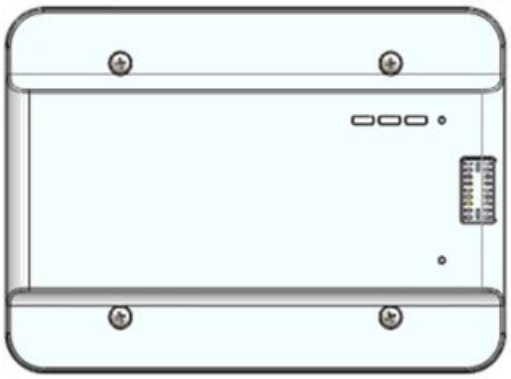
AM TECHNOLOGIES
A SENSE OF THINGS

RelyanceHub™ Installation Guide & User Manual



V1.0

Federal Communication Commission Interference Statement

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

RelyanceHub™ Installation Guide & User Manual

Contents:

CAUTION: Adhere to industry safety standards when installing equipment to avoid personal injury.

WARNING: Use proper tools during installation to prevent equipment and property damage.

(FCC and UL marks will be added here)

1. Preparing to install the RelyanceHub™

The RelyanceHub is designed to monitor ambient temperature and humidity, and has eight input ports to detect Normally Open or Normally Closed contact closures from various optional devices. The RelyanceHub provides current limited (12mA), optically isolated inputs to sense contact closures provided by smoke detectors, magnetic door switches, flood detectors, etc. +12 Vdc with over current protection is provided on pins 1- and 4+ of ports 3, 4, 5 and 6 to power sensors that require it.

Prior to installing the RelyanceHub, the optional sensors and associated wiring should be installed and the wires labeled. Installers must follow instructions provided by the sensor manufacturers and applicable codes when installing sensors.

Locating The RelyanceHub

The RelyanceHub can be recessed in a wall using a standard 3-gang plastic electrical box or on the surface of a wall using the mounting box supplied. The RelyanceHub should not be mounted in a metallic box. This will limit the range of the Wi-Fi and Bluetooth transceivers. All of the wiring and sensors should be installed prior to installing the RelyanceHub.

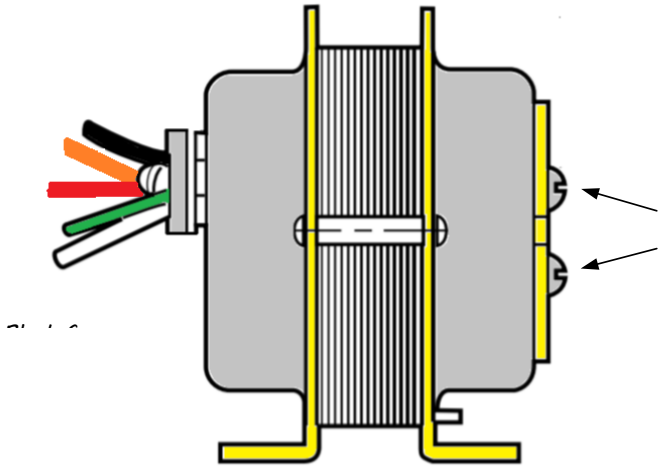
The RelyanceHub should be mounted in a location that will not be subjected to rapid temperature swings such as near an outside door, HVAC duct or in direct sunlight. This will allow for more consistent data from the internal temperature and humidity sensors. The RelyanceHub should be mounted vertically mid-level on a wall at approximately the same level as a light switch would be mounted and in compliance with local codes.

If the RelyanceHub is to be connected to the internet using Wi-Fi, be sure that the hub is located within the coverage area of the desired Wireless Access Point(s).

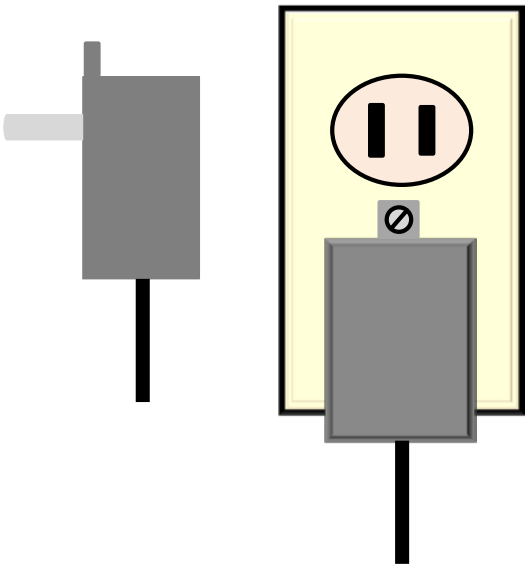
Powering The RelyanceHub

The RelyanceHub can be powered by 24 V, AC or DC. This is done using one of two methods.

Method 1 is to use a standard HVAC type AC transformer such as the Honeywell AT-120A 20VA transformer. The transformer is connected directly to the electrical mains per local code and the instructions provided with the transformer. Connecting the RelyanceHub using this method prevents accidental or intentional disconnection by the tenant.



Method 2 is to use a 24 VAC or DC plug-in wall type transformer/power supply. The transformer/power should be rated at a minimum of 20VA. Consideration should be given to location and methods to prevent accidental or intentional disconnection.



Network Connection

Before installing a RelyanceHub, please verify what network mode(s) the hub will be operating in.

The RelyanceHub connects to the cloud and internet using Wi-Fi and/or an Ethernet network connection. When connected to the internet using Ethernet the RelyanceHub can operate as a Wireless Access Point to allow connection of other Wi-Fi enabled devices. When an Ethernet connection is not provided the RelyanceHub connects to the cloud using a Wi-Fi connection.

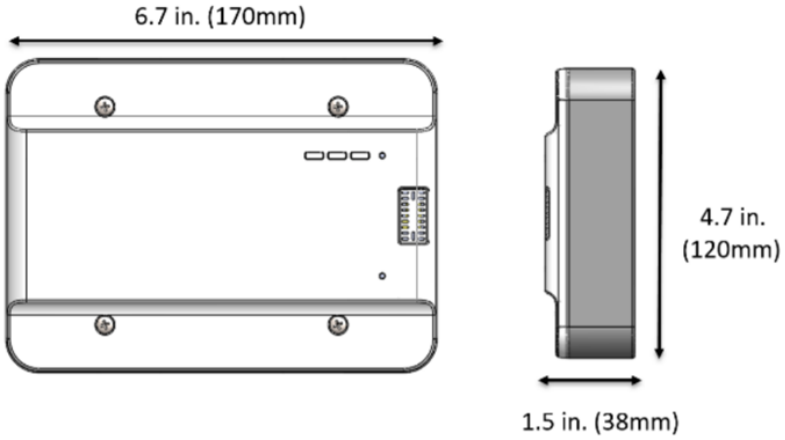
Sensor Installation and Wiring

Before installing the RelyanceHub the power source, wiring and sensors should be installed and available where the RelyanceHub is to be installed. Make sure that all of the wires are properly marked and that the installer has a list of the connections.

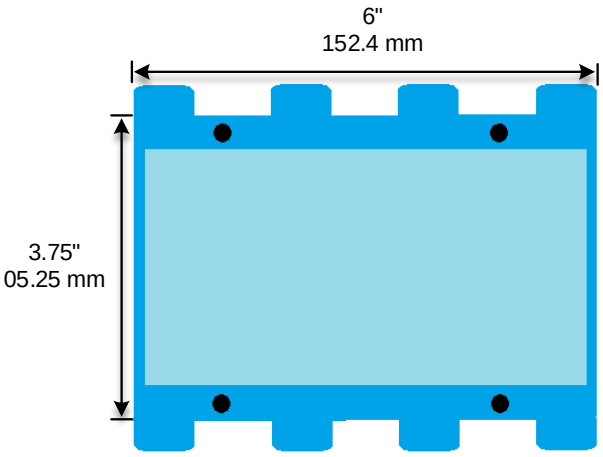
2. Installing the RelyanceHub

Mounting the RelyanceHub

The RelyanceHub can be mounted in a standard plastic 3-gang electrical box for flush mount applications, or using the supplied mounting box for wall mount applications



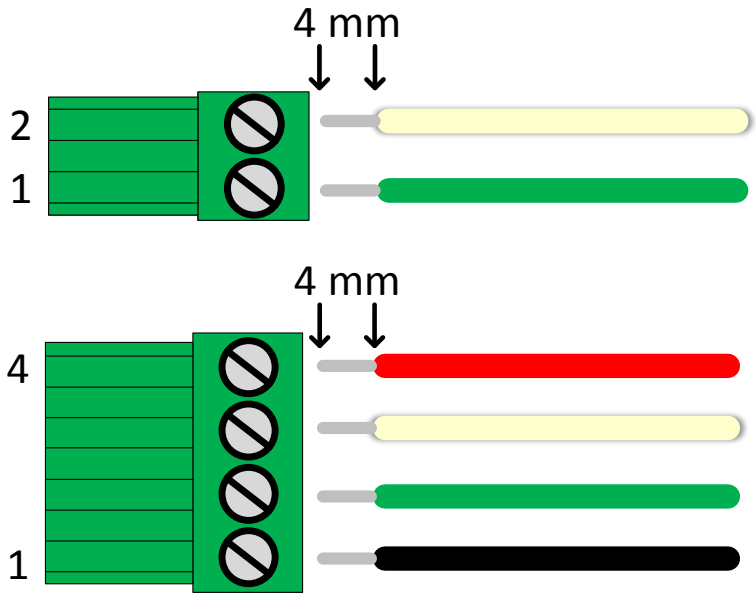
Above: Side view with shallow enclosure for on-the-wall mounting.
Use a standard 3-gang electrical box for flush-mount applications.



Sensor Wire Screw Terminal Connector Installation

The RelyanceHub is supplied with screw terminal connectors that plug into the terminals on the rear of the RelyanceHub. There are two types of input ports. The 4-pin inputs provide a status input connection and +12 Vdc for powered sensors. The 2-pin ports provide only status inputs. If more than 4 sensors require power, the sensor power wires can be doubled-up on one or more of the 4 power ports.

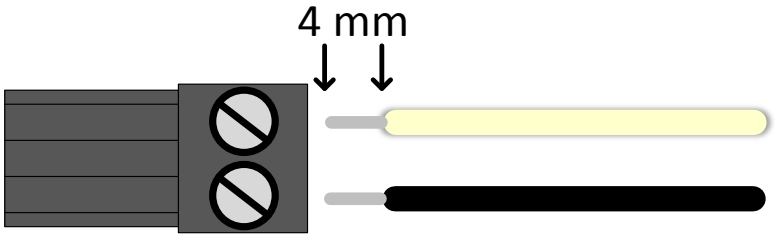
Strip 4 mm from the end of the wire, insert it into the connector and tighten the screw firmly.



Power Wire Connector Installation

To prevent serious injury and/or equipment damage, before attempting to install the power connector on the wire verify that the powere source is 24-30 Vdc/AC and that the power is turned off.

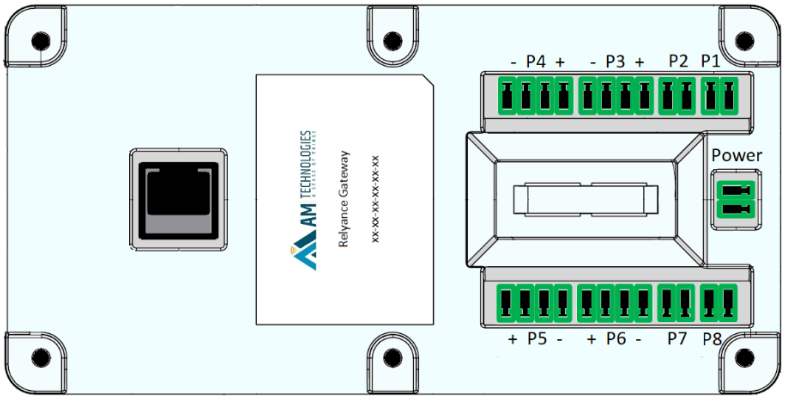
The power connector provided is a screw terminal type connector similar to those used for the input ports, but it is larger and black to prevent accidental insertion in an input port. The wires are installed in a similar manner.

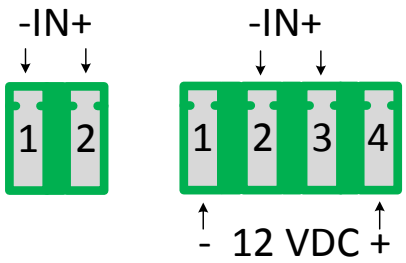


Once the power connector is installed the power can be restored.

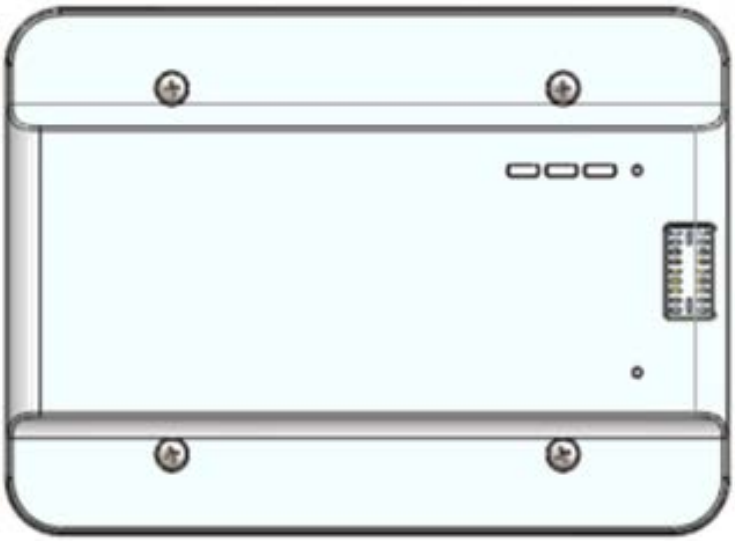
Connecting The RelyanceHub

Once all the connectors are installed on the wires, the sensors can be plugged into the corresponding inputs and power can be applied to the hub.





Making sure that none of the wires are pinched, the RelyanceHub can now be mounted in the 3-gang electrical box or in the enclosure provided. Install using the four screws provided.



3. Configuring the RelyanceHub

3.1 Establishing Local access to the RelyanceHub

Once the unit is powered up, the system settings of the RelyanceHub (also called as AHS) can be accessed locally with a laptop in one of two ways:

a)Direct LAN connection between Laptop and Hub

Using a standard Ethernet cable, connect one end of the cable to the LAN port of the Hub. Connect the other end of the cable to your laptop.

b) Connect through Wi-Fi

On your laptop, search for available hotspots.

Look for an access point with name as:

AHS_REL_< last 6 characters of MAC >

Note: The MAC address is printed

on the back side of the RelyanceHub.

Connect to this Access point.

When asked for the password,

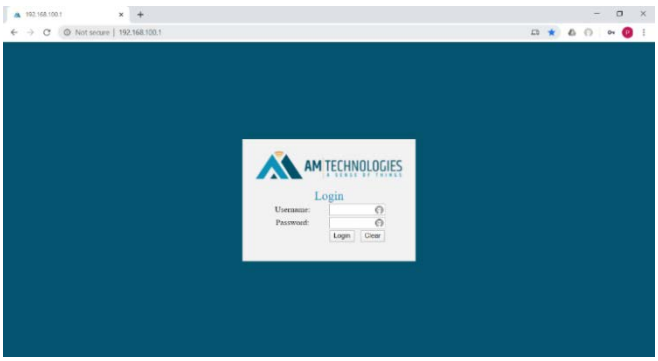
give the password as:

am<last 6 characters of MAC>

In this example, the password will be am082CF1

3.2 Login to the RelyanceHub

Open a web browser and enter the URL as http://192.168.100.1
The login page will be displayed:

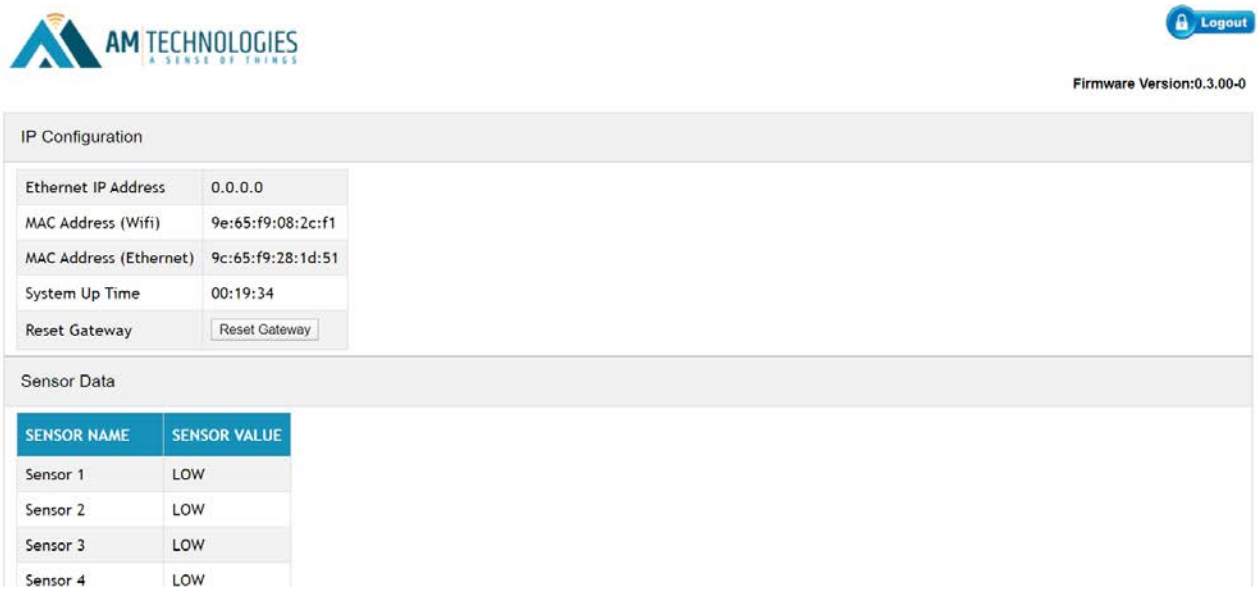


Enter the user name & Password:

User Name : admin

Password : amahs

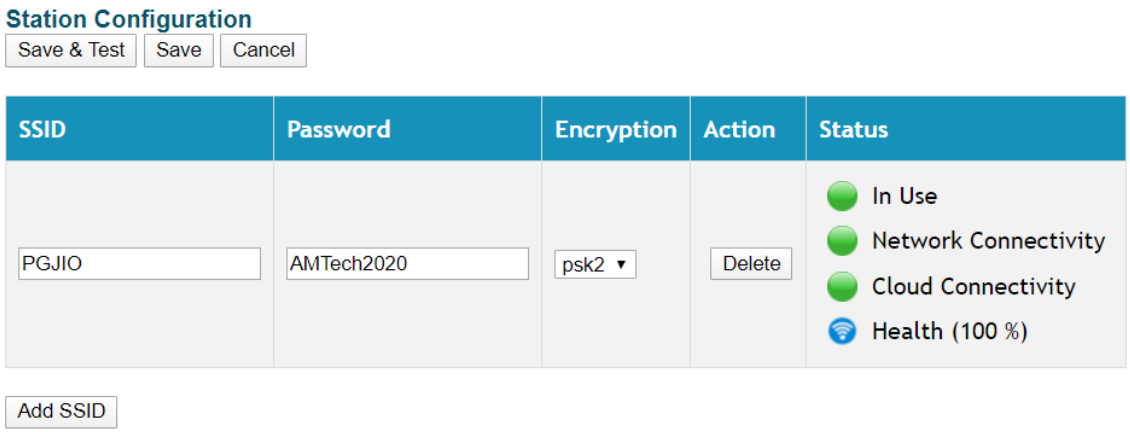
The configuration page of the RelyanceHub will be displayed:



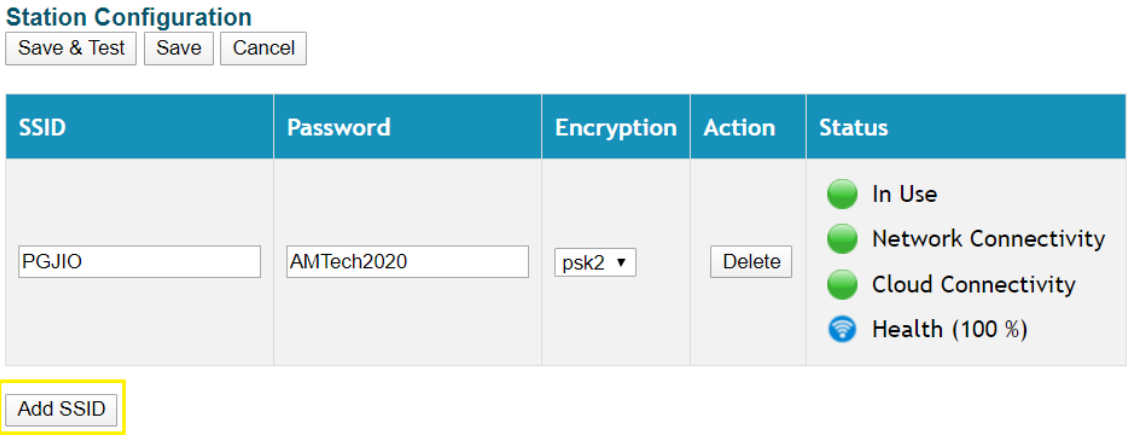
a. Configure the local Wi-Fi SSID credentials to access the Internet

If Wi-Fi is the preferred communication path for the RelyanceHub to the cloud, the Wi-Fi SSID and password must be configured.

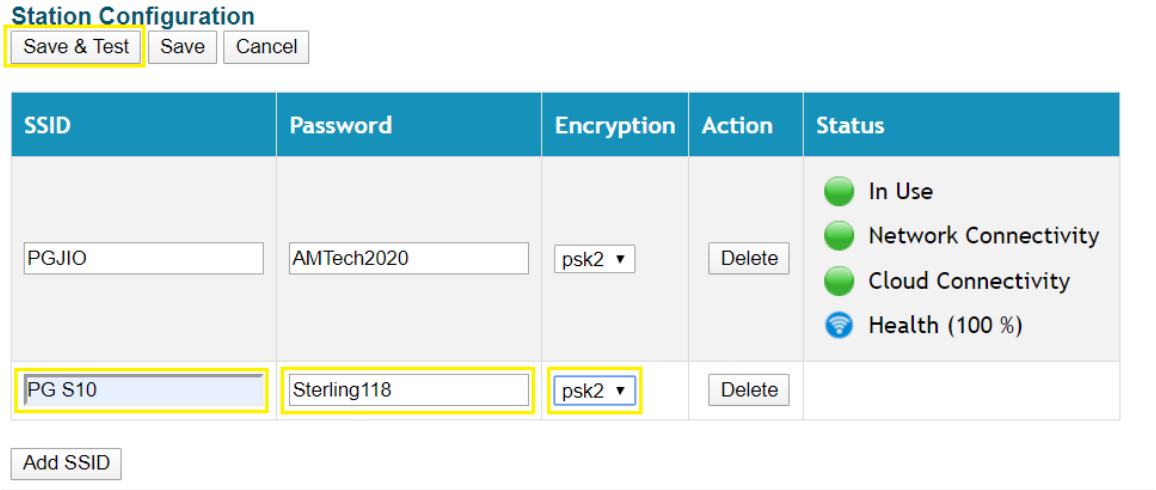
Scroll to the station configuration area:



Click on the ‘Add SSID’ button at the bottom



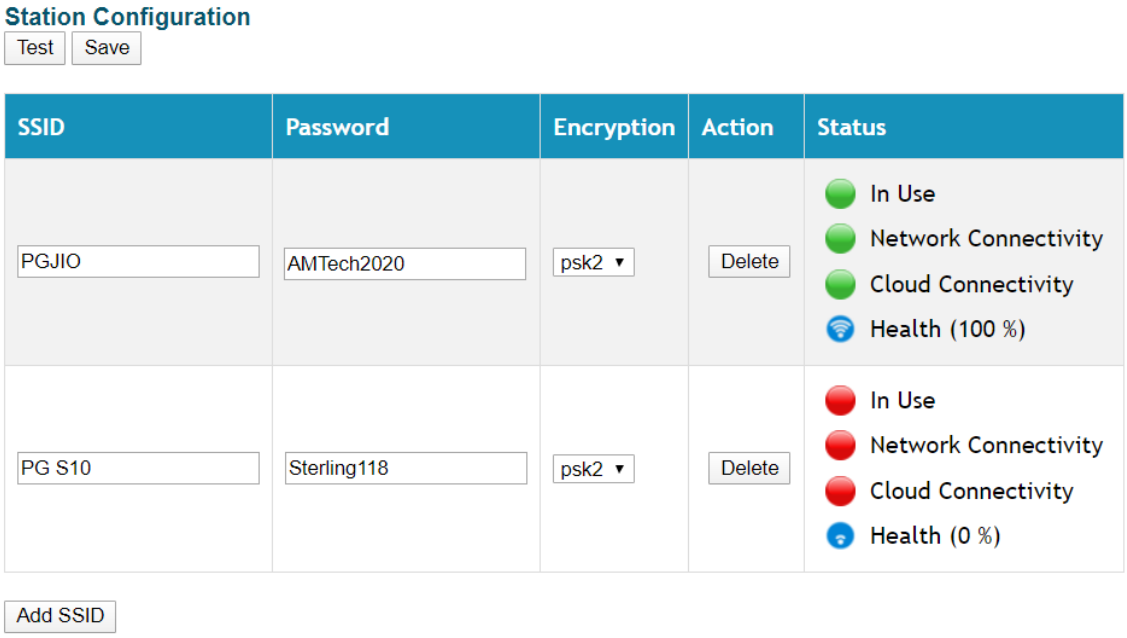
Provide the SSID Name, Password & correct Encryption type (psk2). Then click ‘Save & Test’



Note that the unit will restart. It will take several minutes to complete the restart process.

Once restarted, the newly added SSID will also be listed.

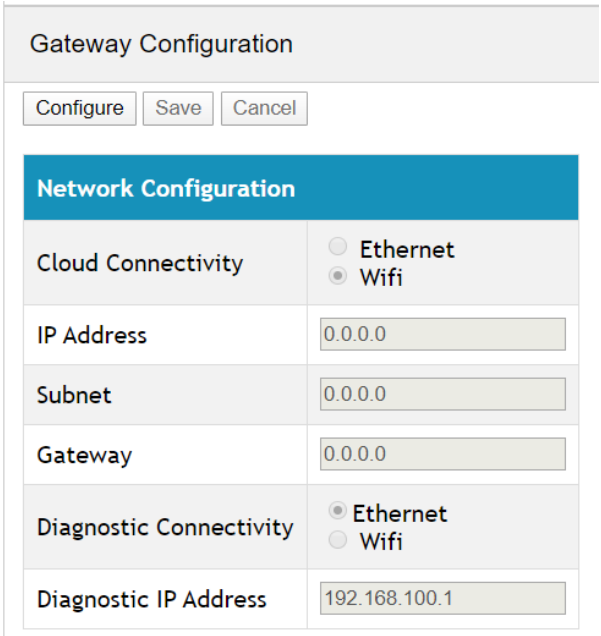
If communication to internet is successful, the Status will be shown in Green. Otherwise the status will be shown in Red.



b. Configure the communication mode between Hub and IoT Server (Cloud)

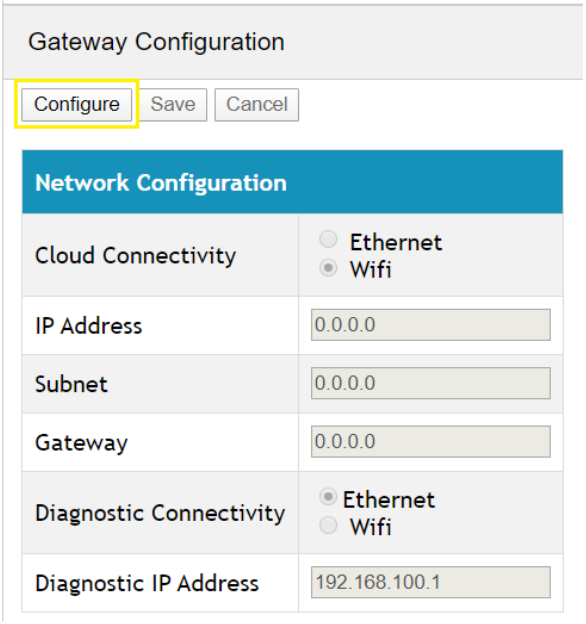
The communication method between the RelyanceHub and the IoT server in the cloud is controlled through this setting.

The default communication between the RelyanceHub and IoT Server is set as 'Wi-Fi'

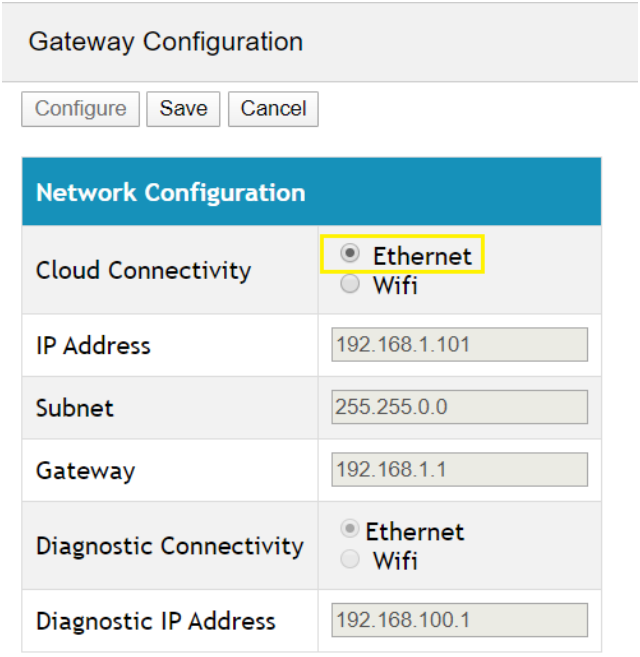


To change the communication mode (Ethernet OR Wi-Fi) do the following:

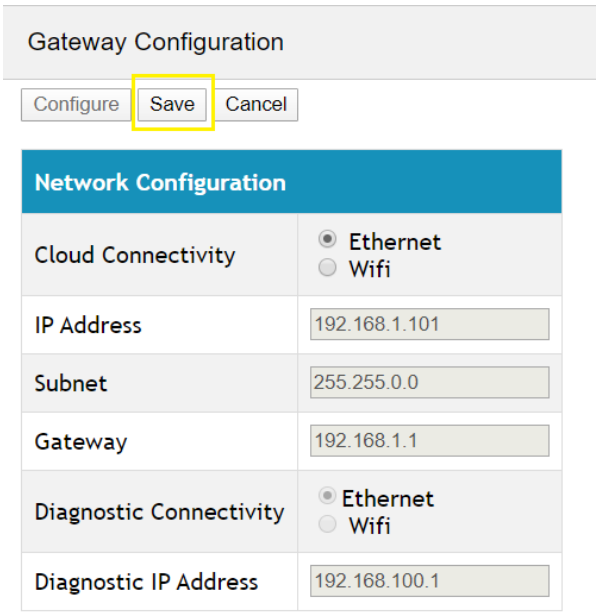
Click on the ‘Configure’ button



Click on the option you want to select under ‘Cloud Connectivity’.



Click on Save button.

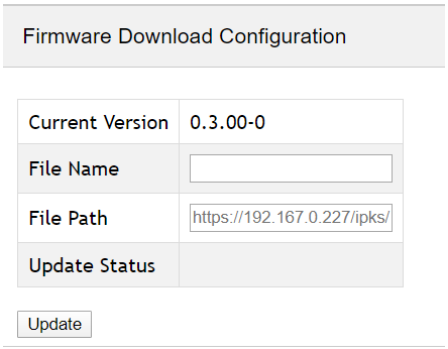


Note that the unit will restart. It will take several minutes to complete the restart process.

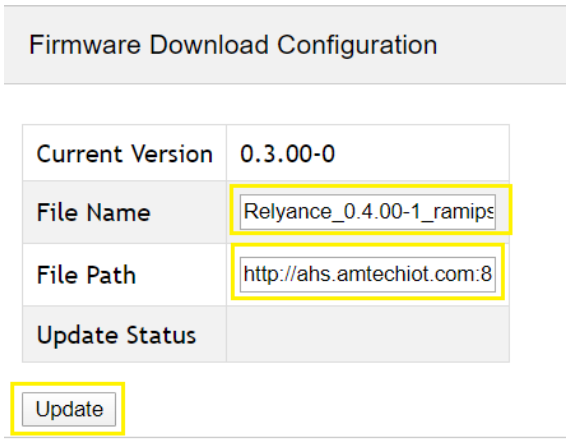
4. Updating the Firmware

If a firmware update is required, the following procedure needs to be carried out.

Navigate to Firmware download configuration section



a) Provide the file name in the 'File Name section'
   Example: Relyance_0.4.00-1_ramips_24kec.ipk
b) Provide the URL of the cloud where the firmware is placed
   Example: http://ahs.amtechiot.com:8080/amiot-smarthub/
c) Click on Update.



Note that the unit will restart. It can take several minutes to complete the restart process.

Once the unit is online after the upgrade, the new firmware version should be reflected at the top right side & Firmware Download Configuration area.

Firmware Version:0.4.00-1