



# Classic and GSM Replacement

Installation Guide

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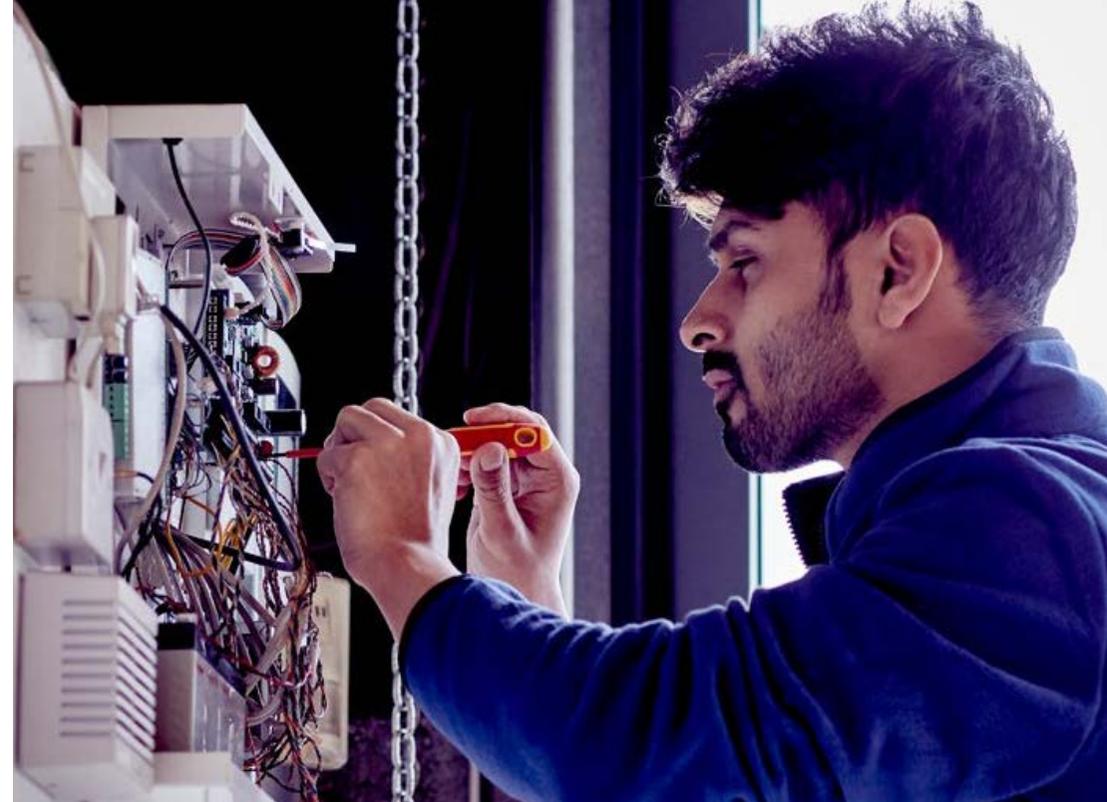
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# Introduction

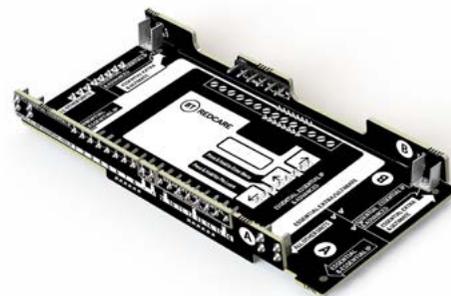
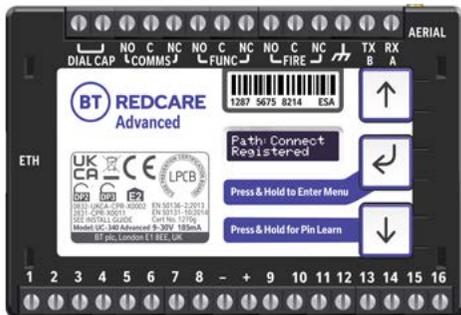
## Product description

The Classic and GSM replacement kit is designed to provide an All-IP-compatible alarm signalling unit for installations fitted with legacy Redcare Classic or GSM signalling modules.

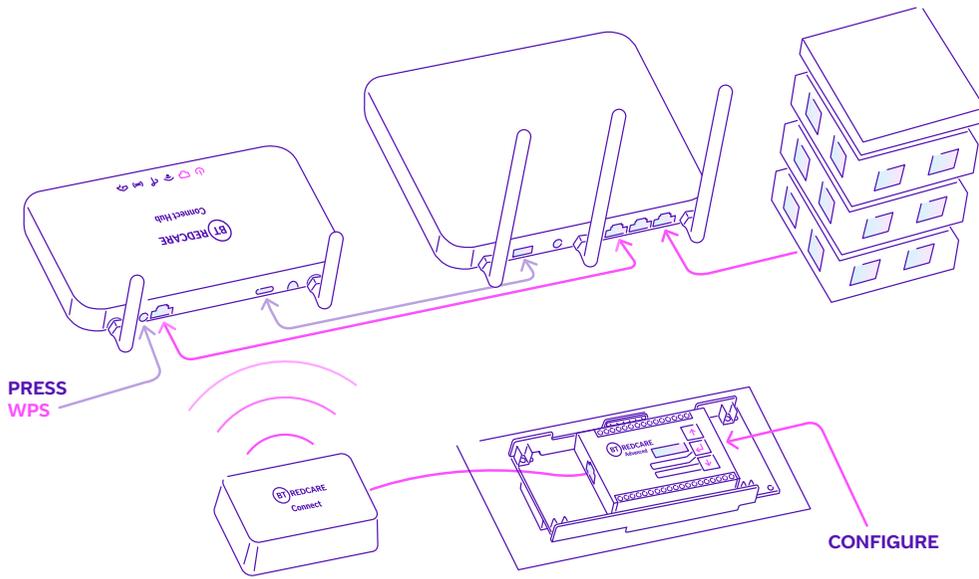
The kit provides a reliable, secure wireless link from the alarm panel to the customer's wired broadband network, using IP as the primary signalling path along with a dual SIM 4G/2G backup path. It's intended for installations where a wired connection from the alarm panel to the customer's broadband router is difficult to achieve. It can be used for new installs as well as any legacy swap outs.



## The kit consists of four main items



1. An Advanced Extra signalling unit, for transmitting alarm signals via the BT Redcare network to an Alarm Receiving Centre (ARC).
2. An easy-to-assemble plug-in adaptor, for converting the Advanced Extra unit to the existing connector layout in the alarm panel.
3. A Connect module, to plug in to the Advanced Extra signalling unit using an Ethernet cable. It's designed to be mounted near the alarm panel.
4. A Connect Hub for plugging in to the customer's broadband router or network.



**Diagram 1: Schematic of a typical system installation**

The Connect Hub has a series of LEDs on the front, which change colour to reflect the Hub's configuration and status.

The Connect unit mounted at the panel also has an LED inside. When first powered up in factory default mode it will be orange; after configuration it becomes blue.

These instructions focus on the installation and set-up of the Connect and Connect Hub. For more details on the alarm signalling configuration and standard functions of the Advanced Extra unit, please see the separate dedicated guide available on the installer hub.

<https://www.redcare.bt.com/installer-hub/installation-guides.html>

Description	Colour when first powered up	Colour when ready for set up	Colour when set up with standard configuration
Power	Blue	Blue	Blue
ETH (Ethernet)	Blue	Blue	Blue
Wi-Fi	Orange	Orange	Blue
☞	Off	Off	Off
Redcare IoT Link	Orange	Orange	Blue
Cloud	Orange	Green	Blue



**Colour when first powered up**



**Colour when ready for set up**



**Colour when set up with standard configuration**

# Technical specifications

## Box contents

- Advanced Extra signalling unit
- Connect
- Connect Hub
- Plug-in adaptor circuit board
- Network cable x 2
- USB power lead for Connect Hub
- Mobile aerial for Advanced Extra unit
- Purple and grey aerials for Connect Hub
- Card with Connect Hub network details
- Recycling information for old signalling unit.

## Connect Device

### Size (LxWxH)

Connect:	99mm x 64mm x 26mm
Connect Hub:	157mm x 91mm x 22mm
Connect Hub with aerials:	157mm x 109mm x 59mm

## Connect Device

### Weight

Connect:	70g
Connect Hub:	147g
Connect Hub with aerials:	164g

## Average power figures

Connect	12V @ 60mA or 24V @ 30mA
Connect Hub	5V @ 500mA
Connect Voltage Range	9V-30V
Processor	ESP32
Operating range	-10 to + 50 degrees Celsius, average 90% non-condensing humidity
Wifi frequency and power	2.4GHz - Maximum transmit power +20dBm*
Redcare IoT frequency and power:	Band 56a - 896 MHz - Maximum transmit power +7dBm*
Environmental class II	
Configuration	Via Advanced Extra (for Connect), or via the onboard webserver (Connect Hub)

\*The Connect and Connect Hub must be installed 20cm or further from any user or bystander

# Safety notes

 **Warning:** Read all safety warnings and instructions carefully. Failure to heed warnings and follow instructions may result in electric shock, fire risk and/or personal injury.

## Work area safety

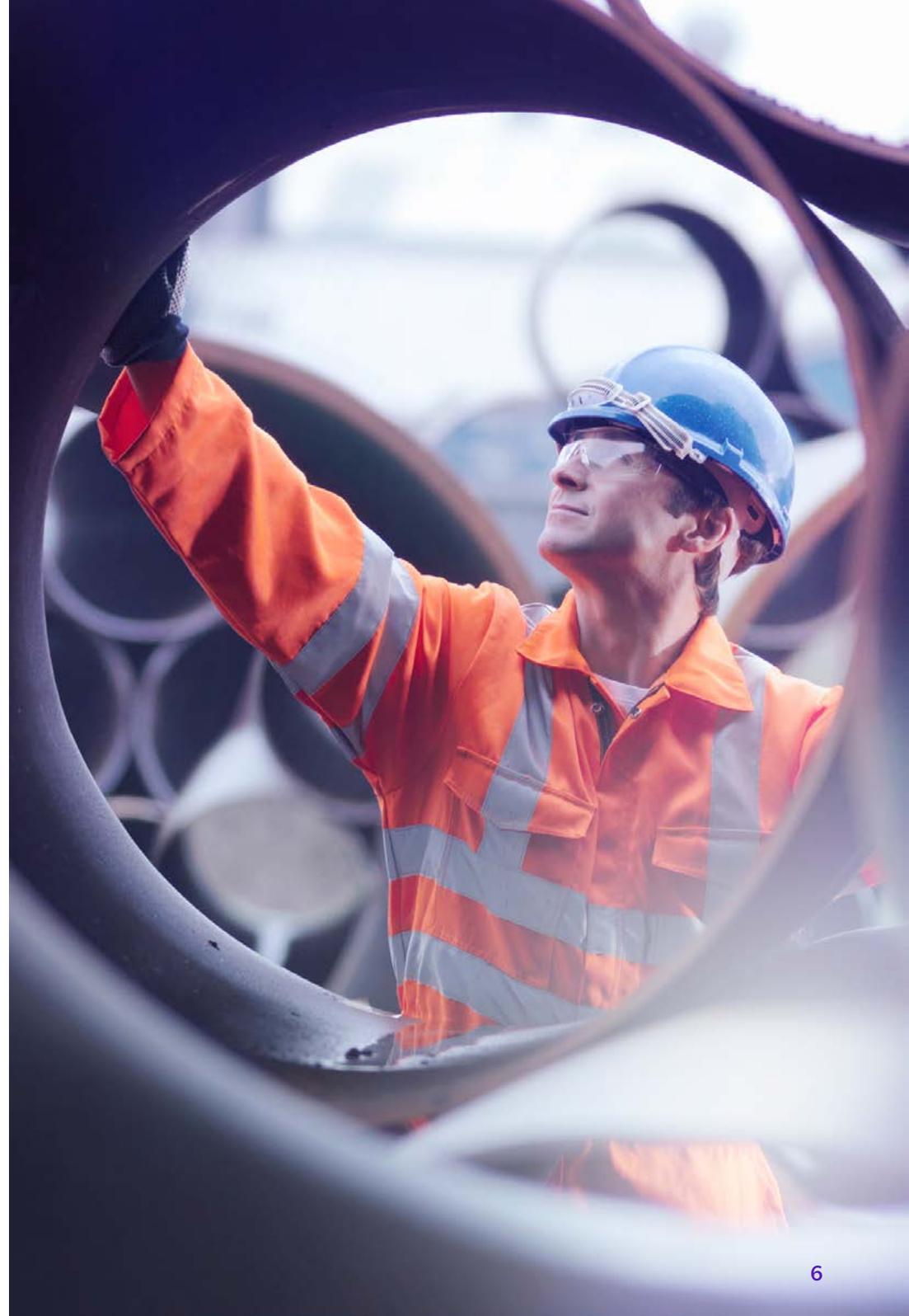
- Keep your work area clean, well-lit, and free of obstacles.
  - Keep the floor and walkways clear of cables and materials to avoid trip hazards.
  - Keep children and bystanders away while performing any installation or maintenance work.
  - Remove any left-over materials when finished, and keep all items away from children and pets.
- The Connect and Connect Hub must be installed 20cm or further away from any user or bystander.

## Electrical safety

- Exercise care when working inside security system enclosures.
  - Metallic tools, fingers, body parts or jewellery coming into contact with mains wiring and terminals may cause electric shock.
  - Metallic tools or jewellery coming into contact with battery terminals may cause sparks, personal injury or create a fire risk.
- Exercise care when drilling into or inserting fasteners into walls. There may be pipes and wiring present in the wall, and contact with tools or fasteners may result in electric shock, damage to premises services, or creation of a fire risk. Locate wiring, pipes and services first to avoid accidents.

## Personal safety

- Stay alert and attentive. A moment of inattention can lead to personal injury.
- Do not perform installation or maintenance work when tired, or under the influence of medication, drugs or alcohol.
- When starting work on security system enclosures and components, make sure the item is securely fixed to the wall and that no components or contents (like the battery) can fall and cause personal injury.



# Mounting and wiring

## Advanced Extra and Connect installation at the alarm panel

### Assembly of the plug-in adaptor to the Advanced Extra unit

If the existing signalling unit is plugged onto the panel, then assemble the plug-in adaptor to the Advanced Extra unit. If not, there's no need to use the plug-in adaptor.

To assemble, follow the instructions printed on the plug-in adaptor board.

#### 1. Mount the Advanced Extra/plug-in adaptor in the alarm panel

Contact the Alarm Receiving Centre and put the site on test. Power down the alarm panel and remove the old signalling unit. Plug in the adaptor assembly, or alternatively mount the Advanced Extra inside the panel following the instructions in the Advanced Extra guide.

Attach the external mobile aerial to the Advanced Extra unit and mount the aerial on a suitable location outside the panel. **Do not** reuse the existing aerial, as it may not be suitable for receiving 4G signals. Avoid mounting the aerial on the metal alarm panel casing, as this can reduce signal strength.

**Note:** there are two positions for attaching the PCB strips to the main board, depending on the type of signalling unit being fitted. Align the mounting brackets on the strips with the correct main board holes. Then secure the PCB strips in place, using the screws and washers supplied.

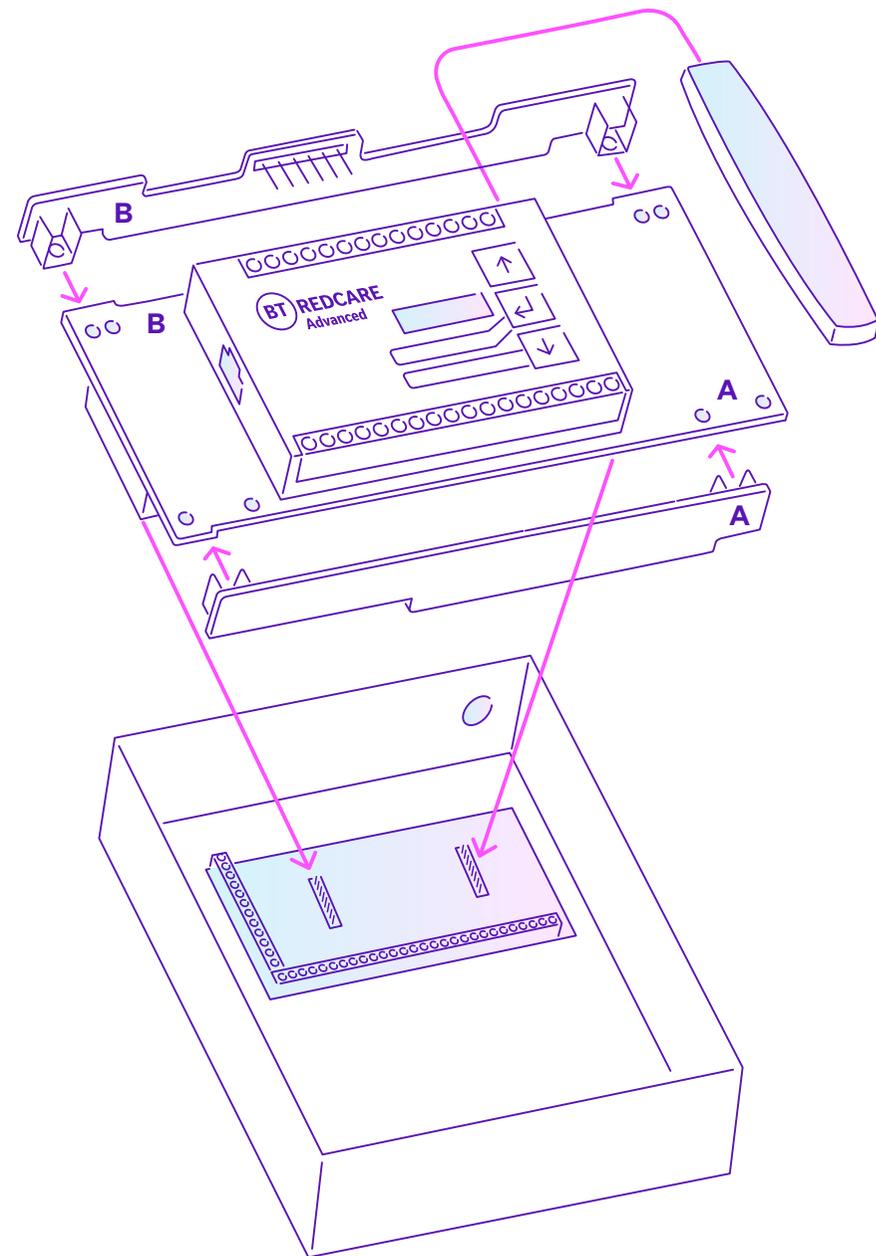
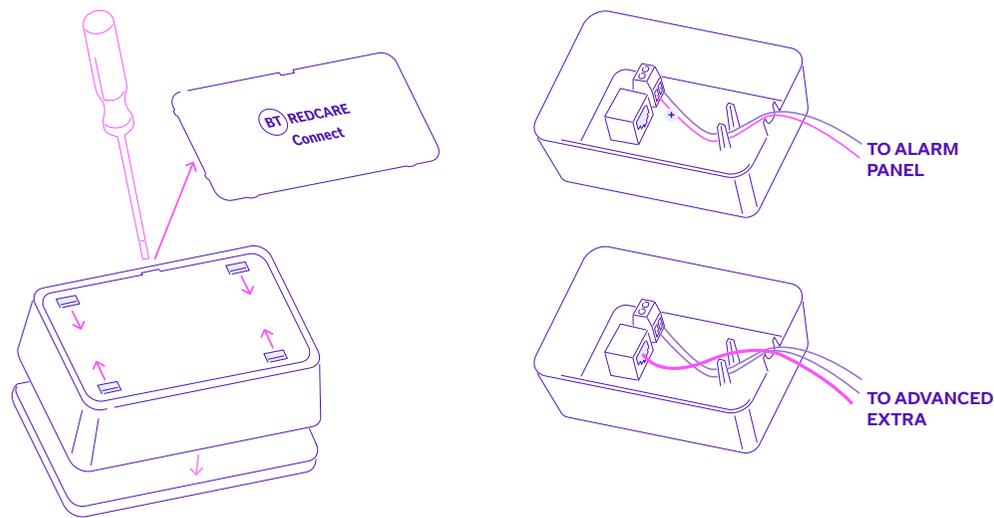


Diagram 2: Fixing the plug-in adaptor to the Advanced Extra unit

## 2. Position the Connect unit and wire to the alarm panel

Gently remove the front of the Connect unit and open the moulding by unclipping the four lugs.



**Diagram 3: Removing the front fascia of the Connect unit and connecting it**

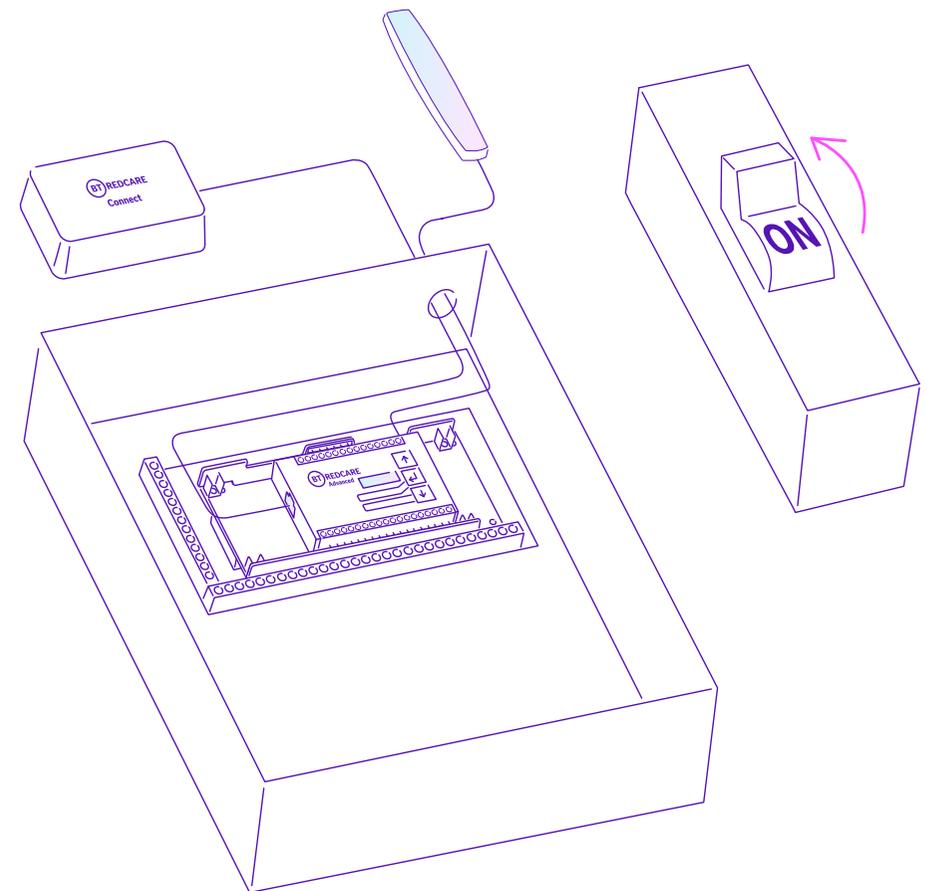
Wire alarm cable from the terminals in the Connect unit to a suitable 12v (60mA) supply in the alarm panel. Alternatively, you can use a 24v 30mA supply.

Plug one of the supplied network cables into the Connect unit and attach the other end to the Advanced Extra unit in the alarm panel. Make sure the holes and glands you use on the panel enclosure maintain electrical safety.

## 3. Reconnect power to the alarm panel.

Reassemble the Connect mouldings and front fascia, and mount it in a good location for wireless reception close to the panel.

**Note:** For the best range and transmission, please make sure the Connect unit is mounted on a vertical wall with the front cover text horizontal (see diagram to right). Take care to securely fasten the Connect unit to the wall, as there's a tamper switch on the back of it. Use either the self-adhesive pads on the rear or fix with screws using the holes provided.



**Diagram 4: Mounting the Connect unit at the alarm panel**

## Mounting the Connect Hub at the customer's router

### 1. Assemble the Connect Hub aerials

There are two different aerials for the Connect Hub, one ringed in purple and one in grey. Make sure they're screwed to the Connect Hub as per the diagram below.

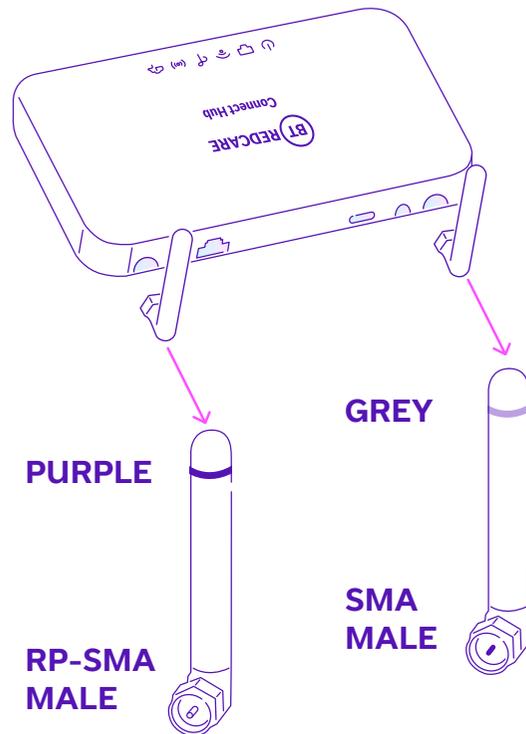


Diagram 5: Attaching the aerials to the Redcare Connect Hub

### 2. Plug the Connect Hub into the customer's network and power

The Connect Hub is powered via the USB cable supplied - usually this can be plugged in to the auxiliary USB output on the customer's router. If that output isn't available, use a suitable USB adaptor power supply (5v 500mA). The USB power cable between the Connect Hub and the customer's router and/or a USB mains plug should be no longer than three metres.

Plug in the second network cable from the Connect Hub to a spare port on the customer's router. Alternatively, plug into a convenient RJ45 socket or network switch on the customer's wired network.

### 3. Power up the Connect Hub

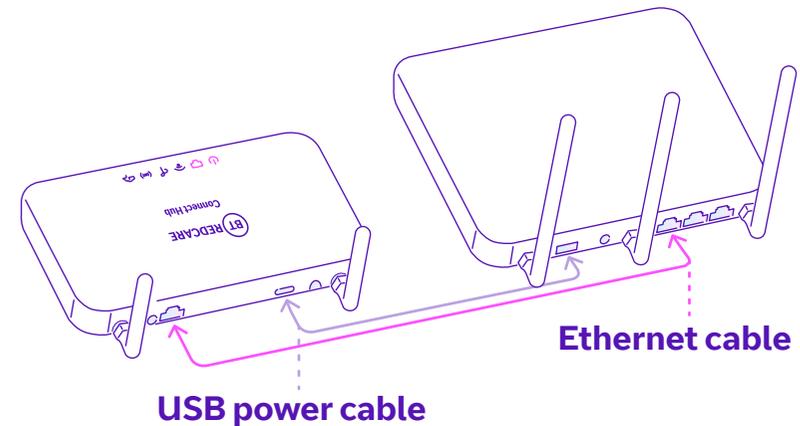


Diagram 6: Connecting the Redcare Connect Hub to the customer's router

Check the Connect Hub's status LEDs. After initial power-up and the unit is ready for configuration they should be illuminated as follows:

Power	Blue					
ETH (Ethernet)	Blue	Power	ETH	WiFi	Redcare IoT Link	Cloud IoT Link
Wi-Fi	Orange					
⌘	Off					
Redcare IoT Link	Orange					
Cloud	Green					

Once you're connected correctly, move on to ["Set-up and initial configuration"](#) on page 10.

### Alternative installation method for Connect Hub via Wi-Fi

The best way to install the Connect Hub is via a wired IP connection to the customer's router. Where this isn't possible, the Hub can be connected via wi-fi.

See ["Additional configuration"](#) on page 12 for details.

# Set-up and initial configuration

Here's how to configure the Advanced Extra unit with Connect products.

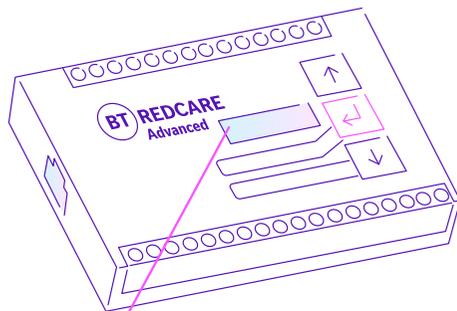
Before you start:

- Make sure the ETH LED is blue on the Connect Hub - this means your Connect Hub is connected to the customer's router via Ethernet.
- Make sure the IOT and Wifi LEDs on the Connect Hub are orange - this means they're not connected to any device.

Now, press and hold the Enter key on the front of the Advanced Extra unit to enter the configuration menu.

**TO BEGIN...**

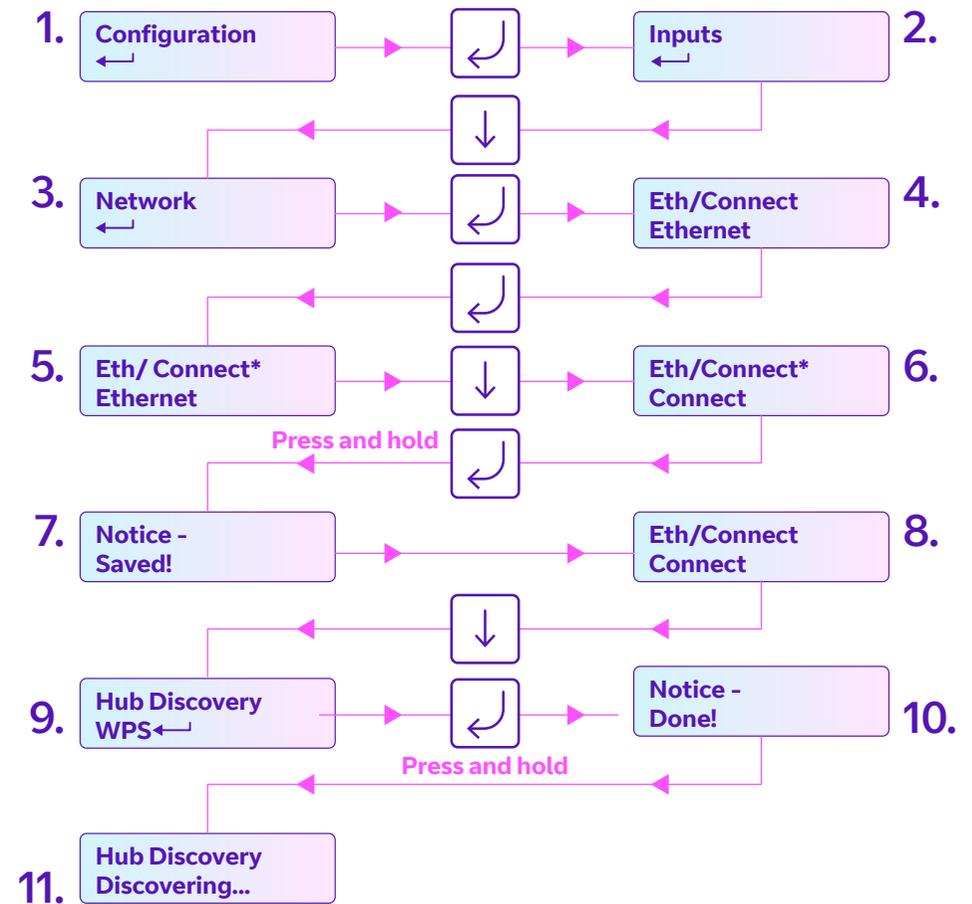
**PRESS AND HOLD  
ENTER KEY**



**CONFIGURATION** ←

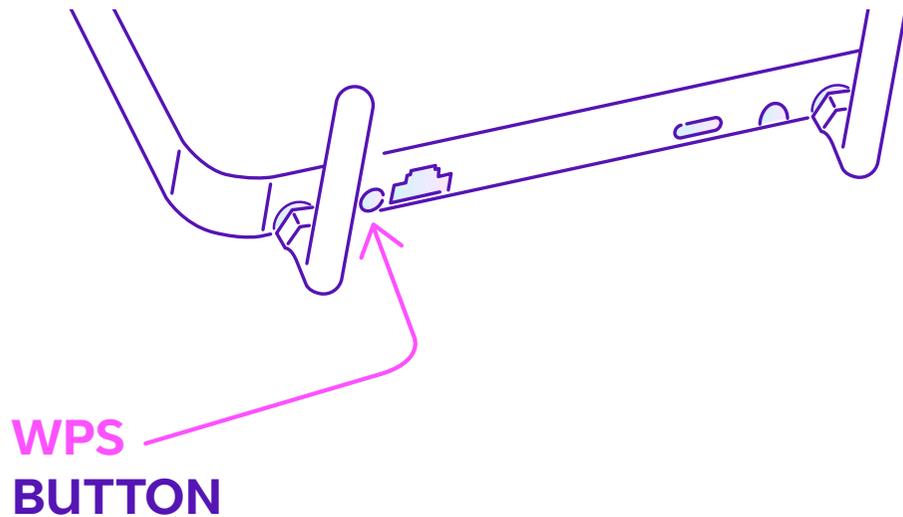
**WILL APPEAR**

Continue through the menu structure pressing buttons as indicated below



**Diagram 7: Configuring the Redcare Advanced unit**

Now, press the WPS button on the rear of the Connect Hub until the power LED turns purple/white, and then release – all the LEDs will brighten and then darken over a couple of seconds.



**Diagram 8: Location of WPS button on Connect Hub**

Shortly afterwards the network ID will appear on the Advanced Extra unit display, in a format like Redcare\_1234. If the Network ID matches the Network details shown on the card included with the unit, press and hold the UP arrow on the Advanced Extra unit to exit.



**Diagram 9: Network details card included in box**

Once connected, you should see:

- The IoT, WiFi and Cloud LEDs on the Connect Hub turn blue.

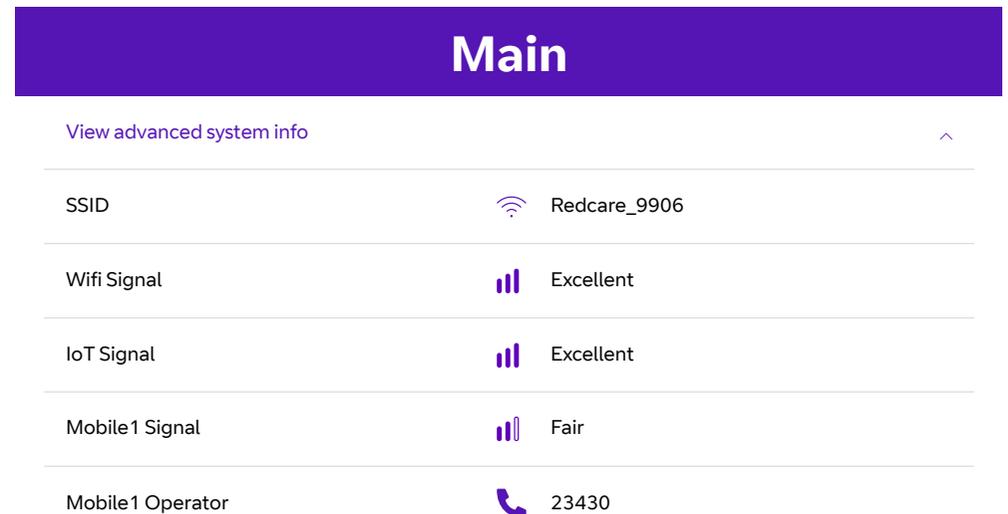


- The Connect Device LED turn blue (not visible).
- On the Advanced Extra unit OLED display:



Complete any set-up needed on the Advanced Extra unit, following the Advanced or Advanced Extra installation guide, to work with the alarm panel. The Classic and GSM replacement kit should now be working correctly.

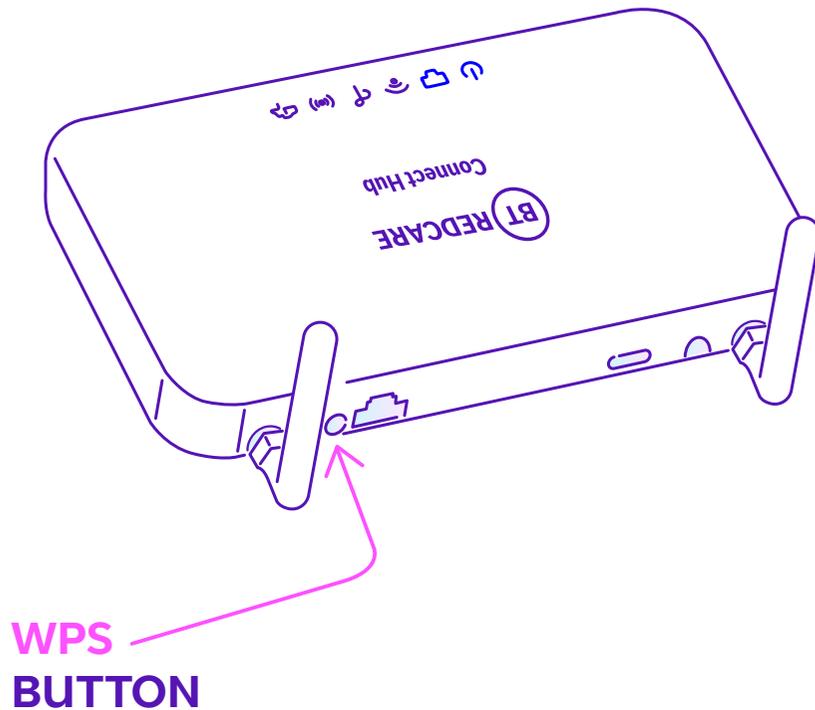
You should now also be able to see the status of the Connect Kit from the installer app or portal, including the signal strength and link status further down on the main page for the device.



# Additional configuration

## WPS button functions

You can use the WPS button on the rear of the Connect Hub to put the system into various different configuration modes.



**Diagram 10: WPS button on the Connect Hub**

When you press the WPS button, the LED lights on the front of the unit illuminate starting from the left. Each number of illuminated lights indicates a different configuration mode.



Press WPS + PWR LED on then release WPS button = WPS to Connect (see "[Set-up and initial configuration](#)" on page 10).



Press WPS + PWR and ETH LEDs on then release WPS button = Web server mode, see below.



A long press of the WPS button on the Connect Hub until all LEDs go off cancels all actions.

## Accessing the Connect Hub web server

Use one of the following methods to access the webserver.

1. Using Redcare Wi-Fi AP (Access Point) from your mobile
  - 1.1. Press the WPS button on the Connect Hub, and hold it until both the Power and ETH LEDs turn purple. Then release the button.
  - 1.2. The Power LED will start flashing.
  - 1.3. Now open the Wi-Fi settings on an IOS or Android phone and search for Redcare AP (see the SSID on the network card <Redcare\_XXXX>).
  - 1.4. Select the Redcare AP and connect. The default password is first eight digits of the Connect Hub serial number.
  - 1.5. Now navigate to 192.168.111.1 to get the Connect Hub webserver login page.

- 1.6. Contact the Redcare technical helpdesk on [0800 800 628](tel:0800800628) option 3, or your Regional Technical Manager, for the default login details.
- 1.7. To exit AP mode press and hold the WPS button until all LEDs are illuminated in sequence, then release the button. The Connect Hub will go back to its normal operational mode.

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 **Note:** the device will automatically exit the web server after 20 minutes' inactivity.

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## 2. Direct connection via ethernet cable to a laptop from the Connect Hub Prior to connecting to the customer's router:

- 2.1. Temporarily configure your laptop ethernet adaptor with a static IP address, using the following settings:  
IP: 192.168.222.10  
Sub net: 255.255.255.0  
Gateway: 192.168.222.222
- 2.2. Press the WPS button on the Connect Hub and hold it until both the Power and ETH LEDs turn purple, then release the button.
- 2.3. The Power LED will start flashing.
- 2.4. Navigate to 192.168.222.221 to get the Connect Hub webserver login page.
- 2.5. Please contact the Redcare Technical helpdesk on [0800 800 628](tel:0800800628) option 3, or your Regional Technical Manager for the default login details.
- 2.6. To exit webserver mode, press and hold the WPS button until all LEDs are illuminated in sequence then release the button. The Connect Hub will return to normal operational mode.

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 **Note:** the device will automatically exit the webserver after 20 minutes' inactivity.

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## 3. Using the IP of the Connect Hub assigned by the customer's router This method is best to use if you've temporarily connected an Ethernet cable between the Connect Hub and your customer's router.

- 3.1. Press the WPS button on the Connect Hub and hold it until both the Power and ETH LEDs turn purple, then release the button.
- 3.2. The Power LED will start flashing.
- 3.3. Log in to the customer's router and find out the IP assigned to the Connect Hub. It'll be shown in the DHCP table as Espressif.
- 3.4. Now navigate to that IP address to see the Connect Hub web server login page.

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 **Note:** the device will automatically exit the web server after 20 minutes' inactivity.

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## Using Wi-Fi between the Connect Hub and the customer's router

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 **Note:** We strongly recommend the use of a wired Ethernet connection between the Connect Hub and the customer's router.

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If this isn't possible, you can connect the Connect Hub to the customer's wi-fi. A potential problem with this method is if the customer changes their Wi-Fi password or SSID, or changes their router and so has a new SSID or password, the Hub connection will stop working. You should use this option with caution, and make your customer aware of the risk.

**Before starting this process, make sure that the Ethernet lead is removed from the rear of the Connect Hub.**

1. Navigate to the Connect Hub web server login page using one of the methods in "[Accessing the Connect Hub web server](#)" on page 12.
2. Log in to the Connect Hub web server and go to Settings > Network
3. Now select WAN interface as Wi-Fi and click save.

- Click WAN WPS button on the settings page, all LEDs on the Connect Hub (except power) will brighten and darken during the pairing process.

 Note: A dial will also be displayed on the settings page to indicate pairing in progress

- Press the WPS button on your customer's router. When pairing is complete the LEDs will return to their previous state (i.e. no longer going from bright to dark).
- Go to the System Status page, the Connect Hub should now be connected to the customer's router, this is indicated by 'WAN (Wifi) Path OK'.

### Manual search for customer wi-fi network

If a WPS button is not available on the customer router then use the search option in settings.

Settings

**Network**

WAN Interface

Wifi | v

**Wifi WAN**

WAN WPS

Search

Select Wifi Network

| v

- BTBHub6-7N3K
- BTBHub6-5A6V
- Avengers
- BTBHub6-2J2L
- DONGLE-5F8267
- BTWi-fi
- BTBHub6-3R9C

- Click search. The unit will do a scan of available networks.
- Now select the SSID of the customer's Wi-Fi network, provide the password and save.
- Go to the system status page. You'll see Connect Hub is now connected to the user Hub, as shown below:

Status	
<b>System Status</b>	
WAN (Wifi) Path	 Ok
WAN Wifi SSID	 BTBHub6-7N3K
WAN Wifi Signal	 Excellent
Access Point SSID	 Redcare_9906
Redcare IoT Radio	 Ok
Redcare IoT Signal	 Excellent
Redcare Wifi Link	 Fault

### Disable or enable Wi-Fi between the Connect and Connect Hub

- Access the Connect Hub webserver by using any of the methods described in "[Accessing the Connect Hub web server](#)" on page 12.
  - In the webserver, go to Menu > Settings and select Access Points from the drop-down menu.
  - On the Access Point page, you'll see the single SSID (Redcare\_xxxx) and password. Both the IOT and wi-fi should be enabled as default settings.
  - You can enable and disable the Wi-Fi here. The IoT radio should remain switched on.

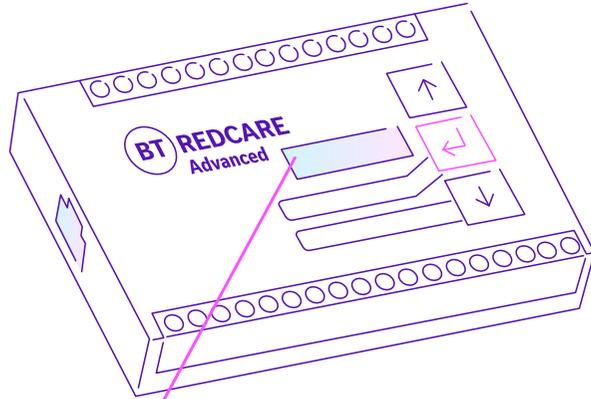
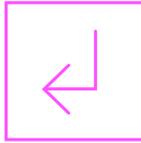
### Establish a connection to the Connect Hub AP using the Search option on the Advanced Extra unit menu

If you haven't been able to establish a connection to the Connect and Connect Hub by pressing the WPS button, try the following method.

- Make sure both the Advanced Extra unit and Connect device are in their default state .

TO BEGIN...

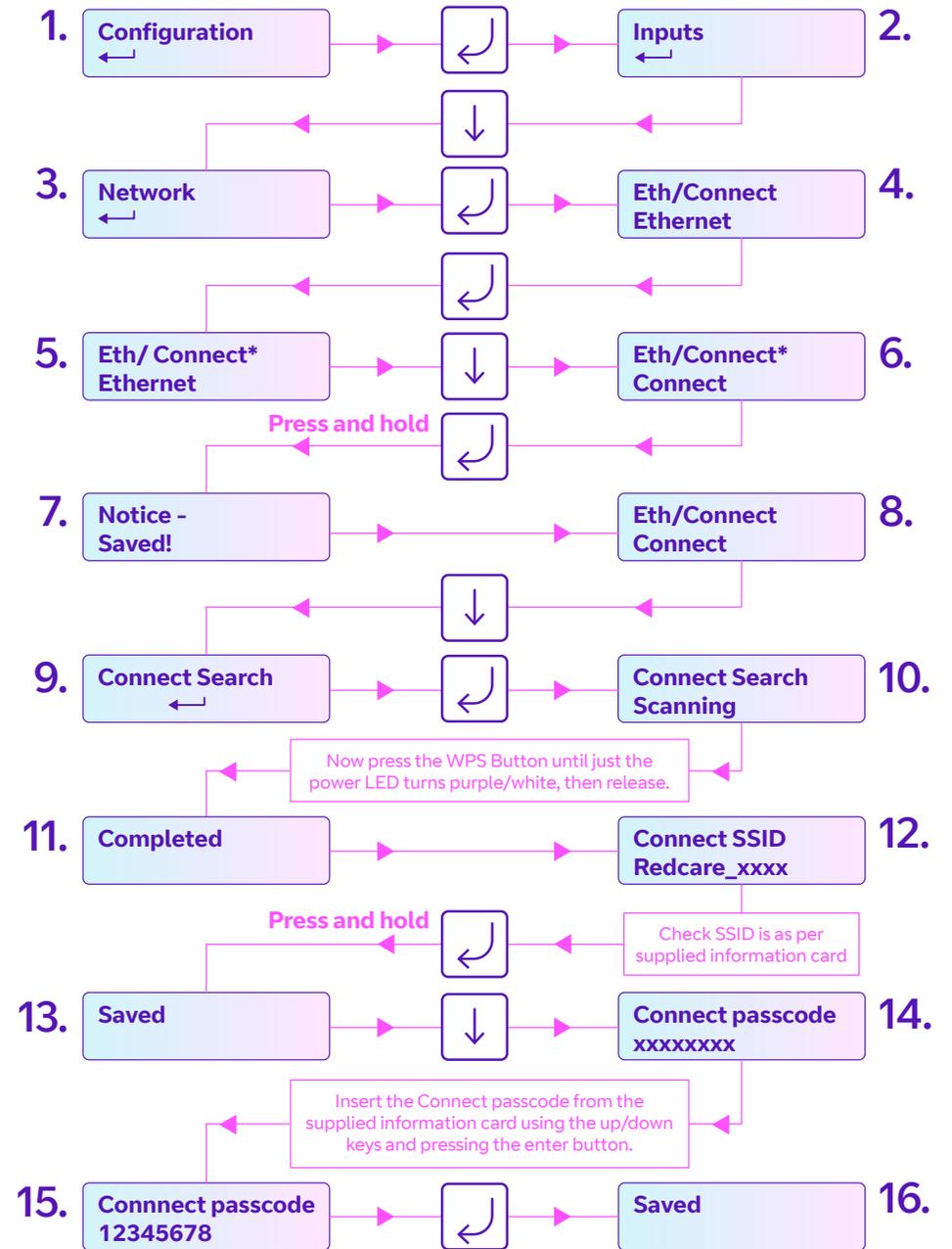
PRESS AND HOLD  
ENTER KEY



CONFIGURATION ←

WILL APPEAR

Diagram 11: Configuring the Advanced Extra unit



Return to the scrolling OLED display and check that the following is displayed:

Path: Connect  
Registered

Connect Strength  
[.■ ] [-58]

Then check the Advanced Extra unit is accessible via the app and portal.

We recommend at least 1 bar is shown however it may still connect with X displayed.

To improve the signal, the Ethernet cable and power wiring to the Connect can be changed out for a longer run to enable the Connect to be placed in an area where a better signal can be obtained.

For both Wifi and Redcare IoT:

- -90 dBm and less: X is displayed
- -89 dBm to -80 dBm: One bar [.]
- -79 dBm to -67 dBm: Two bars [■.]
- -66 dBm to -50 dBm: Three bars [■.■]
- -50 dBm and above: Four bars [■.■.■]

## How to increase or decrease the brightness of the Connect Hub LED

You can adjust the brightness of the Connect Hub LED using the web server.

1. Log into the Connect Hub webserver using any of the methods mentioned in "[Accessing the Connect Hub web server](#)" on page 12.
2. Navigate to Settings > Connect Hub LED Brightness
3. Select LED Brightness in the drop-down menu and choose between Off, Low, Medium or High.

# Troubleshooting

Check the colour of the status LEDs on the front of the Connect Hub, as this can help you identify the source of any connectivity issue. The correct colours are shown in the right-hand column of the table below.

Description	Colour when first powered up	Colour when set up with standard configuration
Power	Blue	Blue
ETH (Ethernet)	Blue	Blue
Wi-Fi	Orange	Blue
⌘	Off	Off
Redcare IoT Link	Orange	Blue
Cloud	Orange	Blue

## Advanced Extra and Connect

If the Connect unit is set up correctly, the Advanced Extra scrolling display will show:

Path: Connect  
Registered (Wifi + IoT)

The LED inside the Connect unit will also be blue.

If the LED inside the Connect unit is orange, it isn't paired with the Connect Hub. Try repeating "[Set-up and initial configuration](#)" on page 10, or manually connecting the Connect Hub to the Advanced Extra using the instructions in "[Establish a connection to the Connect Hub AP using the Search option on the Advanced Extra unit menu](#)" on page 14.

If the LED isn't illuminated, check the Connect unit has power from a suitable 12V@60mA or 24V@30mA power source. Also check the network cable between the Connect and Advanced Extra unit has been plugged in fully, with a 'click' at both ends.



## Between the Connect and Connect Hub

Make sure the Wi-Fi and Redcare IoT Link LEDs are both blue in colour on the Connect Hub. If they're orange, the Connect and Connect Hub aren't paired.

Try repeating "[Set-up and initial configuration](#)" on page 10, or manually connecting the Connect Hub to the Advanced Extra using the instructions in "[Establish a connection to the Connect Hub AP using the Search option on the Advanced Extra unit menu](#)" on page 14.

If this doesn't work, consider if you can improve the location of the Connect and Connect Hub to give a better line of sight and range. In outdoor environments the products will have a range of several hundred metres, but this can be reduced inside a building. For example, a long diagonal path through a reinforced concrete floor will reduce range. If you can plug the Connect Hub into an alternative RJ45 network socket on the building network, this may improve communication with the Connect.

## Between the Connect Hub and customer's router

Make sure the Ethernet and Cloud LEDs are both blue in colour on the Connect Hub. If there are no lights on the Connect Hub, check the USB power supply. If you're powering the Connect Hub from the USB output on the customer's router, note that in certain situations the power supply may not be operational. Some routers won't enable a USB power supply until they've successfully set up an internet connection, so first make sure the customer's router isn't rebooting and has connected to the internet.

If the Ethernet LED is off or orange in colour, there's no wired connectivity to the customer's router. Check the cable is plugged in fully with a 'click' at both ends, or if into a building network socket, that it's connected to the customer's router.

The Connect Hub is set to DHCP by default, so it should find your customer's router and be allocated an IP address. It's worth noting, though:

- The device uses host names for establishing connection to the servers so you'll need DNS addresses.
- No ports need to be forwarded in the incoming direction. The outgoing TCP connection connects to port 443 or 10443 on the BT Redcare network, so you would need to allow outgoing access to port 443 or 10443 if you block that by default.
- Only TCP is needed from your network.
- NAT is not required.
- The Connect Hub establishes an outgoing TCP connection from your network to the BT Redcare platform. Once this outgoing TCP connection has been established, traffic over that connection is two-way.

If the Cloud LED is green rather than blue, it may be that the Advanced Extra unit hasn't registered on the Redcare network. Check the Advanced Extra OLED scrolling screen - if blank, press the enter button on the Advanced Extra to wake the screen up. If it shows that the unit hasn't registered, please refer to the Advanced manual to check settings.

## Reset to factory defaults

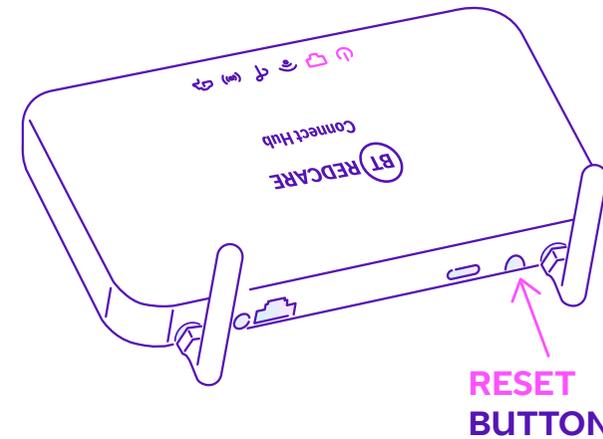
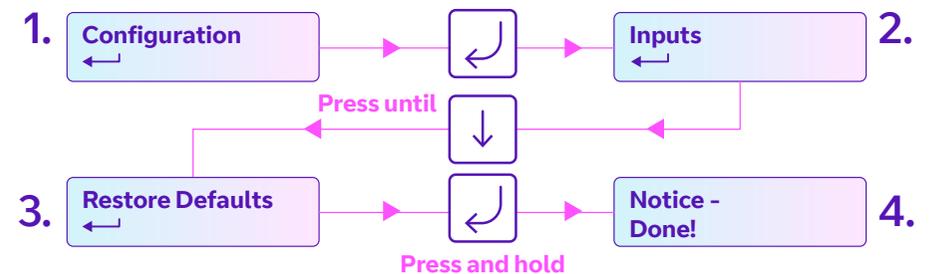


Diagram 12: Rear of Connect Hub with reset button indicated

- a) You can reset the Connect Hub using the recessed button on the rear of the unit. Press and hold for around five seconds until the front LEDs start to flash. After reset the LEDs should be in the factory default colours, as shown at the start of "[Troubleshooting](#)" on page 17.
- b) The Connect Panel device resets along with the Advanced Extra unit from the display on the Advanced Extra as follows:



**Note:** The config menu can be exited at any time without saving any changes by pressing for 5s. This will take you back to the scrolling status display.

# Appendices

## Disposal



The symbol shown here and on the product, means that the product is classed as Electrical or Electronic Equipment and should not be disposed of with other household or commercial waste at the end of its working life.

The Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU) has been put in place to recycle products using the best available recovery and recycling techniques to minimise the impact on the environment, treat any hazardous substances and avoid the increasing landfill.

## Product disposal instructions for users

Please dispose of the product as per your local authority's recycling processes. For more information, please contact your local authority or retailer where the product was purchased.

The product may be returned to the freepost address below:

BT Supply Chain  
Darlington Road  
Northallerton  
North Yorkshire  
DL6 2PJ

## Disclaimer

The manufacturer or his agents disclaim responsibility for any damage, financial loss or injury caused to any equipment, property or persons resulting from any use of this equipment. The manufacturer is not liable for any purely economic loss arising from any use of this equipment. All responsibility and liability in the use of BT Redcare products are assumed by the user.

This unit is designed to be used in customer premises. Use of this equipment in other locations may void warranty.



# Support

For help with your BT Redcare installation, please contact our helpdesk on:

**0800 800 628** (option 3).

Offices worldwide

The services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any part of any contract.

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