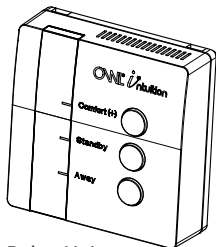# OWL® $i$ntuition

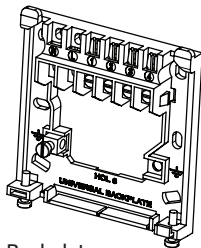## Relay Unit [RMT-6C or RMH-6C]
Installation Instructions

Relay Unit works together with Room Sensors and /or Tank Sensors to allow wireless connection to the boiler / wiring centre location.

Support for up to 4 separate heating zones and 4 separate hot water zones. Must be paired with at least one Room Sensor and / or one Tank Sensor to operate.
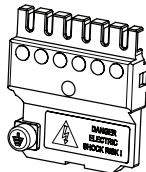
IN THE BOX:

Relay Unit   Backplate   Safety Cover

Introduction

This Relay Unit is a part of the OWL Intuition range of cloud connected monitoring and control products. Its operation is dependant upon being paired to at least one Room Sensor and / or one Tank Sensor (supplied separately). The Relay Unit provides a remote, wirelessly connected relay that switches in concert with any paired Room Sensor and / or Tank Sensor. This allows for Room Sensors to be positioned for optimal temperature sensing (e.g. in the Lounge rather than in the Hall) without the requirement for wiring to that location.

The Relay Unit is typically located immediately next to the boiler or wiring centre for ease of the wired connection and mains power supply.

The Relay Unit relay will be switched whenever at least one of the paired devices is "calling for heat". For safety, it will automatically switch off if it should stop receiving radio updates from the last remaining paired device calling for heat.

It is recommended that this product is installed by a suitably qualified heating engineer, plumber or electrician.

Please read the Safety Information section of this document before proceeding.

Version Information

This Relay Unit is 230V mains powered with a changeover relay. It has 3 control buttons - Comfort (+), Standby and Away with associated LED indicators.

Device code RMT-6C is fitted with a digital temperature sensor.

Device code RMH-6C is fitted with a digital temperature and humidity sensor.

Installation Configurations Supported

This Relay Unit can be used in several ways to suit various heating control needs:

Wireless extension to Room Sensor: Provides a remote, wirelessly connected relay that switches on for as long as any paired Room Sensor is calling for heat. Up to 4 Room Sensors can be paired for multiple heating zones as required by Building Regulations Part L.

Wireless extension to Tank Sensor: Provides a remote, wirelessly connected relay that switches on for as long as any paired Tank Sensor is calling for heat. Up to 4 Tank Sensors can be paired for multiple hot water zones as required by Building Regulations Part L.

Maximum Devices: One Relay Unit can be paired to up to 4 Room Sensors and 4 Tank Sensors at the same time. Please also note that every OWL Intuition device within a single system, e.g. Room Sensor, Tank Sensor, Relay Unit and Electricity Transmitter must be paired to the Network OWL. The Network OWL supports up to a maximum of 10 devices.

Installation Instructions

Network OWL installed and online

The Network OWL should already be installed. Refer to the Network OWL Getting Started Guide for guidance if required. Check that it is powered-up and connected to the OWL servers (the top green LED should be flashing in a "triple blip pattern").

IMPORTANT: Please upgrade the Network OWL firmware

1. It is essential that the Network OWL is running the latest released version of firmware available (at least Version 2.2). Please log in to the OWL Intuition web dashboard at **https://www.owlintuition.com** (this is a secure connection).

2. Click on the Devices menu. The Network OWL will appear in the list of devices. Click on Network OWL image to open a new window. If an upgrade is required, an Update Device button will be visible. Click on this button then wait for approximately 4 minutes for the upgrade to complete. You should check that the upgrade was successful before proceeding by repeating this instruction.

Installing the Relay Unit

The Relay Unit should be located on an internal wall approximately 1500mm above floor level, you <u>must</u> use the backplate provided. It should be positioned away from draughts, direct heat and sunlight. The backplate is suitable for direct wall mounting using two wood screws No. 6 x 1" or M3.5 x 25mm into correctly sized wall plugs if required. Alternatively mount on to a single gang flush wiring box complying with BS4662, using two M3.5 screws.

1. **Ensure** there will be enough space to allow easy screwdriver access to the two captive screws located at the base of the backplate.
2. **Electrical Connections: - *If in any doubt whatsoever, do not continue, but consult a qualified electrician or heating engineer.***

    WARNING: ISOLATE THE MAINS SUPPLY BEFORE COMMENCING INSTALLATION

    For existing wireless installations, remove the old relay box to expose the wiring back to the boiler / wiring centre. **Check the wiring at both ends to correctly identify which wire is Live, Neutral, Switched Live and any Earth connections.**
   *For new installations*, run a new cable between the boiler and chosen Relay Unit Location. The recommended cable size is 1.0mm^2. See diagram below.
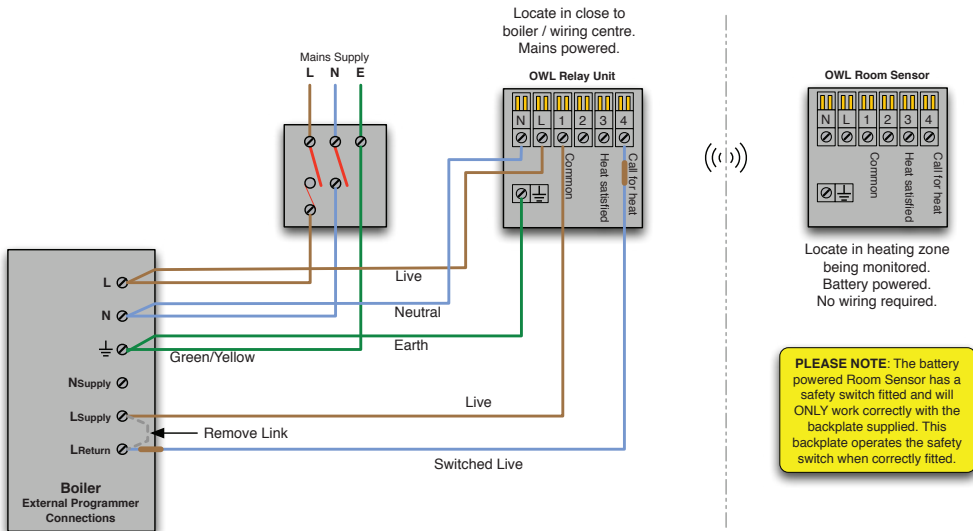
a. **Ensure that the Live feed to the Relay Unit is correctly fused (3A or 5A maximum) - This protection is normally provided by way of a fused spur**

powering the heating system.

b. Fix the backplate - Offer the backplate supplied to the wall in the position where the Relay Unit is to be mounted (with the cable through the central aperture of the backplate) and mark the fixing positions through the slots in the backplate. Drill and plug the wall, then secure the plate into position. The slots in the backplate will compensate for minor misalignment of the fixings.

OWL Intuition Relay Unit Backplate Wiring

Terminal	Description
N	Neutral - Mains power for Relay Unit
L	Live - Mains power for Relay Unit
1	Common terminal of Relay Unit relay
2	Not used
3	'Heat Satisfied' - Normally closed terminal of Relay Unit relay
4	'Call for Heat' - Normally open terminal of Relay Unit relay
⏚	Earth continuity connection

Locate in close to boiler / wiring centre. Mains powered.

Mains Supply
L N E

OWL Relay Unit

N L 1 2 3 4

Common
Heat satisfied
Call for heat

OWL Room Sensor

N L 1 2 3 4

Common
Heat satisfied
Call for heat

$((\cdot))$

Locate in heating zone being monitored. Battery powered. No wiring required.

L — Live

N — Neutral

⏚ — Green/Yellow — Earth

N Supply

L Supply

L Return — Remove Link

Live

Live

Switched Live

Boiler
External Programmer
Connections

PLEASE NOTE: The battery powered Room Sensor has a safety switch fitted and will ONLY work correctly with the backplate supplied. This backplate operates the safety switch when correctly fitted.

Typical OWL Intuition
Wireless Room Sensor Installation

c. **Wiring** - All necessary electrical connections should now be made.
   - The Relay Unit is double insulated and does not require an earth connection.
   - An earth connection block is provided on the backplate for terminating any cable earth conductors.
   - Earth continuity must be maintained and all bare earth conductors must be sleeved.
   - Connect the Live mains feed to the backplate terminal labelled "L".
   - Connect the Neutral mains feed to the backplate terminal labelled "N".
   - If required, connect a loop of insulated wire between the Live terminal labelled "L" and the relay Common terminal labelled "1"
   - Ensure that no conductors are left protruding outside the central space enclosed by the backplate.
   - Refer to the diagram and table shown above for the wiring arrangement for a typical heating system. This diagram is schematic and should be used for guidance only.
   - Please ensure that all installations comply with the current IEE regulations.
   - Please consult the boiler manufacturers installation instructions before making these connections and note that a link may need to be removed when connecting external controls.

3. **Fit Safety Cover** - Check all of the wiring is safely attached to the appropriate backplate terminals and the screws are tight. Then fit the Safety Cover by clipping it into place over the wiring terminals.

4. **Remove** the back-up battery isolating tab by carefully pulling it away from back of the Relay Unit.
5. **Complete** the physical installation by mounting the Relay Unit to the backplate. To do this engage the Relay Unit on the lugs at the top of the backplate, then carefully swing the Relay Unit down and push it carefully back into its plug-in terminal connectors. Locate over the captive screws at the base of the backplate and tighten them so that the Relay Unit is locked into position.
6. **Prepare Room Sensors and / or Tank Sensors -** Follow the installation instructions for the devices you wish to pair to this Relay Unit, but do **not** fit until after you have paired the devices to both the Network OWL **and** the Relay Unit and you have confirmed correct operation between all devices.
7. **Pair Room Sensors and / or Tank Sensors with Network OWL -** Before proceeding you must ensure that the Room Sensors / Tank Sensors are paired with the Network OWL. Please refer to the installation instructions provided with those devices for further information.
8. **Pair Relay Unit with Network OWL**
    a. Power up the Relay Unit. The 3 LEDs will start flashing together indicating that the Relay Unit is in Network OWL pairing mode.
    b. Power down the Network OWL by removing the power connector. Then after 10 seconds re-insert the power connector into the Network OWL and wait. The 3 LEDs on the Relay Unit will stop flashing indicating that it is now paired to the

Network OWL.

- c. Now wait until the Network OWL is connected to the OWL servers (the top green LED should be flashing in a "triple blip pattern").
- d. Log in to the OWL Intuition account at **https://www.owlintuition.com**. You will then see the OWL Intuition web dashboard.
- e. Check that the Relay Unit appears under the Devices menu.
- f. Click on the Relay Unit and under Device Information you need to ensure that the Network OWL signal strength is adequate (2 bars minimum recommended).

9. Pair Relay Unit to Room Sensors and / or Tank Sensors

- a. Put the Room / Tank Sensor into Relay Unit pairing mode by pressing all 3 buttons together for a minimum of 4 seconds. The 3 LEDs will start flashing indicating that it is in pairing mode.
- b. Put the Relay Unit into Room / Tank Sensor pairing mode by pressing all 3 buttons together for a minimum of 4 seconds. The 3 LEDs will start flashing indicating that it is in pairing mode.
- c. When pairing is complete, the 3 LEDs on both devices will stop flashing.
- d. Again on the Devices menu, click on the Relay Unit and scroll down to see under Remote Devices the Room / Tank Sensors which have been paired to the Relay Unit. Take the paired device to its final installation location, press the Standby button and ensure that the updated signal strength is still adequate (2 bars minimum recommended).

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10. **Install Room / Tank Sensors -** Finish physically installing the working Room / Tank Sensors into their final locations.
11. **Finally** check that the Relay Unit is functioning correctly and switching the boiler on and off correctly. A simple test for this is to press and hold the Comfort (+) button for 5 seconds. This will activate the Boost mode and turn the boiler on. Check that the web dashboard Heating widget is now showing that the Boost is activated and the boiler is running (Red-glow around house icon at top of Heating widget). Check this using the buttons on both the Relay Unit and the paired Room / Tank Sensors.
12. **Handover** - Please ensure you handover this document to the householder and direct them to the Heating & Hot Water Control User Manual available for download by clicking on Support & Manuals on the web dashboard (lower right).
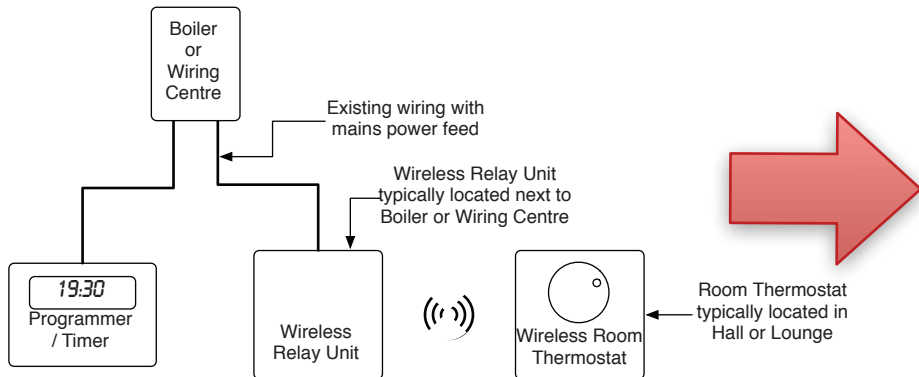
Additional Installation Information

Relay Unit Factory Reset (Delete Network OWL Pairing)

You can factory reset the Relay Unit by pressing both the Standby and Away buttons together for a minimum of 10 seconds. The 3 LEDs will start flashing indicating that it is in pairing mode. Refer to Getting Started with OWL Intuition Network Gateway guide if you need to factory reset the Network OWL.
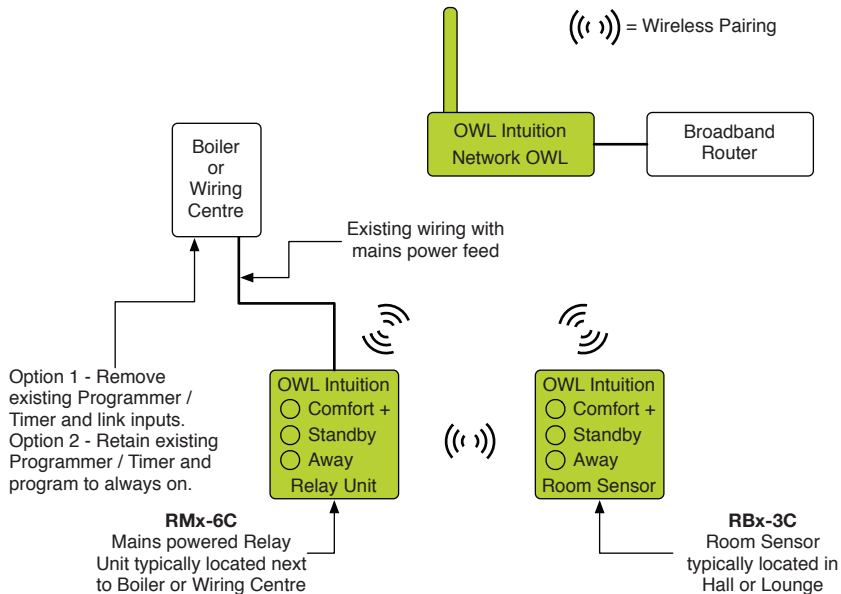
Relay Unit - Room Sensor / Tank Sensor Pairing Mode

You can place the Relay Unit into Room Sensor / Tank Sensor pairing mode by pressing all 3 buttons together for a minimum of 4 seconds. The 3 LEDs will start flashing indicating that it is in pairing mode. Refer to Room Sensor / Tank Sensor Installation Instructions for further information.

BEFORE: Typical Existing Wireless Room Thermostat Installation

Boiler or Wiring Centre

Existing wiring with mains power feed

Wireless Relay Unit typically located next to Boiler or Wiring Centre

19:30

Programmer / Timer

Wireless Relay Unit

Wireless Room Thermostat

Room Thermostat typically located in Hall or Lounge

AFTER: Typical OWL Intuition-c Wireless Room Sensor Installation

$((\cdot))$ = Wireless Pairing

Boiler or Wiring Centre

OWL Intuition Network OWL

Broadband Router

Existing wiring with mains power feed

Option 1 - Remove existing Programmer / Timer and link inputs.
Option 2 - Retain existing Programmer / Timer and program to always on.

OWL Intuition
- ○ Comfort +
- ○ Standby
- ○ Away

Relay Unit

OWL Intuition
- ○ Comfort +
- ○ Standby
- ○ Away

Room Sensor

RMx-6C
Mains powered Relay Unit typically located next to Boiler or Wiring Centre

RBx-3C
Room Sensor typically located in Hall or Lounge

SAFETY INFORMATION

To ensure that you use your product safely and correctly please read the warnings & safety precautions below before installing your OWL Intuition Room Sensor.

- Isolate the mains power supply to the heating appliance that the Room Sensor will be connected BEFORE commencing any wiring work.
- If you are in any doubt about the Room Sensor installation whatsoever, DO NOT attempt to install, but consult a qualified electrician or heating engineer.
- Before attempting to fix the backplate to the wall you must ensure that there are no electrical cables or pipes that will be damaged drilling the fixing holes.
- Do not immerse the unit in water or other liquids. If you spill liquid over it, dry it immediately with a soft cloth.
- Do not use or store the product in conditions that could adversely affect the product such as rain, snow, desert and magnetic fields.
- Do not subject the product to excessive force, shock, dust, temperature or humidity.
- Keep the product away from heat sources - radiators, stoves, heaters etc.
- Do not use the product in or near water or in high moisture areas such as bathrooms.
- Do not tamper with the product's internal components. This invalidates the warranty.
- Do not attempt to repair the product yourself.
- Contact the retailer or Customer Services if your product requires servicing.
- If the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.
- Take care when handling all battery types. Batteries can cause injuries, burns or

damage to property if they come into contact with conducting materials, heat, corrosive materials or explosives.

- Remove the batteries before storing the product for extended periods.
- Only use fresh batteries. Do not mix new and old batteries.
- Do not dispose of old batteries as unsorted municipal waste, only do so in accordance with your local waste disposal regulations.
- When disposing of this product do so in accordance with your local waste disposal regulations.

CARING FOR YOUR PRODUCT
- Before cleaning, remove the Room Sensor from the backplate and remove the batteries.
- Use a lightly dampened cloth. Do not use liquid or aerosol cleaning agents, benzene, thinners, abrasive or corrosive materials.
- Do not scratch hard objects against the product.
- Do not leave discharged batteries in the product.

COMPLIANCE
The CE marking certifies that this product meets the main requirements of the European Parliament and Council Directive 1999/5/EC. A copy of the signed and dated Declaration of Conformity is available on request. OWL Intuition products are manufactured to ISO-9001 Quality Assurance Standards.

WARRANTY INFORMATION

2 Save Energy Limited guarantees that OWL Intuition products will work for a minimum period of 24 months from date of purchase and that it will be free from defects in materials, workmanship or design. If during this limited 2 year period of guarantee, from date of purchase, you find that the equipment is not working properly, you may return it to us and we will replace, or, (at our discretion) repair it, free of charge.

2 Save Energy Limited will not accept any liability for defects arising from fair wear and tear, accidental or wilful damage, misuse or failure to follow product or safety instructions If you return any equipment as faulty, 2 Save Energy Limited reserves the right to test the equipment and if found to be in perfect working order, to return it to you. In this event, 2 Save Energy Limited reserves the right to charge for any testing or postage costs incurred. This does not affect your legal rights relating to equipment, which is faulty. Warranty conditions only apply where Proof of Purchase is provided.

To return OWL Intuition product contact customer.services@theowl.com to report the issue and reason for returning your product. 2 Save Energy Limited will issue you a form and reference number. Once we have received the completed form and proof of purchase we will commence the returns process.

SPECIFICATIONS - Relay Unit [RMT-6C and RMH-6C]

Case dimensions	86mm x 86mm x 37mm
Case material	Thermoplastic, flame retardant
Case ingress protection	IP30
Case electrical protection	Double Insulated
Radio frequency band	868MHz unlicenced ISM band
Operating range	Up to 50m (in free space)
Power source	230V a.c. ±10% 50Hz
Temperature accuracy - typical [RMT-6C]	±0.5°C
Temperature accuracy - typical [RMH-6C]	±0.2°C
Humidity accuracy - typical [RMH-6C]	±1.8%RH
Relay voltage rating	230V a.c. ±10% 50Hz
Maximum Switching Current	3A
Operating temperature range	0°C to +40°C
Storage temperature range	-25°C to +65°C
Relative humidity	25% to 95% non-condensing

For details on using your new OWL Intuition heating controls, please download the Heating & Hot Water Controls User Manual document by clicking on Support & Manuals (web dashboard - lower right).

Customer Support
If you have any further questions please check our frequently asked questions at:
http://www.theowl.com/faqs.html
You can also email us at: **customer.services@theowl.com**
(please ensure you state your Network OWL MAC ID)

2 Save Energy Limited operate a policy of continuous development and improvement, therefore the content of this document is subject to change without notice.