HubSwitch installation guide

for Model WSHUB5

March 2025

HubSwitch installation guide

Below is a clear, step-by-step installation manual for qualified installers. Please read through the entire manual and follow each step carefully. **Only authorised and qualified professionals should perform the installation.**

4 WundaSmart system

4 Wunda key advantages

5 HubSwitch overview

6 Safety precautions

6 Qualified personnel only:
6 DIY installation
6 Power supply and fuse protection
6 Power isolation:
6 Device condition:
6 Documentation:

7 Preparation for Installation

7 Documentation & Information:
7 Tools & equipment:

7 Application

8 Communication

8 Remote control
8 Reliability

9 HubSwitch placement

9 Optimal placement for best performance
9 Avoid placement near potential interference sources
9 Recommended installation height

9 Antenna

9 Antenna installation & signal optimisation
9 Factors affecting signal strength
9 Improving weak signal strength

10 Replacing an old single channel controller (optional DIY)

10 Step-by-Step process

10 Switch off heating and power:
10 Detach and identify wiring:
10 Identify and label the following wires:
10 Temporary re-fix (if required):
11 Prepare the new backplate:
11 Connect the wires:
12 Set jumper and dip-switch:
13 Attach the HubSwitch:
13 Restore power

14 Advanced installations for professionals

14 Only for qualified installers:
14 Documentation & information:
14 Tools & equipment:

15 Wiring examples:

16 System boiler Example: HubSwitch in two channel mode CH & HW, with multizone UFH.
17 Volt free combi boiler Example: HubSwitch in one channel - voltage free mode.
18 230V switching combi boiler Example: HubSwitch in one channel - 230V mode.
19 Combi boiler Example: HubSwitch in 230V single channel mode CH & multizone UFH.
20 Y-Plan Example: HW & Rads - HubSwitch in 2CH 230V mode.*

21 Channel configuration setup

21 One channel, voltage-free:
22 One channel 230V:
23 Two channels 230V:
24 Three channels 230V:
25 Four channels 230V:

26 OpenTherm connection (for combi boilers only)

26 Compatibility:
26 Connection steps:

27 Testing HubSwitch relays

27 Enter test mode:
27 Test each channel:
27 Exit test mode:

28 Final checks

29 System transfer

30 WiFi connection & HubSwitch pairing

30 Router and device check:
30 Begin pairing:
30 Join the WiFi network:
30 HubSwitch configuration:
30 LED indicators:
30 Finalise setup:
30 Troubleshooting pairing:
30 Your installation is now complete.

31 Technical Specification

31 Need our help?

WundaSmart system

WundaSmart is a smart, modular heating control system that simplifies home heating management. It replaces traditional controllers with a scalable design that supports single-channel, multi-channel, and hot water control, managing **up to 30 rooms, 48 underfloor heating loops**, and **50 radiators**. Using advanced **LoRa communication**, it delivers reliable, long-range performance (up to 3 km) without extra extenders.

The system works offline via a **local WiFi** network and only needs Internet access for remote control. The central HubSwitch connects all components for seamless operation. Enjoy benefits like **precise zone control**, enhanced privacy, geo-fencing, and **voice commands** with Alexa or Google Home, along with easy DIY expansion and a long warranty.

The HubSwitch is the main unit of the **WundaSmart System**. It facilitates communication among all components, enabling seamless management of heating circuits and providing intuitive, efficient control over the heating system.

Wunda key advantages

Simple & Easy Set-Up With App

Easy install

OpenTherm Connection

Multi Room Control

Smart Scheduling and Charts

Take It With You If You Move

Seeker Signal no repeaters required

Remote Access From Anywhere In The World

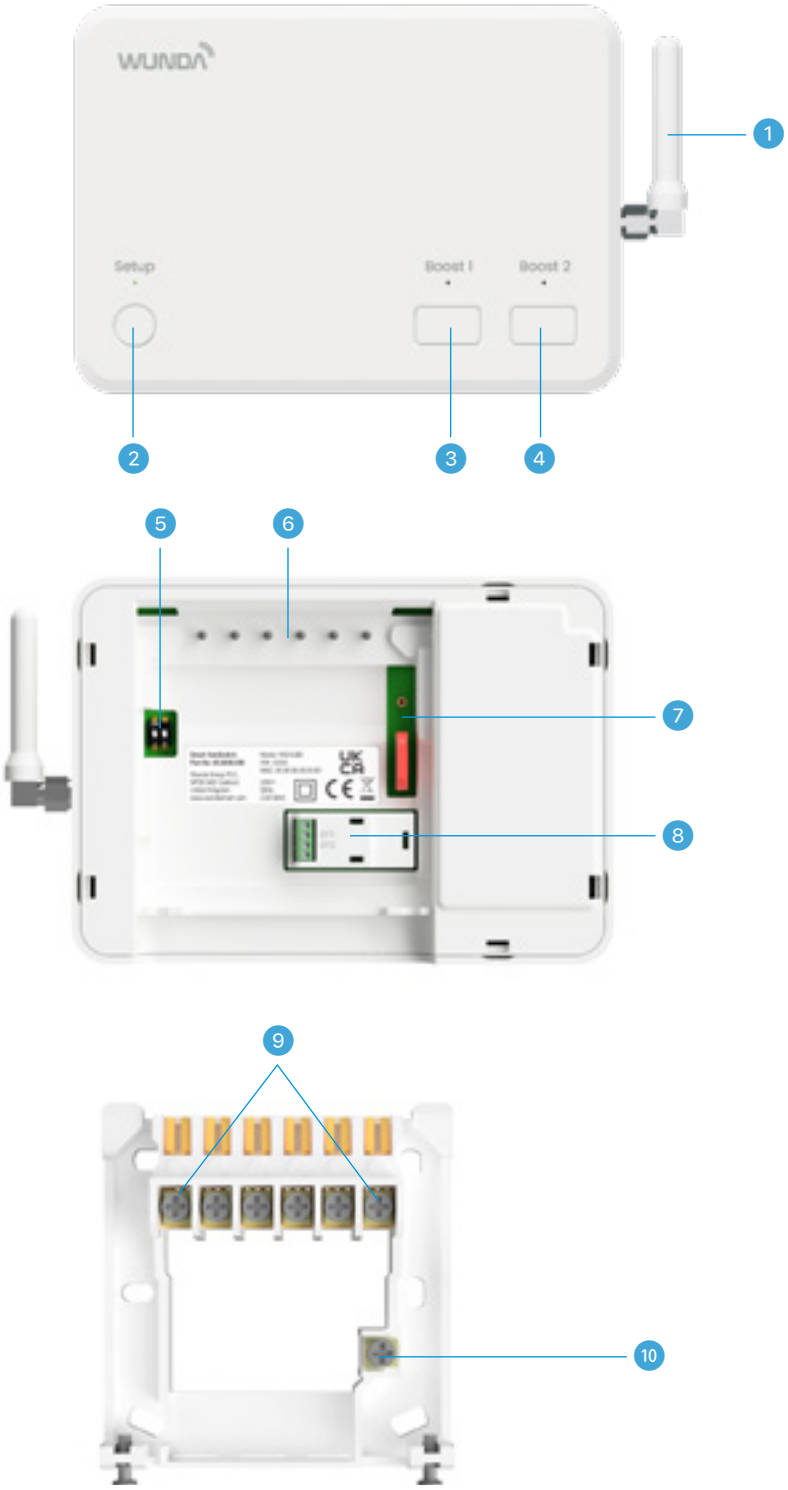
Data Security

Sharing privilidges

Geo-fencing

Voice Control

HubSwitch overview



1- **Antenna**; 2 - **Setup** button; 3 - configurable **Boost 1** button; 4 - configurable **Boost 2** button; 5 - **Switch**; 6 - Backplate connectors; 7 - **Jumper**; 8 - **OpenTherm** connector; 9 - Backplate wire connectors; 10 - Ground

Safety precautions

Qualified personnel only:

- Installation and connection must be carried out by an authorised and qualified person according to all applicable regulations and standards.
- Repairs or modifications by anyone other than a competent electrician will void the warranty.

DIY installation

- **Turn off power & use proper tools** – Always switch off the main power supply and confirm with a voltage tester. Use insulated tools and wear protective gear to prevent electric shocks.
- **Follow electrical codes & ensure proper connections** – Use the correct wire size, secure all connections properly, and avoid overloading circuits to prevent fire hazards. Work in a dry environment and label all wiring for safety.
- **Test & seek professional help if needed** – After installation, test all connections. If unsure about any step, consult a licensed electrician to avoid risks.

Power supply and fuse protection

An appropriate disconnect device shall be provided as part of the building installation.
The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.

Power isolation:

- **Always** isolate the power supply **before** beginning installation or wiring work.
- Double-check that the system is off (this may also disable your WiFi temporarily).

Device condition:

- **Do not install if the device's casing, cables, or power cord is damaged.**
- The device must be kept away from water, excessive humidity, or conditions causing rapid temperature changes.

Documentation:

- Read the warranty terms and these instructions carefully.
- Inform the manufacturer of any faults **before** performing repairs.

Preparation for Installation

Ensure you have the following items available:

Documentation & Information:

- Your home's heating installation and boiler wiring schematic.
- Name and password for your **local 2.4GHz WiFi network**.

Tools & equipment:

- Smart device (phone or tablet) connected to the 2.4 GHz WiFi network.
- Phillips (#2, cross tip) screwdriver.
- Flathead screwdriver.
- Pliers and wire strippers (optional).
- Flashlight (optional).
- Labels for wires.
- Non-contact voltage detector.

Application

The Application allows you to manage your heating system remotely. While a qualified electrician can complete the electrical connections and installation without it, the Application is used to finalise the pairing process. Alternatively, the electrician can perform the pairing and generate a transfer code to pass ownership to you.

- **Download & account setup**
  Download the Application and create an account. You'll only need to provide a username and email address for activation and to set up your password.
- **Privacy**
  We do not collect personal data such as your address or location—your privacy is our priority.
- **Multiple systems**
  You can add as many systems as you want to your account.
- **Confirmation**
  After registering, you'll receive a confirmation email. If you don't see it, please check your spam folder. Confirm your account to continue with the system installation.
- **Download options**
  Download the Application here, or find it in the App Store or Google Play under the name **WundaSmart**.

Download on the App Store

GET IT ON Google Play

Communication

WundaSmart uses technology at 868MHz for device communication. This long-range, low-power connection can reach up to 3 km in open spaces, making it ideal for larger homes and properties without the need for extra extenders or hubs.

Remote control

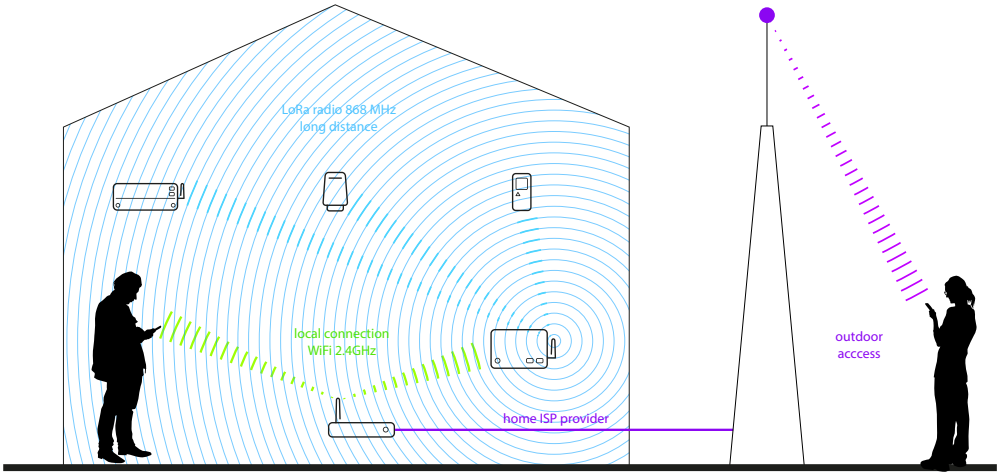
Remote control is available in two ways using your smartphone:

- **Local connection:**
  When your smartphone is connected to your local network (via an access point or router), it communicates with the HubSwitch on a local frequency. Your smartphone may use 2.4 GHz or 5 GHz to connect to the router, but the router communicates with the HubSwitch at 2.4 GHz. The HubSwitch then communicates with the devices at 868MHz. All data is encrypted and secured with SSL.
- **Outside connection:**
  When you are away from your home network, your smartphone connects via the internet to your home router. The router then communicates with the HubSwitch (on 2.4 GHz), which in turn communicates with the devices at 868MHz.

The Internet is required for initial setting/pairing the system with the Application.

Reliability

All control data is stored on the HubSwitch, enabling you to manage the system even without an internet connection. If your router or access point fails, the HubSwitch remains connected to your devices, and you can manually control them using the buttons on the devices.



HubSwitch placement

Before installing the HubSwitch, ensure that a stable internet connection is available. The router or any other access point should operate on a **2.4GHz frequency** to support proper connectivity.

Optimal placement for best performance

To ensure seamless communication between the HubSwitch and connected devices (Smart Radiator Head, Smart Thermostat, Smart Connection Box), the HubSwitch should be positioned centrally within the premises. This placement minimises interference and optimises connectivity.

Avoid placement near potential interference sources

For best performance, the HubSwitch should be installed away from:

- Metal obstacles (such as steel furniture, metal boxes or metal walls)
- Electrical transformers and engines
- Fluorescent lamps
- Microwave ovens
- Refrigerators and other industrial appliances
- Sources of electromagnetic interference

Recommended installation height

For optimal performance, the HubSwitch should be installed at a height between 1.0 to 1.6 meters above floor level. This helps improve signal strength and coverage.

Antenna

Antenna installation & signal optimisation

Before mounting the HubSwitch on the wall, attach the antenna securely to the main body.

The external antenna is specifically designed for communication with Wunda Smart System devices using an 868 MHz frequency (LoRa system). The operating range can vary from 50 meters to over 500 meters, depending on the location of the HubSwitch and the structural characteristics of the building.

Factors affecting signal strength

Several factors can impact the quality of the radio signal, including:

- Thick walls or dense building materials
- Metallic mesh or structures within walls
- High levels of electromagnetic interference from nearby devices

Improving weak signal strength

If the radio signal is weak or inconsistent, consider replacing the included antenna with an **external wired antenna** (868Mhz antenna with a SMA male connector). This external antenna should be positioned in an area free from obstructions that could interfere with signal transmission.
By following these guidelines, you can ensure **optimal connectivity and performance** of your HubSwitch and all connected smart devices.

Replacing an old single channel controller (optional DIY)

Important! Only continue if the existing wiring includes clearly identifiable wires. If not, or if the thermostat is multi-channel or high voltage, contact a professional installer.

Step-by-Step process

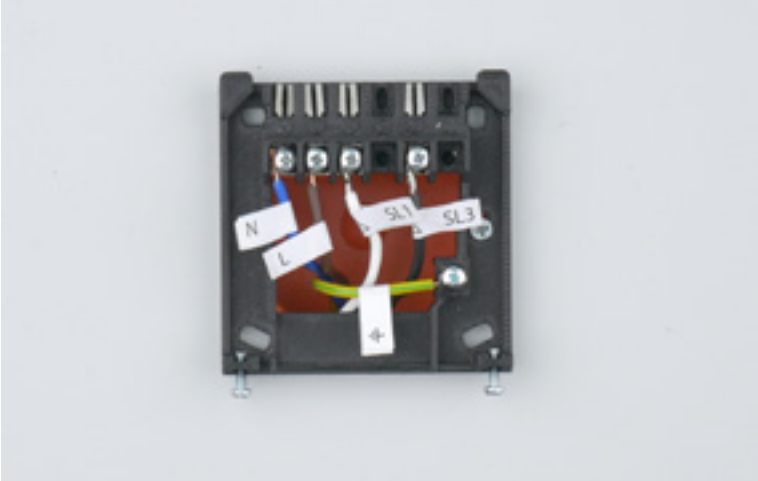
Switch off heating and power:

- Turn the heating to 'off'.
- Switch off the power at the mains.
- Verify the power is off using a phase probe.

Detach and identify wiring:

- Unscrew and remove the old controller from its backplate.

Identify and label the following wires:



- **Brown (Live):** Connects to the **L** terminal.
- **Blue:** Connects to the **N** terminal.
- **Yellow-Green:** Connects to Earth.
- **Red/Black/Grey:** Two wires, one for the **1st** terminal and one for the **3rd** terminal.

Important! If any wire is missing or unclear, seek professional assistance.

Tip: Take a photo and attach labels to each wire.

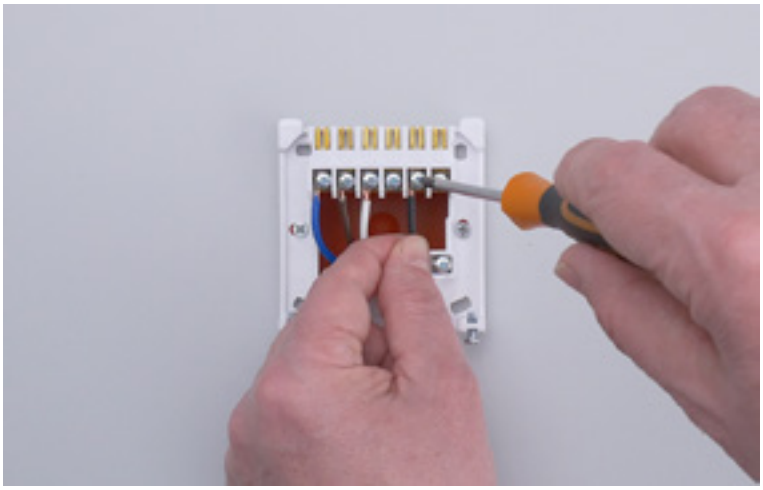
Temporary re-fix (if required):

If unsure, reattach the old thermostat to the backplate securely. Restore power and then consult an electrician or gas engineer to proceed with the new installation.

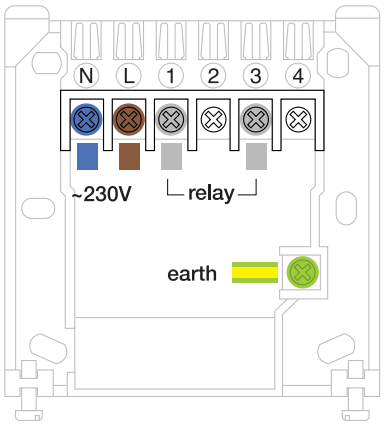
Prepare the new backplate:

- Label wires connected to the boiler according to your schematic.
- Once all wires are identified and labelled, remove the old backplate.
- Fix the new backplate using suitable screws.

Connect the wires:



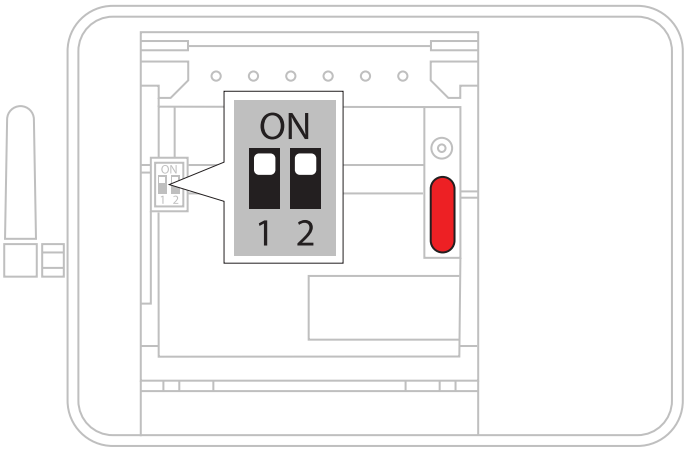
Connect the wires to their corresponding terminals on the new backplate:



- Brown to **L**
- Blue to **N**
- Yellow-Green to **Earth**
- Red/Black/Grey to **1st** and **3rd** terminals

Set jumper and dip-switch:

- **Jumper:** Set to the "voltage free" position as per the provided schematic.
- **Dip-switches:** Set to the "one channel operating" position as per the schematic.



- **Double-check** both settings before proceeding.

Attach the HubSwitch:

- Align the HubSwitch with the top edge of the backplate.

- Slide the HubSwitch so that the screw holes align.

- Secure it with the provided screws using a flathead screwdriver.

Restore power

- Once mounted, switch the power back on.
- If the device does not power up, recheck the wiring connections against the instructions.
- **If issues persist,** consult a qualified electrician.

Advanced installations for professionals

Only for qualified installers:

Installation in configurations other than the single channel or involving new wiring must be performed by authorised personnel.

Documentation & information:

- Your home's heating installation and boiler wiring schematic.
- Name and password for your **local 2.4GHz WiFi network**.

Tools & equipment:

- Smart device (phone or tablet) connected to the 2.4 GHz WiFi network.
- Phillips (#2, cross tip) screwdriver.
- Flathead screwdriver.
- Pliers and wire strippers (optional).
- Flashlight (optional).
- Labels for wires.
- Voltage tester.

Wiring examples:

The HubSwitch is built to be very versatile. Here are some wiring examples to show how the HubSwitch could be used. You can use these as a reference to wire this install.

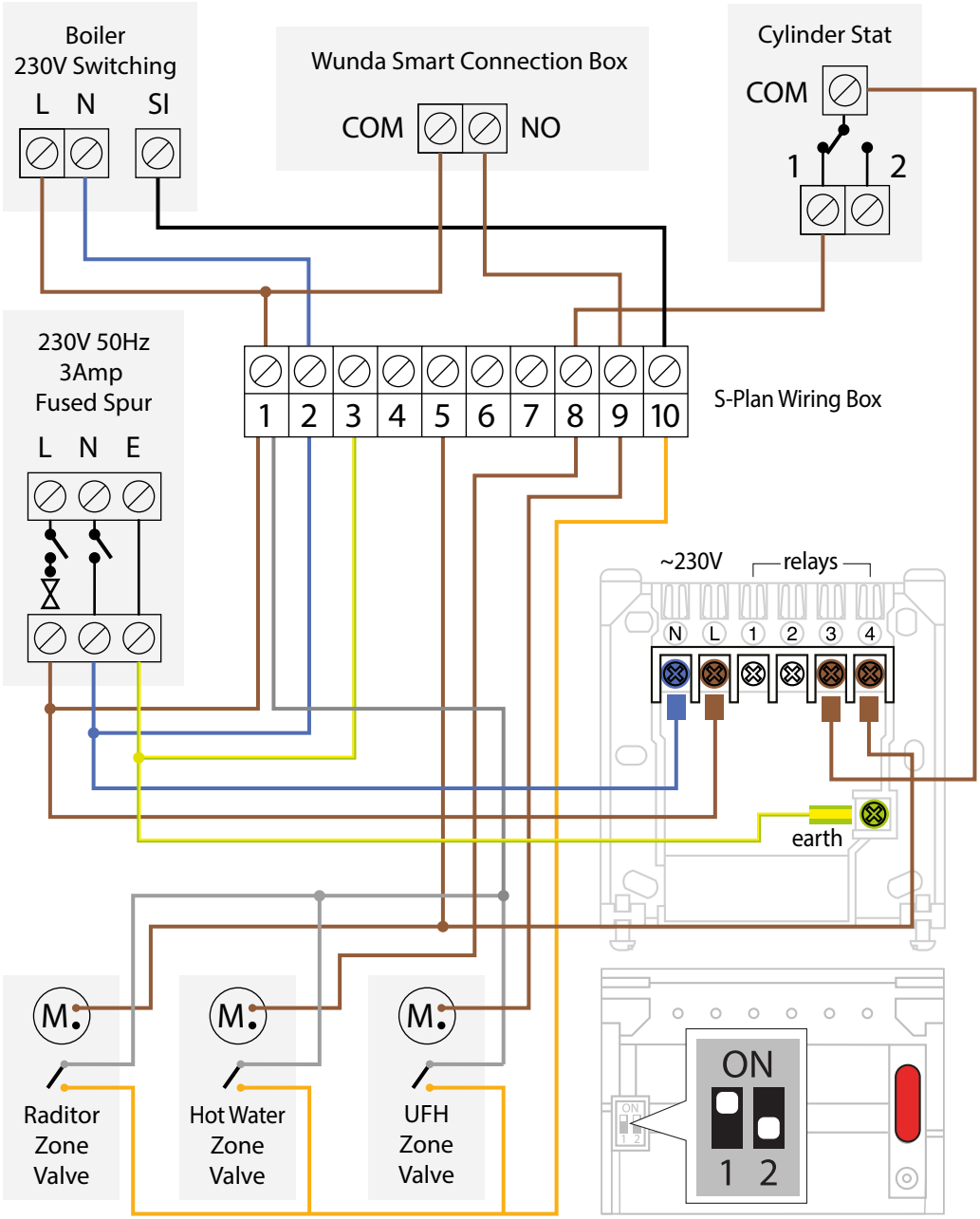
Below are some various wiring examples demonstrating various applications of the HubSwitch in different scenarios. Your installation my differ from the examples depending on the wiring configuration.

> These can server as a reference for wiring the installation; please be aware they are solely for guidance purposes, earths and neutrals are omitted for clarity.

System boiler

Example: HubSwitch in two channel mode CH & HW, with multizone UFH.

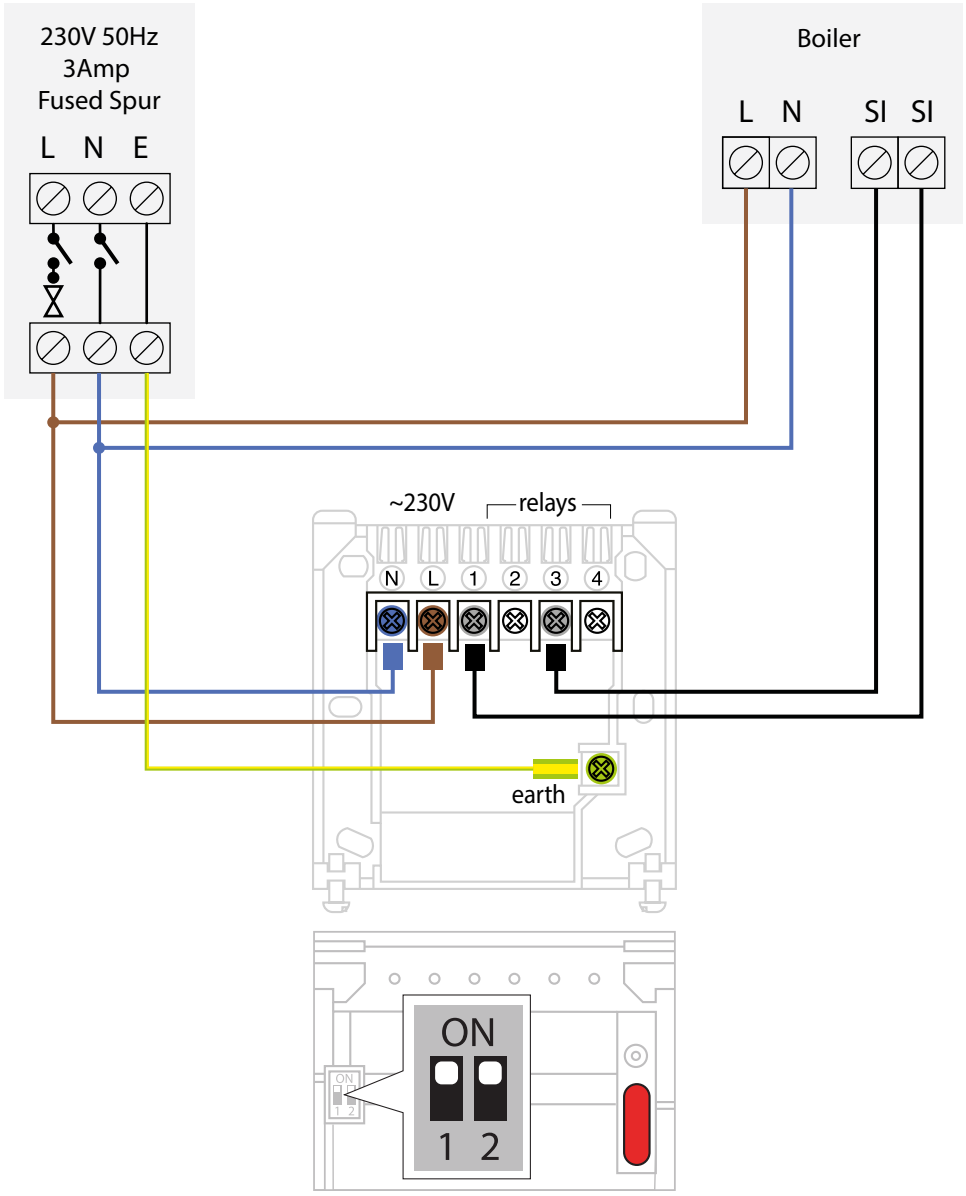
This drawing is for guidance only. All installations should be undertaken by a qualified person only. Some earth or neutral connections may be omitted for clarity.



Volt free combi boiler

Example: HubSwitch in one channel - voltage free mode.

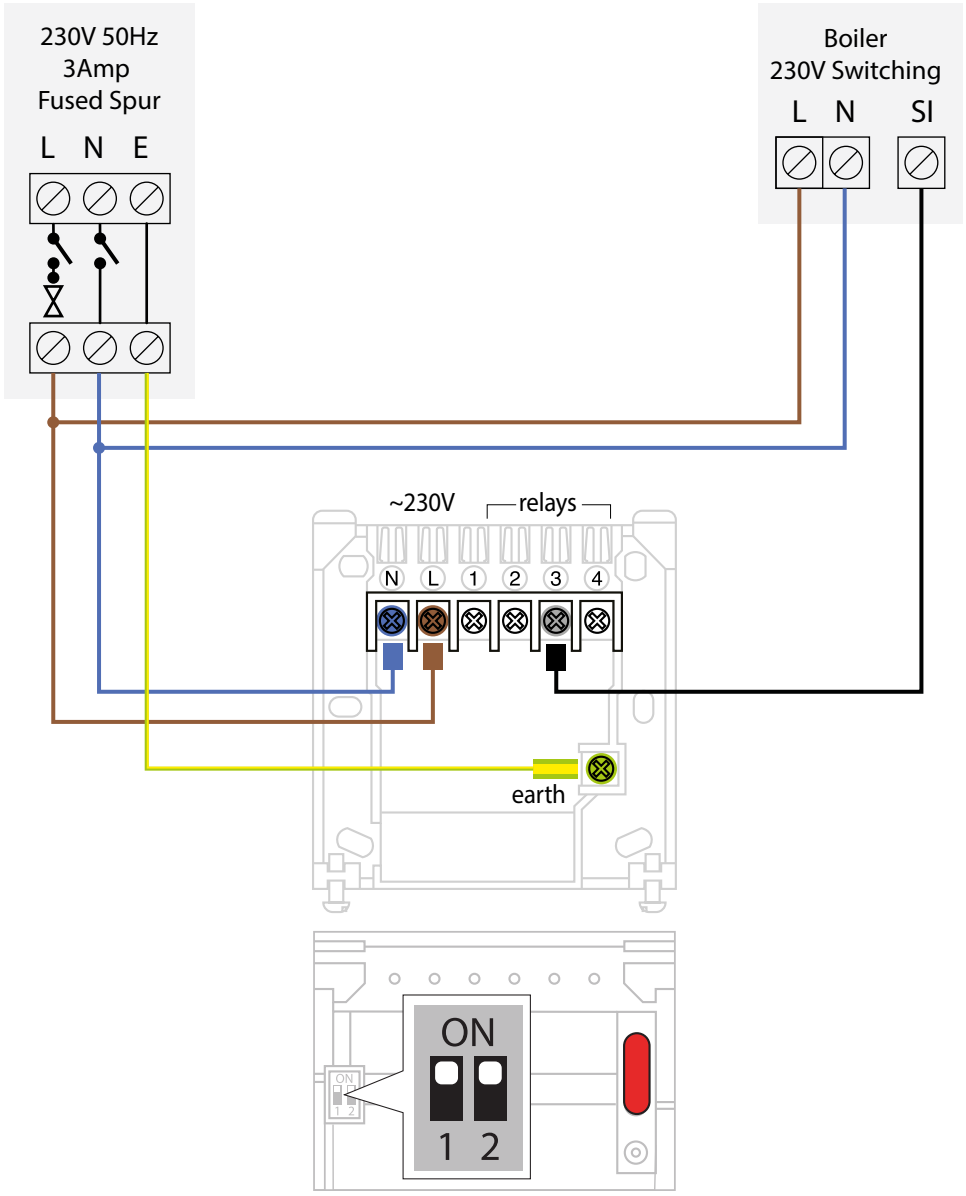
This drawing is for Guidance only. All installations should be undertaken by a qualified person only. Some earth or neutral connections may be omitted for clarity.



230V switching combi boiler

Example: HubSwitch in one channel - 230V mode.

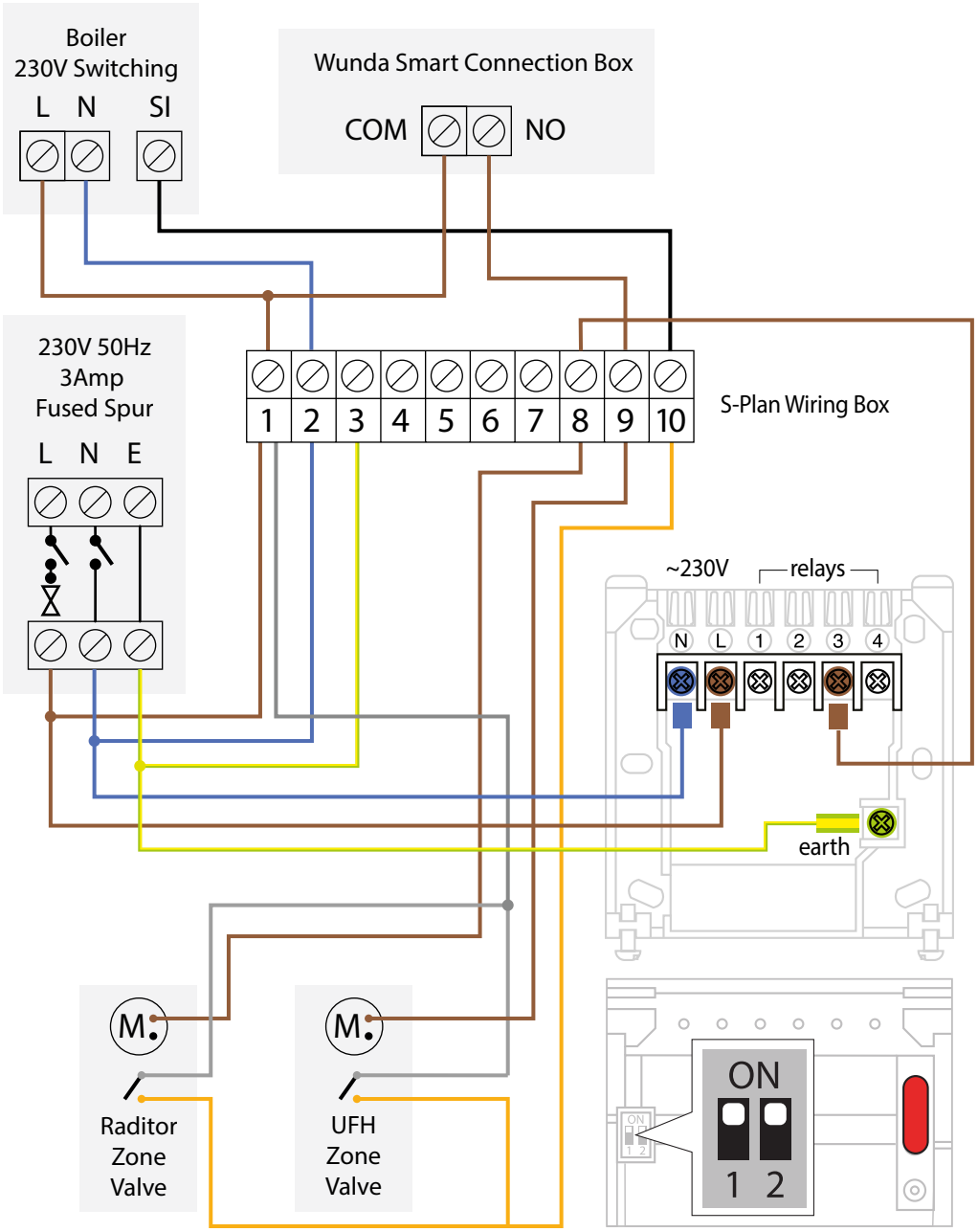
This drawing is for Guidance only. All installations should be undertaken by a qualified person only. Some earth or neutral connections may be omitted for clarity.



Combi boiler

Example: HubSwitch in 230V single channel mode CH & multizone UFH.

This drawing is for guidance only. All installations should be undertaken by a qualified person only. Some earth or neutral connections may be omitted for clarity.

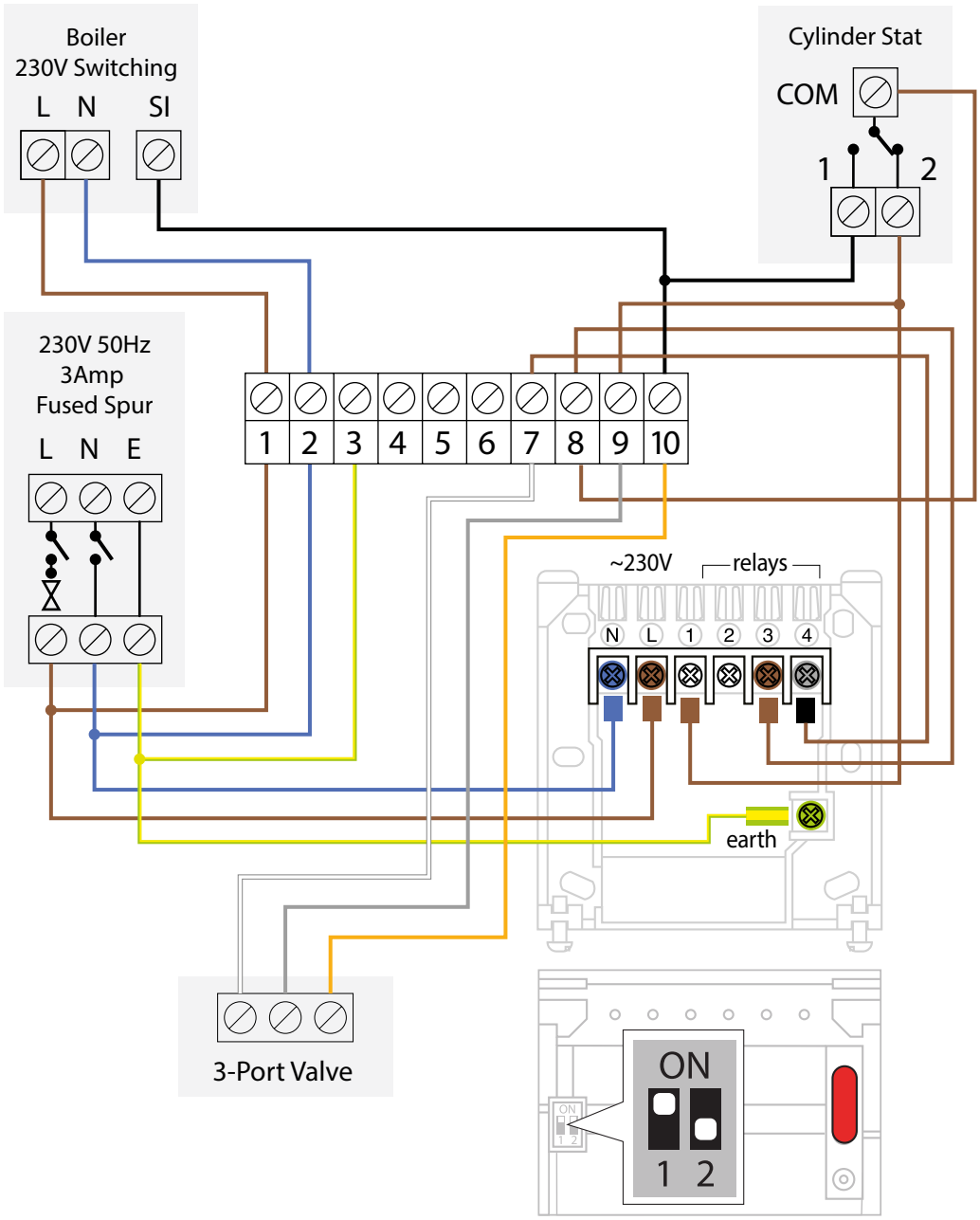


Y-Plan

Example: HW & Rads - HubSwitch in 2CH 230V mode.*

*If adding floor heating please see "S-Plan+" it is not recommended to add UFH to a Y-Plan.

This drawing is for guidance only. All installations should be undertaken by a qualified person only. Some earth or neutral connections may be omitted for clarity.



Channel configuration setup

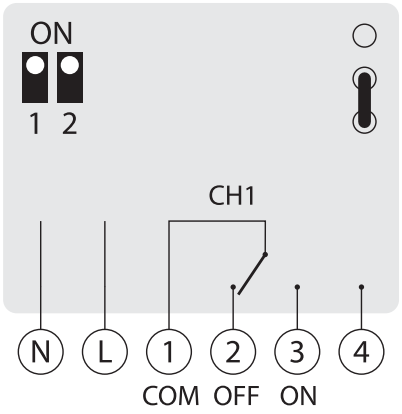
The HubSwitch can operate from one to four channels (circuits) at 230V or one channel voltage-free. You can set the operating mode using the dip switches and jumper. The channel configuration will be displayed in the Application.

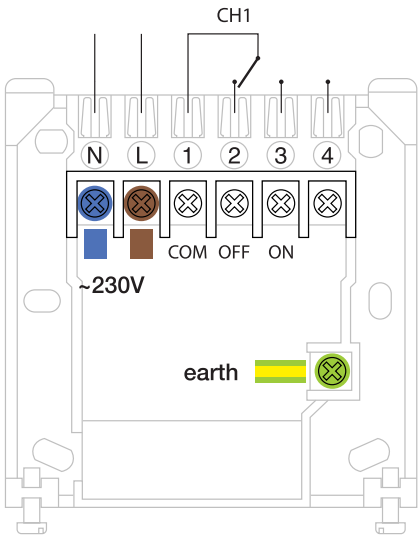
Select the appropriate working configuration for this HubSwitch installation. If you're unsure, please consult your boiler installer.

One channel, voltage-free:

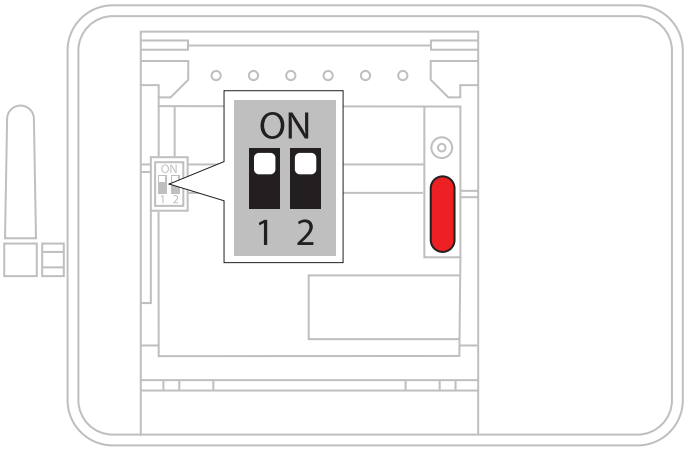
Connect labelled wires to corresponding terminals:

Warnings! The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.





- Set the jumper to voltage free position as in the schematic below.
- Set switch to one channel operating position as in the schematic below.



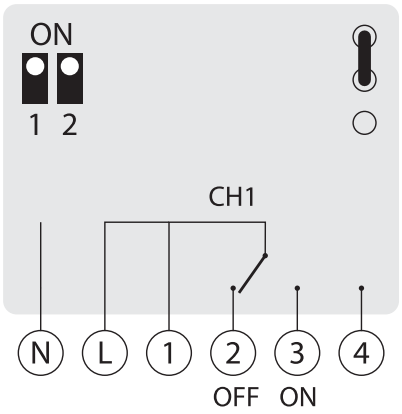
- **Double-check** connections, dip-switch positions and jumper settings before proceeding.

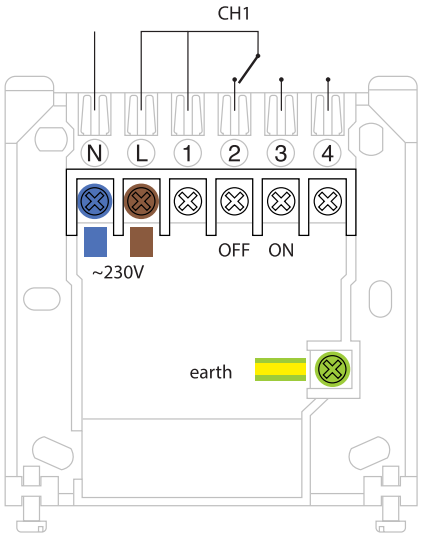
  Ensure that your wiring, the jumper and dip-switches are set to the correct positions..

One channel 230V:

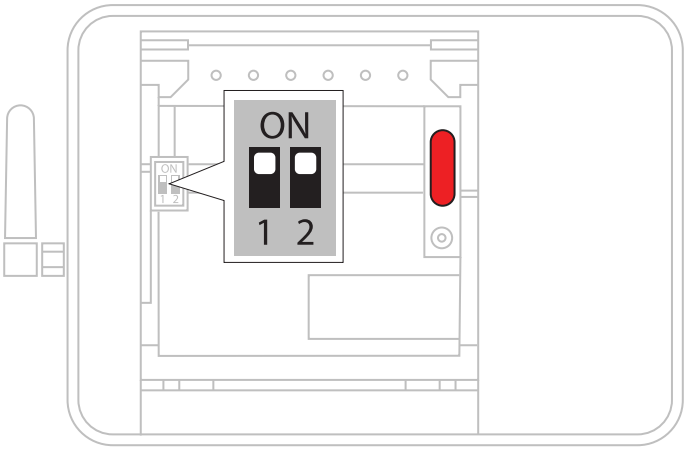
Connect labelled wires to corresponding terminals:

Warnings! The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.





- Set the jumper to 230V position as in the schematic below.
- Set switch to one channel operating position as in the schematic below.

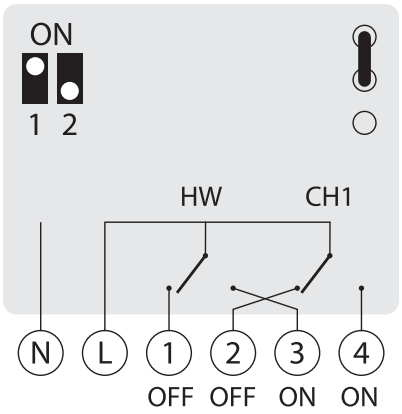


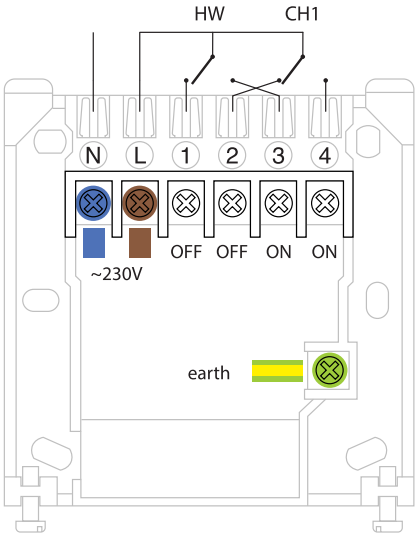
- **Double-check** connections, dip-switch positions and jumper settings before proceeding. Ensure that your wiring, the jumper and dip-switches are set to the correct positions..

Two channels 230V:

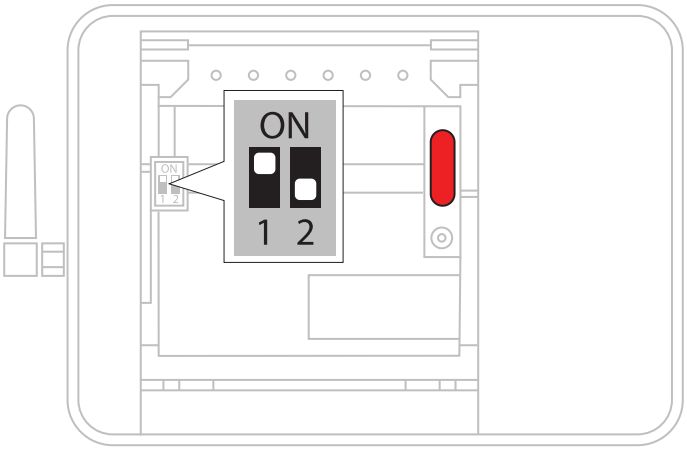
Connect labelled wires to corresponding terminals:

> **Warnings!** The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.





- Set the jumper to 230V position as in the schematic below.
- Set switch to one channel operating position as in the schematic below.

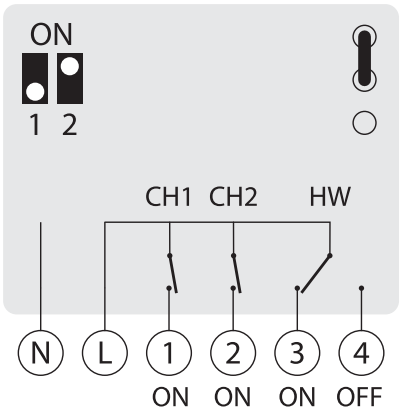


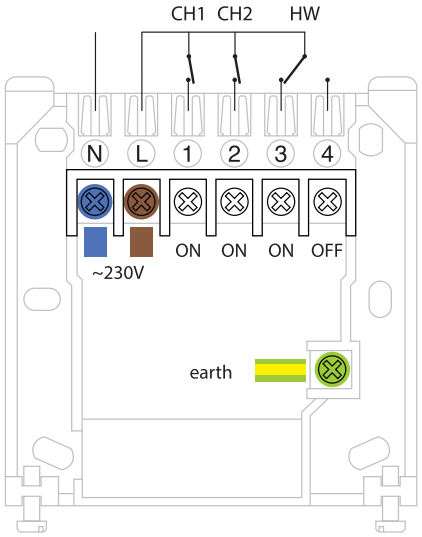
- **Double-check** connections, dip-switch positions and jumper settings before proceeding. Ensure that your wiring, the jumper and dip-switches are set to the correct positions..

Three channels 230V:

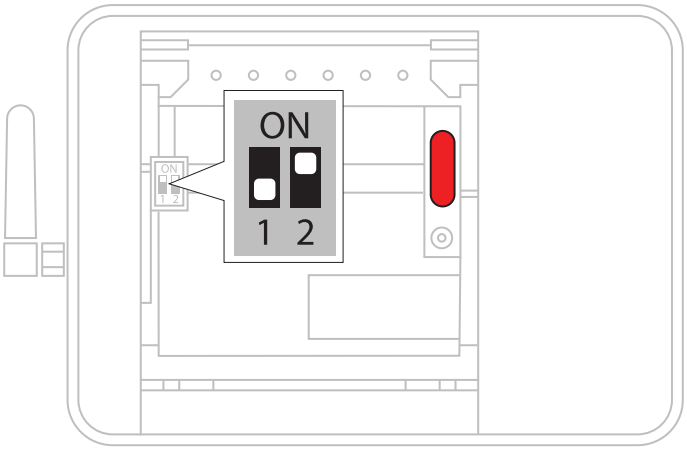
Connect labelled wires to corresponding terminals:

Warnings! The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.





- Set the jumper to 230V position as in the schematic below.
- Set switch to one channel operating position as in the schematic below.

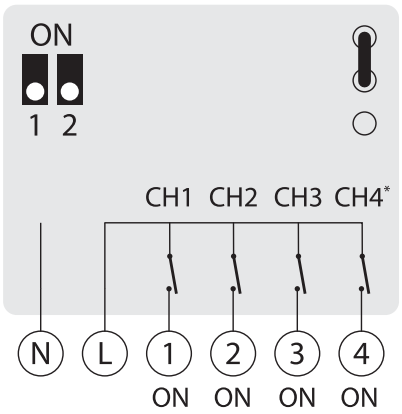


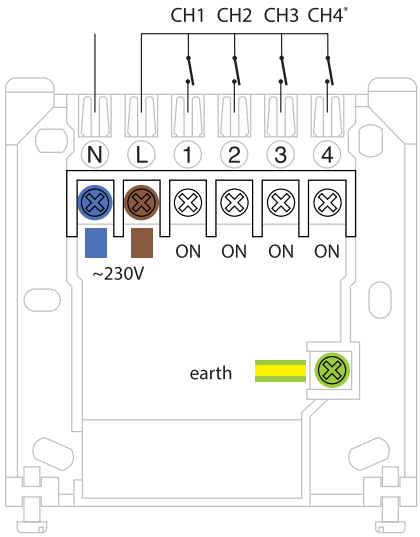
- **Double-check** connections, dip-switch positions and jumper settings before proceeding. Ensure that your wiring, the jumper and dip-switches are set to the correct positions..

Four channels 230V:

Connect labelled wires to corresponding terminals:

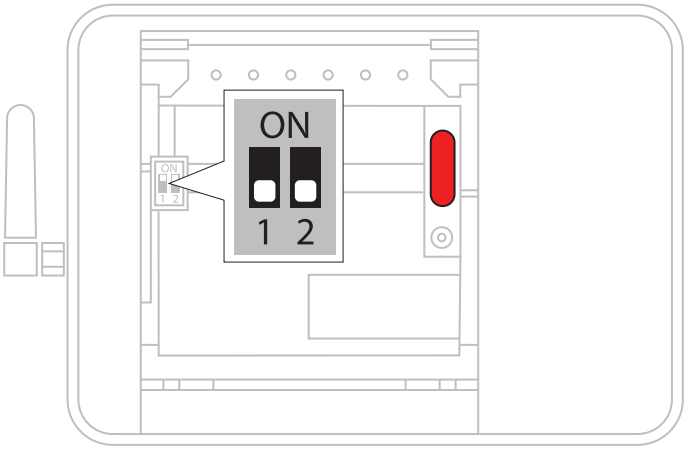
Warnings! The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.





* CH4 can be configured for either heating or hot water in the application

- Set the jumper to 230V position as in the schematic below.
- Set switch to one channel operating position as in the schematic below.



- **Double-check** connections, dip-switch positions and jumper settings before proceeding. Ensure that your wiring, the jumper and dip-switches are set to the correct positions..

OpenTherm connection (for combi boilers only)

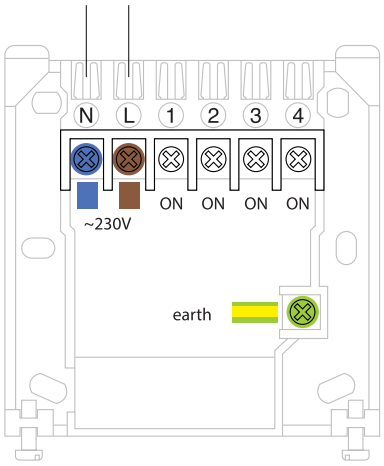
Compatibility:

The HubSwitch supports OpenTherm only with combi boilers. Typically, it works with a single channel configuration, Voltage-Free. However, if you require it, you can set it to one to four channels and operate circuits (as demonstrated earlier in this manual).

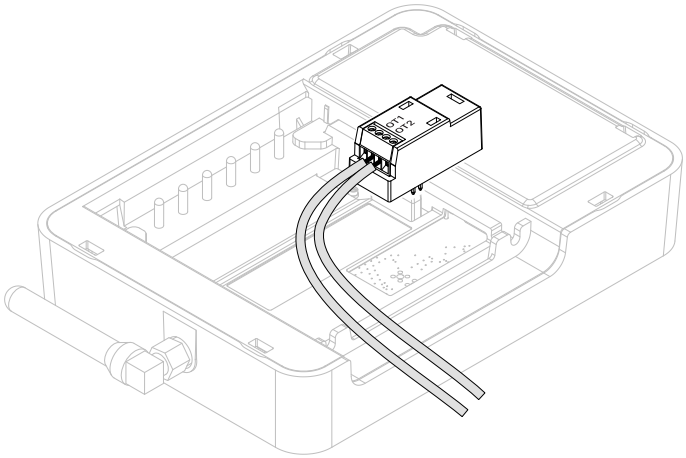
Connection steps:

- Connect the power wires to the corresponding terminals (1 to 4 may vary based on configuration).

Warnings! The power supply (line L & N) connected to the HubSwitch must be protected by a 3A fused spur or MCB 3A.



- Identify Opentherm terminals in your boiler (please refer to boiler manual). Connect the wires to the WundaSmart OpenTherm plug to connectors OT1 & OT2.
- Attach the WundaSmart Opentherm plug into the HubSwitch and mount the HubSwitch on the wallplate.



Note: If you are unsure about the OpenTherm connection, refer to the boiler's manual or contact a professional installer.

Testing HubSwitch relays

Before completing installation, verify that all connected devices (pumps, valves, etc.) function correctly:

Enter test mode:

- Press **Boost 1** and **Boost 2** simultaneously for 5 seconds.
- Both LEDs will blink three times and the setup LED will turn off.

Test each channel:

Channel selection:

- Press **Boost 1** to cycle through the available channels.
- The LED above the button will blink a number of times corresponding to the channel number (e.g., one blink for Channel 1, two blinks for Channel 2, etc.).

Activate/Deactivate:

- Press **Boost 2** to toggle the channel ON (green LED) and OFF (red LED).

Exit test mode:

- Simultaneously tap (short press) both **Boost 1** and **Boost 2**.
- Both LEDs will blink once, and the setup LED will turn on, indicating exit from test mode.

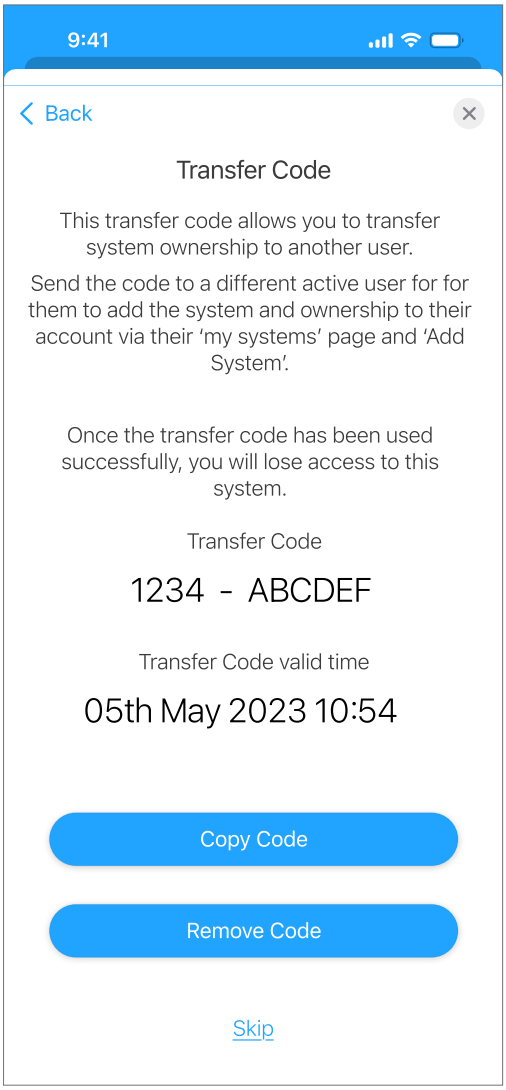
Final checks

- **Verify wiring and settings:**
  Ensure that all connections, jumper settings, and dip-switch configurations match the schematic provided.
- **Secure installation:**
  Confirm that the HubSwitch is firmly mounted and protected by the backplate screws.
- **Power On and function test:**
  Once power is restored, verify that the device starts correctly, the WiFi is operational, and that all configured channels work as expected.
- **Documentation:**
  Take photographs of the wiring and installation for future reference.

Important: If at any point you are unsure or encounter difficulties, please refer to the support resources or contact a professional installer. Improper installation may damage equipment or pose safety hazards.

System transfer

- After installation and pairing, the installer can generate a **Transfer Code** to move system ownership from their account to the end user's account.
- The Transfer Code can be used at any time.
- The end user enters the Transfer Code in the "**My Systems**" page under "**Add System.**"
- Once the Transfer Code is successfully entered, the installer immediately loses access to the system, and it is removed from their account.
- The transfer process is final once the code is used.



WiFi connection & HubSwitch pairing

Router and device check:

- After restoring power, ensure your WiFi router is restarted and working.
- Verify your smart device is connected to the **2.4 GHz** network (not 5 GHz).

Begin pairing:

- Press the setup button on the HubSwitch; the LED should flash white to indicate pairing mode.
- Follow the on-screen prompts on your smart device.

Join the WiFi network:

- Select your local WiFi network from the list (if not visible, you may enter it manually).
- Enter the network password.

HubSwitch configuration:

The device will begin configuring and checking for updates.

LED indicators:

- **Blinking White:** Pairing in progress.
- **Blinking Pink:** WPS pairing mode.
- **Blinking Blue:** Cannot connect to the router.
- **Blinking Green:** Connected to the router but no internet connection.
- **Continuous Green:** System is fully configured.

Finalise setup:

- Once paired successfully, assign a name to your hub.
- Continue with the configuration of your heating source, creation of rooms/zones, and any additional connection boxes or smart switches.
- If required, generate a transfer code to transfer system ownership to another user.

Troubleshooting pairing:

- If pairing fails, check the signal strength and confirm that your smart device is connected to the correct WiFi network.
- Repeat the pairing process if needed.

Your installation is now complete.

Technical Specification

Dimension	158×100×28 mm
Weight	235g
Power Supply	230V~ 50Hz
Mounting	Industry standard wall plate
Switch Rating	2(1)A 230V AC each switch. Total load must not exceed 2.5A
Wiring	Fixed wiring only
Operating Temperature	0℃ to 45℃
Storage Temperature	-10℃ to 55℃
Ingress Protection	IP30
Ambient Humidity	Operating 25% to 90%, Storage 15% to 95% (non-condensing)
Software Class	A
Rated Impulse Voltage	2.5kV
Radio SRD Frequency	869.85 MHz
Radio SRD Bandwidth	125 kHz
Radio SRD Maximum Power	<5 dBm
WiFi Standard	802.11b 11Mbps
WiFi Maximum Power	< 18.5dBm
WiFi Frequency Range	2.412 MHz - 2.472 MHz

Need our help?

Our designated support staff are on hand to answer all your questions

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