.com/company/support/>

### Declaration of Conformity



#### Declaring Organization:

Tilgin AB  
Box 1240  
164 28 Kista  
Sweden

Product Name: Home Gateway  
Product Model Name: HG2280 series, HG2380 series

We, Tilgin AB, declare under the sole responsibility that the above named product conforms to the essential requirements of the European Union Directives below.


2014/53/EU	The Radio Equipment Directive
2014/30/EU	The Electromagnetic Compatibility Directive
2014/35/EU	The Low Voltage Directive
2011/65/EU	RoHS Directive

The following harmonized standards are those to which the product's conformance has been verified.

EMC Portion – VDSL, LAN, FXS VoIP, USB	EN 55032:2012 EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013
EMC Portion – DECT	EN 301489-17 V3.2.0 EN 301489-1 V2.2.0
EMC Portion – 2.4GHz % 5GHz WiFi	EN 301489-17 V3.2.0 EN 301489-1 V2.2.0 EN 301489-6 V2.2.0
RF Portion – DECT RF Portion – 2,4GHz WLAN RF Portion – 5GHz WLAN	EN 301406 V2.2.2 EN 300328 V2.1.1 EN 301893 V2.0.7
Health Portion – DECT Health Portion – 2.4GHz WiFi Health Portion – 5GHz WiFi	EN 301406 V2.2.2 EN 300328 V2.1.1 EN 301893 V2.0.7
Safety Portion RF Safety Portion	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 EN 50385:2002

Transmitter frequency:	WiFi 2412-2472 MHz	Max EIRP 100mW
Transmitter frequency:	WiFi 5150-5250 MHz	Max EIRP 200mW
Transmitter frequency:	WiFi 5250-5350 MHz	Max EIRP 100mW
Transmitter frequency:	WiFi 5470-5725 MHz	Max EIRP 200mW
Transmitter frequency:	DECT 1880–1900 MHz	Max EIRP 250mW

June 1, 2017



Michael Gustavsson  
VP Product and Service Management Tilgin AB



Manufacturer:  
Tilgin AB  
Box 1240  
164 28 Kista  
Sweden

Importer:  
Tilgin AB  
Box 1240  
164 28 Kista  
Sweden



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