Beanbag Installation Notes

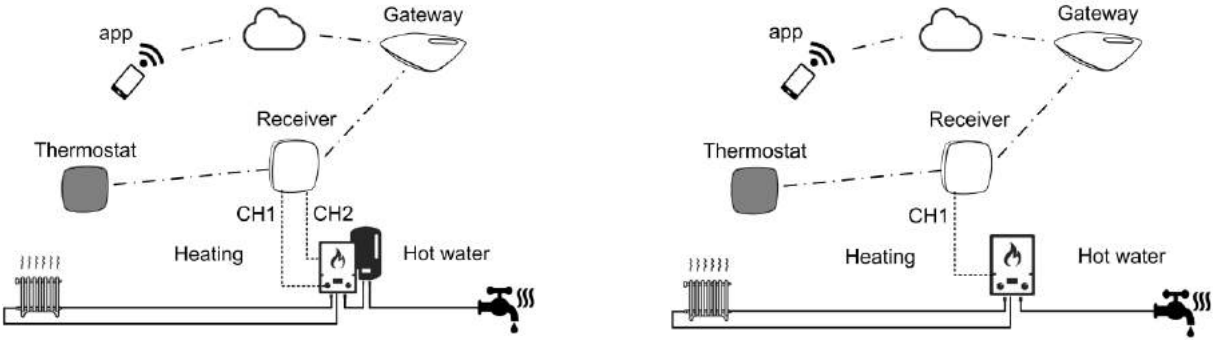
CAUTION

The **Beanbag Receiver** requires electrical connections at mains voltage and must be installed by a competent person, in accordance with Part P of the Building Regulations, BS 7671:2008, (e.g. an electrical contractor registered with an authorised competent person self-certification scheme).

Beanbag kit types

These notes show how to install a **Beanbag** system for controlling hot water and/or heating.

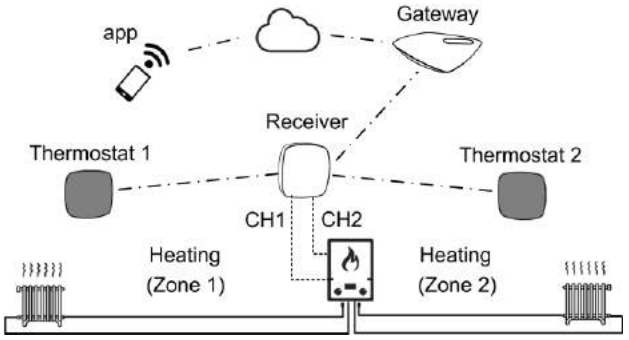
Heat + Hot Water



Heat-only boiler

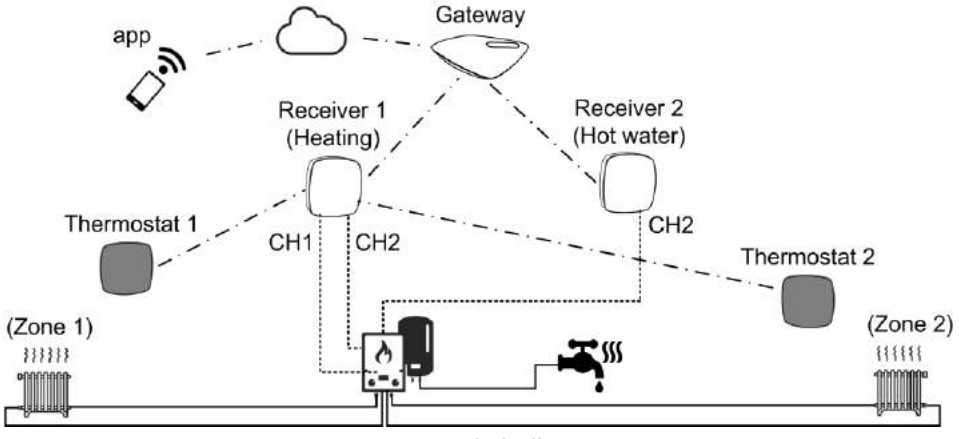
Combi boiler

Heat x2



Heat-only boiler or combi

Heat x2 + Hot Water



Heat-only boiler

Key: ---------- = wired connection — · — · — · — = wireless connection

Before you begin

Check you have everything you need.

Allow 1½ to 2 hours for full installation.

1½ to 2 hours

In the box for a **Beanbag** system you will find:

Gateway

☑ Gateway + USB cable + mains adapter

Thermostat

☑ *(x2 for **Heat x2** or **Heat x2 + Hot Water**)*

Thermostat + wall plate + fascia plate + screws x2

Receiver

☑ *(x2 for **Heat x2 + Hot Water**)*

Receiver + wall plate + safety cover + fascia plate + screws x2

You will also need:

Tools

☑ Mains tester /multimeter + screwdrivers + pencil & measure + drill + pliers or cutter/stripper + screws & plugs

You need to check:

Wi-Fi signal strength

Wi Fi **2.4 GHz** (*not* 5G)

✗ ✓

System type HW + CH (1 zone)

Combi | Heat-only boiler

Y S W	**Control type**
	Mains (230 V AC, 50 Hz)
	Low-voltage DC (≤ 30 V DC)

You can use a smartphone to get an indication of signal strength

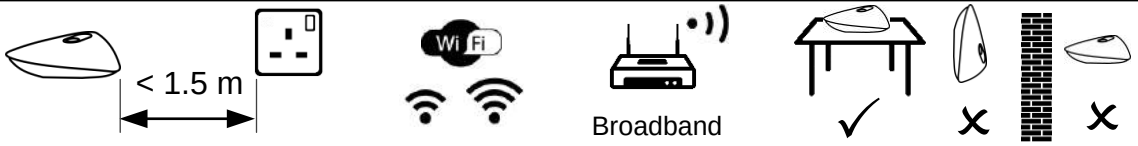
Look for the home broadband router under **Settings > Wi-Fi**

Fit the Beanbag Gateway

You need

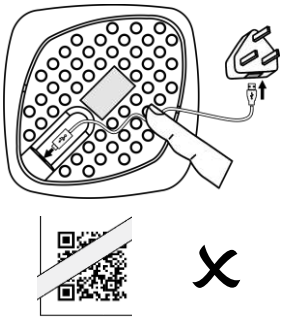
Gateway + USB cable + mains adapter

Location



Installation

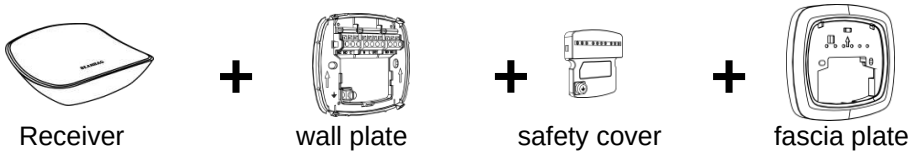
- Put the Gateway on a flat, level surface, in an open space with good Wi-Fi signal (not in a cupboard or behind a large metal object, such as a fridge)
- Connect one end of the USB cable to the mains adapter and the other end to the Gateway
- You can tidy up the cable by threading it around the bosses on the base of the Gateway, but don't cover up the QR code!
- Plug the adapter into the mains socket, and then switch the socket on



Fit the Beanbag Receiver(s)

You need

☑ *(x2 for **Heat x2 + Hot Water**)*



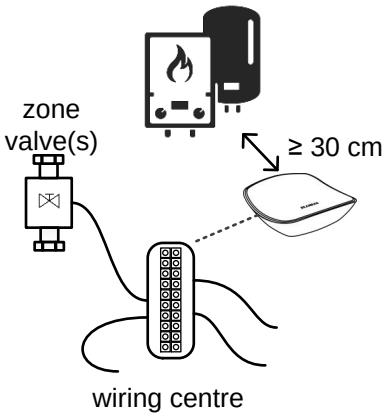
Receiver + wall plate + safety cover + fascia plate

Mains tester /multimeter + screwdrivers + pencil & measure + drill + pliers or cutter/stripper + screws & plugs

Heat x2 + Hot Water kits require two Receivers, one for heating and one for hot water.

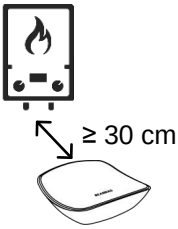
Location

Heat-only boiler



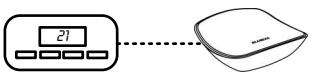
Fit Receiver near the wiring centre and zone valve(s), and at least 30 cm from the boiler.

Combi boiler



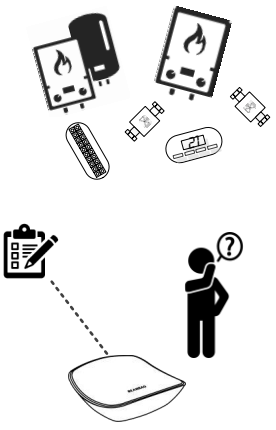
Fit Receiver near the boiler *(but no closer than 30 cm)*

or



Fit Receiver near existing wired programmer/thermostat

Non-standard wiring



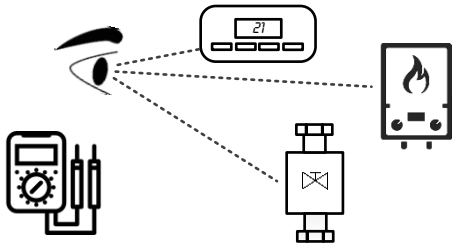
Fit Receiver in the most convenient place, with agreement from customer

Check the control voltage(s) and serial numbers

Note down the control signal voltage(s) for the heating and hot water channel(s) to be controlled, together with the serial numbers of the items of Beanbag kit.

Volt-free contacts are provided for connecting control signals, which may be any combination of:

- low voltage (≤ 30 V DC)
- mains (230 V AC, 50 Hz)

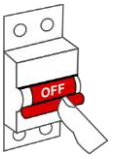


Contacts may be at mains potential!

Gateway S/N:	Function					
	Receiver 1		Receiver 2		Thermostat 1	Thermostat 2
Kit type	CH1	CH2	CH1	CH2		
Heat + Hot Water *(combi)*	Heat + hot water				Heat	
Heat + Hot Water *(heat-only boiler)*	Heat	Hot water			Heat	
Heat x2	Heat Zone 1	Heat Zone 2			Heat Zone 1	Heat Zone 2
Heat x2 + Hot Water	Heat Zone 1	Heat Zone 2		Hot water	Heat Zone 1	Heat Zone 2
Control voltage (low voltage DC/mains?)						

Isolate the supply

Switch off the mains supply before commencing any electrical work.
If in doubt about which circuit to isolate, switch off the master switch.

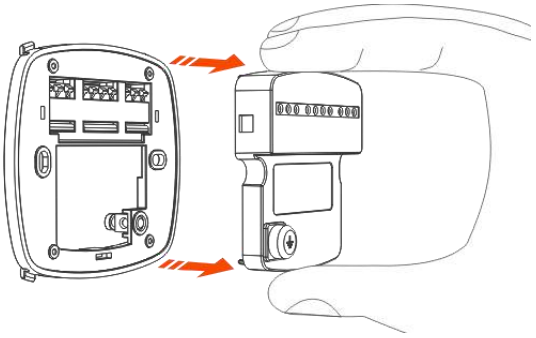


Unclip safety cover from wallplate

The safety cover is clipped to the *back* of the wall plate for shipping.

Unclip it and put it to one side before commencing installation.

The safety cover cannot be easily removed once fitted to the *front* of the wall plate, so do not attempt to 'test fit' it now.



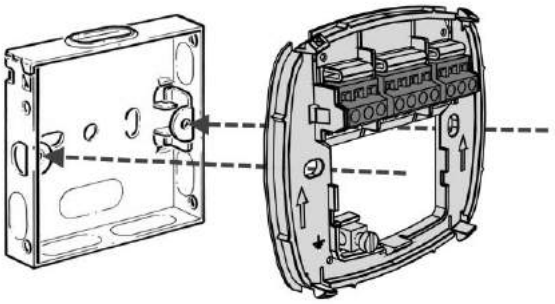
Mounting options

The Receiver wall plate can be used with surface wiring or concealed wiring. It can be used with a wall box, or mounted directly on the wall.

For surface mounting, the wall plate must be used in conjunction with the fascia plate.

Mounting on a wall box

The Receiver wall plate can be mounted directly on a wall box (single-gang) pattress, using long machine screws.

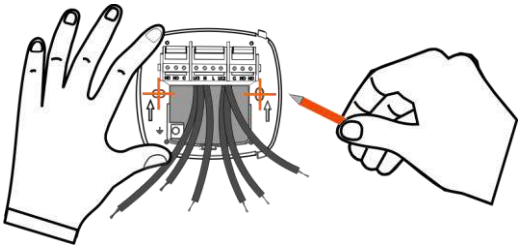


Mounting without a wall box

The wall plate can be mounted directly to a wall, using suitable fixings.

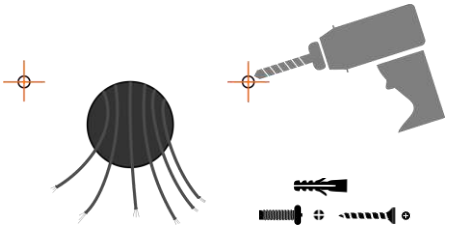
Mark out the position for the Receiver

- Offer up the Receiver wall plate in the desired position, and mark up where the mounting holes will go
- Make sure to leave sufficient space around the wall plate to fit the Receiver into position, and to enable access to the wiring



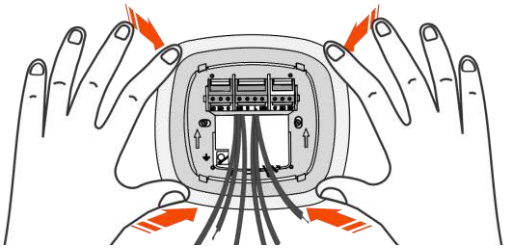
Drill mounting holes for the Receiver

- Drill holes for M3/M4 screws at the marked positions
- Fit plugs appropriate for the type of wall



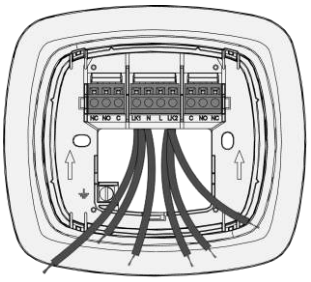
Fit the fascia plate

- The fascia plate must be used if surface wiring is required
- If the wall is uneven, the fascia plate helps ensure correct fitment of the Receiver on the back plate
- The fascia plate helps create an attractive finish, particularly when mounting directly on the wall
- Place the fascia plate behind the wall plate before wiring it up



Mount the wall plate

- For surface wiring, use suitable tools to safely remove knock-out(s) from the wall plate as required, and then route the cables through
- Offer up the wall plate to the wall, and then feed the cables through the aperture
- Don’t fit the screws yet!



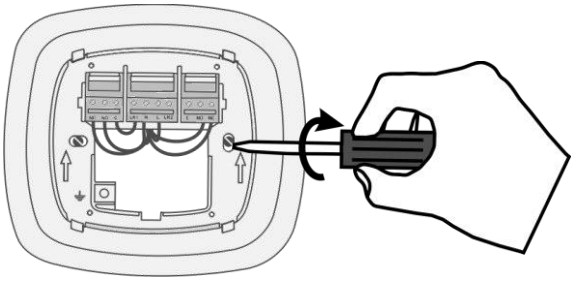
Wire up the wall plate

- The terminals can accommodate single conductors up to 2.0 mm^2
- Maximum torque for the terminal screws is 0.5 N·m
- Park any Earth conductors in the brass terminal to prevent contact with any other conductors
- Connect the Live and Neutral conductors for the Receiver mains supply to the L and N terminals
- The mains supply for the Receiver must be permanently ON
- Terminals LK1 and LK2 are connected internally to Live, to connect with C (Common) terminal for use if mains voltage control is required for either channel
- Each channel has 'Normally Open' (NO) and 'Normally Closed' (NC) connections

Fix the wall plate in position

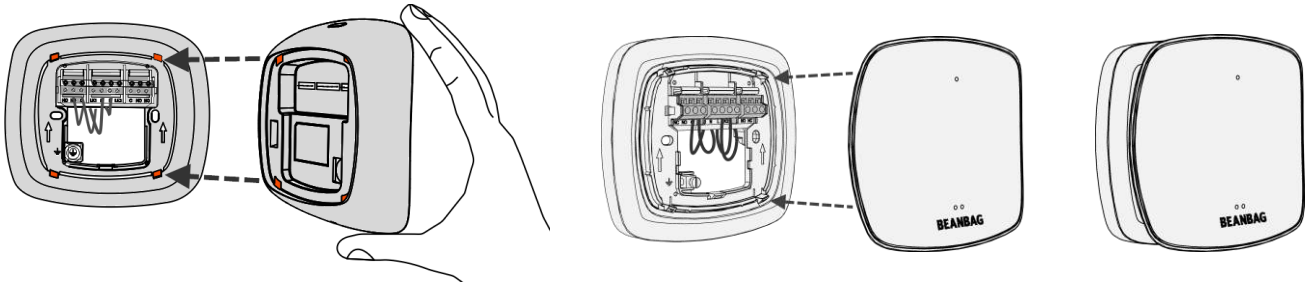
Screw the wall plate to the wall securely, but don't overtighten the screws

Example connection diagrams are given on page 23



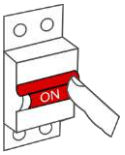
Fit the Receiver (temporarily, for testing)

DO NOT fit the safety cover yet. It cannot easily be removed, so any corrections to the wiring must be performed first.

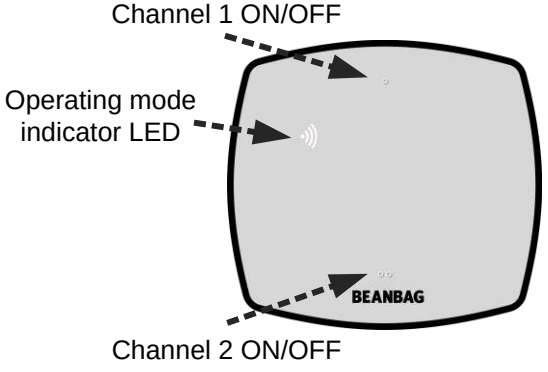


Test the Receiver operation

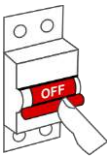
Check that the Receiver is firmly in position, and that there are no exposed connections, and then switch the mains supply back on



- The operating mode indicator LED on the Receiver should illuminate, initially red.
- Press the Channel 1 button (single pip) to check heating control operation. It should toggle the boiler on and off (combi), or open/close the central heating valve pathway and fire the boiler (system boiler)
- Press the Channel 2 button (two pips) to check heating or hot water operation, if required (system boiler only)



If any corrections to the wiring are needed, switch off the mains supply first!

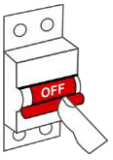


You may hear the relays inside the Receiver operating, and/or observe the illumination on the pips on the switches, but this does not necessarily indicate that the wiring is correct and complete.

Fit the safety cover

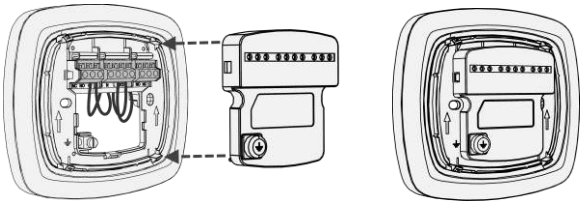
Isolate the supply

Switch off the mains supply

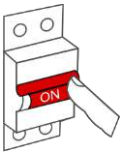


The safety cover **must** be fitted before mounting the Receiver

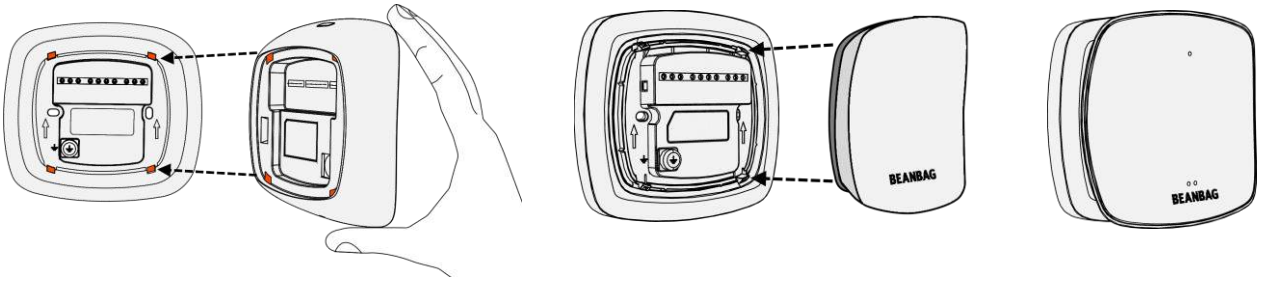
The safety cover cannot be easily removed once fitted, so do not fit it until the correctness and completeness of the wiring has been confirmed



Check that the safety cover is firmly in position, and that there are no exposed connections, and then switch the mains supply back on



Re-fit the Receiver



Re-test the Receiver

- Press the Channel 1 button (single pip) to check heating control operation. It should toggle the boiler on and off (combi), or open/close the central heating valve pathway and fire the boiler (heat-only boiler)
- Press the Channel 2 button (two pips) to check hot water operation, if required (heat-only boiler)

For a **Heat x 2 + Hot Water** kit fit and test the second Receiver in the same way.

Fit the Beanbag Thermostat(s)

You need

☑ *(x2 for **Heat x2** or **Heat x2 + Hot Water**)*


Thermostat

+


wall plate

+


fascia plate

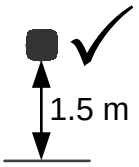
+


screws x2

Heat x2 and **Heat x2 + Hot Water** kits require two Thermostats, one for each heating zone.

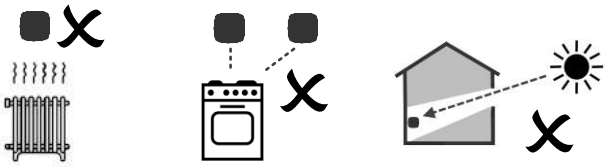
Location

The Thermostat should be placed approximately 1.5 metres above floor level, in 'free space', away from draughts and sources of heat or electrical interference.



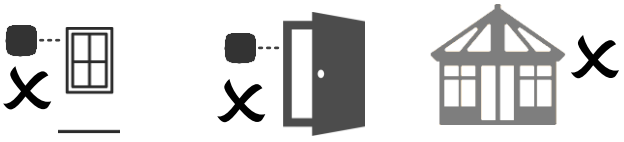
Places to avoid because of heat:

- above or near a radiator, cooker, heater or TV
- walls in direct sunlight at any time of day



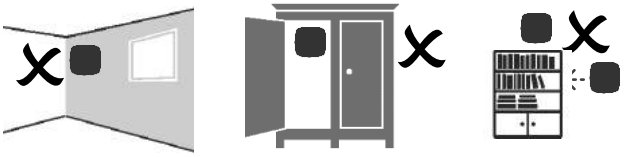
Places to avoid because of draughts:

- near a door or window
- inside a conservatory



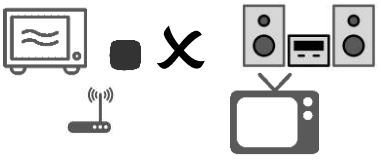
Places to avoid through lack of air movement:

- corners in small rooms
- inside cupboards or bookcases
- above shelves



Places to avoid because of electrical interference:

- near a microwave oven
- near radio equipment, TV, Hi-fi, PC, router



Places to avoid due to metal blocking the radio signal:

- behind or close to a refrigerator or freezer
- behind or too close to a metal filing cabinet, or tool chest

Mounting options

The preferred method for mounting the Thermostat wall plate is directly on the wall, but an existing wall box can be used for retro-fit installations.

The wall plate can be used in conjunction with a fascia plate, depending on the householder's wishes.

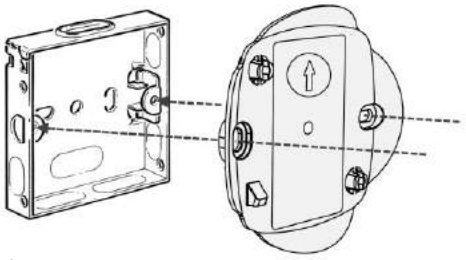
Mounting on the wall

The Thermostat wall plate can be mounted directly on a wall, using M3/M4 screws and plugs.

Mounting on a wall box

For retro-fit installations, the Thermostat wall plate can be mounted on a wall box (single-gang) pattress, using long machine screws.

Take care not to over-tighten the screws.



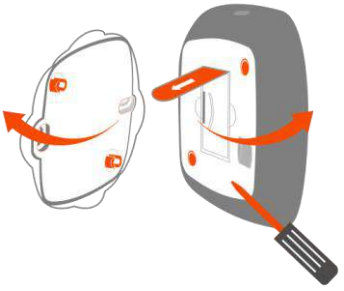
Any existing wiring in the wall box must be made safe before fitting the wall plate. Some wiring may be at mains potential.

Unclip wall plate from the Thermostat

The wall plate is clipped to the back of the Thermostat for shipping.

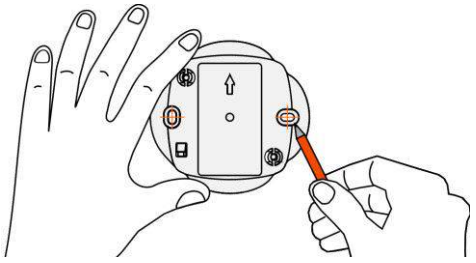
Unclip it and put it to one side before commencing installation.

You may need to use a screwdriver to help unclip it.



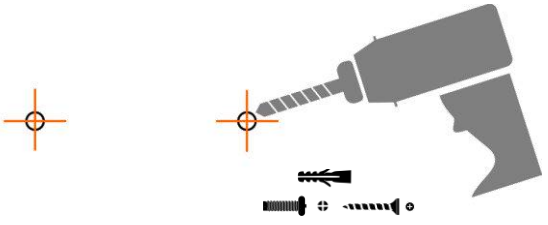
Mark out the position for the Thermostat

- Offer up the Thermostat wall plate in the desired position, and mark up where the mounting holes will go
- Make sure to leave sufficient space around the wall plate to fit the Thermostat into position



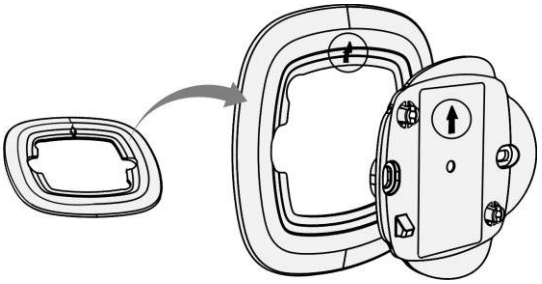
Drill mounting holes for the Thermostat

- Drill holes for M3/M4 screws at the marked positions
- Fit plugs appropriate for the type of wall



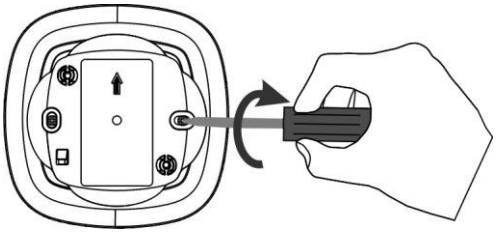
Fit the fascia plate (optional)

- The fascia can help to create an attractive finish, particularly when mounting directly to the wall
- If using the fascia plate, click it into place behind the wall plate before mounting it.
- Make sure the vertical arrows are aligned correctly



Fix the wall plate in position

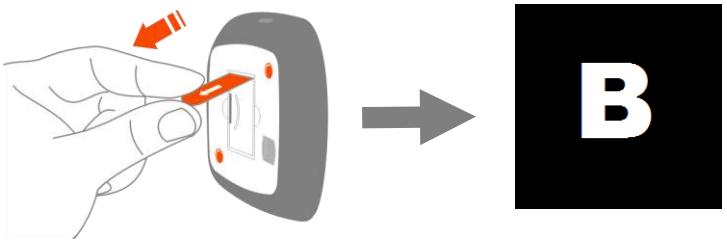
Screw the wall plate to the wall securely, but don't overtighten the screws



Power up the Thermostat

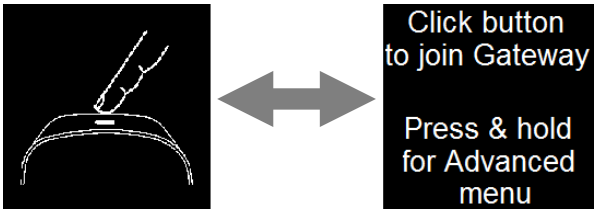
Pull out the insulating tab from the battery compartment on the rear of the Thermostat.

The Thermostat displays 'B' while powering up.



When the Thermostat has fully powered up, it alternates between two displays that show how to use the button on its top edge.

Don't press the button yet!



For **Heat x2** and **Heat x2 + Hot Water** kits, fit the second Thermostat in the same way.

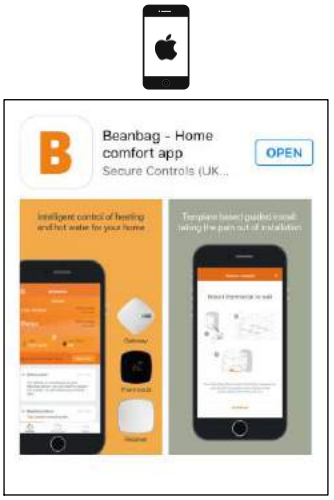
Commissioning the system

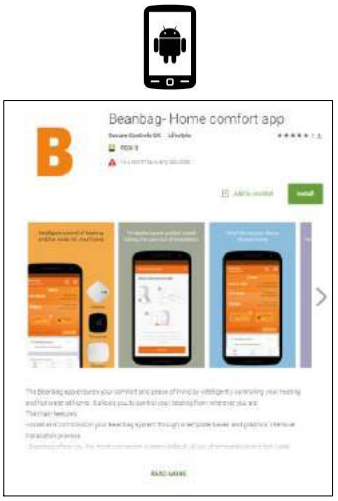
Install the Beanbag app and create an account

You only need to do this the first time you install a Beanbag system

Install the Beanbag app

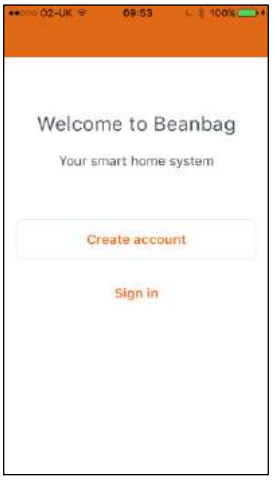
- Make sure your smartphone has 3G/4G active, with good signal, or Internet access through Wi-Fi connection
- Your smartphone must be running Android KitKat 4.4 (or above), or iOS8 (or above)
- Download the Beanbag app from Apple app store, or Google PlayStore
- Install and launch the Beanbag app

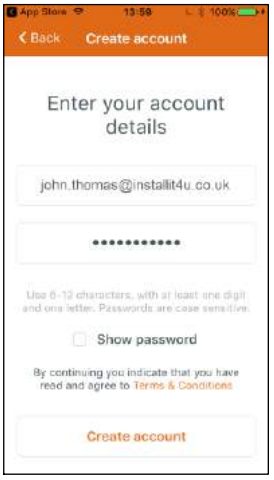




Create a Beanbag account

- Before you can install a Beanbag system you need to create an account
- Once you have created an account you will be able to sign in to it whenever you need to install or modify a Beanbag system
- Enter the email address that you want Beanbag to use for messages and alerts
- Enter a password that you can easily remember, as you will need to enter it every time you sign in to Beanbag



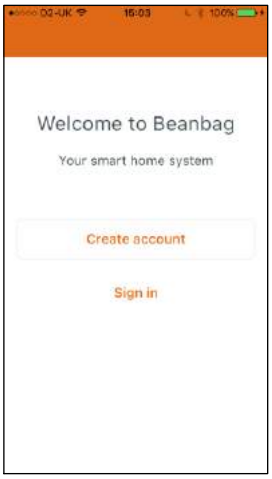


The commissioning process for a **Heat x2 + Hot Water** kit is shown here. Some steps can be omitted for **Heat x2** and **Heat + Hot Water** kits.

Sign in to Beanbag as an Installer

When you have created an account, sign out from Beanbag, and then sign back in again as an installer

Step 1



On the Welcome screen, tap **Sign in**

Step 2

Enter the email address and password that you used to create your Beanbag account, and then tap **Change User Type**

Step 3

Tap **Sign in as an installer**

You only need to do this the first time you install a Beanbag system

Step 4

Tap **Sign in**

Step 5

Enter the details that you would like Beanbag to use when referring to you

Step 6

Tap **Done** when all the details have been entered

When you have finished entering details, tap **return** to close the keyboard popover.

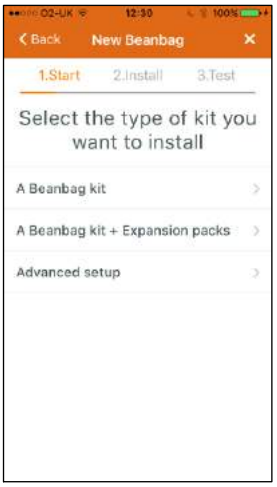
Select the type of system to install

Select the type of system from the Beanbag installer menu

Step 1

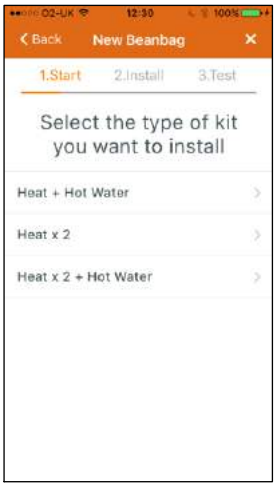
Tap **Install a new Beanbag system**

Step 2



Tap **Beanbag kit**

Step 3



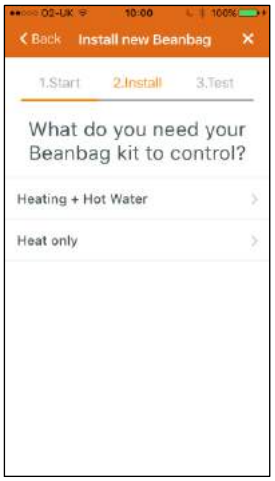
Tap the entry for the type of system that you are installing

Commissioning for a **Heat x2 + Hot Water** kit is shown.
For **Heat x2** kits omit steps for second Receiver.
For **Heat + Hot Water** kits, omit steps for second Receiver and second Thermostat.

Step 4

Tap **Continue**

Step 5



***Heat + Hot Water** kit only:*

If installing with a heat-only boiler, tap **Heating + Hot Water**

Tap **Heat only** if installing with a combi boiler

Step 6

Enter the householder's name for the system, together with the address details, and then tap **Continue**

Connect to Gateway

Go to the Gateway and make sure that it is powered up. Turn it upside down so that the serial number label is visible, and make sure that the power cable is not in the way.

Step 1

Tap **Continue**

Step 2

To use the smartphone to get the Gateway serial number automatically, tap **Scan gateway QR code**

Tap **Enter gateway serial number** if you want to enter it yourself, or if your phone is unable to scan the QR code

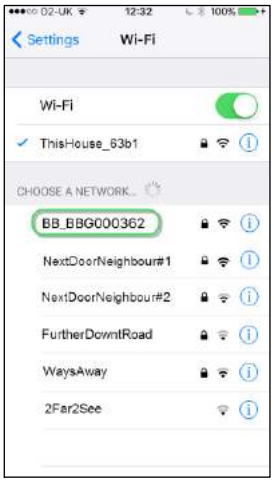
Step 3

You may need to move the smartphone around to get it to focus on the code.

Step 4

Tap **Copy Wi-Fi password**, and then click the **Home** button on the smartphone and navigate to **Settings>Wi-Fi**

Step 5



Select the Gateway network (format BB_BBGnnnnnn)

If more than one Gateway is listed, check the serial number on the QR code label.

If the Gateway is not listed, press and hold the **Beanbag** button on the Gateway for 10 seconds

Step 6

Tap to the right of **Password**, tap **Paste** to copy in the password, and then tap **Join**

Step 7

Check that the Gateway is shown as the connected network, click the **Home** button on the phone, and then navigate back to the Beanbag app

Step 8

Check that the Gateway is shown as connected to the home Wi-Fi network, and then tap **Continue**

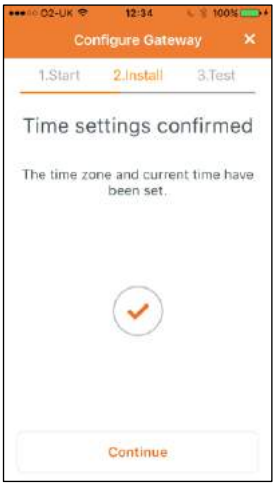
Step 9

Enter a name and location for the Gateway, and then tap **Continue**

Step 10

Check the time zone and current time, adjust if necessary, and then tap **Confirm**

Step 11



Tap **Continue**

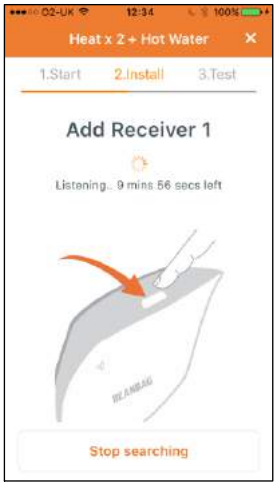
Add Receiver(s)

Take the smartphone and go to the Receiver. For a **Heat x2 + Hot Water** kit, go first to the one that will control the heating.

Step 1

Tap **I am ready**

Step 2



Press and hold the button on the top of the Receiver, for about 10 seconds.

Take care not to touch the ⋅ or ⋅⋅ buttons on its front.

Step 3

Check that the serial number is correct, and then tap **Continue**

You need to complete this step within 10 minutes, but you can try again if you run out of time.

Step 4

Enter a name for the Receiver, its location, and/or the area of the home to be heated, and then tap **Continue**

Step 5 …

to

… Step 8

For a **Heat x2 + Hot Water** kit, repeat Steps 1 to 4 to add the second Receiver, to control hot water

Add Thermostat(s)

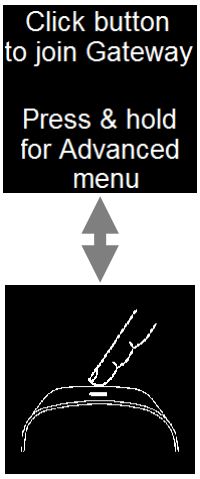
Take the smartphone and go to the Thermostat.

For a **Heat x2** or **Heat x2 + Hot Water** kit, go first to the one that will control downstairs heating.

It should be alternating between two displays that show how to use the button on its top edge.

If not, press the button on its top edge, or either of the buttons on its front face (· or ··).

Step 1



Check the display on the Thermostat

Step 2

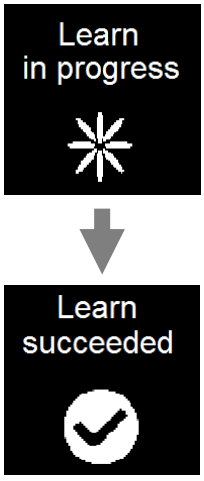
Tap **I am ready**

Step 3

Press and release the button on the top edge of the Thermostat, taking care not to touch the · or ·· buttons on its front face.

You need to complete this step within 10 minutes, but you can try again if you run out of time.

Step 4



The display will indicate when the Thermostat has joined the Gateway.

Step 5

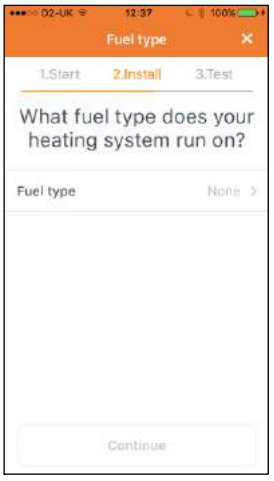
Tap **Continue**

Step 6

Enter a name for the Thermostat, its location and heating area, and then tap **Continue**

Step 7 … *to* … Step 12

Step 13



Tap next to **Fuel type**

For a **Heat x2** or **Heat x2 + Hot Water** kit, repeat Steps 1 to 6 to add the second Thermostat, to control upstairs heating.

Step 14

Tap to select the required fuel type, and then tap **Done**

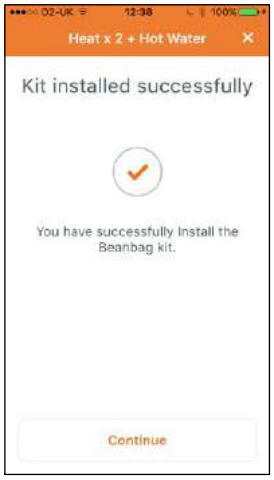
Step 15

Tap **Continue**

Step 16

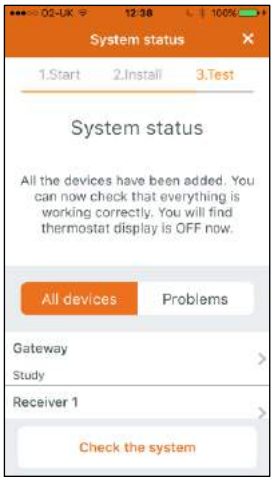
Tap **Continue**

Step 17



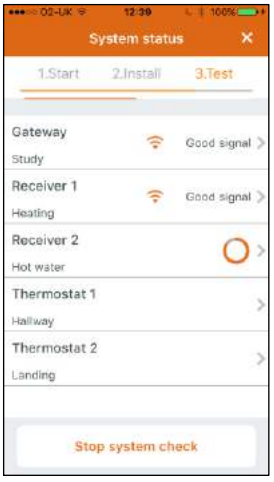
Tap **Continue**

Step 18



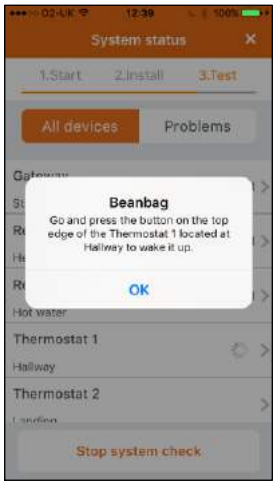
Tap **Check the system**

Step 19



Beanbag will check communications with all the installed devices, which can take a few minutes

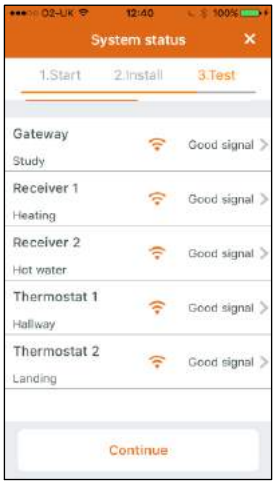
Step 20



Go to the indicated Thermostat and wake it up by pressing the button on its top edge. It should now display the temperature.

Repeat for Thermostat 2 (**Heat x2** and **Heat x2 + Hot Water** kits)

Step 21



The signal strength is displayed for each connected device. Tap **Issues** to see details of any problems.

You may need to reposition any devices reported with ‘Poor signal’.

When all the devices report ‘Good signal’, tap **Continue**.

Step 22

Clip the Thermostat(s) into place on the back plate

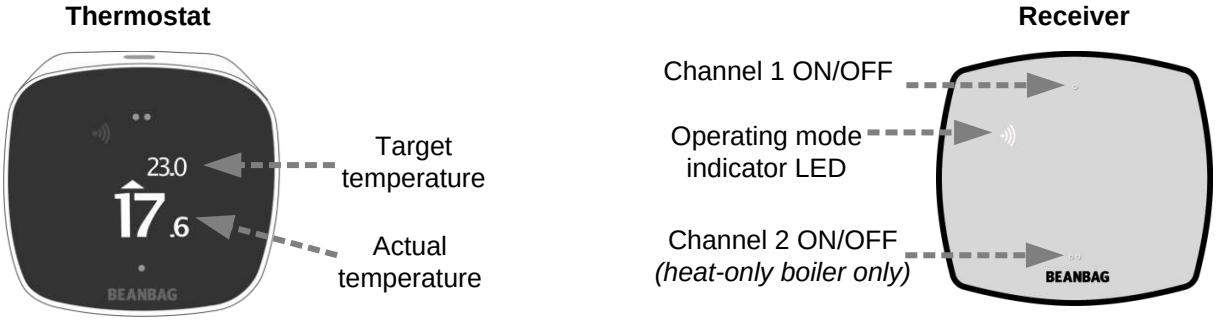
Repeat for Thermostat 2 (**Heat x2** and **Heat x2 + Hot Water** kits)

Test system operation

To test the system you need to check the operation of the Receiver(s) and the Thermostat(s) with the app.

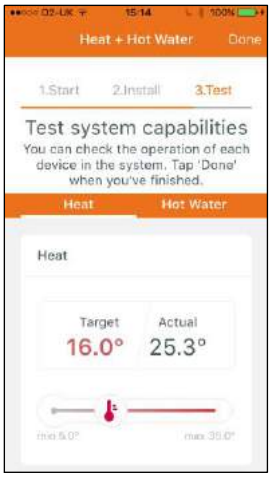
You may wish to temporarily unclip each Thermostat(s) from its wall plate and then take it, together with your smartphone, to where the Receiver is installed.

For **Heat x2** and **Heat x2 + Hot Water** kits it is vital not to get the Thermostats mixed up, so it is best to test them one at a time.



Heat

Adjust the **Target** temperature slider towards the right-hand end of the range, above the indicated **Actual** temperature.



Check that the corresponding Channel LED on the Receiver is illuminated (you may also hear the relay clicking), and that the boiler 'fires'.

Check that the target temperature is shown correctly on the appropriate Thermostat.

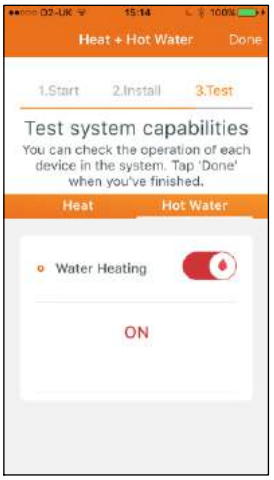
Adjust the **Target** temperature slider towards the left-hand end of the range, below the indicated **Actual** temperature.

Check that the corresponding Channel LED on the Receiver is no longer illuminated (you may also hear the relay clicking), and that the boiler stops firing.

Check that the **Target** temperature is shown correctly on the appropriate Thermostat.

Hot water

(Heat-only boiler)



Tap the Water Heating switch 'ON'

Check that the Channel 2 LED on the Receiver is illuminated (you may also hear the relay clicking), and that the boiler 'fires'.

Tap the Water Heating switch 'OFF'

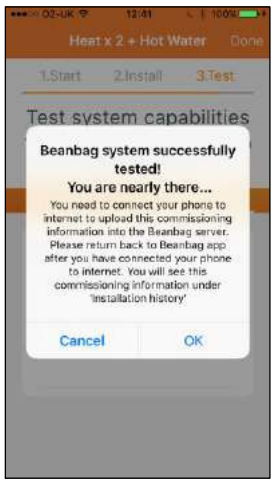
Check that the Channel 2 LED on the Receiver is no longer illuminated (you may also hear the relay clicking), and that the boiler stops firing.

Installation history

Check the details for the Beanbag system in the installation history

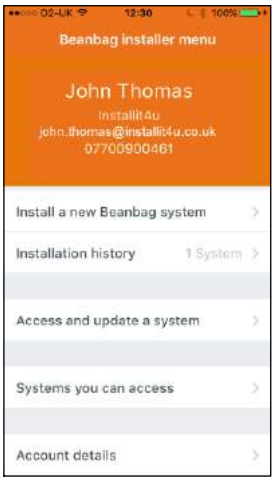
To do this, your smartphone must be connected to the Internet

Step 1



Connect your smartphone to the Internet, and then tap **OK**

Step 2



Tap **Installation history**

Step 3

When done, tap **back**

If you cannot access the Internet through 3G/4G, you may need to ask the householder to enter the Wi-Fi password for the home network

You can see details about installed Beanbag systems at any time.
Log in as an installer, and then navigate to **Installation history**.

Installation complete

The Beanbag system is now ready to hand over to the householder.

Resetting Beanbag devices

If the installation process fails, you may need to reset the Beanbag devices.

Step 1

Tap **Install a new Beanbag system**

Step 2

Tap **Advance setup**

Step 3

Tap **Reset network**, and then tap **Yes** to confirm that you want to reset all the devices

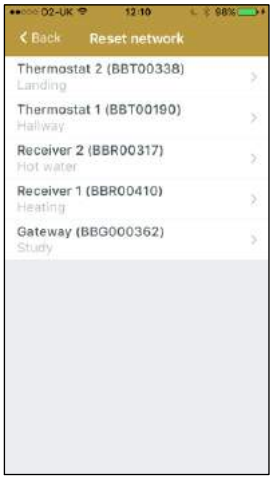
Step 4

Connect to the Gateway, as described on page 14.

To use the smartphone to get the Gateway serial number automatically, tap **Scan gateway QR code**

Tap **Enter gateway serial number** if you want to enter it yourself, or if your phone is unable to scan the QR code

Step 5



Tap the entry at the top of the list

Step 6

Follow the on-screen instructions to reset the device

Step 7

Tap **Done**

Step 8

Repeat Steps 5 to 7 for each remaining device

Step 9

Tap **Install a new Beanbag** system to restart the installation process from scratch

Thermostat

Press and hold the button on its top edge until the **Enter Advanced menu** selection appears. Enter the **Advanced menu**, and select **Factory reset**. When the factory reset has been done, select **Exit**.

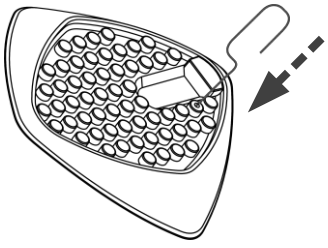
Gateway and Receiver

Locate the hole for the reset button. Insert a thin, blunt object (such as a bent paper clip), into the hole to push the button. Push and hold the button in for a few seconds, until the app shows that the device has been reset.

Gateway

The hole is in one of the bosses on the underside.

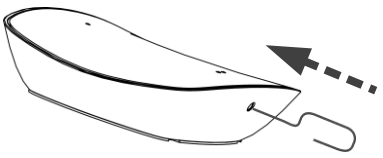
Don't disconnect the power lead!



Receiver

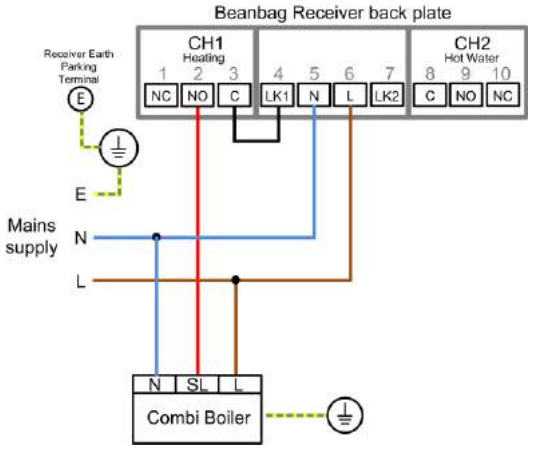
The hole is on the lower edge.

Don't remove the Receiver from the wall plate!

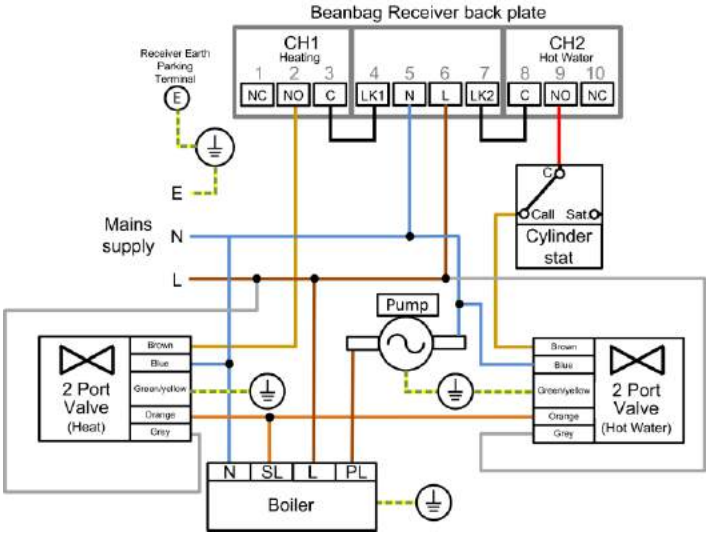


Wiring for mains-controlled systems (**Heat + Hot Water** kit)

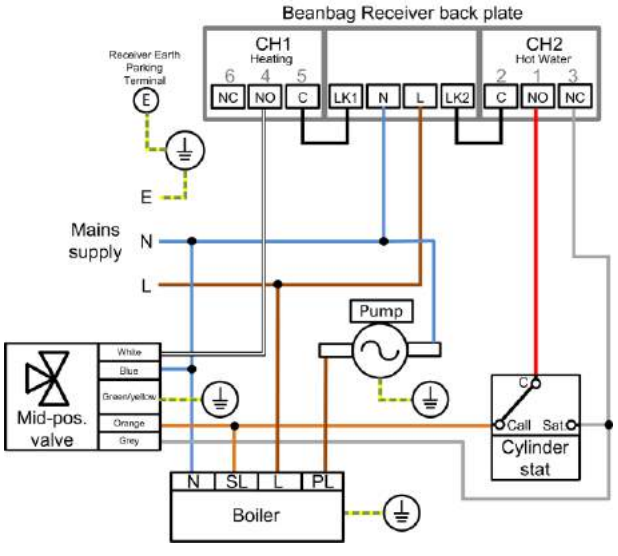
Combi boiler



Heat and hot water boiler, with two 2-port valves (S plan)



Heat and hot water boiler with 3-port valve (Y plan)



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