Hep₂O
Underfloor Heating

52UH208 - 8 Zone Control Centre

PLEASE COMPLETE THE FOLLOWING DETAILS DURING INSTALLATION:

Wavin Project Ref: ....
Installation Date: ....
Installer Name: ....
Company Name: ....

Address: ....
Postcode: ....
Tel: ....
E-mail: ....

CHANNELS ACTIVE WHEN ZONE INDICATORS ARE ILLUMINATED

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....

Electrical Helpline: +44 (0) 845 467 2372

All works are to be carried out in accordance with local regulations

Wavin Limited, Concorde House, Concorde Way,
Segensworth North, Fareham, Hampshire, PO15 5RL
Tel: +44 (0) 844 856 5144   Web: www.wavin.co.uk

CE

WARNING
230v - 50Hz

Isolate from supply
before removing
this cover

21 °C

TEMP   HOLIDAY   EDIT   HOL...

Wavin 8 Zone
Control Centre

Installation and Operation Manual.

WAVIN

Solutions for Essentials

Thank you for purchasing our 8-Zone Control Centre. Please read through the relevant sections of this guide before beginning any installation works or operating the controls. It is important that the contents of purchased products are checked upon delivery, and that any damaged or missing items are reported immediately.

The 8 Zone Control Centre is a mains voltage control centre, capable of controlling underfloor heating, radiators and domestic hot water, as part of an integrated heating system. This guide covers the installation of the 8 Zone Control Centre, in conjunction with our neoStats and our neoHub. For other products please refer to their respective guides.

The Wavin 8-Zone Control Centre comes complete with integrated;
- Neon display panel to view current activity
- Volt-free switch for heat source interlock
- 230V supply for manifold control pack
- Radiator zone valve connections
- DHW zone valve connections
- DHW cylinder thermostat connections

- Each 8 Zone Control Centre Box (52UH208) contains:
  - **1 x** 8 Zone Control Centre
  - **1 x** Installation and Operation Manual

- Each neoStat Box (52UH275 – White or 52UH276 – Black) Contains:
  - **1 x** neoStat
  - **2 x** 30mm M4 Mounting Screws for Pattress
  - **1 x** User Guide

Only competent persons with certification recognized under Building Regulations – Part P should carry out electrical installation or servicing work. Other persons are not permitted to open the Control Centre cover and/or make any modifications.

- Each neoHub Box (52UH292) contains:
  - **1 x** neoHub
  - **1 x** Patch Cable
  - **1 x** 230V Plug-in Power Adaptor
  - **1 x** Quick Start Guide

- Ancillary components for the 8-Zone Control Centre and neoStats include:
  - Wavin neoApp – available for free from your smart devices App store
  - Dial Thermostat (52UH272)
  - Tamper Resistant Dial Thermostat (52UH371)
  - Remote Sensor Probe (52UH195)
  - Remote Sensor Probe Cover (52UH194)
  - Flow Watch Thermostat (88UH224)
  - 230V – 2 Wire Actuator for Wavin Composite Manifold (52UH402)

Installers: Please complete this guide and pass to the end user or leave with the UFH manifold after installation

Hep$_2$O Project Reference Number: _____

Plumber	**Electrician**
Name: _____	Name: _____
Company: _____	Company: _____
Address: _____	Address: _____
_____	_____
Postcode: _____	Postcode: _____
Tel: _____	Tel: _____
Email: _____	Email: _____

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Further Information, Sales and Technical Enquiries

Please contact:

Tel: 0844 856 5154

E-mail: underfloor@hep2o.co.uk

Control Centre Overview

1. Connections for power supply

2. Connections for heating interlock

3. Connections for zones 1 – 7 UFH thermostats

4. Connections for zone 8 UFH or radiator thermostat

5. Connections for DHW programmer or radiator thermostat

6. Connections for DHW cylinder thermostat

7. Zone 8 mode select switch, UFH or radiators

8. Connections for DHW or radiator zone valve

9. Connections for zone 8 UFH actuator(s) or radiator zone valve

10. Neon lights showing control centre activity

11. Connections for zone 1 – 7 UFH actuators

12. Connections for manifold control pack

13. Connections for Flow Watch Thermostat

14. Fuse, 250V, T5AH
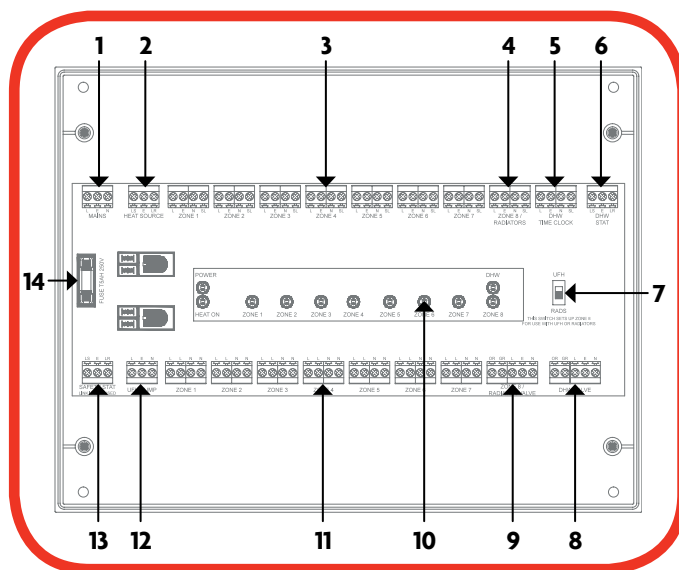
neoStat Overview

1. Mesh Symbol – Displayed when connected to the neoHub

2. Floor Limit Symbol – Displayed when the floor reaches its set temperature

3. Frost Symbol – Displayed when the neoStats is in Standby

4. Flame Symbol – Displayed when the neoStat is calling for heat (flashes during preheat)

5. Hold / Holiday Left – Displays the remaining duration of a programmed temperature hold or holiday

6. Clock – Displays the time in 24 hour format

7. Cool On* – Displayed when cooling is active

8. Timer On / Off – Displays the current DHW program status

9. Temperature Format Indicator – Displays the temperature scale the neoStat is operating in

10. Touch sensitive buttons – Used for interacting with the neoStat

11. Temperature – Displays the active sensors temperature reading

12. Lock Symbol – Displayed when the neoStat buttons are locked

13. Main Menu – Highlights currently selected option

14. Program Indicator – Displayed during programming to indicate which period is being adjusted

15. Set – Displayed when changes are being made to the current or programmed set point
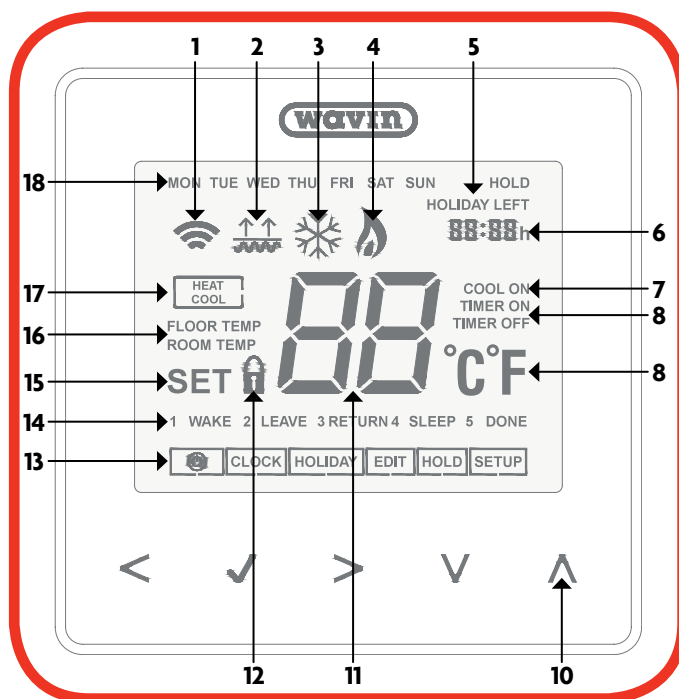

16. Floor / Room Temp Indicator – Displays the current temperature sensor selection

17. Heat / Cool Indicator* – Displays the current neoStats mode

18. Day Indicator – Displays the day of the week

*Cooling requires additional products which are not currently sold

Mounting the Control Centre

Identify a suitable location to mount the Control Centre. It should be mounted:

- In a dry, indoor environment with a relative humidity of no more than 70%

- Where it will not be exposed to temperatures less than -5°C or greater than 40°C

- Above the manifold, within cable reach of the valve actuators and the circulator on the control pack

- Before mounting the control centre, assess the devices to be connected to it and drill cable penetrations through the case as required

- To prevent damage to the circuit board when drilling case penetrations, either;

    - Use a depth stop on the drill

    - Place a block to restrain the drill inside the case

    - Carefully remove the circuit board, putting it and its fixings in a safe place to prevent damage or loss

- Ensure the control centre is clean and free of swarf before continuing

- It is recommended that the Control Centre is screwed to the wall referring to the diagram to the right leaving access at either side to remove the screw caps
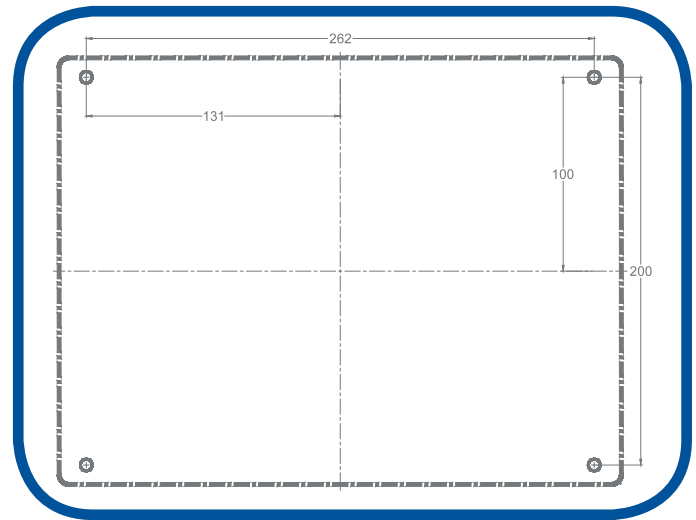
Mounting the Thermostats

Identifying a suitable location to mount thermostats requires careful planning. It is critical in achieving energy efficient control of the heating system. It is recommended that you discuss their positioning with the property owner or specifier to account for their preferences.

Generally, thermostats should be mounted:

- In a dry, indoor location.

- Approximately 1.2m to 1.5m above the floor level

- In an area with good air circulation

- Away from:

    - Draughts caused by adjoining rooms or windows

    - Dead air spots such as those behind a door

    - Radiant heat such as direct sunlight

    - Convected heat from a heat emitter

- For a robust wireless network when using a neoHub

    - Do not mount on metal surfaces. It is recommended that a plastic pattress is used, as an earthed metal pattress will reduce the signal strength behind a neoStat

    - The wireless signal strength is weakest vertically, to optimise signal strength between floors avoid locating neoStats directly above and below each other or ensure there is also another good link path that is not vertical

    - Placing one thermostat at the top and bottom of a flight of stairs with direct line of sight will normally produce the strongest connection

- The neoStats are designed to fit into a UK standard single pattress at least 35mm deep

    - Remove the screw from the bottom edge of the neoStat

    - Carefully separate the neoStat from its back plate, leading with the bottom edge

    - Put the front of the neoStat and its retaining screw in a safe place to prevent loss or damage

    - Refer to "Connecting Thermostats" on page 8 and make the relevant connections to the back plate

    - Screw the back plate securely into the pattress

        - Take care not to over tighten the screws as this will bend the back plate and can prevent a sound electrical connection to the front of the neoStat

    - Reattach the front of the neoStat to the back plate and secure in place with It's retaining screw

Connecting a Power Supply

- The Control Centre requires a 230V AC 50Hz power supply
- The maximum load created by each Control Centre and its connected devices is 5A
  - This figure excludes any load created by the heating interlock if it takes permanent live from this supply
- The power supply for all interconnected devices, including the heat source and any 3rd party controls, should be isolated from a single point to ensure the system is only connected to a single phase and to prevent the risk of electric shock
- The power supply should not be connected until all wiring within the Control Centre and any interconnected devices is completed

Power Supply – In
230V AC 50Hz, 5A Max
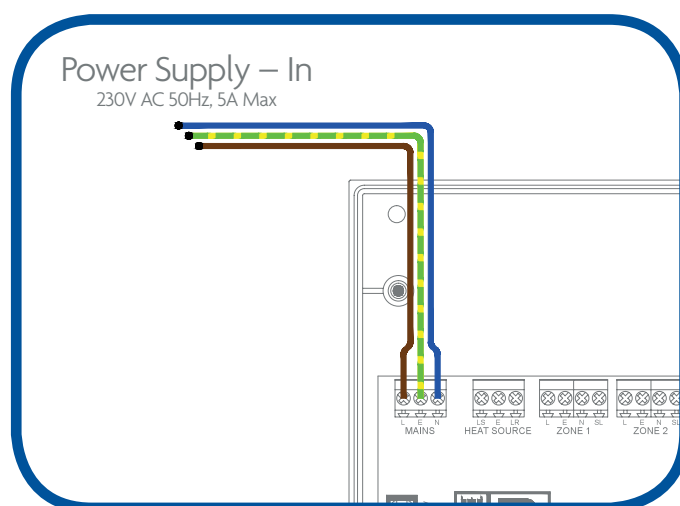
Connecting a Heat Source

The Heating Interlock terminals provide multiple methods of connection to match various requirements, closing its switch when any channel has heating demand.

The Heating Interlock is enabled instantly whenever a demand signal is received. For systems which require a delayed start, a third party time delay relay should be fitted as required.

Connecting a Heat Source Requiring a Potential-Free Switch

This method typically suits connection into:

- Combi boilers
- S-Plan Wiring system
- Other 3rd party systems that require a switched pair

Heating Interlock – Out
Maximum Load: 5A – 250V AC or 30V DC
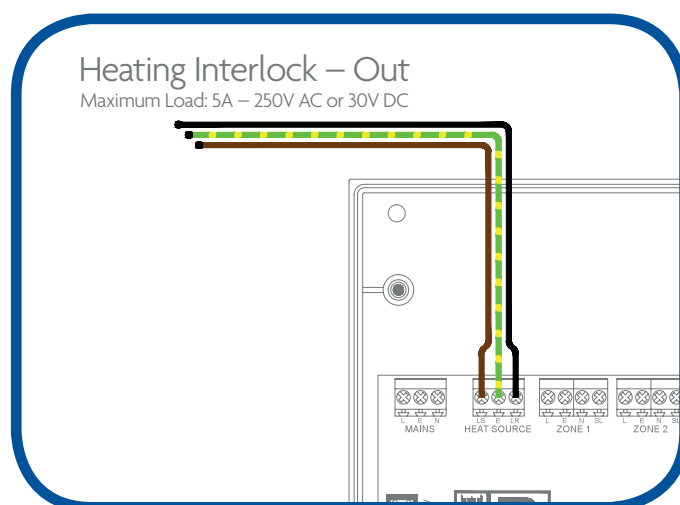
Connecting a Heat Source Requiring a Switched Power Supply

This method typically suits connection into:

- System boilers
- Motorised zone valves, which must then switch the heat source via their end switch
- Other 3rd party systems that require a switched power supply
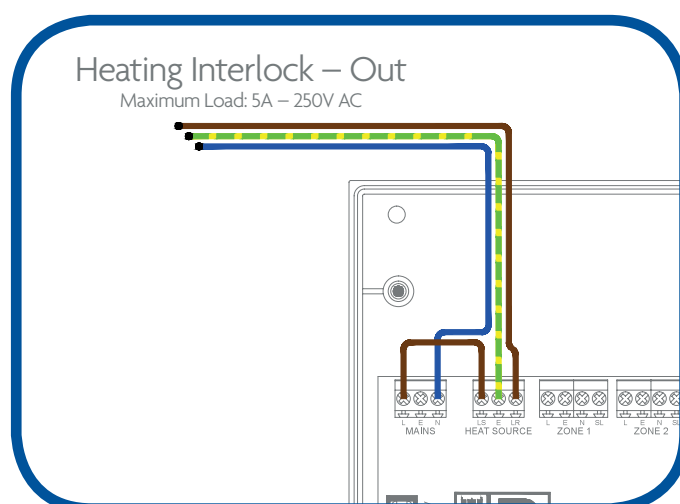
Note: A motorized zone valve is not required on the water feed to a manifold fitted with actuators

Heating Interlock – Out
Maximum Load: 5A – 250V AC

Connecting the Flow Watch Thermostat

The Control Centre incorporates a protection circuit, which deactivates all of its outputs in the event the connected Flow Watch Thermostat detects overheated water entering the floor.

- The flow watch thermostat is only required by British Standards on systems connected to a heat sources with the capacity to produce water temperatures in excess of 60°C

- Before connecting the Flow Watch Thermostat to the control centre, remove the link wire connected between the LS and LR terminals of the Flow Watch Thermostat connections in the Control Centre

- Attach the Flow Watch Sensor to the control pack using the spring strap provided

- Set the Flow Watch Thermostats temperature 10°C above the design flow water temperature

88UH224
Flow Watch Thermostat
(Set 10°C above Design Flow Water Temperature)
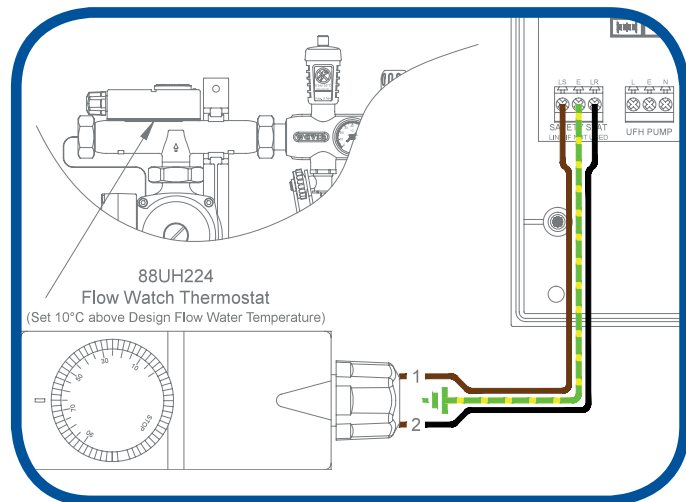
Connecting a Circulator

The Control Centre provides a switched power supply out to a circulator that activates when any underfloor heating channel has demand.

- If a mixing unit is fitted to the controlled manifold, it should be this secondary circulator that is connected

- Alternatively, if there is a dedicated primary circulator to this manifold, or if the connected manifold is the only emitter on the heat source, then these terminals can provide power to that primary circulator

Circulator Supply – Out
Maximum Load: 3A Resistive or 1A Inductive – 250V AC
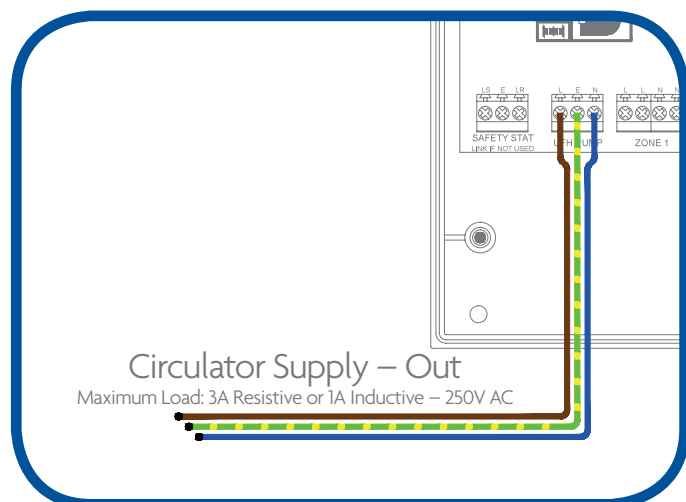
Connecting Thermostats

- Each thermostat requires a dedicated 3 Core and Earth cable
- Minimum wire size 0.5mm² (Ø0.8mm)
- The "L" and "A1" terminals should be bridged on the neoStat, providing a live supply to its "A1" terminal
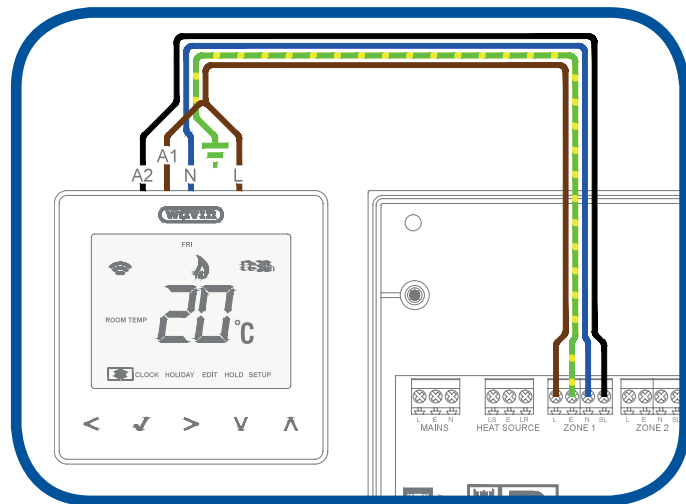

Connecting Optional Sensor Probes

neoStats can be fitted with remote sensor probes for measurement of the floor and/or the air.

- Floor sensor probes allow a maximum floor temperature to be set
- Air sensor probes allow temperature control of rooms such as wet rooms where a neoStat could not otherwise be installed


Optional Air Sensor Probe

Optional Floor Sensor Probe

Air sensor probes should be installed

- Using the "RT2" and "-" terminals on the back of the neoStat
- In accordance with the thermostat mounting instructions on page 5
- A, surface mounted, sensor probe cover is available to house the sensor probe where required
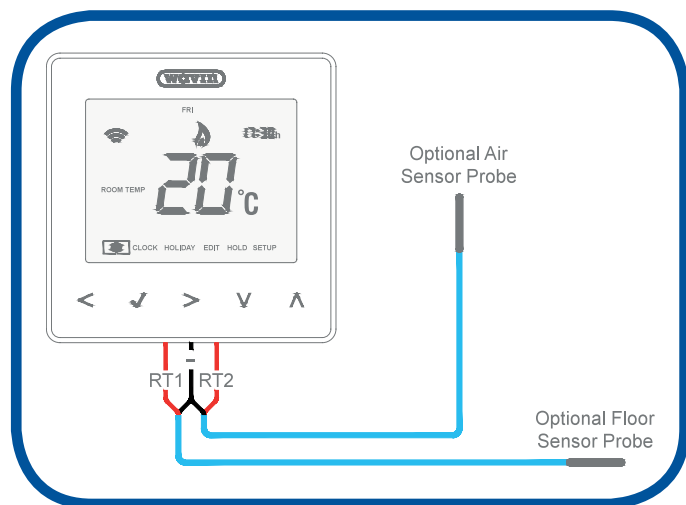
Floor sensor probes should be installed

- Using the "RT1" and "-" terminals on the back of the neoStat
- In an actively heated and exposed section of the floor
- Equidistant between two parallel heating pipes
- As close to the upper surface of the floor as possible
- In conduit (or an off cut of pipe) so that they can be easily removed and replaced in the event of a failure

Sensor Probe

Floor finish

Wavin UFH pipe
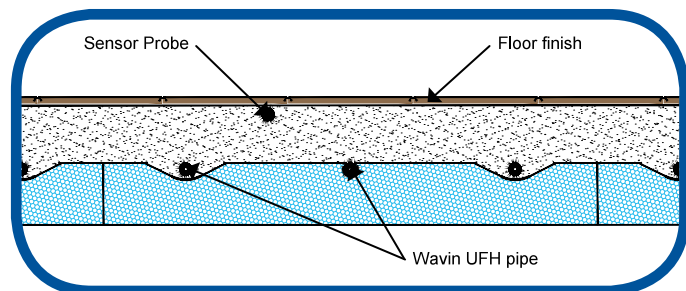
Connecting Actuators

- Install the actuators on the manifold by removing the manual valve cap from the return ports and then pressing the actuator down onto the collar by hand until it clicks into place

- Connect all actuators to be controlled by a single thermostat, to the actuator terminals for the same zone number

- If more than 4 actuators are required for a single zone, link the "SL" terminals between two adjacent zone connections such that they are controlled by the same thermostat

  - This thermostat will then operate both channels in parallel, providing you with additional space to make connections

  - Repeat this for every additional multiple of 4 actuators required within a single zone

- Wavin Actuators are supplied open for easy mounting and will not fully close until they have been activated for a single period of 5 minutes

  - All zones should be activated during the system commissioning to check they are controlling the correct actuators, during which the internal latch on within the actuators will release and the valve will shut when the actuators are powered off
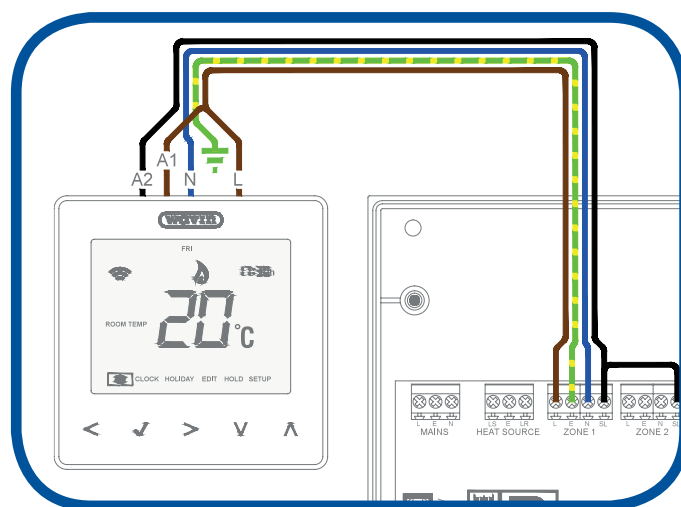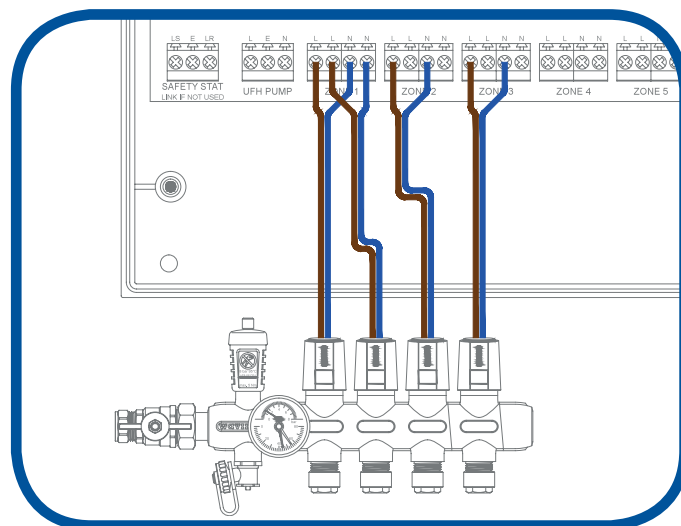
Radiator Integration

The control centre provides an integrated ability to control up to two radiator circuits. Both the Zone 8 and DHW channels on the control centre support the connection of a standard 2-port zone valve, to easily create an equivalent to an S-Plan installation.

- Connect the radiator thermostat(s) to the relevant channel(s) as shown below

- If there are 7 or fewer channels being used for UFH zones, then channel 8 should be used for the first radiator zone

  - Set the Zone 8 mode switch to "RADS"

- If there is a requirement for two radiator zones, or if all 8 channels are being used for UFH and the DHW channel remains unused, the DHW channel can also be used for Radiator control

  - When using the DHW channel for radiator control, link the LS and LR terminals on the DHW STAT connections
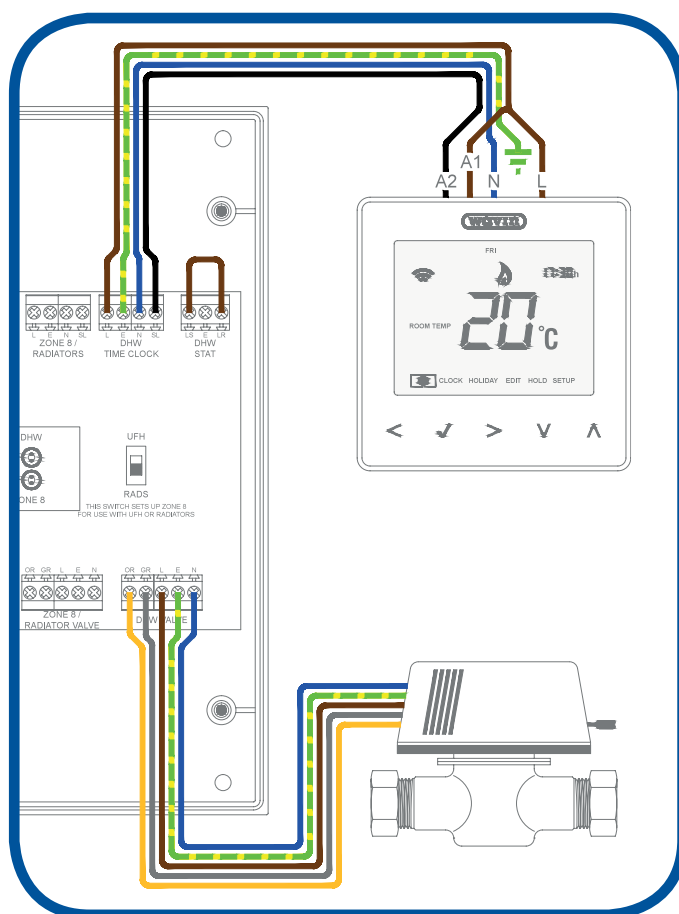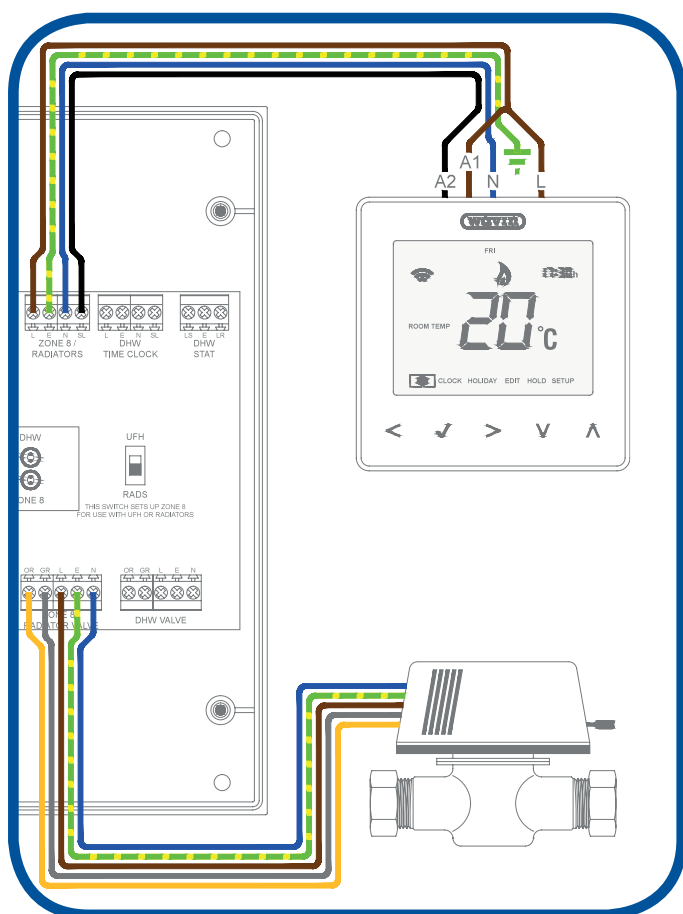
Note: Refer to the 2 port motorised zone valve instructions when connecting it to the control centre to ensure the colour coding matches its use. On the Wavin control centre:

- GR – Permanent live to the zone valve
- OR – Switched live from the zone valve (Normally Open Contact)

DHW Integration

The control centre provides an integrated ability to control a DHW circuit in a manner consistent with an S-Plan system.

● Connect a neoStat or 3rd party time clock to the DHW TIMECLOCK terminals to provide programmable control of the DHW system

   • Refer to page 16 for information on how to change the neoStats operating mode into that of a time clock

● Connect a cylinder thermostat to the DHW STAT terminals to provide temperature control of the system

   • The cylinder thermostat contacts should be closed when there is demand
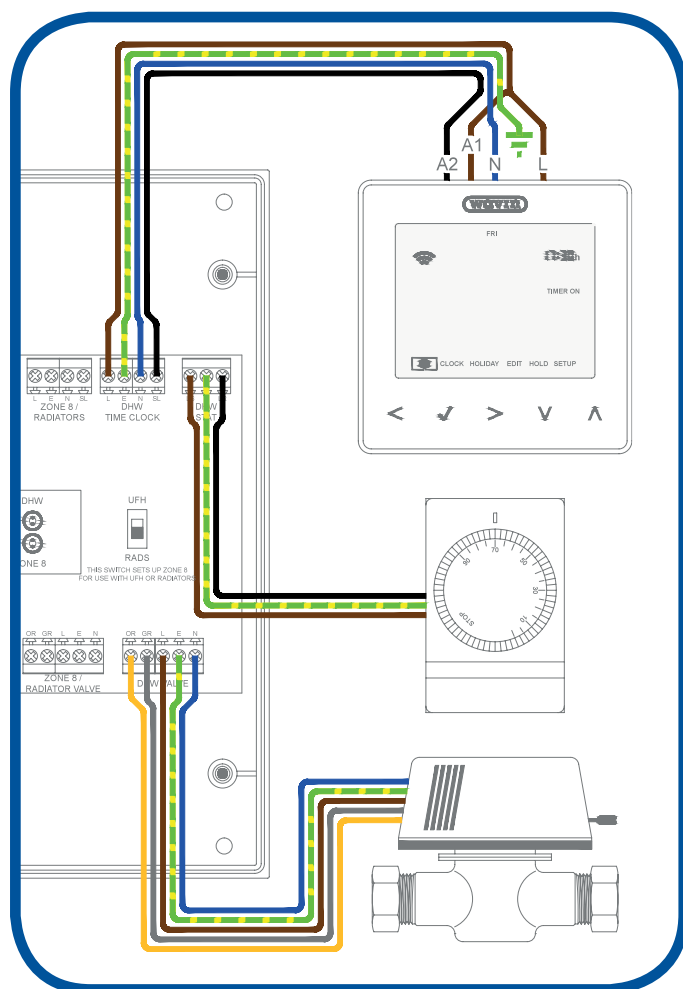
An Introduction to neoStats

Our neoStats are designed to be easy to use whilst incorporating the latest energy saving features. They can be set to operate as either programmable or non-programmable thermostats to suit your requirements. They work by measuring the room air temperature, switching the heating on when the air temperature falls below the neoStat setting and switching it back off again once it reaches it.

When operating in their programmable mode, our neoStats also allow you to set up to four temperature changes per day to match each rooms usage. Typically this is split into two higher temperatures when the room is in use and two lower temperatures when the room is not. This is common for rooms that are used in the mornings and evenings. Equally if a room will be in use all day it's typical to just have one higher daytime temperature and a cooler night time temperature, disabling the remaining two periods.

How quickly a room heats up and cools down depends on the heating system design and the water temperature used as well as the properties characteristics, setting the neoStat to "very hot" or "very cold" will not make the room warm up or cool down to the desired temperature any quicker, but it is likely to create control issues and lead to increased running costs so we advise against using them in this manner.

To save energy, we recommend that you find the lowest temperature(s) within each room that you are comfortable with during its hours of use and then leave the neoStat to it. There will always be those times when you wish to boost or lower the temperature by 1°C or so, but if you find you change it on a daily basis then it's probably worth making the temperature or schedule change permanent.

Example room schedules to start you off, don't be afraid to customize them to your needs:

Weekdays	1st Period (WAKE)	2nd Period (LEAVE)	3rd Period (RETURN)	4th Period (SLEEP)
Kitchen	07:00 – 18°C	09:00 – 16°C	17:00 – 18°C	20:00 – 16°C
Living Room	17:00 – 21°C	23:00 – 18°C	--:--	--:--
Bedroom	07:00 – 18°C	09:00 – 16°C	22:00 – 18°C	24:00 – 16°C
Bathroom	07:00 – 22°C	09:00 – 20°C	17:00 – 22°C	24:00 – 19°C

Weekends	1st Period (WAKE)	2nd Period (LEAVE)	3rd Period (RETURN)	4th Period (SLEEP)
Kitchen	08:00 – 18°C	21:00 – 16°C	--:--	--:--
Living Room	19:00 – 21°C	23:00 – 18°C	--:--	--:--
Bedroom	08:00 – 18°C	22:00 – 16°C	22:00 – 18°C	24:00 – 16°C
Bathroom	08:00 – 22°C	24:00 – 19°C	--:--	--:--

When enabled, our neoStats "preheat" feature learns just how quick the room it is controlling warms up and uses this to adjust its start time each morning, reaching the set temperature at the time you've set. By default "preheat" is turned off to prevent the heating coming on earlier that you expect each morning. However, we recommend you refer to page 20 and enable it in each of your neoStats settings, if it isn't already, as it will save you money by turning your heating on for you as late as possible every day, automatically adjusting itself to match the changing weather conditions throughout the seasons.

The overall efficiency of a heating system is not only dependent on the heat lost from your property but also by how efficiently the heat source generates the heat.

- For heat sources which are only minimally affected by their flow water temperature such as condensing boilers, biomass boilers and direct electric heaters, it is typically more efficient to use warmer water to produce a more responsive heating system, controlled by our neoStats in their programmable mode, allowing you to heat your rooms according to the times at which they are usually occupied. For every 1°C cooler than 20°C a room is in the UK, its average heat loss during the heating season reduces by approximately 10%, so keeping rooms cooler when not in use can save substantial amounts of energy

- For heat sources which offer significant increases in efficiency through reducing their flow temperatures, such as heat pumps, it may be more efficient to keep your property at constant temperature, using the neoStats in their non-programmable mode so that the heat source can continuously produce water as cool as possible

- We recommend referring to your heat source supplier for their guidance on the best mode to use their heat source in

The Wavin neoApp

With the addition of the 52UH292 Wavin neoHub to the control system, up to 32 neoStats can be linked to smart devices by downloading the Wavin neoApp from the Apple App Store, Google Play Store, Amazon App Store or Windows Phone Store. If desired, multiple neoHubs, located in multiple properties, can all be controlled via a single account.

Pairing the Wavin neoApp

To pair the neoHub with the Wavin neoApp:

- Connect the power supply to the neoHub
- Ensure your router is connected to the internet
- Connect the neoHub to your router with the patch cable provided
    - The Link LED will light up once the neoHub has connected through your network
- Download and install the FREE Wavin neoApp from the Apple App Store, Google Play Store, Amazon App Store or Windows Phone Store
- Open the Wavin neoApp
- Press Create Account on the Home Screen
    - Enter your email address
    - Set a password
    - Press Submit
- You will be sent an email with a link to verify your email address
    - You may not be able to proceed until you have verified your email address
- Press Use Existing Account on the home screen, enter your password and press Login
- Ensure your smart device is connected by wifi to the same network as the neoHub
- Press Add Location
- Press the connect button on the neoHub within two minutes to add the location to your account
- Enter a title for the new location (e.g. Home)
- Set the time zone for the system

Pairing neoStats

After pairing to the neoHub you will be able to pair the neoStats. We recommend pairing the neoStat located nearest to the neoHub first, working outwards from there to build up the network as each neoStat becomes a new access point for the next.

To pair the neoHub with a neoStat:

- Within the Wavin neoApp
    - Select your location
    - Press Manage Zones
    - Press Add Zone
    - Enter a zone name
    - Press Add Zone again
- You will have two minutes to pair the neoStat
    - Use < > to highlight SETUP in the main menu
    - Press ✓ to select
    - Advanced Setting 01 will be displayed on screen
    - Press ✓ to pair the neoStat to the neoHub
- The MESH symbol will flash on the neoStats display while its connecting
- Once it's successfully connected the MESH symbol will be permanently displayed
- Press Next within the Wavin neoApp to pair more neoStats or press Finish to complete the setup
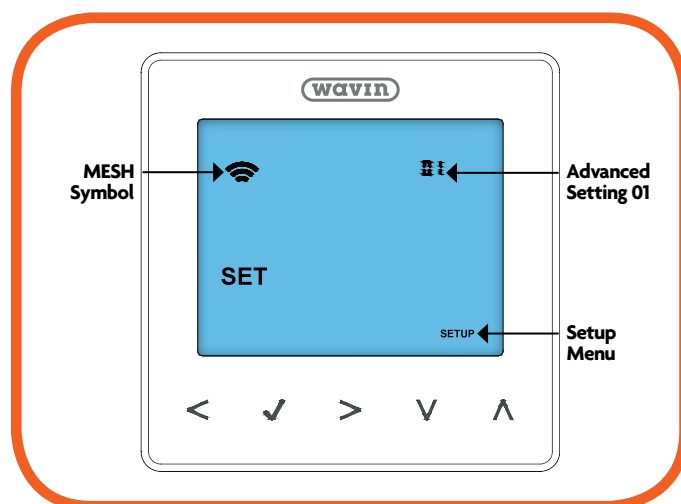
Interacting with the neoStats

The neoStat settings are changed using the five buttons, < ✓ > ∧ ∨, beneath the display. These are touch sensitive buttons, please do not press them excessively hard expecting them to "click" as this could crack the glass screen.

While on its idle screen;

- The neoStats main menu is navigated by pressing < >
- The highlighted item in the main menu is then selected by pressing ✓
- The function of the ∧ ∨ buttons on this screen varies depending on the mode of operation, please refer to the following sections for further guidance

The neoStats display is illuminated by a blue back light after any interaction with it and it will remain lit for 15 seconds, after which the back light will turn back off to conserve energy.

Turning NeoStats On/Off

During normal operation there should be no requirement to power the neoStat off. In general it is recommended that the neoStats are put into Standby instead, see page 17, as this will enable the heating system if the room being controlled approaches temperatures that could cause moisture or frost damage to its contents.

To turn neoStats off;

- Use < > to highlight the Power Icon in the main menu
- Press and hold ✓ until the display goes blank, (5 seconds)

To turn neoStats on;

- Press ✓
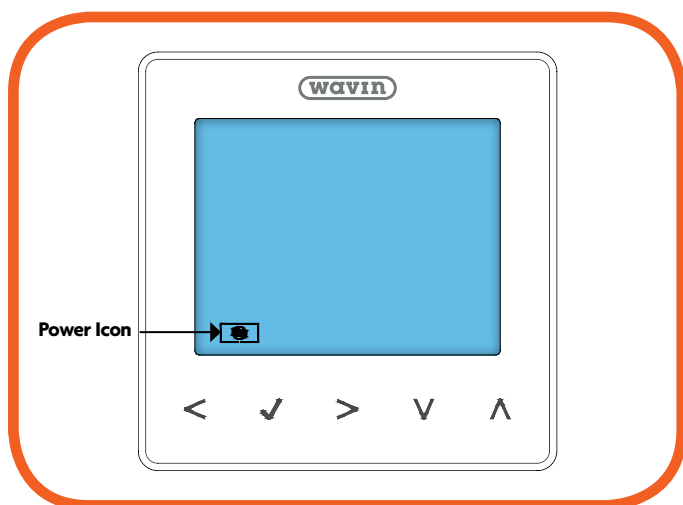
Locking/Unlocking neoStats

To prevent unwanted adjustment of the neoStat settings, the neoStat is equipped with an interface lock. While locked the neoStat display will display the Lock Symbol in addition to is normal content. Please keep a record of this PIN somewhere safe, if you forget it please contact us for advice.

If you wish to allow users to use the Temperature Override feature while the neoStat is locked, you can set a Temperature Adjustment Limit in the advanced settings menu to allow the user to temporarily adjust the temperature by as little as ±1°C to as much as ±10°C while still keeping all other interactions locked.

To lock the neoStat;

- Use < > to highlight HOLD in the main menu
- Press and hold ✓ until the Lock Symbol appears, (10 seconds)
- The display will show 00:00 allowing you to enter a four digit PIN
- Use ∧ ∨ to enter the first two digits of your PIN
- Press ✓
- Use ∧ ∨ to enter the last two digits of your PIN
- Press ✓

To unlock the neoStat:

- Press ✓
- Use ∧ ∨ to enter the first two digits of your PIN
- Press ✓
- Use ∧ ∨ to enter the last two digits of your PIN
- Press ✓


Power Icon

PIN

Lock Symbol
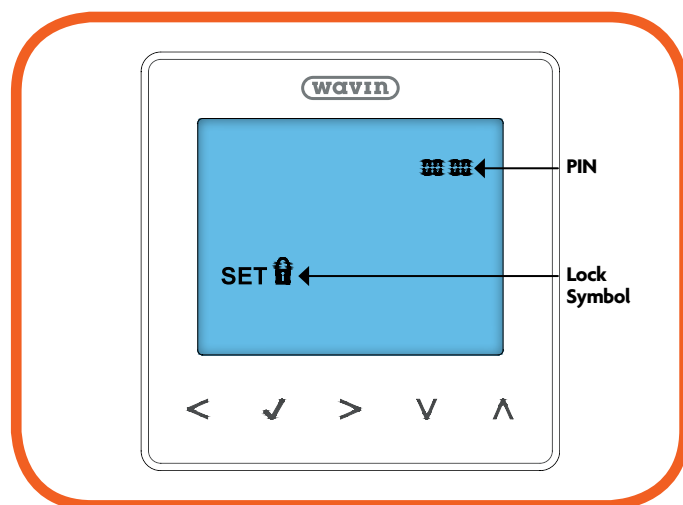
Thermostat/DHW Time Clock Mode Selection (Factory Reset)

The neoStats can be used as either room thermostats or time clocks. They are supplied in their thermostat mode and will need to be changed to their time clock mode to control services such as DHW.

To change between thermostat and time clock mode, performing a factory reset:

- Use < > to highlight SETUP in the main menu
- Press and hold ✓ until the full display activates, (10 seconds)
- Use < > to highlight the required mode
    - 1 = Thermostat   See right
    - 2 = DHW Time clock   See page 22
- Press ✓
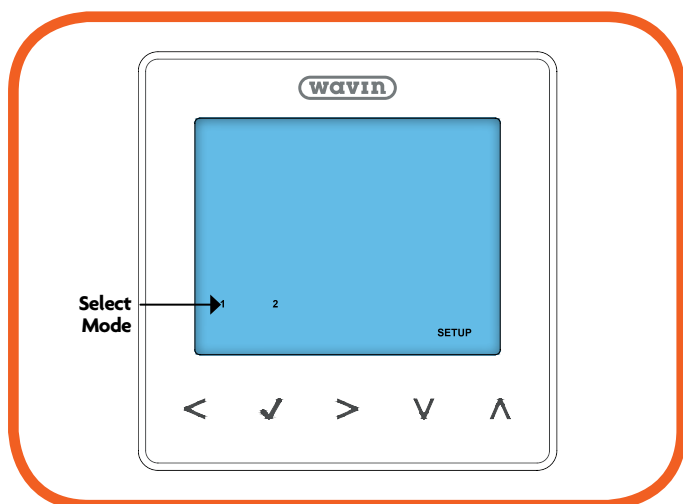
Thermostat Mode
Thermostat Display

By default, the neoStats regulate the room air temperature using their internal sensors. If one or more external sensors have been connected to the neoStat during the system installation, the combination being used should be selected in the Advanced Settings menu, see page 24.

During normal operation the neoStat will display the temperature reading of the active sensor, indicating either "ROOM TEMP" or "FLOOR TEMP" on the display. If the neoStat is regulating both the air and floor temperatures, it will display the "ROOM TEMP" by default.

To switch between the temperature being displayed when regulating both the air and floor temperatures;

- Press and hold < > until selection changes, (5 seconds)

While there is demand for heating the Flame Symbol will be displayed on screen. By default, the neoStat switches the heating demand on/off when the room temperature goes 1°C below/above its set point. This switching differential can be tightened or relaxed if required. Please refer to the advanced settings section on page 24.

Select Mode

Temp Displayed

Heating Demand
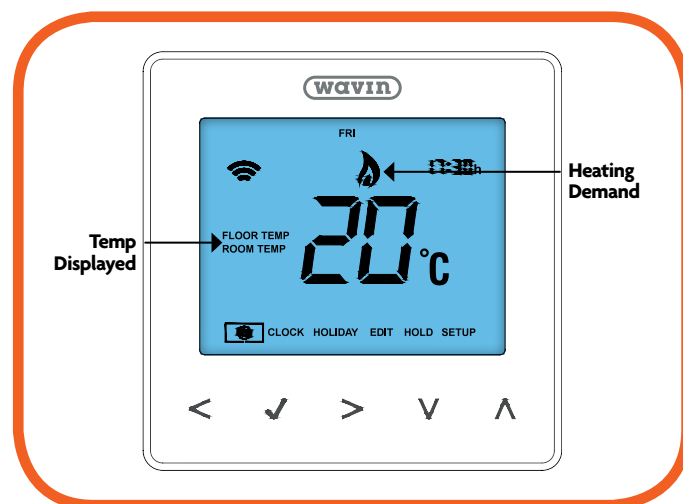
Standby

While in Standby the neoStat will ignore its temperature setting or heating schedule and will only activate the heating if it measures a temperature below the set Standby Temperature. The default Standby Temperature is 12°C, but this can be changed if required. Please refer to the advanced settings section on page 24.

Thermostat in Standby
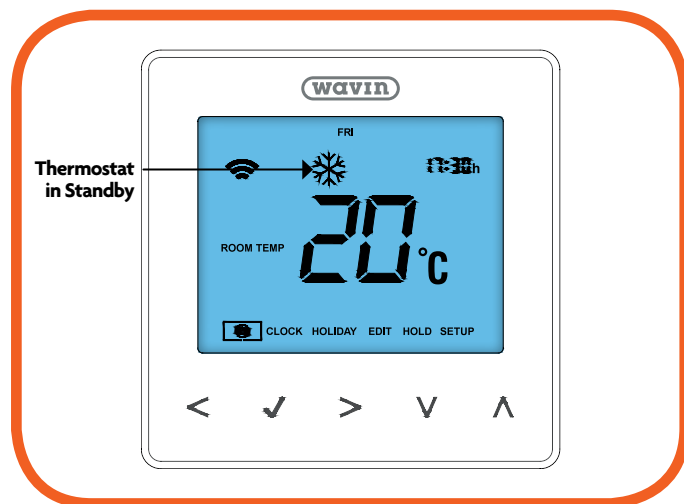
## Manual/Programmable Thermostat Mode Selection

By default the neoStats operate on a 5/2 day schedule. In this mode you can set one heating schedule for the 5 weekdays and a second one for the weekend. The neoStat can also function as a manual thermostat. Please refer to the guidance in the "An Introduction to NeoStats" section on page 12 for advice on the most energy efficient option to select.

An important factor in selecting the neoStat mode is its ease of use. If you struggle to operate the neoStats in their programmable mode, switching them into a non-programmable mode will greatly simplify their operation for you, providing you with a greater level of control through simplicity.

To change between neoStats modes of operation:

- Use < > to highlight SETUP in the main menu
- Press ✓
- Use ∧ ∨ to select Advanced Setting 12
- Use < > to select the required neoStat mode
  - 00 = Manual
  - 01 = 5/2 Day Schedule (Different schedule for weekdays and weekends) (Default)
  - 02 = 7 Day Schedule (Different schedule each day)
  - 03 = 1 Day Schedule (Same schedule every day)
- Press ✓
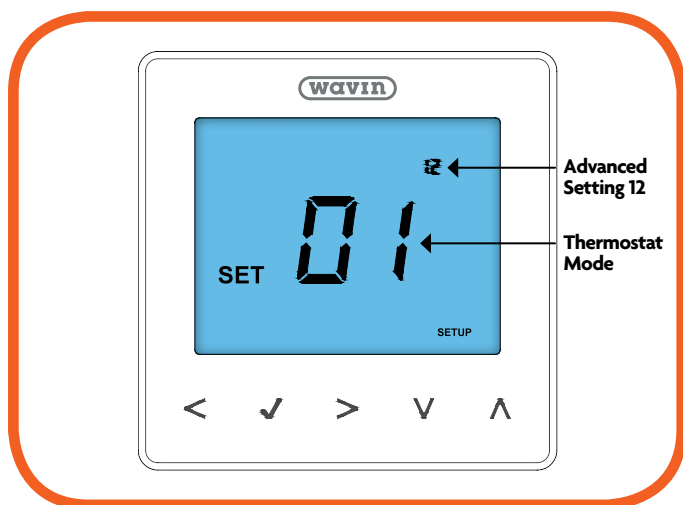
Manual Thermostat Mode
Adjusting the Set Temperature

To adjust the set temperature on the neoStat;

- Use ∧ ∨ to select the desired temperature
- Press ✓

If you fail to press after selecting the temperature, this new temperature will not be set.

Temperature Hold

The neoStat allows you to set a new temperature for a period of your choice, after which it will revert back to its normal setting. This can be useful when you are expecting guests and are unlikely to remember to change it back when they leave or if you just want to boost the rooms temperature in the evening for a couple hours.

Please see page 21 for guidance on how to set Temperature Hold.

Programmable Thermostat Mode

Setting the Clock

If you have purchased and commissioned a Wavin neoHub as part of this system and set time zone within the Wavin neoApp, then the time and date will already be set for the whole system and it will automatically correct for daylight savings time.

If you do not have a Wavin neoHub installed or if you haven't paired the system up yet you will need to set the time and weekday on each neoStat.

To set the time and weekday:

- Use < > to highlight CLOCK in the main menu
- Press ✓
- Use ∧ ∨ to set the hours in 24 hour format
- Press ✓
- Use ∧ ∨ to set the minutes
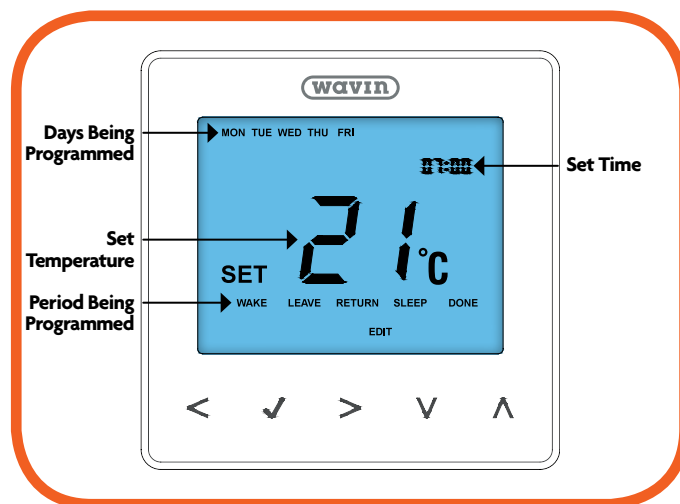- Press ✓
- Use < > to set the day
- Press ✓
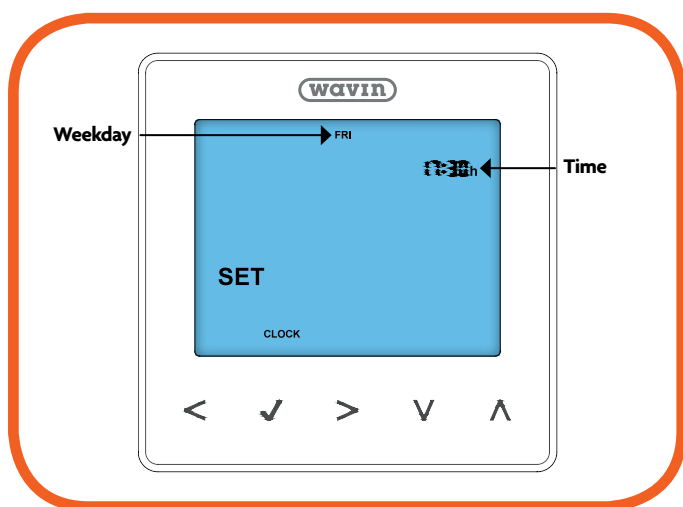
Adjusting the Heating Schedules

The neoStats are supplied with a generic heating schedule pre-programmed. To achieve the greatest energy savings, please refer to the guidance in the "An Introduction to neoStats" section on page 12. There are also some additional sample schedules there to help you tailor the schedule to your lifestyle, providing you with maximum comfort while saving as much energy as possible.

If you have a smart device installed with the Wavin neoApp and paired to the system using the Wavin neoHub, you can quickly adjust and copy heating schedules from one neoStat to another instead of independently setting up each individual neoStat.

To adjust the Heating Schedule:

- Use < > to highlight EDIT in the main menu
- Press ✓
- Use < > to select the day(s) of the week to be adjusted
- Press ✓
- WAKE will now be flashing, its temperature and time the neoStat will apply it at are also shown
- Press ✓ to edit the WAKE settings or use < > to select another period
- Use ∧ ∨ to set the hours
- Press ✓
- Use ∧ ∨ to set the minutes
- Press ✓
- Use ∧ ∨ to set the temperature
- Press ✓
- Use < > to select another period
    - Repeat the previous steps to set the time and temperature for this period
    - Set the time to --:-- for any periods that aren't required
- Use < > to select DONE
- Press ✓

Weekday · FRI · Time · SET · CLOCK

Days Being Programmed · MON TUE WED THU FRI · Set Time · Set Temperature · SET · 21°C · Period Being Programmed · WAKE LEAVE RETURN SLEEP DONE · EDIT

Preheat

The Preheat feature learns the heating characteristics of the room and calculates when the heating should turn on each morning in order to reach the scheduled temperature at the scheduled time.

By default "Preheat" is turned off to prevent the heating from unexpectedly coming on in advance of your schedule. However, we recommend you enable to use up to 5 hours. Doing so will save energy by turning the heating on as late as possible every day, adjusting for the changing weather conditions, instead of you scheduling it to come on an arbitrary time in advance of when the room will be used each day.

To enable Preheat:

- Use < > to highlight SETUP in the main menu
- Press ✓
- Use ∧ ∨ to select Advanced Setting 08
- Use < > to set the maximum number of hours the neoStat can use for pre-heat (5 hours is recommended)
- Press ✓

Advanced Setting 08

Maximum Preheat Period in Hours
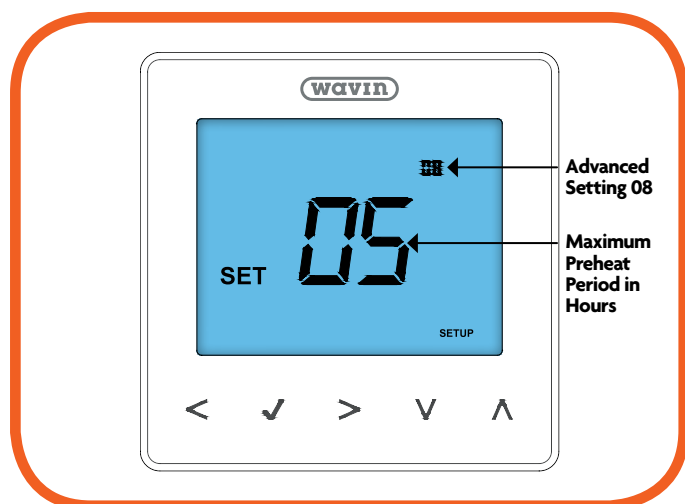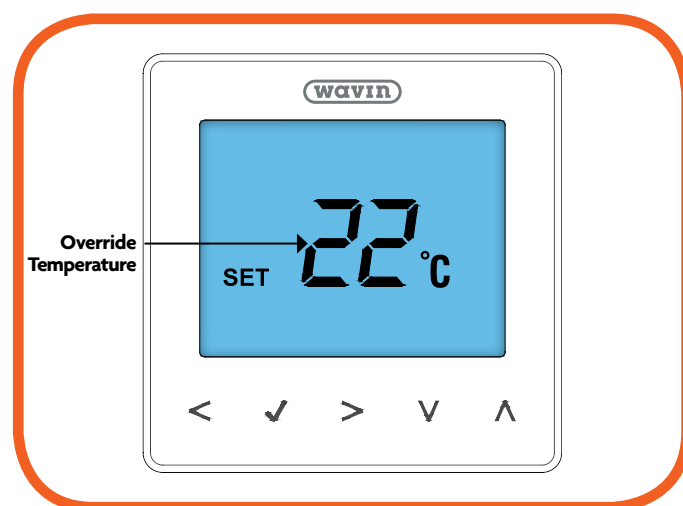
Temperature Override

The Temperature Override feature allows you to manually override the current schedule and set a different temperature that will remain in effect until the next scheduled change is reached, when the heating schedule will return to normal.

To temporarily override the set temperature:

- Use ∧ ∨ to set the override temperature
- Press ✓

Override Temperature

Temperature Hold

The Temperature Hold feature allows you to manually override the current schedule and set a different temperature that will remain in effect for a specific duration, after which the heating schedule will return to normal.

While the Temperature Hold feature is active, HOLD LEFT is displayed on the neoStat with a countdown timer showing how long it has left to run.

To activate Temperature Hold:

- Use ⟨ ⟩ to highlight HOLD in the main menu
- Press ✓
- Use ∧ ∨ to set the Hold duration in hours and minutes
- Press ✓
- Use ∧ ∨ to set the Hold temperature
- Press ✓

To cancel Temperature Hold:

- Repeat the process above, setting the time to 00:00

Countdown Timer

Hold Left Indicator
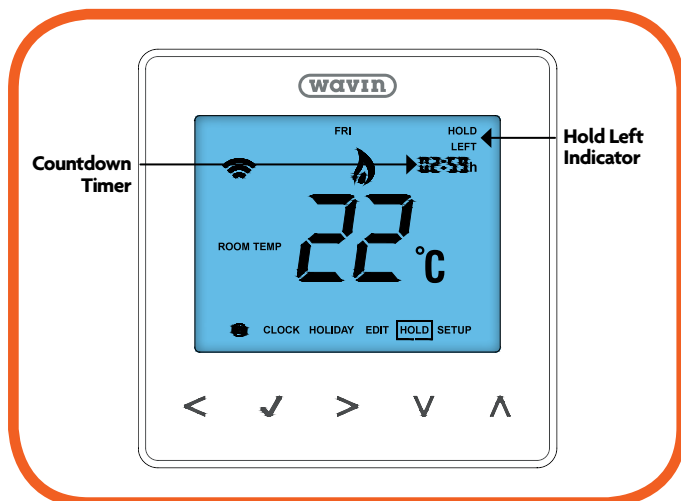
Holiday

The holiday feature allows you to schedule a holiday, during which the neoStat will maintain the Standby Temperature. The duration is set in days and will begin at midnight on the day you set it.

For example, if you set a holiday period on Friday for 2 days, Saturday will be counted as the first day and the neoStat will revert back to the programmed schedule on Monday.

To set a Holiday:

- Use ⟨ ⟩ to highlight HOLIDAY in the main menu
- Press ✓
- Use ∧ ∨ to set the Holiday duration in days
- Press ✓

To cancel a programmed Holiday:

- Repeat the process above, setting the duration to 00 days

Days Remaining

Holiday Left Indicator
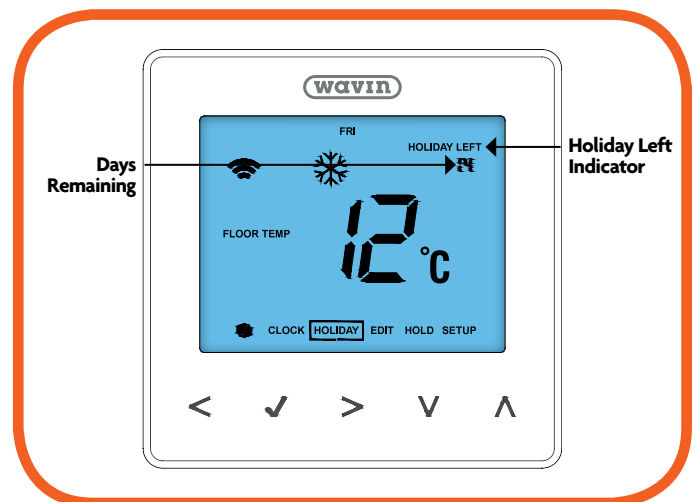
DHW Time Clock Mode
Time Clock Display

Less information is displayed on screen in time clock mode, compared to the thermostat modes, as the time clock does not utilise sensors to measure temperatures. When the time clock is signalling demand, TIMER ON is displayed and TIMER OFF is displayed when it is not.
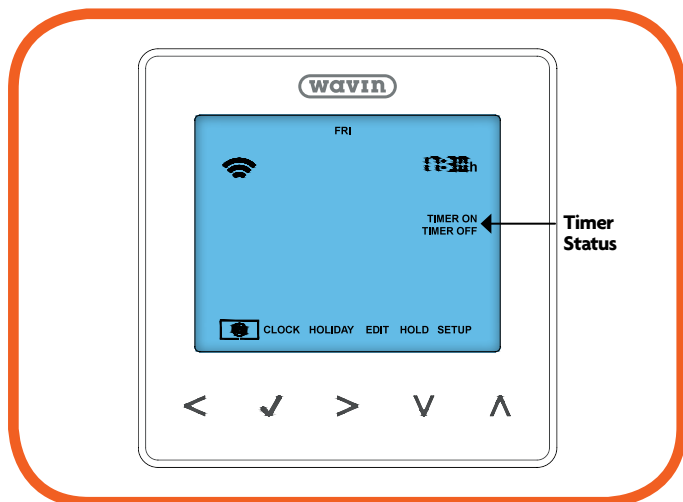
Setting the Clock

Please see page 19 for guidance on how to set the clock.

Schedule Selection

By default the time clocks operate on a 5/2 day schedule. In this mode you can set one heating schedule for the 5 weekdays and a second one for the weekend. If this doesn't meet your requirements, you can set it to operate either the same schedule every day or use a different one for each day of the week.

To change the schedule being used:

- Use ‹ › to highlight SETUP in the main menu
- Press ✓
- Use ∧ ∨ to select Advanced Setting 02
- Use ‹ › to select the required schedule
    - 01 = 5/2 Day Schedule(Different schedule for weekdays and weekends) (Default)
    - 02 = 7 Day Schedule (Different schedule each day)
    - 03 = 1 Day Schedule (Same schedule every day)
- Press ✓
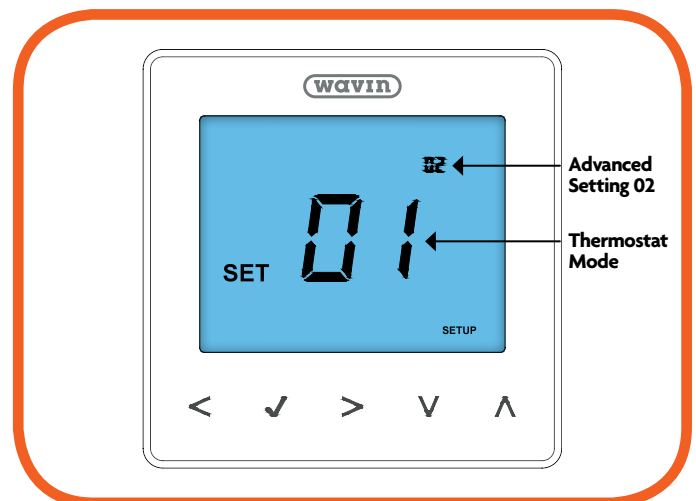
Adjusting the DHW Schedule

The time clocks are supplied with generic DHW schedule pre-programmed which can be adjusted to suit your requirements.

To adjust the Heating Schedule:

- Use ⟨ ⟩ to highlight EDIT in the main menu
- Press ✓
- Use ⟨ ⟩ to select the day(s) of the week to be adjusted
- Press ✓
- "1" will now be flashing
   - The current ON time for period 1 is shown
    - Use ∧ ∨ to switch between viewing the ON and OFF times
- Press ✓ to edit period 1's settings or use ⟨ ⟩ to select another period
- Use ∧ ∨ to set the ON time in hours
- Press ✓
- Use ∧ ∨ to set the ON time in minutes
- Press ✓
- Use ∧ ∨ to set the OFF time in hours
- Press ✓
- Use ∧ ∨ to set the OFF time in minutes
- Press ✓
- Use ⟨ ⟩ to select another period
    - Repeat the previous steps to set the ON and OFF times for this period
    - Set the time to --:-- for any periods that aren't required
- Use ⟨ ⟩ to select DONE
- Press ✓
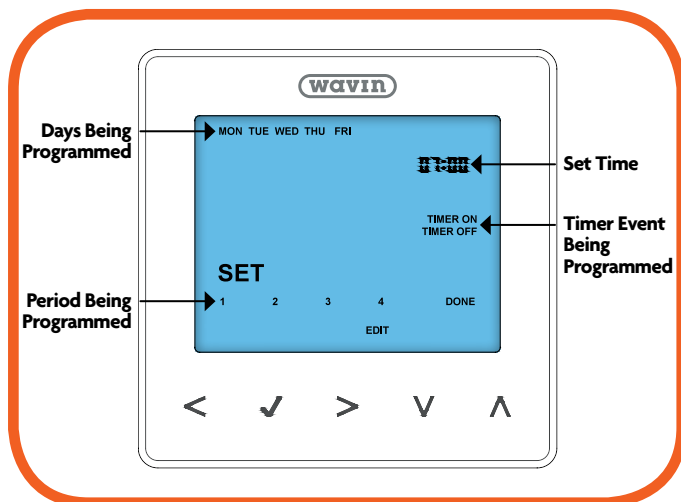
Timer Override

The Timer Override feature allows you to manually force the DHW to run for a specific duration, after which the DHW schedule will return to normal.

To temporarily override the DHW schedule:

- Use ∧ ∨ to set the override duration in hours and minutes
- Press ✓

To cancel the Timer Override:

- Repeat the process above, setting the time to 00:00

Countdown Timer · Hold Left Indicator
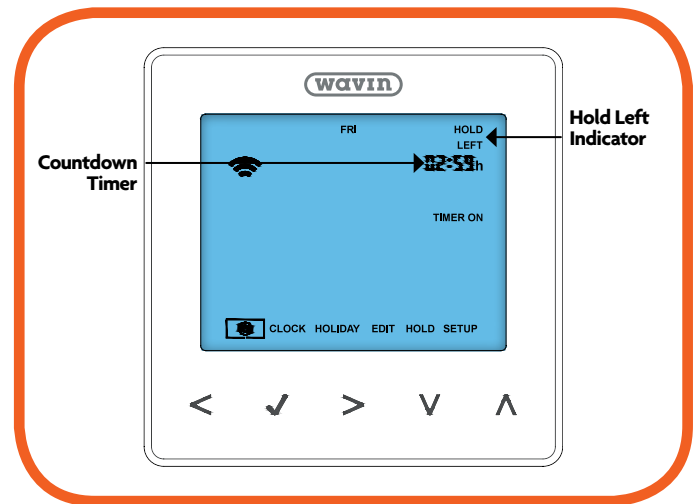
Holiday

Activating the holiday feature, while in DHW Timer mode, maintains the status TIMER OFF for the duration of the holiday. The duration is set in days and will begin at midnight on the day you set it.

Days Being Programmed · Set Time · Timer Event Being Programmed · Period Being Programmed

Advanced Settings

The neoStats contain several advanced settings that may need to be adjusted during installation and commissioning. Those that are more likely to be adjusted are covered separately on previous pages. There are different settings available depending on if you are in "Thermostat Mode" or "Time Clock Mode", please refer to the tables below.

To adjust the neoStats advanced settings

- Use ⟨ ⟩ to highlight SETUP in the main menu
- Press ✓
- Use ∧ ∨ to select the required Advanced Setting
- Use ⟨ ⟩ to adjust the Advanced Setting
- Press ✓

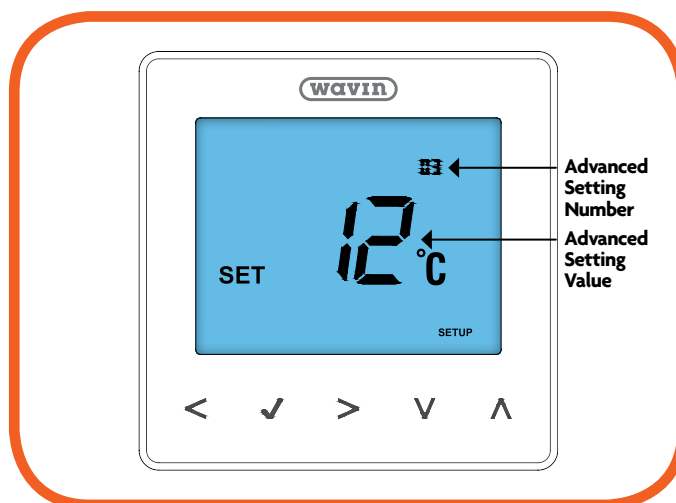Advanced Setting Number

Advanced Setting Value

Advanced Thermostat Settings

No.	Name	Default Value	Adjustment Range	Description
01	Pairing	N/A	N/A	Used to pair the neoStat to the neoHub
02	Switching Differential	1°C	1°C to 3°C	Sets how far above/below the set temperature, the measured temperature goes, before the neoStat switches the heating off/on
03	Standby Temperature	12°C	7°C to 17°C	The temperature maintained when the thermostat is in either Standby or Holiday Mode
04	Output Delay	0 Minutes	0 to 15 Minutes	Sets the time between the thermostat measuring demand and it calling for heat, useful for preventing rapid switching sometimes caused by drafts
05	Temperature Adjustment Limit	0°C	0°C to 10°C	Limits the extent of set point change possible when using Temperature Override and Temperature Hold features Permits limited set point change then the neoStats is locked
06	Sensor Selection	00	00 – Built in Sensor 01 – Remote Air Sensor 02 – Remote Floor Sensor 03 – Built in and Floor Sensors 04 – Remote Air and Floor Sensors	Sets which sensor or combination of sensors will be used by the neoStat to control the heating
07	Floor Temperature Limit	28°C	20°C to 45°C	Sets the temperature, measured by a connected floor sensor, at which the neoStat will turn the heating off
08	Preheat	0 Hours	0 to 5 Hours	Limits the maximum number of hours the neoStat can use to preheat the controlled zone (5 hours is recommended)
09	Rate of Change	N/A	N/A	The response rate used by the Preheat feature to calculate the correct time to begin (for info only – time in minutes taken to raise room temperature by 1°C)
10	Cooling Enable	00	00 – Disabled 01 – Enabled	Enables/Disables cooling mode (not currently supported, please leave disabled)

Advanced Thermostat Settings Continued

No.	Name	Default Value	Adjustment Range	Description
11	Cool Set Temperature:	20°C	20°C to 35°C	The temperature above which the thermostat will signal demand (not currently supported, please leave disabled)
12	Schedule Type	01	00 – Manual 01 – 5/2 Day Programmable 02 – 7 Day Programmable 03 – 1 Day Programmable	Sets the neoStat schedule type
13	Temperature Format	00	00 – °C 01 – °F	Allows you to select the temperature units used by and displayed on the neoStat

Advanced Time Clock Settings

No.	Name	Default Value	Adjustment Range	Description
01	Pairing	N/A	N/A	Used to pair the neoStat to the neoHub
02	Schedule Type	01	01 – 5/2 Day Programmable 02 – 7 Day Programmable 03 – 1 Day Programmable	Sets the neoStat schedule type

Sensor Error Codes

If an enabled sensor is not installed properly or faulty the neoStat will provide you with an error code to guide you to a solution.

Error Code	Problem	Solution
E0	Internal sensor fault	The neoStat is faulty and needs to be replaced
E1	Floor sensor probe fault	Check that the floor sensor is correctly wired to the "-" and "RT1" terminals on the neoStat Sensor probe wire has been damaged and needs to be repaired Sensor probe is faulty and needs to be replaced
E2	Air sensor probe fault	Check that the floor sensor is correctly wired to the "-" and "RT2" terminals on the neoStat Sensor probe wire has been damaged and needs to be repaired Sensor probe is faulty and needs to be replaced

neoStat Recalibration

If after installing the neoStat it is discovered that it is not reading the room air temperature correctly, it can be recalibrated.

Typical scenarios where this may be necessary are;

- The neoStat has been installed on a cold external or retaining wall and is reading a lower temperature that it should be
- The neoStat has been installed on a warm internal wall such as the outside of a DHW cylinder cupboard

If you need to re-calibrate the neoStat, follow these steps;

- Turn the neoStat off
- Press and hold both ∨ and ✓ for 10 Seconds
- The current temperature reading will be displayed
- Use ∧ ∨ to match the neoStats read temperature to the rooms actual air temperature
- Press ✓
- Press ✓ to turn the neoStat back on

Troubleshooting

Before working through this chart it is strongly recommended that you read through this installation guide thoroughly. With any of the suggested wiring faults in the table below, the quickest means of testing if a fault is being caused by a specific item, is often to disconnect the item and see if the fault persists.

Symptom	Problem	Solution
The power neon is off	Control Centre has now power	Check the power supply to the Control Centre is on. Check the fuse in the Control Centre.
The fuse blows as soon as power is supplied to the control centre	Wiring fault	Test for short circuits across the L, N & E terminals.
The fuse blows when any zone neon activates	Wiring fault Pump fault	Check that the circulator pump is correctly connected. Check that the pump has not developed a short circuit fault and that it does not exceed the maximum load permitted.
The fuse blows when a specific zone neon activates	Wiring fault Actuator/zone valve fault	Check that the thermostats is correctly wired paying particular attention to its "A1" and "A2" terminals. Ensure that the actuator/zone valve is rated at 230V and does not increase the total load on the control centre to a level above 5A.
A zone neon is not activating when the thermostat calls for heat	Wiring fault Faulty Thermostat	Ensure the link wire has been fitted between the "L" and "A1" terminals on the thermostat. Test the wire for breaks and/or short circuits. Temporarily swap the thermostat for another that is known to be fully functional, if the issue is resolved, replace the faulty thermostat.
A thermostat display is blank	Wiring fault Faulty Thermostat	Check the "L" and "N" connections between the thermostat and control centre. Test the wire for breaks and/or short circuits. Temporarily swap the thermostat for another that is known to be fully functional, if the issue is resolved, replace the faulty thermostat.
A room is overheating	It's thermostat is not in the controlled room Actuators have never been energised	Check that the thermostat located in the room is opening and closing the actuators controlling the water flow to that room. Ensuring that the correct floor area warms up. If the actuators have not been energised for 5 or more consecutive minutes at least once they will not close. Turn the heating on for all actuators that show a slightly raised disc on the top while powered off.
A room is not heating	Wiring Fault It's thermostat is not in the controlled room Not enough heat is being emitted within the room	See Symptoms, Problems and Solutions above. Check that the thermostat located in the room is opening and closing the actuators controlling the water flow to that room. Ensuring that the correct floor area warms up. Refer to the manifold installation guide and ensure it is installed and commissioned properly. Refer to the system specification to ensure its performing as designed.
neoHub is not connecting to the neoApp	Not connected to the internet Smart devices wifi is not enabled neoApp needs permission to use your smart devices wifi	Check that the neoHub properly connected to the internet though a router and that its "link" indicator is on. Reset the neoHub by consecutively pressing the "connect" button 5 times. Enable the wifi on your smart device and ensure that it is connected to the same network as the neoHub If you have just installed the neoApp and it is not connecting, restart your device. Find the permissions for the neoApp on your smart device and enable its permission requirements
Thermostats are not pairing to the neoApp	Low signal strength Incompatible thermostat settings	Pair the thermostat nearest to the neoHub first and work outwards across that floor before proceeding to the next floor. The thermostat connect to each other forming a chain, so doing this creates a stronger signal for each subsequent thermostat. Ensure that neither the thermostat nor the neoHub are installed on, or in, something that will shield wireless communication. Such as a metal mesh or sheet, especially earthed ones. If the thermostat is located on another floor directly above or below the nearest connected device it may be in its blind spot. Try pairing another thermostat on that floor first. Perform a factory reset on the thermostat.

Control Centre

Dimensions:	290mm x 220mm x 70mm
Mass:	1.11kg
Power Supply:	230V AC, 50Hz
Fuse:	T5AH, 250V
Maximum Total Load:	5A (excluding heat source)
Maximum Heat Source Load:	5A, 250V AC or 30V DC
Maximum Circulator Load:	3A Resistive, 1A Inductive, 250VAC
Maximum Load per Zone:	3A, 250V AC
Maximum No. of Zones:	8 UFH Zones, 1 Radiator Zone
	8 UFH Zones, 1 DHW zone
	7 UFH Zones, 2 Radiator Zones
	7 UFH Zones, 1 Radiator Zone, 1 DHW zone
Operational temperature range:	-5°C to +40°C
Operational humidity range:	0% – 70% (non condensing)

neoStats

Dimensions:	85mm x 85mm x 40mm (15mm visible once installed)
Mass:	0.15kg
Power Consumption:	230V AC, 4mA
Maximum Load:	3A, 250V AC
Controllable temperature Range:	+5°C to +35°C
Measurement accuracy:	+/- 0.5°C
Operational temperature range:	-5°C to +55°C
Operational humidity range:	0% – 70% (non condensing)
RF range:	50m horizontally in open air conditions
Communication band:	2.4GHz
Ingress Protection Rating:	IP20

neoHub

Dimensions:	150mm x 90mm x 27mm
Mass:	0.17kg
Power Consumption:	5V, 80mA – Supplied with 230V to USB plug
RF range:	50m horizontally in open air conditions
Communication band:	2.4GHz
Ingress Protection Rating:	IP20
Maximum number of neoStats:	32

CE — Wavin confirms that the Wavin 8 Zone Control Centre and associated devices conform to the essential requirements and relevant regulations of directive 1999/5/EC.

Although this product does not contain any harmful materials we recommend that the product be returned to the dealer or directly to the manufacturer after use.
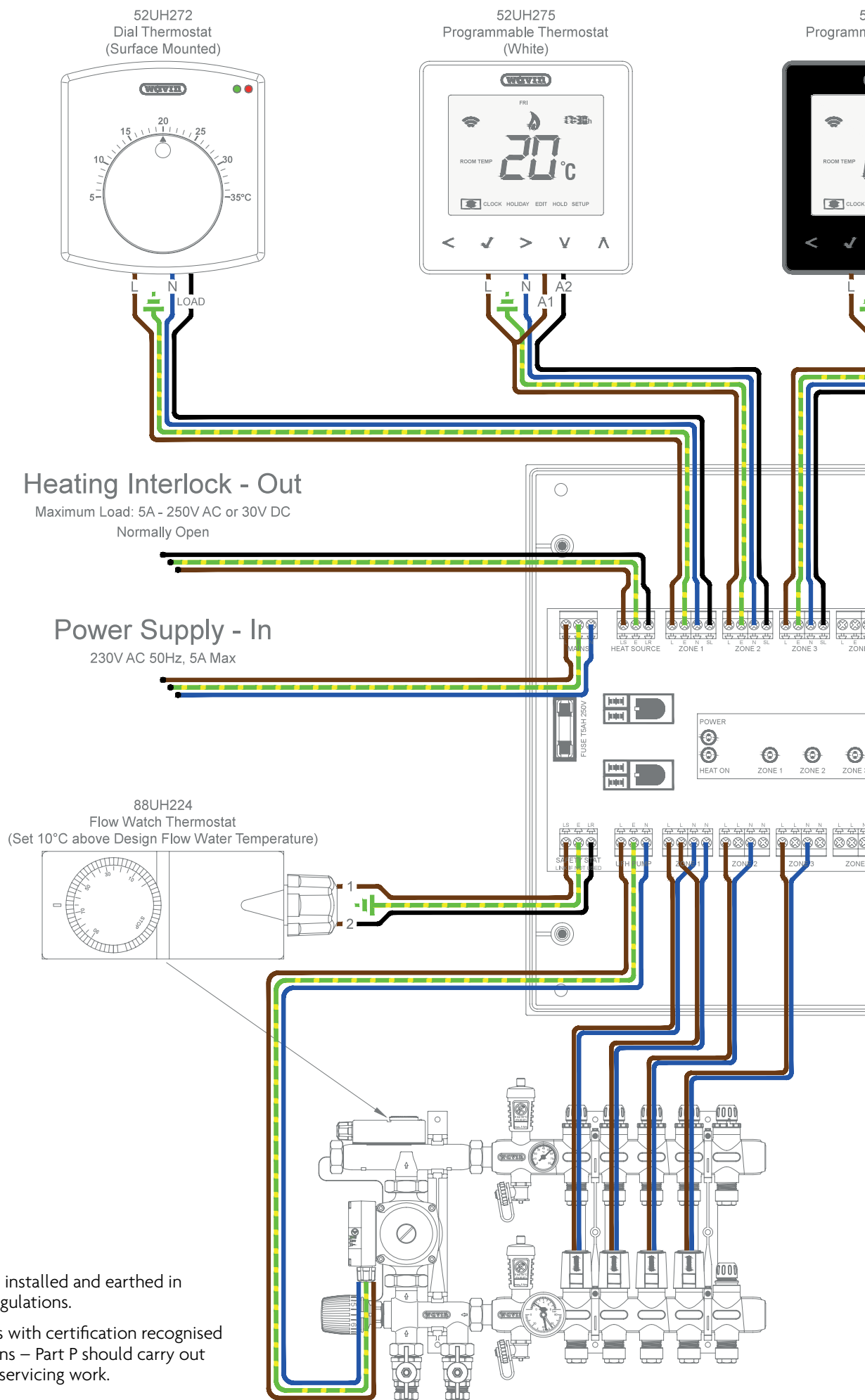
52UH272
Dial Thermostat
(Surface Mounted)

52UH275
Programmable Thermostat
(White)

5
Programm

L N LOAD

L N A2
A1

L E

Heating Interlock - Out

Maximum Load: 5A - 250V AC or 30V DC

Normally Open

Power Supply - In

230V AC 50Hz, 5A Max

FUSE T5AH 250V

LS E LR
MAINS

LS E LR
HEAT SOURCE

L E N SL
ZONE 1

L E N SL
ZONE 2

L E N SL
ZONE 3

L E
ZONE

POWER

HEAT ON ZONE 1 ZONE 2 ZONE 3

88UH224
Flow Watch Thermostat
(Set 10°C above Design Flow Water Temperature)

1
2

LS E LR
SAFETY STAT
UNCONFIRMED

L E N
TH UM

L L N N
ZONE 1

L L N N
ZONE 2

L L N N
ZONE 3

L L N N
ZONE

All components must be installed and earthed in
accordance with local regulations.

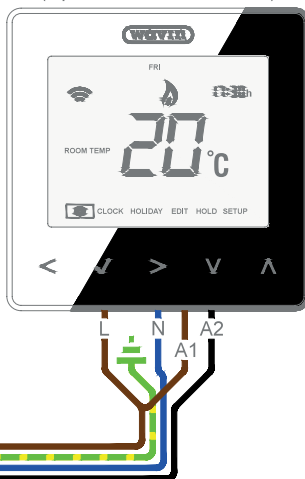Only competent persons with certification recognised
under Building Regulations – Part P should carry out
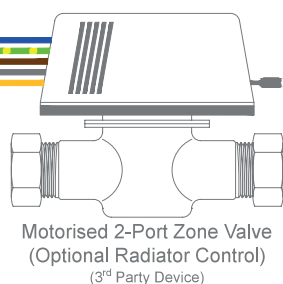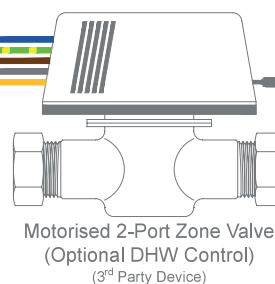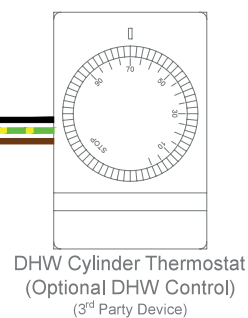electrical installation or servicing work.
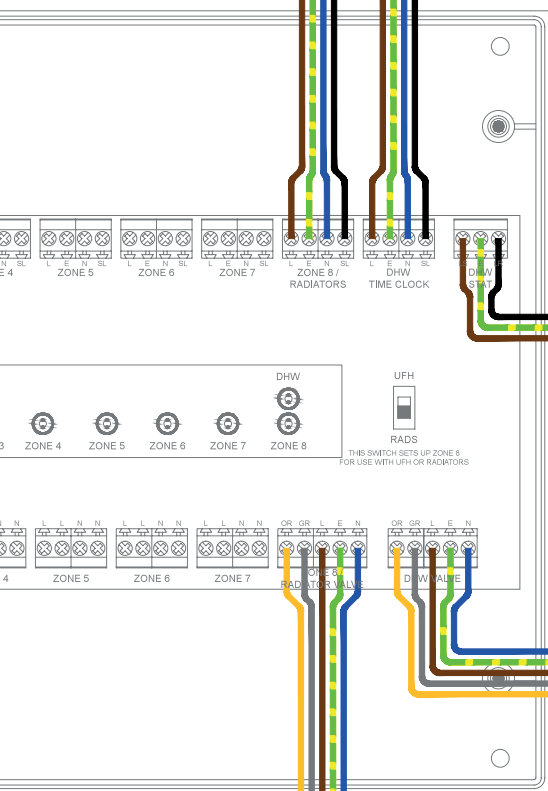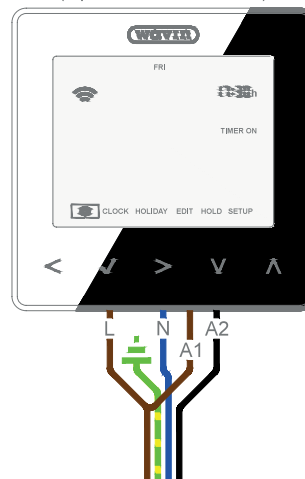
52UH276
mable Thermostat
(Black)

52UH275 / 52UH276
Programmable Thermostat
(Optional Radiator Control)

52UH275 / 52UH276
Programmable Thermostat
(Optional DHW Control)

DHW Cylinder Thermostat
(Optional DHW Control)
(3rd Party Device)

Motorised 2-Port Zone Valve
(Optional DHW Control)
(3rd Party Device)

Motorised 2-Port Zone Valve
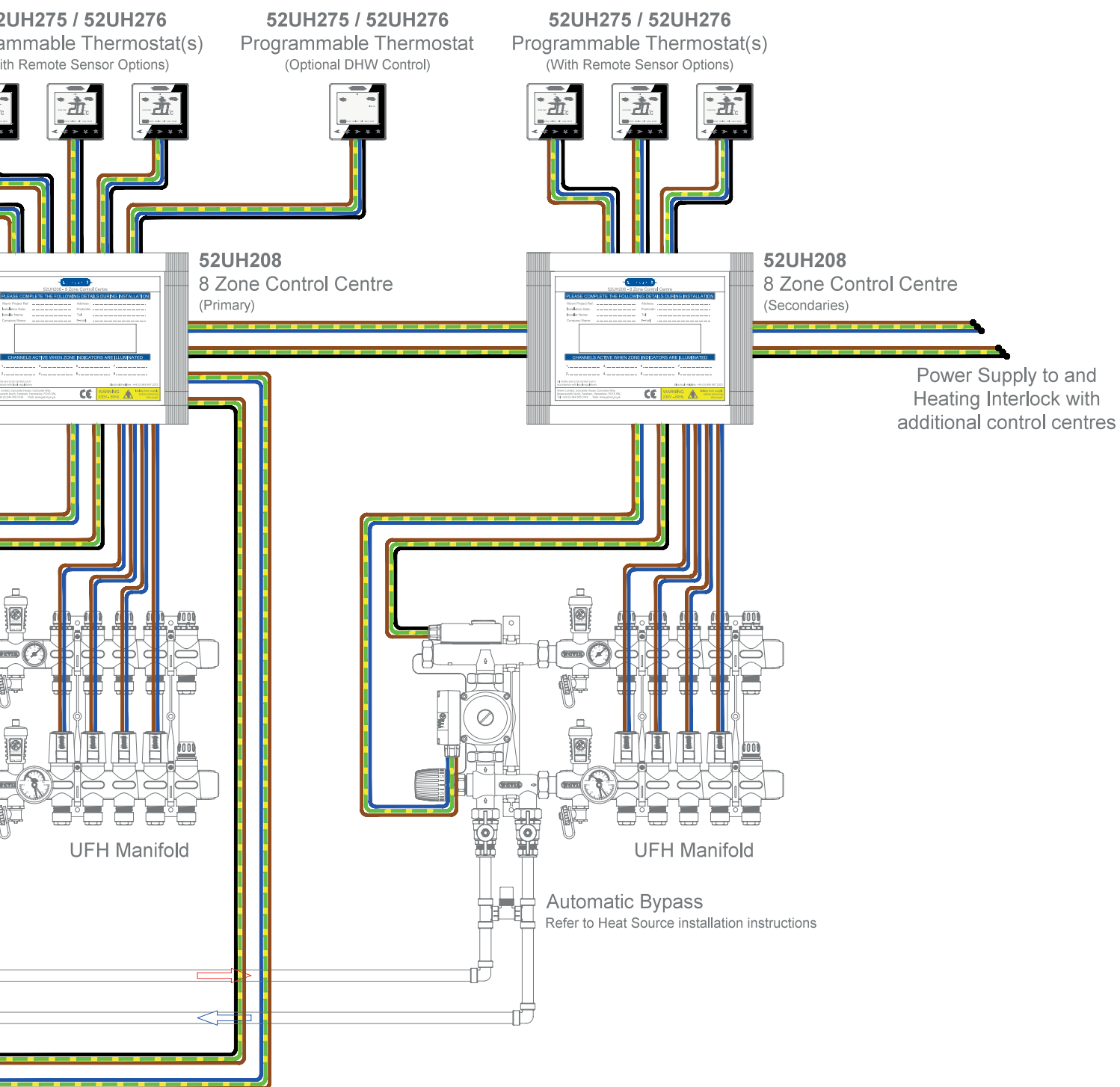(Optional Radiator Control)
(3rd Party Device)

The requirement for an Automatic Bypass, or other equivalent product, must be checked against the heat sources installation requirements.

Failure to install one when required may lead to increased running costs and risk damaging the heat source itself.

52UH275 / 52UH276
Programmable Thermostat
(Optional Radiator Control)

52
Progra
(W

Radiator Circuit
(Optional)

Heat Source

DHW
Cylinder
(Optional)

Power Supply - In
230V AC 50Hz

All components must be installed and earthed in accordance with local regulations.

Only competent persons with certification recognised under Building Regulations – Part P should carry out electrical installation or servicing work.

52UH275 / 52UH276
ammable Thermostat(s)
(ith Remote Sensor Options)

52UH275 / 52UH276
Programmable Thermostat
(Optional DHW Control)

52UH275 / 52UH276
Programmable Thermostat(s)
(With Remote Sensor Options)

52UH208
8 Zone Control Centre
(Primary)

52UH208
8 Zone Control Centre
(Secondaries)

Power Supply to and
Heating Interlock with
additional control centres

UFH Manifold

UFH Manifold

Automatic Bypass
Refer to Heat Source installation instructions

Hep₂O
Underfloor Heating

Advice and support

Helping you choose the right system

Our SystemSelect online tool helps you quickly select the right solution for your project. Visit www.hep2o.co.uk/systemselect

Instant estimates

Use our Quickcalc tool to get an instant estimate and list of materials. Simply enter some basic information on the floor type and your room details to get a printable list of products along with installation advice. Go to quickcalc.hep2o.co.uk

Project support

For larger or more complex installations we also offer a full project support service. Simply send us your plans and we will design a system to suit, complete with CAD installation drawings. Send your design to:

Hep₂O Underfloor Heating
Wavin Limited
Concorde House
Concorde Way
Segensworth North
Fareham PO15 5RL

t: 0844 856 5154
e: underfloor@hep2o.co.uk

www.hep2o.co.uk

WAVIN