working with you
before, during & after your project

Nu-Heat Know-How
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Every Nu-Heat system is a custom design. Please record your unique system reference number above for future reference.

Welcome

Congratulations, you are the owner of a Nu-Heat warm water underfloor heating system, designed and supplied by Nu-Heat UK Ltd., the largest supplier of domestic underfloor systems in the UK.

This manual is provided to help you understand how the system operates and the correct settings required to get the most from your heating.

Nu-Heat did not install your system, therefore any installation matters should be referred to the contractor concerned. Please record the installer’s details below.

For more information on the operation of your system and also troubleshooting help, please visit the Nu-Heat website at nu-heat.co.uk.

Installer details

Company: ____________________________________________

Contact name: ____________________________________________

Contact telephone no.: ____________________________________________

Address: ____________________________________________

__________________________________________________________

__________________________________________________________
About the Nu-Heat System

Description
Underfloor heating works by pumping warm water through special plastic tubing embedded in the floor. This warms the floor and maintains the room at a comfortable temperature.

Benefits
In particular, underfloor heating systems:
• Provide a more comfortable heated environment,
• Permit unlimited interior design options,
• Increase the useable space within a property.

Moreover, all these benefits are available from a system which can be significantly less expensive to run than a conventional, radiator-based system.

System startup

Once your system has been commissioned it should be fully operational. To initially check that your system is turned on and working please follow these simple steps:

Underfloor heating
Locate the main components of your installation: the boiler, hot water cylinder, underfloor heating pump/Optiflo manifold assembly(s), thermostats, timeclocks, underfloor heating wiring box.

Electricity supply
Ensure that the electrical installation is complete and that the heating system is turned on. The location of the main supply on/off switch may vary but is often positioned next to the boiler. There may be additional switches located at each underfloor heating wiring box which also need to be on.

Water supply
Ensure that the water is turned on ready for domestic hot water operation, check that a high flow of water is available from the cold taps. If there is poor flow or none at all, check that the stop-cock for the property is fully open.
Operation

Your underfloor system is designed for performance and economy. Each heating zone is controlled by its own wall-mounted thermostat. If a room has no thermostat it will be connected to, and controlled by, an adjacent zone.

UNDERFLOOR HEATING

Unlike traditional dial thermostats controlled by a timeclock, programmable thermostats do not work on the basis of ON and OFF times. Instead different temperatures are set at different times throughout the day. If the property is to be unoccupied during the day, for example, then the temperature can be set low (setback temperature), whereas during the morning and evening it can be set at the desired comfort temperature.

The best way to find the optimum temperature setting is to set a low comfort temperature (e.g. 18°C) and then turn it up by 1°C each day until the temperature is right.

Consideration should be given to the different floor constructions and finishes used in your property, as these factors will affect the time the system will take to achieve comfort conditions. However, the neoStat incorporates Optimum Start, a self-learning feature that enables it to manage when the heating should be switched on, in order to hit the target temperature that has been programmed. This means that the thermostats can be set to the comfort temperature at the times that heating is required. It will then automatically manage the varying floor response times, and bring the heating on in time.

The Optimum Start feature will need to be set up in the thermostat – for details see page 13.

The temperature chosen as the setback temperature will depend upon the situation:

- For new build properties this will generally be 4-6°C lower than the comfort setting, although again, this can be experimented with.
- Renovated properties may work best with a lower setback temperature, in order that the heating remains off outside of the times at which the comfort temperature is selected. The fast response time of LoProMax™ makes this method particularly suitable.
- Less thermally responsive floors, in particular screed floors greater than 65mm thick, will achieve comfort temperatures more quickly when the setback temperature is closer to the comfort temperature.

Boiler Plus legislation

Following a report called Heat in Buildings, published in October 2017, Boiler Plus legislation came into force in April 2018. It states that:

Time and temperature controls must be installed with any new boiler, if not already present.
Systems with programmable thermostats

The ideal solution to maintaining different background temperatures at different times. They can easily be set to achieve the desired temperature at all times of day and night.

THE EFFECT OF SETBACK (for illustration only)

Systems with neoStat

Each room thermostat combines the functions of a room thermostat, timeclock and set-back thermostat.

For enhanced heating performance and efficiency the unit also provides self-learning Optimum Start in the morning.

To comply with Boiler Plus legislation with a new gas combi boiler, select the Optimum Start feature on all thermostats during installation.

Four adjustable time/temperature zones are available for the days of the week, and a further four during the weekend as standard, giving enhanced heating control. A 7-day mode is also available.

HOT WATER CONTROL OPTION

A supplementary neoStat can be configured as a timer to control your hot water. See page 16 for details of how to set this up.
Optional control from a SmartPhone (systems with neoHub+)

PAIRING THE NEOHUB+

To pair the neoHub+ with the neoApp, follow these steps:

1. Connect the power supply to the neoHub+.
2. Connect the neoHub+ to your router with the Ethernet cable provided. The router will automatically assign an IP address to the neoHub+, the ‘Link’ LED will light up RED once the neoHub+ has connected to your network. Once connected to the cloud server, the Link LED will turn GREEN.
3. Connect your smartphone or tablet to the same WiFi network as your router.
5. Once you have registered your account, press SIGN IN then press ADD LOCATION.
6. Press the CONNECT button on the neoHub+ to add the location to your account.
7. When successfully connected, enter a title for the new location (e.g. Home).

PAIRING THE NEOSTATS

The next step is to pair each neoStat to the neoHub+, starting with the neoStat located nearest to the neoHub+.

To add a neoStat, follow these steps:

1. From the neoApp, select ADD NEOSTAT, enter a zone title and press NEXT.
2. You now have two minutes to pair the neoStat to the neoHub+.
3. On the neoStat, use the < > keys to select setup and press POWER. Press and hold ✓.
4. SETUP will be highlighted, now press the ✓ key once.
5. Feature 01 is displayed on the screen.
6. Press the Tick key once again to pair the neoStat to the neoHub.
7. The MESH symbol appears flashing on the display.
8. When the neoStat successfully connects to the neoHub the MESH symbol will be permanently displayed.
9. Press ADD ANOTHER for additional zones or press FINISH to complete setup.

WHAT IS A MESH NETWORK?

NeoStats work using a mesh network, meaning neoStats have the ability to send and receive signals via other thermostats on the network. This signal is relayed from one thermostat to another until it reaches its destination. This communication method extends the communication range whilst offering increased network stability when compared with standard RF thermostats.

The MESH symbol is shown when the device is communicating with the neoHub, if the mesh symbol disappears this indicates connection to the neoHub+ has been lost.

APPROACH SENSOR

The neoStat V2 uses proximity to detect when you are about to use the touch keys. As you approach the neoStat V2, the touch keys and backlight will light up.

This can be useful if you need to adjust the set temp or timer in a dark room.
SHARING ACCESS TO THE NEO SYSTEM

At this stage access to other users may be granted, on a full or restricted basis.

Ideal uses for the Share Feature.

- Where there is more than one household member.
- To give restricted access to tenants in a rented property.
- To give temporary control to a heating engineer or service partner.

To setup a Share Access, follow these steps:
1. Select Share Access
2. Press + to add a user
3. Enter the User Details and press User Mode
4. Select Admin or Guest

Admin or Guest?

Admin users have complete control. They can add and remove zones, adjust heating times and temperatures and can setup Geo Location.

Guest users have temporary control – so they can adjust the temperature using the scroll wheel but they can’t reprogram the heating times and temperatures or add and remove zones. They also don’t have access to the Geo Location feature.

Note: To use Geo Location – each user in the home must have their own Share Account.

You can remove a user at any time by going in the Share Access menu and selecting the Delete User option.

Mode 1 – thermostat operation

- Mesh symbol
- Day
- Frost protection
- Flame symbol
- Holiday
- Floor limit symbol
- Floor temp/Room temp
- Set*
- Programme indicator (6-level)
- Programme indicator (4-level)
- Main menu navigation
- Keypad lock indicator
- Temperature (current)
- Temperature format
- Hold left
- Time/Day/Month/Year

*SET = Displayed when changes are being made to the program schedule or current set point.

ERROR CODES

When used as a thermostat the screen will display an error code if a fault is detected.

E0 = The internal sensor has developed a fault.

E1 = The remote FLOOR probe has not been connected.
    - The remote FLOOR probe has not been wired correctly.
    - The remote FLOOR probe is faulty.

E2 = The remote AIR probe has not been connected.
    - The remote AIR probe has not been wired correctly.
    - The remote AIR probe is faulty.

For more information visit www.nu-heat.co.uk
Temperature display
The neoStat V2 can be configured for different sensor options such as built-in air sensor, floor sensor or both. The display will clearly indicate which sensor is being used by showing either ROOM TEMP or FLOOR TEMP before the actual temperature value.

When the neoStat is set to use both the air and the floor sensor, the room temperature will be displayed by default.
1. To view the current floor temperature, press and hold the < and > arrow keys for 5 seconds, the floor temperature will then be displayed.

Setting the clock
To set the clock, follow these steps.
1. Use the < / > keys to scroll to POWER
2. Press and hold ✓ to turn off the display
3. Use the > key to select CLOCK
4. Press ✓ to confirm selection
5. Use the ◄ / ► keys to set the Year
6. Press ✓ to confirm selection
7. Repeat the steps to set the Month, Date & Time
8. Press ✓ to confirm the new clock settings
9. Use ◄ arrow to scroll to POWER
10. Press ✓ to turn the display on

Comfort levels explained
The neoStat offers three program mode options: Weekday/Weekend programming, 7 Day programming and 24 Hour programming. There is also the option to use the thermostat as a Non-Programmable thermostat.

When thermostats are connected to the mesh network, the program mode for the system is configured by using the neoApp.

The thermostat is supplied with comfort levels already programmed, but these can be changed easily. The default times and temperature settings are;
- 07:00 / 21°C (wake)
- 09:00 / 16°C (leave the house)
- 16:30 / 21°C (return home)
- 22:00 / 16°C (sleep)

If you only want to use 2 levels, you should program the unused levels to ––:––.

For Weekday/Weekend programming, the four comfort levels are the same for Mon-Fri, but can be different for Sat-Sun. For 7 Day programming each day of the week can have four different comfort levels. In 24 Hour mode all days are programmed with the same comfort levels.

To program the comfort levels:
1. Use the < / > keys to scroll to EDIT
2. Press ✓ to confirm selection
3. Use the < / > keys to select day / period of week (the selection will flash).
4. Press ✓ to confirm selection

WAKE will now flash and current time and temperature setting will be shown.
5. Press ✓ to alter WAKE settings
6. Use the ◄ / ► keys to set the hours
7. Press ✓ to confirm
8. Use the ◄ / ► keys to set the minutes
9. Press ✓ to confirm
10. Use the ◄ / ► keys to set the temperature
11. Press ✓ to confirm the settings
12. Press the > arrow key

LEAVE will now flash and the current settings will be displayed.
13. Press ✓ to alter LEAVE settings
14. Repeat these steps to set all comfort levels.
15. For any unused periods set time to ––:––
16. Use the < / > keys to scroll to DONE and press ✓
Temperature control

1. The \( \downarrow/\uparrow \) keys allow you to adjust the set temperature. When you press either key, you will see the word SET and the desired temperature value. Use the \( \downarrow/\uparrow \) keys to adjust the SET value.

2. Press \( \checkmark \) to confirm settings and return to the main display.

Note: This new temperature is maintained only until the next programmed comfort level. At this time, the thermostat will revert back to the programmed levels.

Temperature hold

The temperature hold function allows you to manually override the current operating program and set a different temperature for a desired period.

1. Use the \( \downarrow/\uparrow \) keys to scroll to HOLD
2. Press \( \checkmark \) to confirm selection
3. Use the \( \downarrow/\uparrow \) keys to set the desired Hold period
4. Press \( \checkmark \) to confirm selection
5. Use the \( \downarrow/\uparrow \) keys to set the desired Hold temperature
6. Press \( \checkmark \) to confirm selection

You will see the HOLD LEFT indication is displayed on screen. The time will countdown the set duration and then revert to the normal program.

To cancel a temperature Hold, with hold selected on the main menu, press the \( \checkmark \) key and then press tick again while Cancel is highlighted.

Locking the neoStat

The thermostat has a keypad lock facility. To activate the lock follow these steps:

1. Use the \( \downarrow/\uparrow \) keys to scroll to HOLD & press \( \checkmark \) for 10 seconds.
2. The display will show 00:00 and you will need to set a four digit pin number.
3. Use the \( \downarrow/\uparrow \) keys to enter the first two digits
4. Press \( \checkmark \) to confirm
5. Use the \( \downarrow/\uparrow \) keys to enter the second two digits
6. Press \( \checkmark \) to confirm

The display will return to the main screen and display the keypad lock indicator.

Note: The keypad lock indicator is only displayed when the lock is active.

Unlocking the neoStat

To unlock the neoStat press \( \checkmark \) once. The display will show 00:00 and you will need to enter the four digit pin number you set previously.

1. Use the \( \downarrow/\uparrow \) and \( \checkmark \) keys to enter the first two digits
2. Use the \( \downarrow/\uparrow \) and \( \checkmark \) keys to enter the second two digits

The display will unlock and return to the main screen.

Frost mode

1. Use the \( \downarrow/\uparrow \) keys to scroll to the POWER icon. The FROST icon will toggle ON/OFF each time \( \checkmark \) is pressed.

In this mode, the neoStat will display the frost icon and will only turn the heating ON should the room temperature drop below the set frost temperature (see pages 13–14).

If the heating is turned ON whilst in frost mode, the flame symbol will be displayed.

To cancel the frost protect mode, navigate to the POWER button again and press \( \checkmark \).
Power ON/OFF
The heating is indicated ON when the flame icon is displayed.
When the flame icon is absent, there is no requirement for heating to achieve the set temperature but the neoStat remains active.

1 To turn the neoStat off completely, scroll to the POWER icon and hold the key for approximately 3 seconds until the display goes blank.

The display and heating output will be turned OFF.

2 To turn the thermostat back ON, press the key once.

Holiday
In thermostat mode, the HOLIDAY function reduces the set temperature in your home to the frost protection temperature setting (see pages 13–14).

In time clock mode, the holiday function maintains the timed output as OFF. The thermostat will maintain this setting for the duration of the holiday and will then automatically return to the program mode on your return.

In time clock mode, the holiday function maintains the timed output as OFF. To set a date and time for the holiday period to end, use the steps below:

1 Use the keys to scroll to HOLIDAY and press
2 Use the keys to set the Year and press
3 Use the keys to set the Month and press
4 Repeat the steps to set the Date and Time
5 Press to confirm selection

Note: The holiday period will start immediately, and will return to the normal program at the time and date you have configured.

To cancel:

6 Use the keys to scroll to HOLIDAY and press
7 CANCEL will be highlighted, press to cancel

Adjusting the Optional Settings (see table opposite)
To adjust the settings, follow these steps:

1 Use the keys to select POWER
2 Press and hold the for 3 seconds
3 SETUP will be highlighted, now press once
4 Use the keys to scroll through features
5 Use the keys to adjust the setting within each feature
6 Press to confirm and exit setup menu
### OPTIONAL FEATURES EXPLAINED

The following settings are optional and in most cases need not be adjusted.

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>DESCRIPTION</th>
<th>SETTING</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Pairing to neoHub+</td>
<td>Used to add zone to neoHub</td>
<td>Used to connect the thermostat to the neoHub</td>
</tr>
<tr>
<td>02</td>
<td>Switching differential</td>
<td>00.5 = 0.5°C, 01 = 1.0°C (Default), 02 = 2.0°C, 03 = 3.0°C</td>
<td>Allows you to increase the switching differential of the thermostat. The default is 1°C – with a set temperature of 20°C, the thermostat will switch the heating on at 19°C and off at 20°C.</td>
</tr>
<tr>
<td>03</td>
<td>Frost protection temp.</td>
<td>07˚–17˚C (12˚C = default)</td>
<td>The temperature maintained when the thermostat is in Frost Mode.</td>
</tr>
<tr>
<td>04</td>
<td>Output delay</td>
<td>00 – 15 Minutes; (00 = Default)</td>
<td>To prevent rapid switching, an output delay can be entered. This can be set from 00 – 15 minutes.</td>
</tr>
<tr>
<td>05</td>
<td>Up/Down Temp limit</td>
<td>00˚ – 10˚C; (00 = Default)</td>
<td>Limit the use of the up and down temperature arrow keys. This limit is also applicable when the thermostat is locked and so allows you to give others limited control over the heating system.</td>
</tr>
<tr>
<td>06</td>
<td>Sensor selection</td>
<td>00 = Built in Sensor (Default), 01 = Remote Air Sensor, 02 = Floor Sensor Only, 03 = Built in &amp; Floor Sensor, 04 = Remote Air &amp; Floor Sensor</td>
<td>Selects the active sensors. Select between air temperature, floor temperature, or both. When both sensors are enabled, the floor sensor is used as a floor limiting sensor to prevent the floor from overheating.</td>
</tr>
<tr>
<td>07</td>
<td>Floor temp limit</td>
<td>20–45˚C (28˚C default)</td>
<td>Available when feature 06 is set to 03 or 04. Set to the required floor temperature limit (see instructions on page 10).</td>
</tr>
<tr>
<td>08</td>
<td>Optimum Start</td>
<td>00 – 05 Hours; (00 = Default)</td>
<td>Delays the start up of the heating system to the latest possible moment to avoid unnecessary heating and ensure the building is warm at the programmed time. The thermostat uses the rate of change information to calculate how long the heating needs to raise the building temperature 1°C and starts the heating accordingly.</td>
</tr>
<tr>
<td>09</td>
<td>Rate of change</td>
<td>Minutes to raise by 1˚C</td>
<td>This setting is calculated by the thermostat. Number of minutes for 1˚C temperature rise.</td>
</tr>
<tr>
<td>10</td>
<td>Cool enable</td>
<td>Not used on this model</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Cool set temp</td>
<td>Not used on this model</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Program mode</td>
<td>00 = Non – Programmable, 01 = Weekday/Weekend (Default), 02 = 7 Day Programming, 03 = 24 Hour Mode</td>
<td>Weekday/ Weekend – 4 comfort levels for the weekday and 4 different comfort levels for the weekend. 7 Day Program Mode – Each day has 4 comfort levels that can be programmed independently. 24 Hour Mode – All days are programmed the same and repeat continuously.</td>
</tr>
<tr>
<td>13</td>
<td>Temperature format</td>
<td>00 = ºC, 01 = ºF; (00 = Default)</td>
<td>Select between ºC and ºF.</td>
</tr>
</tbody>
</table>
Re-calibrating the thermostat

Warning: The thermostat must be fixed in a wall. When re-calibrating the thermostat avoid warming it with your hands or breath, as this will cause an inaccurate setting.

To re-calibrate the thermostat, follow these steps:
1. Use the < / > keys to scroll to the POWER icon
2. Press and hold ✓ to turn the display OFF
3. Press and hold the ✓ and ◄ keys together for 10 secs
4. The current temperature will appear on the display.
5. Use the ◄ / ► keys to configure the new temperature value
6. Press the ✓ key to confirm change and the display will go blank
7. Press the ◄ arrow to highlight the POWER icon
8. Press the ✓ key once to turn the thermostat ON

Factory reset

To reset the device to factory default settings, follow these steps:
1. Use the < / > keys to scroll to the POWER icon
2. Press and hold the ✓ key to turn the display OFF
3. SETUP will be highlighted
4. Press and hold the ✓ key for 10 seconds. All of the icons on the display will appear for 2 seconds, then the number 1 or 2 will flash.
5. Use the < / > keys to scroll between modes (selection will flash)
   - Mode 1 = Thermostat
   - Mode 2 = Time Clock
4. Press the ✓ key to confirm selection
   The thermostat will revert to the main display screen for the selected mode.
   Note: Factory reset will cancel all parameters that were entered during the set-up and pairing operations. These processes must be repeated after factory reset is completed.
Mode Select

The neoStat can either be used as a thermostat or a time clock. Thermostat mode is the default setting.

To change between THERMOSTAT or TIME CLOCK modes, follow these steps:

1. Use the < / > keys to scroll to the POWER icon
2. Press and hold the ✓ button for 3 seconds
3. SETUP will be highlighted. Now press and hold the ✓ button for 10 seconds
4. Use the < / > keys to scroll between modes
   Mode 1 = Thermostat
   Mode 2 = Time Clock
5. Press the ✓ key to confirm selection

The neoStat will revert to the main display screen for the selected mode.

For time clock mode instructions, first pair the time clock with the neoHub as explained on page 8, then turn to page 33.
Mode 2
Time clock operation

DISPLAY SYMBOLS AND FUNCTIONS

OPTIONAL FEATURES EXPLAINED

Feature 01 – Pairing To neoHub: This function is used to connect the time clock to neoHub+.

Feature 02 – Weekday/Weekend (5/2), 7 Day Programming or 24 Hour Mode:
The time clock offers three programming methods:
Weekday/Weekend (5/2) – Allows you to program 4 on/off switching times for weekdays and 4 on/off switching times for the weekend.
7 Day Program Mode – Each day has 4 on/off switching times that can be programmed independently.
24 Hour Mode – All days are programmed with the same on/off switching times.

OPTIONAL SETTINGS – FEATURE TABLE

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Pairing</td>
<td>Used to pair to the neoHub+</td>
</tr>
<tr>
<td>02</td>
<td>Program mode</td>
<td>01 = Weekday/Weekend Programming (Default)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>02 = 7 Day Programming</td>
</tr>
<tr>
<td></td>
<td></td>
<td>03 = 24 Hour Mode</td>
</tr>
</tbody>
</table>
Setting the switching times
To program the switching times, follow these steps:
1. Use the < / > keys to scroll to EDIT and press ✓
2. Use the < / > keys to select day/period of the week
3. Press ✓ to confirm selection
   1 will now flash and the current ON time will be displayed. The OFF time can be viewed by pressing the ✓ key.
4. Select a switching time and press the ✓ key
5. Use the 6 / 5 keys to select ON time HOURS and press ✓
6. Use the 6 / 5 keys to select the ON time MINUTES
7. Press ✓ to confirm selection
8. Use the 6 / 5 keys to select OFF time HOURS and press ✓
9. Use the 6 / 5 keys to select the OFF time MINUTES
10. Press ✓ to confirm selection
11. Press the > arrow key
12. 2 will flash and current ON time will be displayed.
13. Repeat the steps above to set all periods. For any unused periods enter -- : --
14. When complete, use < / > keys to scroll to DONE
15. Press ✓ to confirm all changes

Timer override
To override the TIMED OUTPUT ON, follow these steps:
1. Use the 6 / 5 keys to set the override duration, e.g. 02:00 hours
2. Press ✓ to confirm settings and return to main display
HOLD LEFT and the remaining time will now be displayed.
General system checks

The expansion vessel and filling loop is usually positioned near the boiler.

System pressure
The majority of heating systems are sealed and include an expansion vessel which maintains the system pressure. This red vessel would normally be found positioned near to the boiler.

If you have a combination boiler or system boiler the main pump and expansion vessel will be inside the boiler. The best way to identify this is that the boiler will have a pressure gauge on its panel.

You will need to check the system pressure regularly as it is normal for a system to lose a small amount of pressure. The gauge should read approximately between 1 and 2 bar depending on whether the system is cold or hot.

If the pressure is below 1 bar, top the pressure up to 1 bar by opening the valve on the filling loop connected to the red vessel (or boiler if no red vessel is fitted). Only top up when the system is cold. If your system rapidly looses pressure you need to consult a heating engineer.

If there is no red expansion vessel or gauge on the boiler then your system is not sealed but open vented and will be topped up automatically by a feed tank and ballcock in the loft.

Adjust the temperature of the boiler water by turning the boiler control thermostat.

Never set the boiler water temperature lower than the cylinder thermostat.

Boiler thermostat
The temperature of water generated by your boiler is altered by adjusting the boiler control thermostat dial.

If you have a hot water cylinder it is important that the boiler water temperature is always at least 5 °C above the temperature of your cylinder thermostat.
General sequence of operation

Every time heat is required in a room the following sequence is initiated:

If the heating is in an on period and the room requires heating, the room thermostat will call for heat:

1. A flame symbol will appear on the display.
   The floor pump, either on the Optiflo manifold serving that zone, or on the remote-mounted pump module will be switched on.
   The actuator on the Optiflo manifold circuit connected to the zone will open, indicated by the button on top of the actuator head rising.

   The flow gauge on this circuit will indicate flow and the flow pipe will get warm.
   Over a period of time as the room comes up to temperature, the return pipe will warm up as well.

   For standard systems with conventional boilers/cylinders or combination boilers the boiler and boiler pump are turned on to supply and circulate heat.

MANIFOLD COMPONENTS

1. Flow gauges
2. Flow temperature gauge
3. Flow adjustment
4. Pressure gauge
5. Filling/drain off valve
6. Actuators
7. Manual air vent
8. Return temperature gauge
9. Floor heating pump (direct mounted)
10. Main isolating valve (return)
11. Main isolating valve (flow)
12. Temperature blending valve

Note: Pump may be mounted directly or installed remotely.
Seasonal adjustments

Underfloor heating can be left active all year round as it is thermostatically controlled by the room temperature. In warm weather it will simply not come on.

If you require to turn the heating off (for example when servicing) always use the main heating isolation switch.

**Leaving the property unoccupied in winter**

Rather than turning the heating system off, it is possible to leave background heating on as frost protection.

Each room/zone can be set to frost protection individually. Please refer to the instructions (Frost Protection on page 11), which detail how the thermostat can be put into a hold mode and the required frost protection temperature adjusted.

**Instant hot water and heated towel rail**

Hot water and heated towel rails will be available all year round regardless of your requirement for underfloor heating.
Geo-Location

UNDERSTANDING & SETTING UP GEO-LOCATION

Geo Location is a feature that makes use of a smart phone’s location services to turn the heating off when the homeowner is out and back on for their return.

It works by the setting of a Leave and Return Trigger distance along with a required temperature. When the triggers are activated, Neo will automatically adjust the temperature in the home. It also works with multi users, so will only adjust the heating when the last person leaves and the first person arrives home.

Ideal uses for the Geo Location

- Automatically turn the heating off when you’re out, perfect for weekends when you may have your heating programmed to be on all day.
- Always return to a warm home. For those occasions when you return home outside a programmed heating period, Geo Location will automatically turn the heating on and then turn it off when you leave.

Note: Geo-Location works well for radiators and for LoPro™Max, which respond quickly. However, for other UFH floor constructions, with longer response times, Geo-Location will not necessarily give the desired performance and comfort.

1. Select Geo Location
2. Turn on Geo Location
3. Work through the settings to Configure
4. Press Home Location to locate your home.
5. Press Selected Rooms, ✓ the applicable rooms
6. Enter the Leaving Trigger Distance
7. Enter the Return Trigger Distance
8. Enter the Leave & Return Temperatures

Things to remember

1. Account per User – To use Geo Location – each user in the home must have their own Share Account.
2. Enable Location Services – Geo Location uses your phones location services, so you must have this enabled for the Geo Location feature to work.
3. Enable WiFi – Geo Location uses WiFi to get a more accurate lock on your position. Your phone doesn’t need to be connected to a WiFi network for this to work, your phone will constantly scan available networks and use this data to more accurately determine your location.
4. Last Out – First Home – Remember that Geo Location will only turn the heating off when the last person has left and back on when the first person arrives home. You will receive a notification on your phone if the temperature in your home has been adjusted because of your location.
5. Location Services – If you setup a 1 mile leave trigger, your phone will send a signal to your neoHub+to reduce the temperature in your home once your phone’s location services indicates to the neoApp that you have passed this point. Your phone will determine how often to update your location – it does this to reduce the impact on battery performance. Therefore, you should expect a slight delay after passing the trigger point before Neo adjusts the temperature in your home.

Privacy

- Neither Nu-Heat nor the manufacturer ever knows or stores your home location or your current position.
- Only your mobile phone knows your home location and your current position. Using this data it calculates when you have passed the configured trigger points.
- The state (Home/Away) is stored on the neo Server per user, and this is used to calculate when everyone has left home therefore allowing neo to reduce the temperature or to calculate when the first person is arriving home.

For more information visit www.nu-heat.co.uk
System adjustments

If additional heat is required in a selected room or rooms the water flow rate(s) serving these areas can be increased.

To adjust flow rates on the flow gauge (see diagrams below):

a. Remove red collar
b. Undo the black locking nut
c. Adjust the flow rate as required, by turning the gauge with the red ‘key’
d. Re-tighten the black locking nut
e. Replace red collar
f. Zone can be isolated by winding flow gauge all the way down
g. Re-open zone by winding flow gauge up until stopped by the locking nut

Note: Adjust a little at a time to suit your requirements. Increasing the flow to one zone may decrease the flow to others. There is a limit to how much extra flow can be achieved and if, after adjusting one or several zones, further action is required the flow temperature can be increased.

To do this:-
With the system running note the water flow temperature on the gauge (3) on the top rail of the manifold. This temperature can be increased (see 4a and 4b below).

Note: Adjust a little at a time to suit your requirements.

Remote pump module (4b)
To increase the temperature:

1. Push the button above the illuminated display in and across to the right to scroll to the temperature menu.
2. Adjust the temperature by pushing the button to the left or right.
3. Press the button again to confirm the change.

Direct-mounted pump module (4a)
To increase the temperature:

1. Turn the control head anticlockwise

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Servicing requirements

MONTHLY

Check the expansion vessel water pressure as displayed on the gauge, the pressure should normally be between 1 bar and 2 bar depending on whether the system is cold or hot.

Please refer to the System Checks section (page 18) for further information.

ANNUALLY

Underfloor heating

Whilst there is no requirement for annual servicing it is important that the level of central heating inhibitor is sufficient to protect the system.

Energy efficiency (ErP)

The neoStat is rated as Class I under Section 5.2.1.2 Temperature control, of EU Commission Delegated Regulation No. 811/2013.

Product support

For further information on the operation of your underfloor heating system and also troubleshooting help, please visit the Nu-Heat website at nu-heat.co.uk.