



Installation and user manual

Unisenza Plus - Receiver

EN



Heating, cooling
& hot water



Smart, app
connectivity



OpenTherm



5 year
guarantee



| Release | Date |
|---------------|-------------|
| First release | August 2023 |
| | |
| | |



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1 SAFETY WARNINGS

Pictograms used in this manual

To make reading clearer and more enjoyable, three types of symbols have been used in this manual to convey to the reader the meaning or importance of the information provided:



Hazard signs. Triangular framed shape. Indicate prescriptions relating to present or possible dangers.



Prohibition signs. Circular, barred frame. Indicate prescriptions relating to actions that must be avoided.



Mandatory signs. Full circle. Indicate information that is important to read and comply with.

Purpose of the manual

The purpose of this manual is to guide the qualified installer the installation, maintenance and proper and safe use of the equipment.



For this reason, it is mandatory for all personnel involved in the installation, maintenance and use of the equipment to read this manual.

Contact the Manufacturer if any points are unclear or difficult to understand.

This manual contains information regarding:

- Technical specifications of the equipment;
- Installation and connection instructions.

Intended use

The **Receiver** can be used for the wireless control of boiler, pump or zone valves in a **HVAC** system. It provides two channels relay on/off output and an **OpenTherm** interface, and can be paired with **Unisenza PLUS Thermostat** and **Unisenza PLUS Electronic Thermostatic Head** in the product platform to support multiple applications.

Its features are:

- Two channels on/off control with volt-free relay output @230V 5A resistive, 3A inductive.
- Local switches for the manual override of the wireless controls on each channel.
- Build-in OpenTherm Controller function with an OT/+ interface auto detection.
- Support pairing with **Unisenza PLUS Thermostat** and **Unisenza PLUS Electronic**

- **Thermostatic Head** for room temperature control or boiler interlock.
- Over the air firmware update capability.
- Powered by 230V AC supply.

Safety regulations

Before proceeding with any installation or use, it is necessary to thoroughly inspect the product. Make sure that all the information contained in this manual correspond exactly to the purchased equipment. In the event that differences are identified, it is necessary to contact the Manufacturer in order to obtain the assistance and specific technical information necessary to operate.



Read this manual carefully before the installation, use and maintenance of the product and keep it for any further future consultation by the various operators.



All installation, assembly, electrical connections to the mains and ordinary/extraordinary maintenance must be performed **only by qualified personnel or technicians complying with the legal requirements.**

Installation, use or maintenance other than those specified in the manual may cause damage, injury or death, invalidate the warranty and relieve the Manufacturer of all liability.

Disconnect the equipment from the mains before installing or maintaining it.

Do not install the equipment outdoors. The product has been designed to be installed indoors, protected from bad weather, in places where the temperature is between 0 and +50 °C.

At the end of the installation it is necessary to instruct the user in the correct use of the equipment.

2 TECHNICAL DATA

Unisenza Plus Receiver

| | |
|-------------------------------------|---|
| Output interface | Relay On/Off or OpenTherm (OT/+) protocol specification v4.1 |
| Switch rating (Volt-free output) | Main: 230V/50Hz, 5A resistive, 3A inductive Aux: 230V/50Hz, 5A resistive, 3A inductive |
| Firmware update | Over the air firmware update capability |
| Wireless Communication | ZigBee 3.0, 2.4GHz |
| Power Supply | 230Vac 50Hz |
| Operating Environment | Indoor, residential & commercial |
| Operating Temperature | 0°C – 50°C |
| Storage Temperature | -10°C – 60°C |
| Operating/Storage Humidity | <90% RH, non-condensing |
| Dimensions | 144.6(W) x 99.8(D) x 34.5(H) mm |
| Ingress Protection Rating | IP30 |
| Regulation | CE, UKCA |
| Environmental Requirement | RoHS compliance |

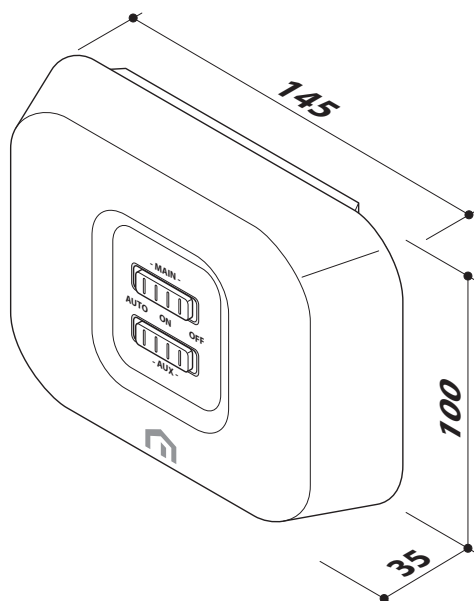
The **Unisenza Plus Receiver** complies with the following European directives:

- RED directive 2014/53/EU
- ROHS directive 2011/65/EU
- REACH (EC 1907/2006)

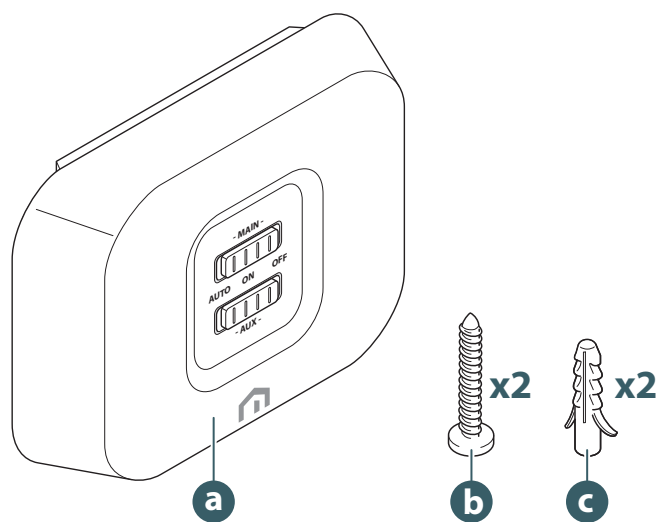
The **Unisenza Plus Receiver** complies with the relevant UK Statutory Instruments:

- Electrical Equipment (Safety) Regulations 2016
- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (SI 2012/3032)
- REACH ETC. (Amendment etc.) Regulations 2020 - SVHC

3 DIMENSIONS



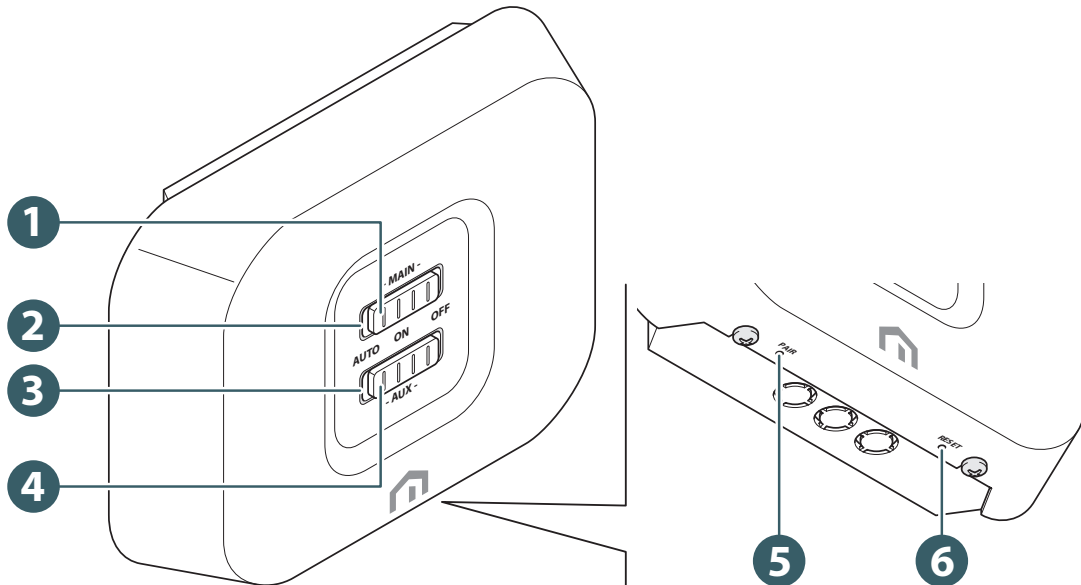
4 PACK CONTENTS



- a. Unisenza Plus Receiver
- b. Fixing screw
- c. Fisher for plate fixing

5 OVERVIEW

Unisenza Plus Receiver

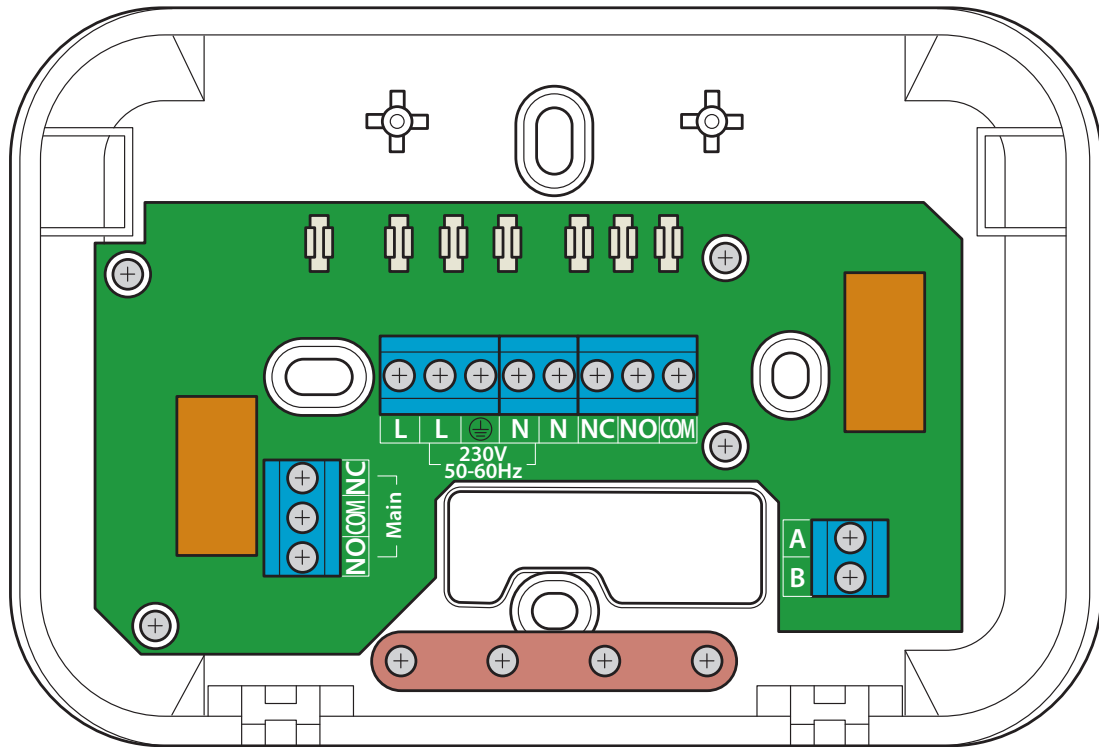



1. Slide switch for Main output
2. LED for Slide switch for Main output
3. LED for Slide switch for Aux output
4. Slide switch for Aux output
5. Pair button
6. Reset button

LED functions

| LED Status at Main / Aux | Description On/Off System | Description OpenTherm (OT/+) System |
|--|--|--|
| Solid Red | Relay Off | OpenTherm Boiler Off |
| Solid Green | Relay On | OpenTherm (OT/+) On |
| Solid Orange | Factory reset | Factory reset |
| Flash Red 1 time then repeat | Pairing mode | Pairing mode |
| Flash Red 3 times then repeat | Joining to the gateway | Joining to the gateway |
| Main LED Flash Red or Green 3 times then repeat during normal operations | Lost link with gateway | Lost link with gateway |
| Flash Red 4 times then repeat (when slide switch position is at Auto) | Lost link with all paired thermostats or E-TRV | Lost link with all paired thermostats or E-TRV |

Terminals Description



| | Terminal | Function |
|----------------------------|---|---|
| 230V 50-60Hz (AC Input) | L | Incoming Mains - Live |
| |  | Earth |
| | N | Incoming Mains - Neutral |
| Main (Volt free Output) | NO | Main relay, Normally Open Contact |
| | COM | Main relay, Common Contact |
| | NC | Main relay, Normally Close Contact |
| AUX (Volt free Output) | NC | Auxiliary relay, Normally Close Contact |
| | NO | Auxiliary relay, Normally Open Contact |
| | COM | Auxiliary relay, Common Contact |
| OpenTherm Interface | A-B | Wire to OpenTherm Boiler |

6 APPLICATIONS

Heating only (On/Off or OpenTherm boiler) or Heat/Cool (2-pipe system)

- The receiver provides single output control when paired with **Unisenza Plus Thermostat** or **Unisenza PLUS Electronic Thermostatic Head**.
- If there is no **OpenTherm (OT/+)** connection, the control output will go through the **On/Off relay**. The Aux Relay will be in-sync with the Main relay for the interlock of additional equipment such as the circulation pump
- If the unit detects an **OpenTherm (OT/+) connection**, the control will be taken over by the **integrated OpenTherm controller** automatically. It can be paired with the **Unisenza Plus Thermostat** and work together as an **OT master** unit.


Central Heating plus Domestic Hot Water (S-plan or Y-plan)

- The receiver provides two output controls. Main Relay controls Central Heating, and Aux Relay controls Domestic Hot Water.
- It is paired with a thermostat supporting both heating and DHW function, such as the **Unisenza Plus Thermostat**.

Heat/Cool Independent system (4-pipe system)

- The receiver provides two output controls. Main Relay controls Heating, and Aux Relay controls Cooling.
- It is paired with a thermostat with heat/cool manual changeover functions, such as the **Unisenza Plus Thermostat**.

Dual Zone Controls

- The receiver provides two on/off output controls. **Main Relay** controls **Zone 1** and **Aux Relay** controls **Zone 2**.
- It is paired with **two zone thermostats** with each controlling the heating or cooling in the zone individually.
- Pairing with multiple **Unisenza Plus Thermostats** or **Unisenza PLUS Electronic Thermostatic Heads** for boiler interlock is supported for **Zone 1** only.
-  **A maximum of 16 devices including Unisenza Plus Thermostat and Unisenza PLUS Electronic Thermostatic Head can be paired with the Unisenza Plus Receiver.**

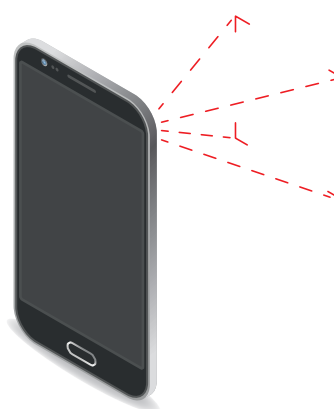
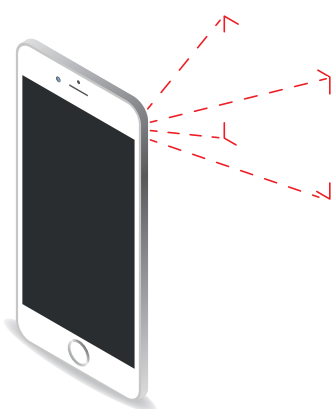
7 DOWNLOAD THE APP



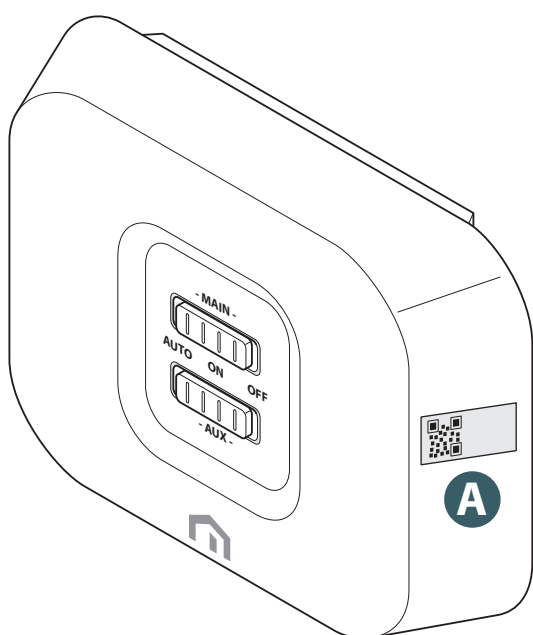
The management of the **Unisenza Plus Receiver** is also possible through a dedicated APP that allows its configuration and the management of the devices you will pair.

In order to download the **APP**, you need to connect to the **STORE** of your device used for configuration and install the **Unisenza Plus**.

Or, again using the device, you can directly access the installation page using the following **QR codes**, again depending on the operating system.



8 NAMEPLATE

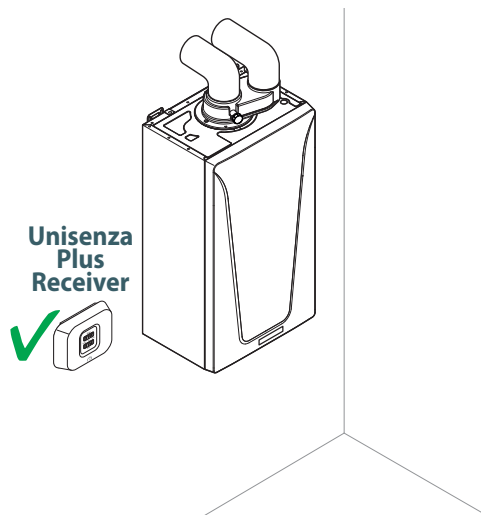
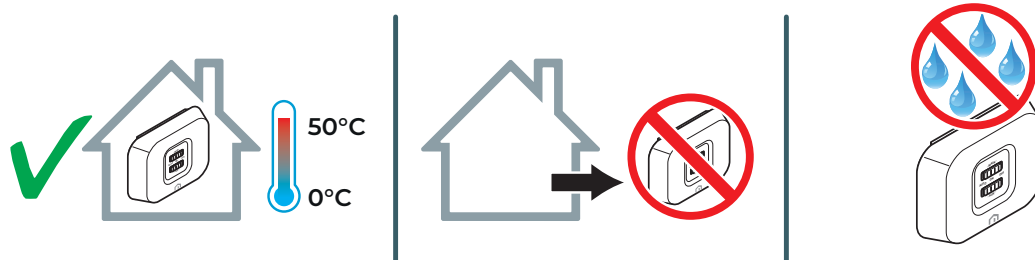


On the side of the **Unisenza Plus Receiver** there is a sticker (**A**) which indicates the device data.

QR code availability for future feature.

9 INSTALLATION

Recommendations for a correct installation



Wall installation



Disconnect the equipment from the mains before installing or maintaining it.



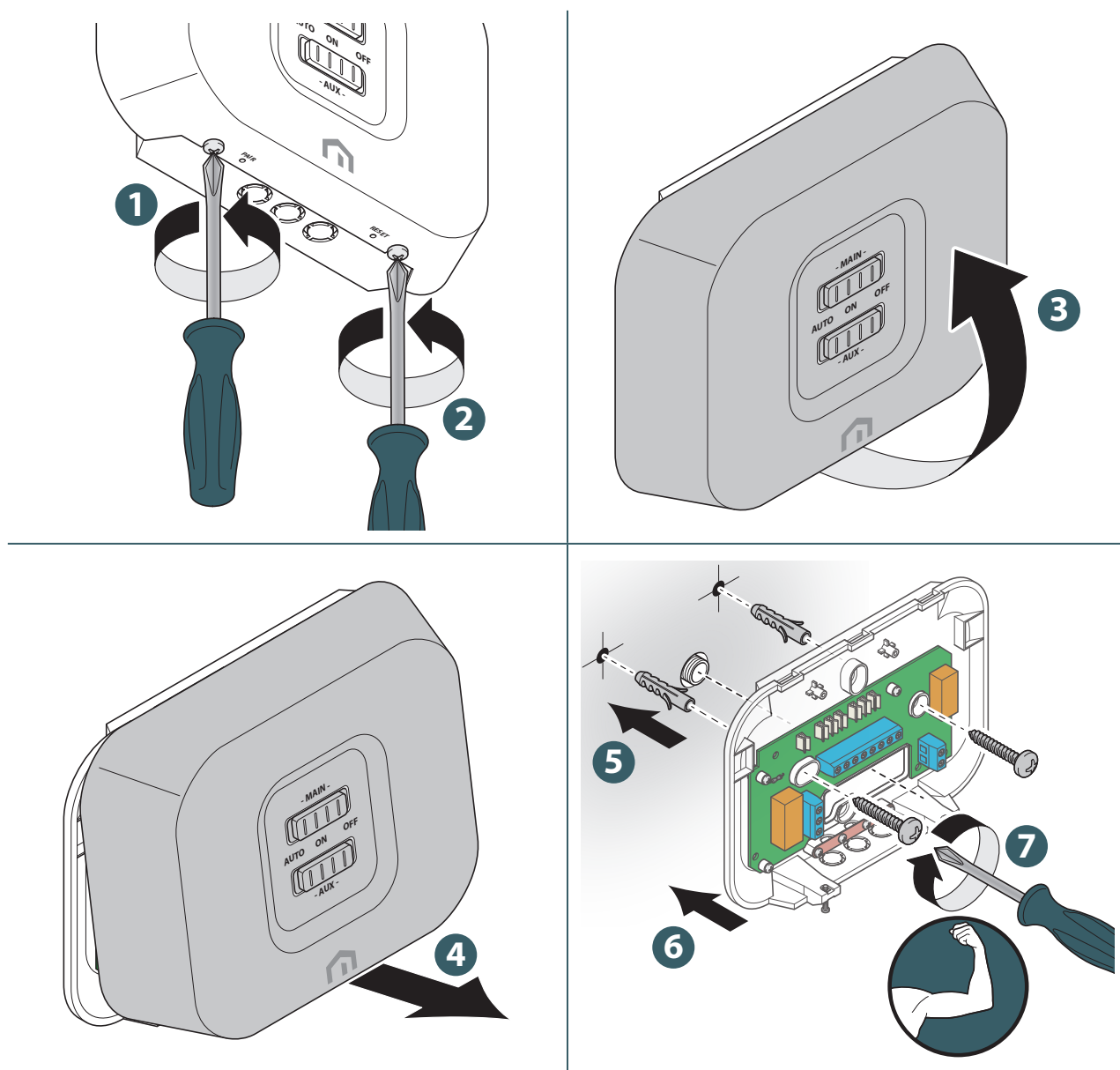
All installation, assembly, electrical connections to the mains and ordinary/extraordinary maintenance must be performed only by qualified personnel or technicians complying with the legal requirements, using personal protective equipment, in compliance with the regulations in force in the country the equipment is to be used in and the laws on safety in the workplace.

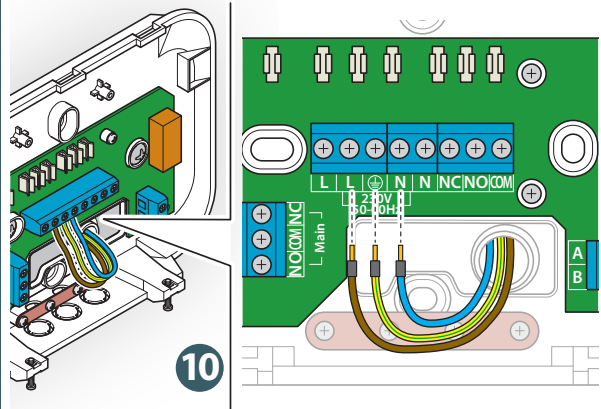
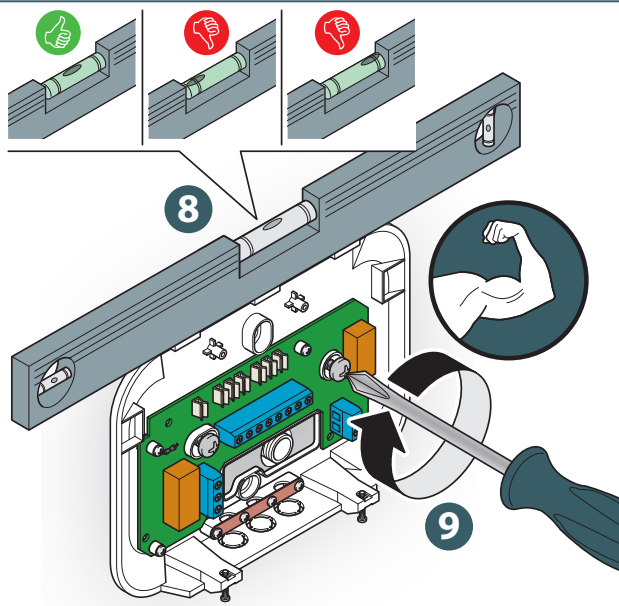


For installation requirements, it is possible to route the electric cables in the lower part of the device, using the appropriate holes and the relative cable gland.

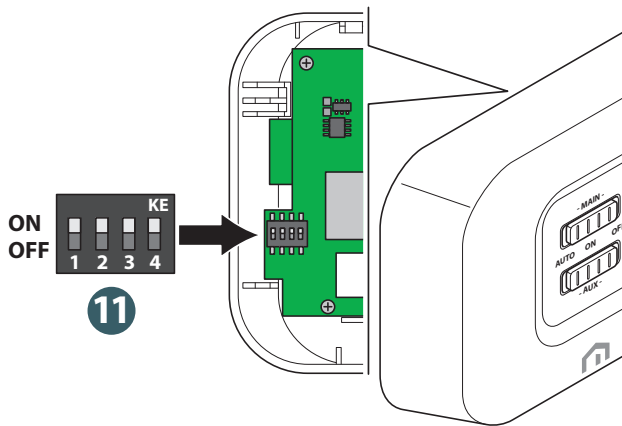
Unisenza Plus Receiver should be mounted on a suitable location that is both accessible for the connection of mains and control wiring, and allows good reception of the RF signal from the Unisenza Plus Gateway.

The Unisenza Plus Receiver needs a 230V AC mains supply to operate and should be fused appropriately (5A max.).

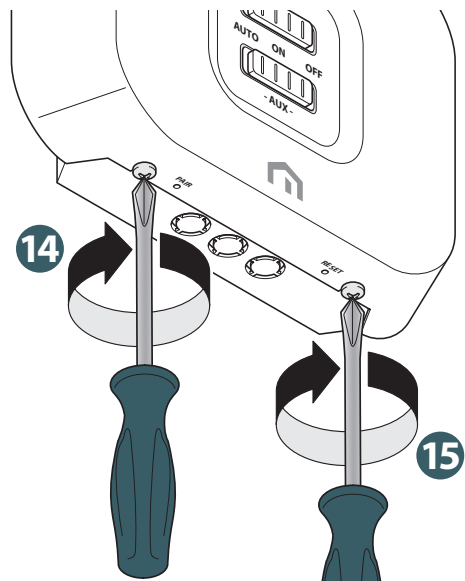
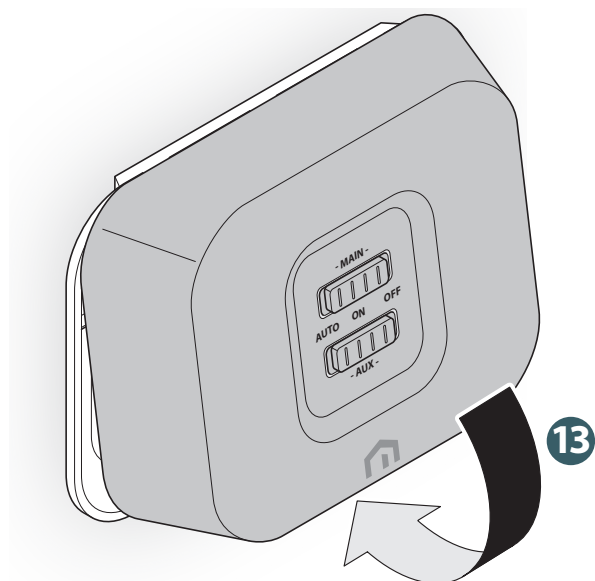
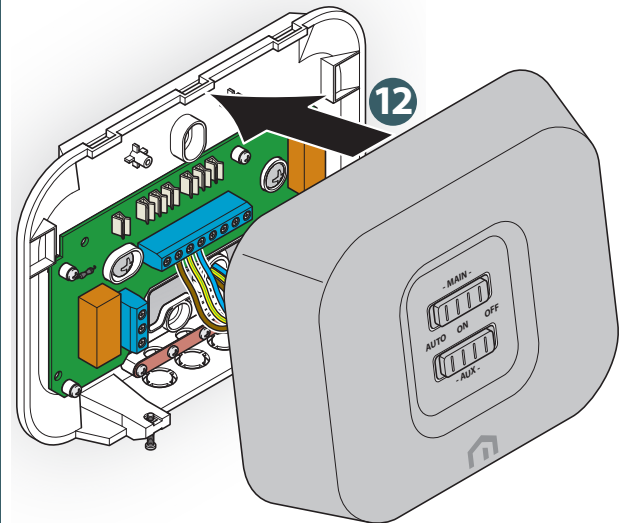




Make the electrical connections by consulting the wiring diagrams in the appropriate paragraph.



Change the **DIP switch** located on the front panel to select the system type consulting the diagram in the appropriate paragraph.



System Type Selection with DIP switch and wiring diagrams



Disconnect the equipment from the mains before installing or maintaining it.

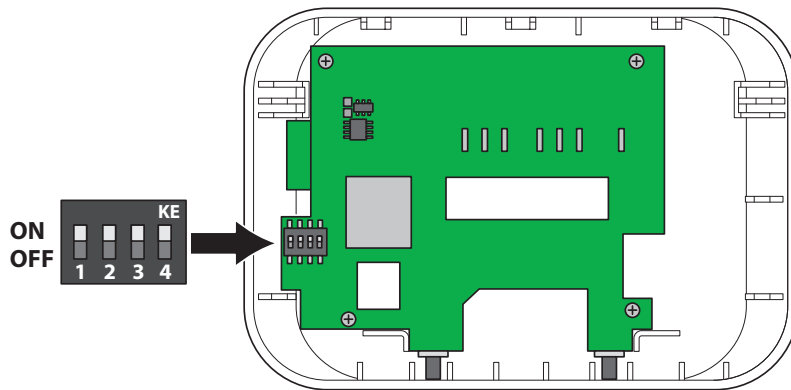


All electrical connections must be performed only by qualified personnel or technicians complying with the legal requirements, using personal protective equipment, in compliance with the regulations in force in the country the equipment is to be used in and the laws on safety in the workplace.

Different system type and application can be selected by using the DIP switch located at the back of the front panel.



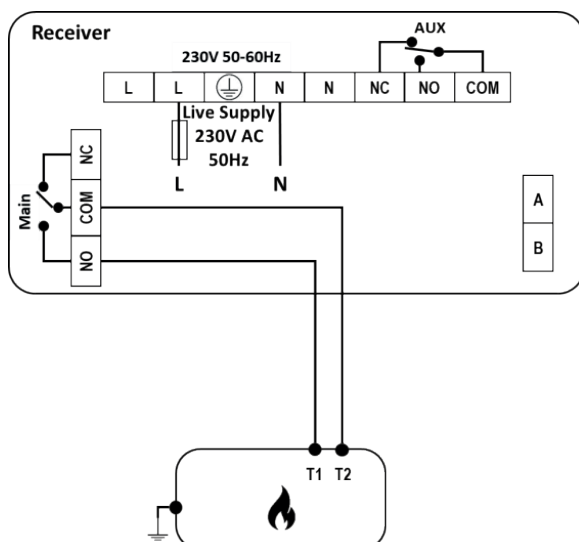
Default setting of DIP-1 to DIP-4 is at On position.



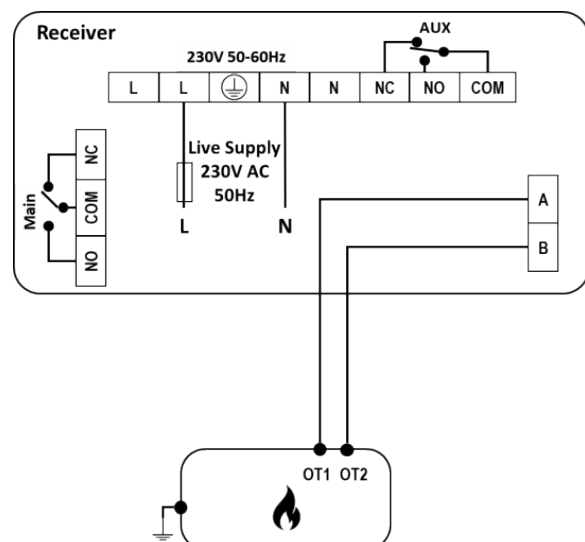
After the change of DIP switches, the new setting will become effective after a Factory Reset by pressing and holding the PAIR button for 10 seconds, the Main/Aux LEDs will light up orange.

| Application 1 | Output Controls | | | |
|---------------------------------------|-----------------|----------------|-----------------------|------------|
| | Main relay | Aux relay | OpenTherm | DIP Switch |
| Heating only (On/Off or OpenTherm) | Heat | Sync with Main | OT/+ (when connected) | ON OFF |

Volt-free Combi boiler Control



OpenTherm boiler Control



EN

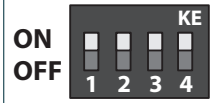
| Application 2 | Output Controls | | | |
|---------------|-----------------|-----------|-----------|------------|
| | Main relay | Aux relay | OpenTherm | DIP Switch |

Heat/Cool 2-pipe system

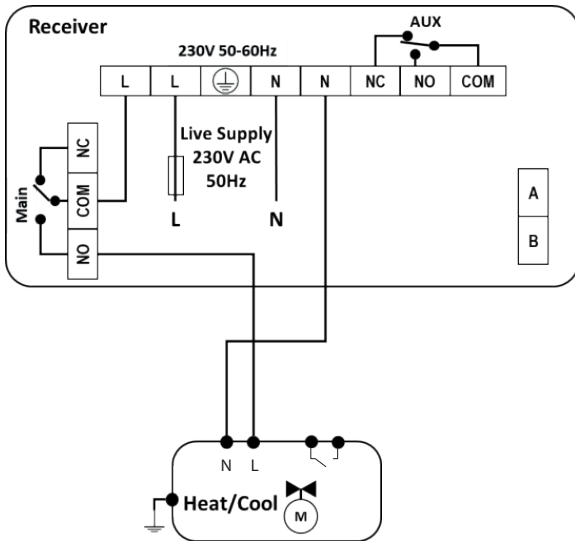
Heat/Cool

Sync with Main

-



Heat/Cool 2-pipe Zone Valve Control



| Application 3 | Output Controls | | | |
|---------------|-----------------|-----------|-----------|------------|
| | Main relay | Aux relay | OpenTherm | DIP Switch |

Heat/Cool 4-pipe system

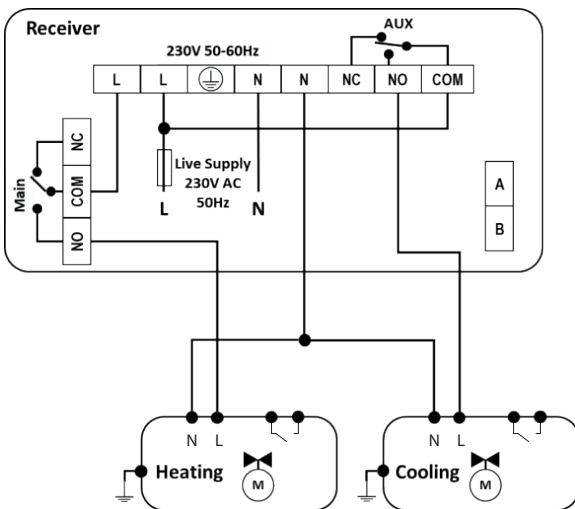
Heat

Cool

-



Heat/Cool 4-pipe Zone Valves Control



| Application 4 | Output Controls | | | |
|---------------|-----------------|-----------|-----------|------------|
| | Main relay | Aux relay | OpenTherm | DIP Switch |

Central Heating plus Domestic Hot Water
- Supports S-Plan and Y-Plan wiring

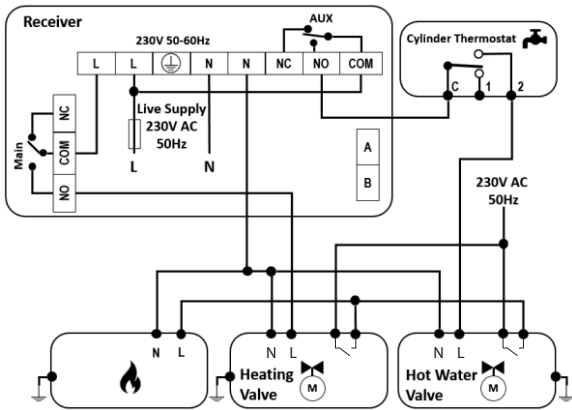
Heat

Domestic
Hot Water

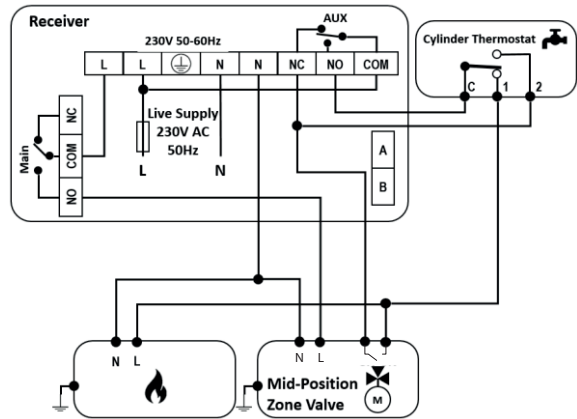
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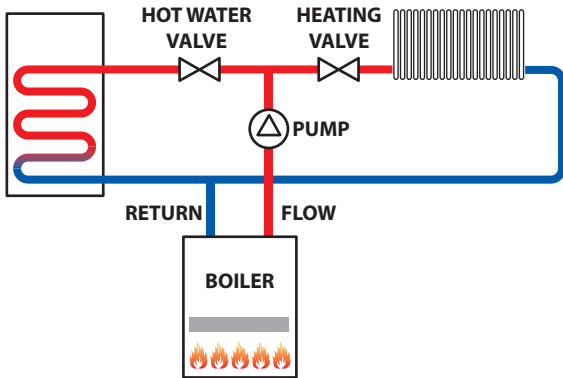
Central Heating and DHW
- 230V switching S Plan



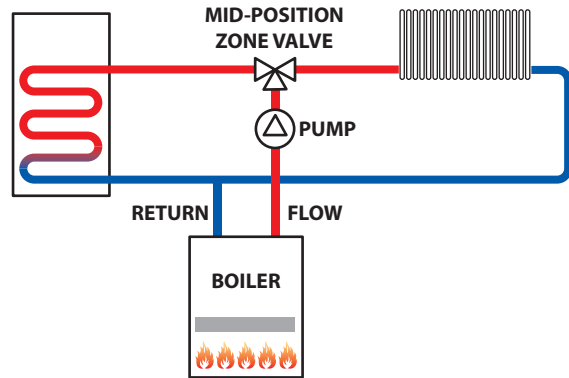
Central Heating and DHW
- 230V switching Y Plan



S PLAN



Y PLAN



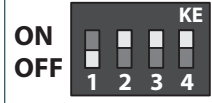
| Application 5 | Output Controls | | | |
|---------------|-----------------|-----------|-----------|------------|
| | Main relay | Aux relay | OpenTherm | DIP Switch |

Dual Zone Controls

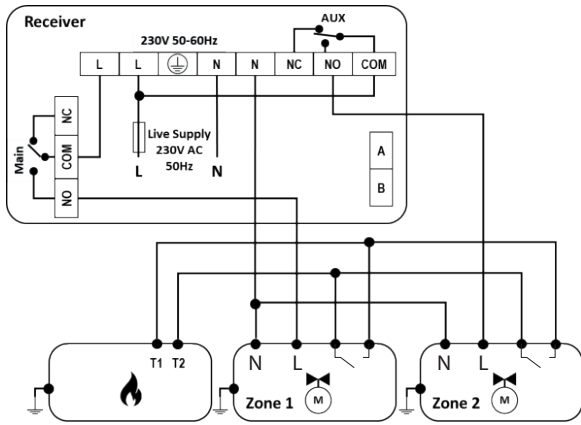
Zone 1
Heat/Cool

Zone 2
Heat/Cool

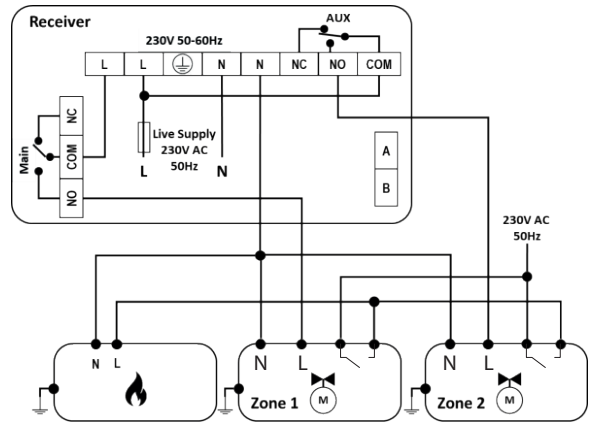
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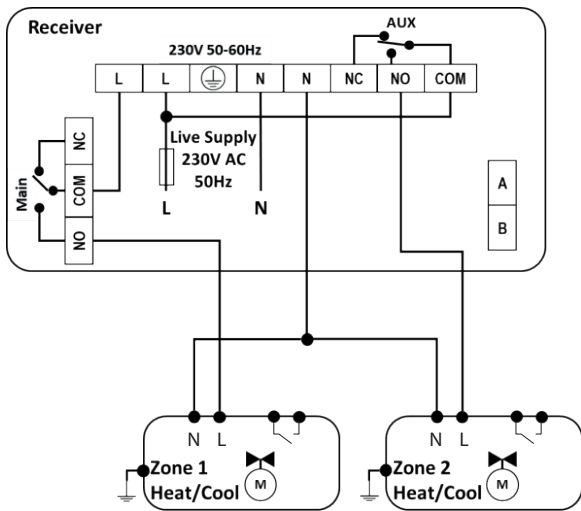
Dual zone heating – Volt-free Combi boiler



Dual zone heating – 230V Switching boiler



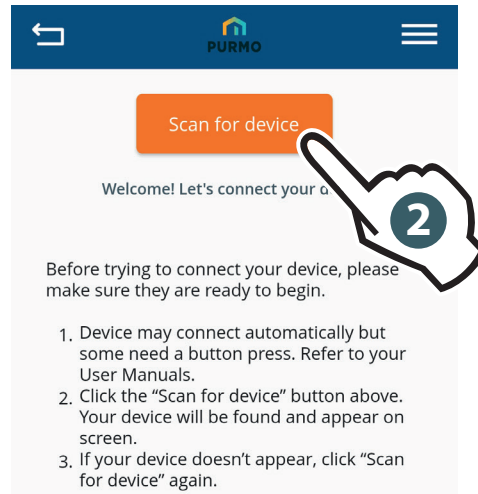
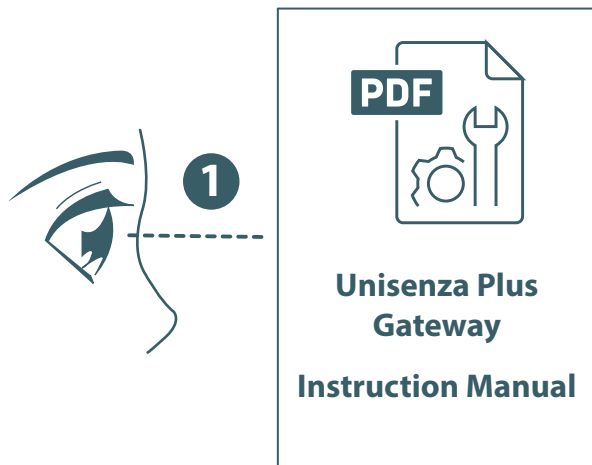
Dual zone Heat/Cool (2-pipe system)



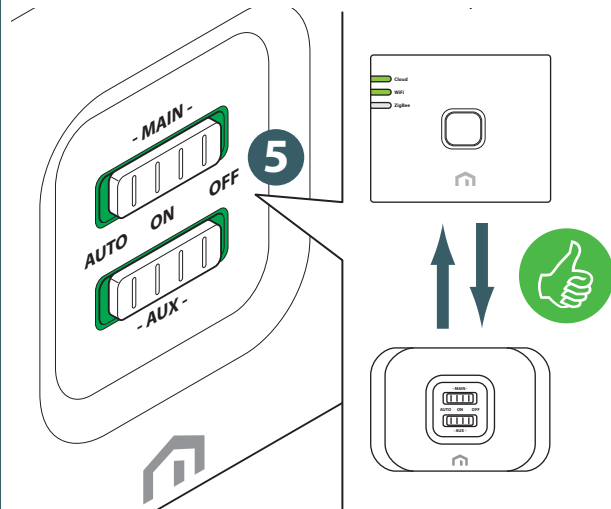
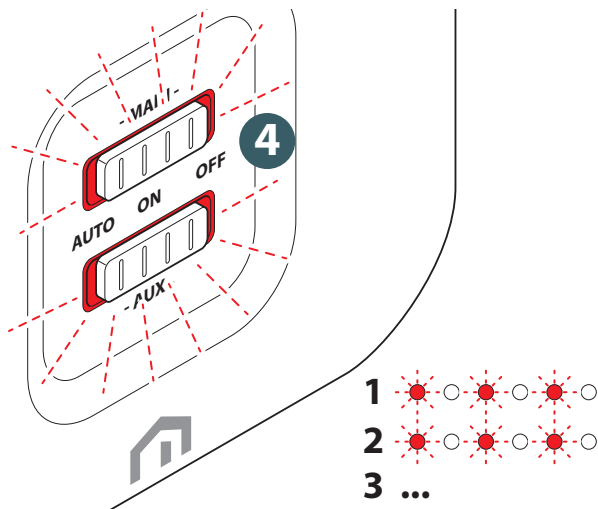
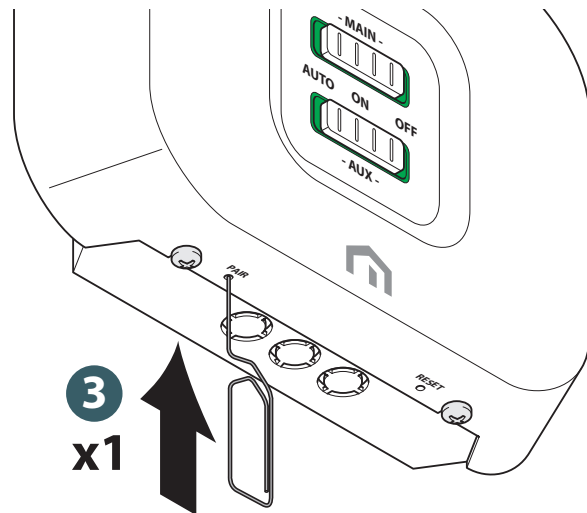
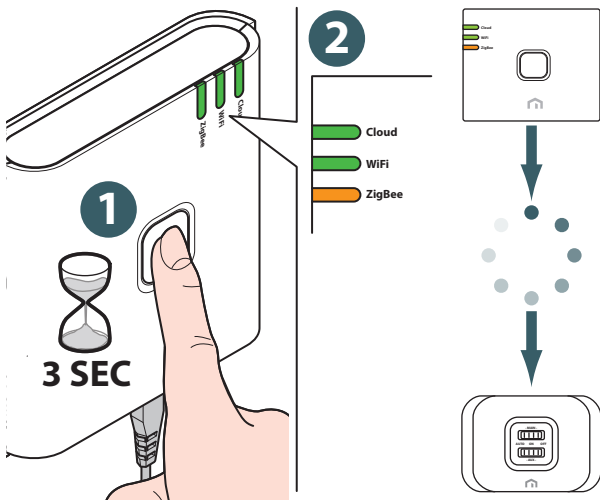
10 USE

Pairing to Unisenza Plus Gateway

With APP

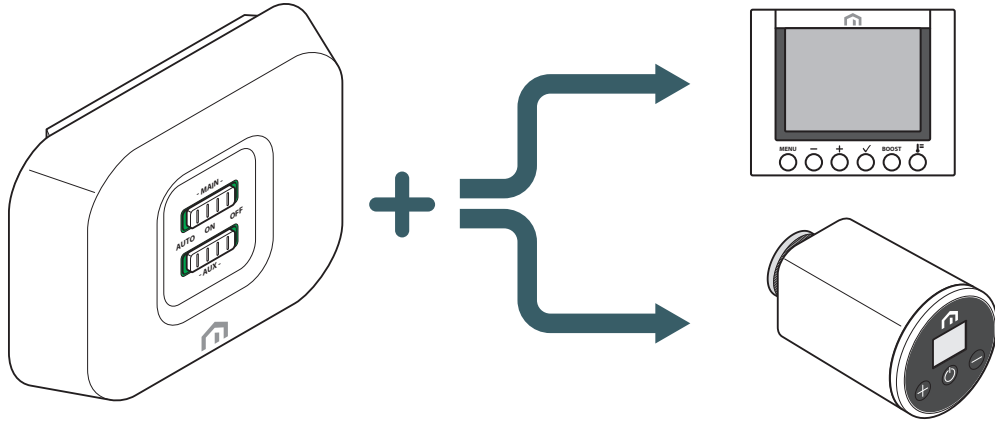


Without APP

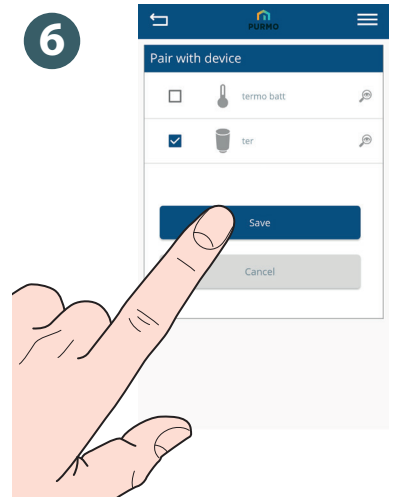
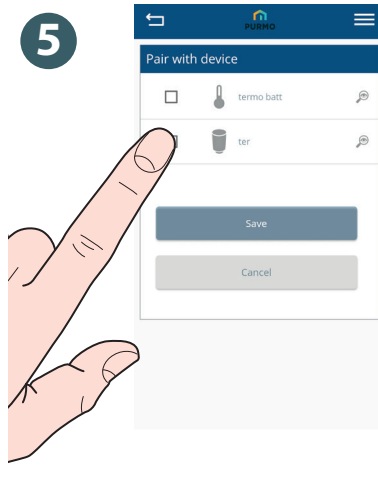
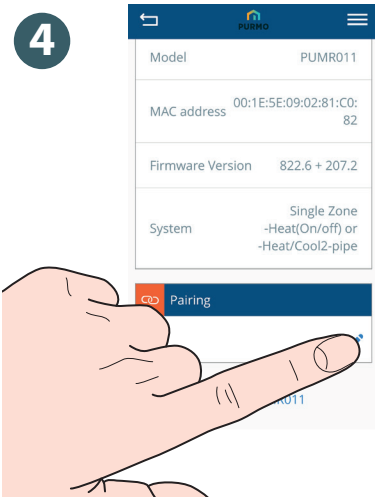
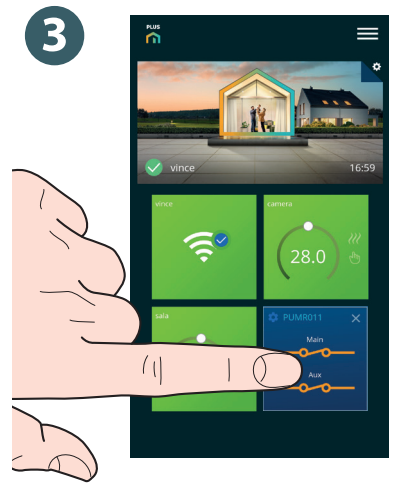
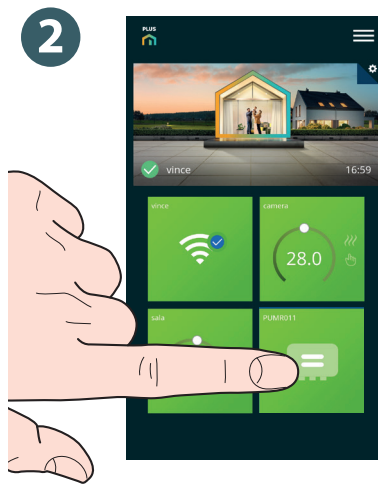
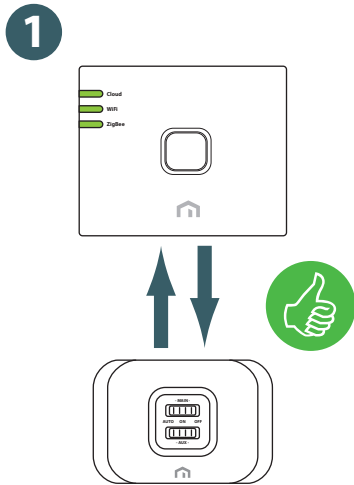


Pairing with other Unisenza Plus device (optional)

After the Unisenza Plus Receiver has joined a Unisenza Plus network, it can be paired with a Unisenza Plus Electronic Thermostatic Head or Unisenza Plus Thermostat.

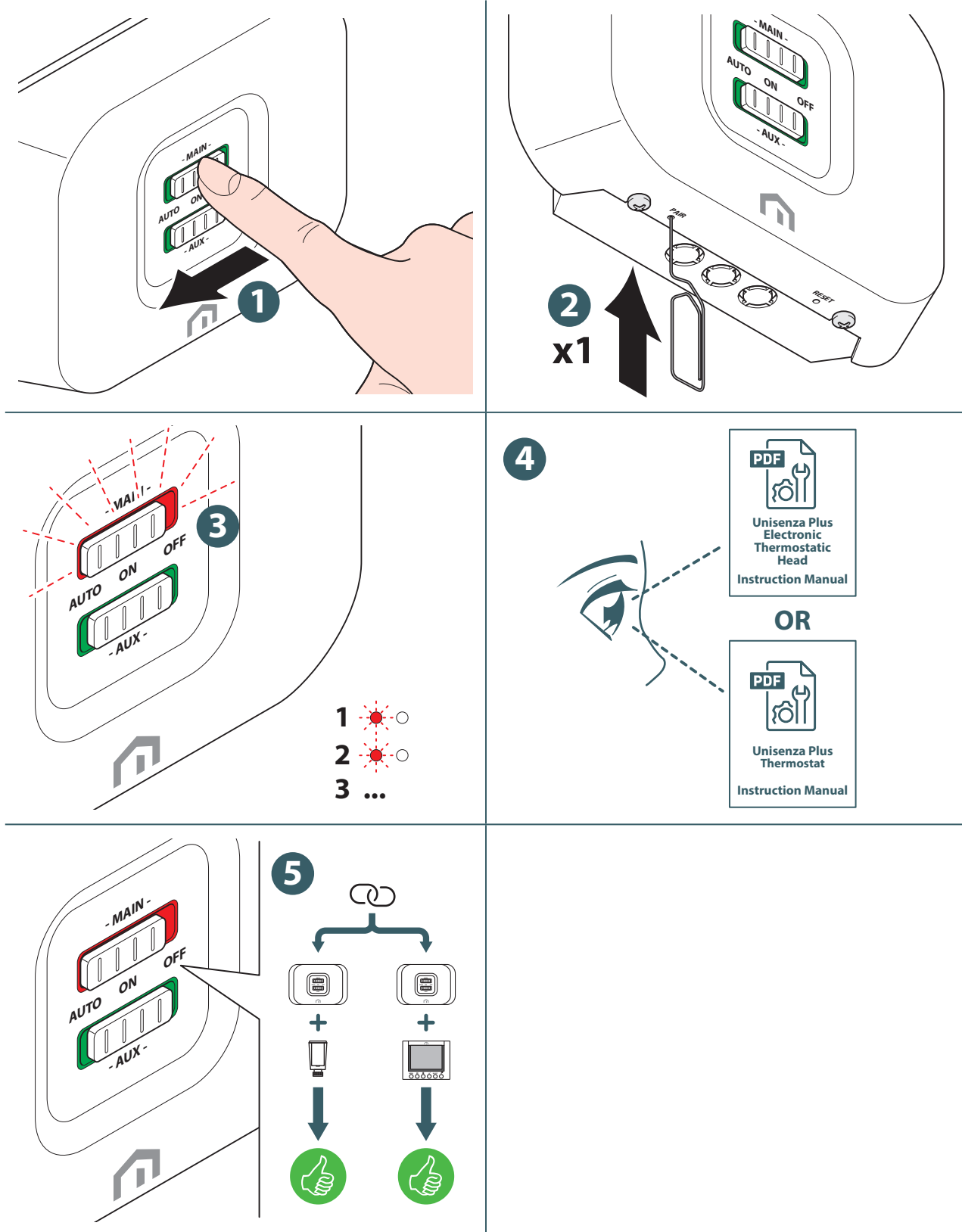


Pair device using App



Pair device without using App

Main Relay slide switch

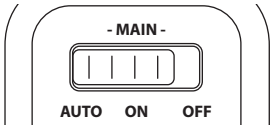
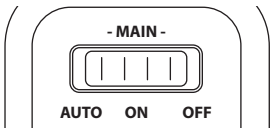
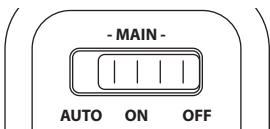


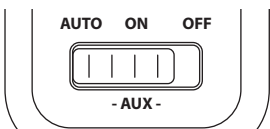
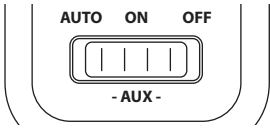
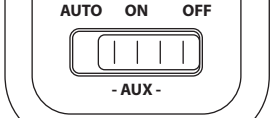
 For pairing with the 2nd zone thermostat in a Dual zone control application, set the Main Switch to the right (OFF) Position.

Switch placement

Both the main switch and the auxiliary switch of the **Unisenza Plus Receiver** have three positions to which a command is assigned.

Move the switch to the desired position with your finger according to your needs.

| Main slide switch | Position | Action On/Off System | Action OpenTherm (OT/+) System |
|---|-------------|--|--|
|  | AUTO | Relay output is controlled via ZigBee communications | OpenTherm (OT/+) Control Setpoint |
|  | ON | Relay output is always on | OpenTherm (OT/+) max CH water Setpoint |
|  | OFF | Relay output is always off | OpenTherm (OT/+) boiler off (heat demand disabled) |

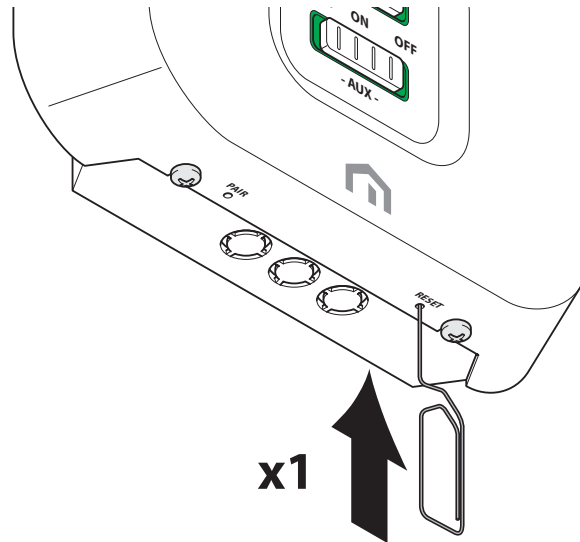
| Aux slide switch | Position | Action On/Off System | Action OpenTherm (OT/+) System |
|---|-------------|--|--------------------------------|
|  | AUTO | Relay output is controlled via ZigBee communications | No function |
|  | ON | Relay output is always on | No function |
|  | OFF | Relay output is always off | No function |

11 MAINTENANCE

EN

Power Cycle Reset

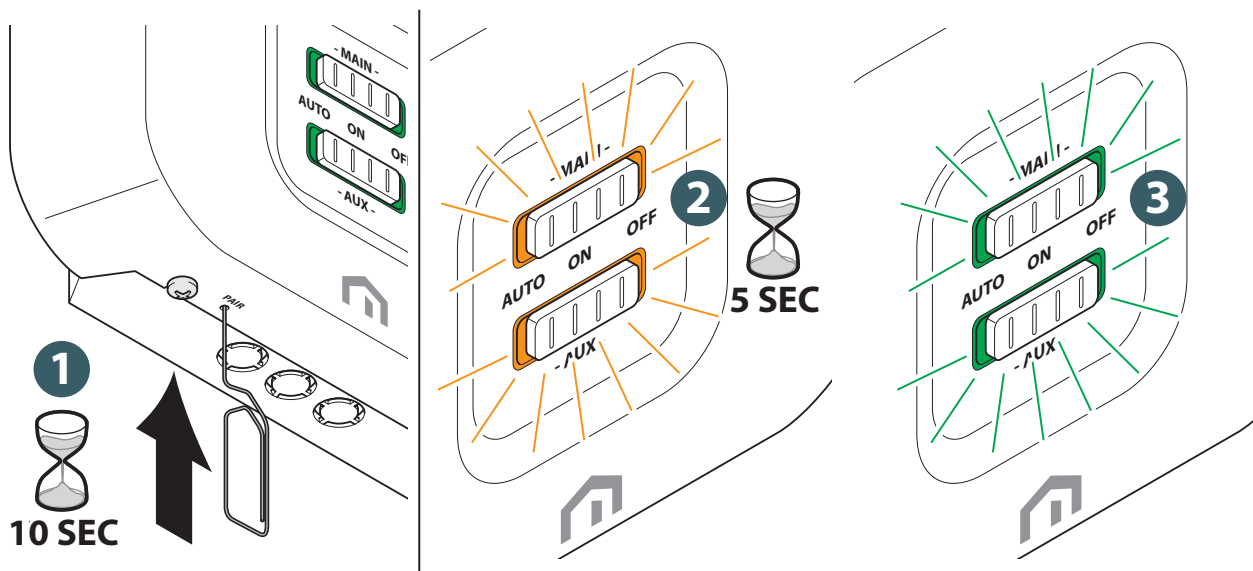
For any reason the Unisenza Plus Receiver does not response or needs a restart, press RESET button to restart.



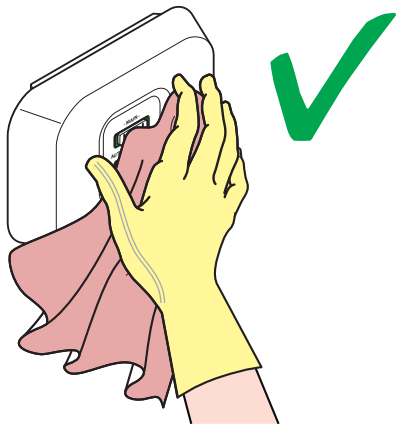
Factory reset



Warning: this process restores the device to factory settings and disconnects it from the Gateway it was associated with.



Cleaning



12 MANUAL DOWNLOAD AND UPDATES

Due to the requirement for continuous improvement, we constantly update the user manuals of our systems.

We therefore invite you to periodically check whether the manual in your possession is always the latest written version.

To do this, you can connect to the following **internet address**:

<https://www.purmogroup.com/support>

or by scan the **QR code** displayed below.



13 DISPOSAL AT THE END OF LIFE



Pursuant to art. 13 of Decree-Law No. 49 of 2014 "Implementation of the WEEE Directive 2012/19/EU on waste electrical and electronic equipment".

The mark of the crossed-out bin with a bar specifies that the product was placed on the market after 13 August 2005 and that at the end of its useful life it must not be collected with other waste but must be disposed of separately. All the appliances are made of recyclable metal materials (stainless steel, iron, aluminium, galvanized sheet metal, copper, etc.) in a percentage greater than 90% by weight. Make the equipment unusable for disposal by removing the power cable and any compartment or cavity closing device (if any). It is necessary to pay attention to the management of this product at the end of its life by reducing any negative impacts on the environment and improving the efficiency of the use of resources, applying the principles of "polluter pays", prevention, preparation for reuse, recycling and recovery. Please note that the illegal or incorrect disposal of the product entails the application of the penalties provided for by current legislation.

Information on disposal in Italy

In Italy WEEE equipment must be delivered to:

collection centres (also called waste separation areas or platforms)

the Dealer where you buy new equipment, who is required to accept it free of charge ("one on one" collection).

Information on disposal in European Union countries

The EU WEEE equipment directive has been adopted differently by each country, therefore if you want to dispose of this equipment we suggest you contact the local authorities or the dealer to ask for the correct method of disposal.

A PURMO GROUP BRAND 

Bulevardi 46
P.O. Box 115
FI-00121 Helsinki
Finland
www.purmogroup.com

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