

heatmiser®



Model: neo Ultra

Model: neo Ultra





Table Of Contents

Product Image	1	Zones	21-22
Table of Contents	2	Profiles	23-24
What is a Programmable Room Thermostat?	3-4	neoPlug	25-26
Installation Procedure	5-6	Optional Features	27-29
Mode Select	7	Feature Menu Options	30
Pairing the neoHub	8	Re-calibrating the Thermostat	31
Pairing the neoUltra	9	Error Codes	31
What is a Mesh Network?	9	History	32
Mode 1 - Thermostat	10	Factory Reset	33
Main Display	11	Wiring Diagrams	34-36
Setting the Time & Date	12	Mode 2 - Time Clock	37
Comfort Levels Explained	13-15	LCD Display	38
Temperature Control	16	Setting the Switching Times	39-40
Temperature Hold	17	Timer Override	41
Locking/Unlocking the neoUltra	18-19	Optional Features Explained	42
Standby	19	Feature Menu Options	43
Away	20	Wiring Diagrams	44-46



What is a Programmable Room Thermostat?

A programmable room thermostat is both a programmer and a room thermostat.

A programmer allows you to set “On” and “Off” periods to suit your own lifestyle.

A room thermostat works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

So a programmable room thermostat lets you choose what times you want the heating to be on, and what temperature it should reach while it is on. It will allow you to select different temperatures in your home at different times of the day (and days of the week) to meet your particular needs and preferences.

Setting a programmable room thermostat to a higher temperature will not make the room heat up any faster. How quickly the room heats up depends on the design and size of the heating system.

Similarly reducing the temperature setting does not affect how quickly the room cools down. Setting a programmable room thermostat to a lower temperature will result in the room being controlled at a lower temperature, and saves energy.

The way to set and use your programmable room thermostat is to find the lowest temperature settings that you are comfortable with at the different times you have chosen, and then leave it alone to do its job.

The best way to do this is to set the room thermostat to a low temperature – say 18°C, and then turn it up by 1°C each day until you are comfortable with the temperature. You won't have to adjust the thermostat further. Any adjustment above this setting will waste energy and cost you more money.

You are able to temporarily adjust the heating program by overriding or using the temperature hold feature. These features are explained further on pages 16 and 17 of this manual.

Programmable room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may also prevent the thermostat from working properly.



Installation Procedure



Do

Mount the thermostat at eye level.

Read the instructions fully so you get the best from our product.



Don't

Do not install near to a direct heat source as this will affect functionality.

Do not push hard on the LCD screen as this may cause irreparable damage.

The neoUltra is designed to be flush mounted and requires a back box of 35mm (minimum depth) to be sunk into the wall prior to installation.

Step 1

Remove the screw from the bottom face of the thermostat then carefully separate the front half from the back plate.

Step 2

Place the thermostat front somewhere safe.

Terminate the thermostat as shown in the diagrams on pages 34-36, 44 & 45 of this booklet.

Step 3

Screw the thermostat back plate securely into the back box.

Step 4

Clip the front of the thermostat onto the back plate, securing it in place with the retaining screw.

1



2



3



4





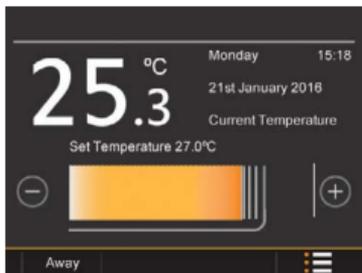
Mode Select

neoUltra 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.

- Press the menu icon
- Select 'Settings' followed by 'Feature Set-up'
- Swipe down to feature 10, "Device Type" then tap to select.....
- Tap the UP/DOWN keys to toggle between "Thermostat" & "Time Clock"
- Press "Save" to store the chosen configuration
- Repeatedly press the back button until you return to the main screen



Please note, that the Mode must be selected before joining a network!



Pairing the neoHub

To pair the neoHub with the neoApp, follow these steps.

- Connect the power supply to the neoHub.
- 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 once the neoHub has connected to your network.
- Connect your smartphone or tablet device to the same WiFi network as your router.
- Download the FREE Heatmiser neoApp from the Apple App Store or Google Play Store and register an account.
- Once you have registered your account, press the Login button then press the Add Location option.
- Press the connect button on the neoHub to add the location to your account.
- When successfully connected, enter a title for the new location (e.g. Home) and configure the time zone for the system.



Pairing the neoUltra

The next step is to join the neoUltra to the neoHub, we recommend joining the neoUltra or neoStat located nearest to the neoHub first.

To add a neoUltra, follow these steps;

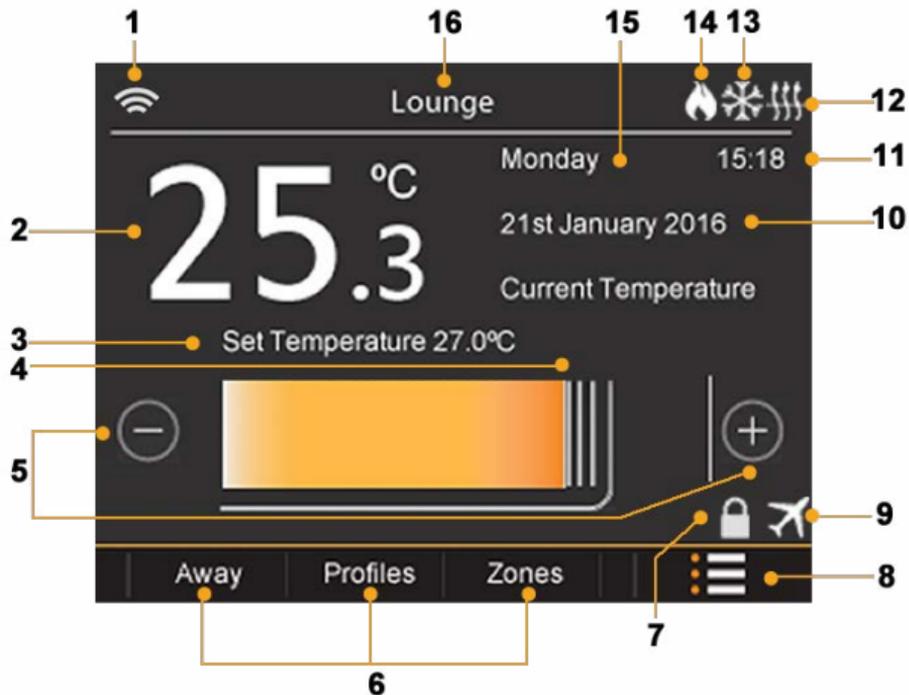
- Press the menu icon 
- Select 'Settings' followed by 'Network'  
- Tap "Start" 
- If network pairing is successful a message will appear saying "Connected" 
- The thermostat will automatically return to the main screen showing the room title at the top.
- As the Ultra is now part of the network "Profiles" and "Zones" now show on the base menu (main screen).



What is a Mesh Network

neoUltra works using a mesh network, meaning neoUltra's have the ability to send & 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.

1 Thermostat Mode



Sample showing network connected.

Main Display

1. Mesh Symbol - Displayed when connected to the neoHub.
2. Temperature – Displays the current sensor temperature in Celsius or Fahrenheit.
3. Set Temperature – Indicates current target temperature.
4. Set Temperature Bar – Shows current and set temperature. Swipe across the bar to set a required room temperature.
5. Set Temperature Keys – To fine tune the set temperature.
6. Short Cut Tabs – Bypasses the main menu for quick access to the “Away, Profiles, and Zones” feature.
7. Keypad Lock Indicator – Displayed when the screen is locked.
8. Menu Key – To access the ‘Main Menu’ and ‘Settings’.
9. Holiday – Displayed when the thermostat is in holiday mode.
10. Date Indicator – Shows current date (Day/Month/Year format).
11. Clock – Displays current time (24 hour format).
12. Floor Limit Symbol – Displayed when the floor sensor probe has reached the upper and lower temperature limits selectable within the ‘Setup Menu’.
13. Frost Protection – Displayed when Away/Standby modes are active.
14. Flame Symbol – Displayed when the thermostat is calling for heat and flashes when optimum start is active.
15. Day Indicator - Displays the day of the week.
16. Room Indicator - Displays the room title once paired to a network via the neo app.

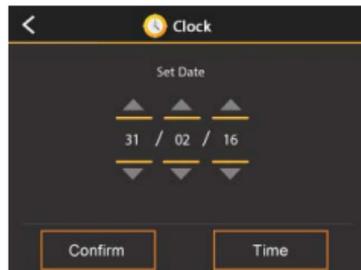
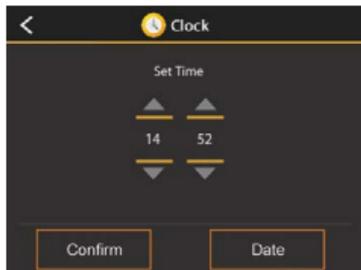


Setting the Time and Date

Note: When the neoUltra is paired with the neoHub, the time & date settings are automatically synchronised according to the location's time zone setting.

To set the clock, follow these steps.

- Press the menu icon 
- Select 'Settings' 
- Press 'Clock' 
- Repeatedly tap the Up/Down arrow keys to set hours and minutes 
- Press "Date" 
- Repeatedly tap the Up/Down arrow keys to set DD/MM/YY 
- Press "Confirm" to save or tap the back key to exit without saving 





Comfort Levels

The neoUltra offers three program mode options; Weekday/Weekend programming, 7 Day programming and 24 Hour programming.

You also have the option to use the neoUltra in Non-Programmable mode.

This unit is supplied with comfort levels already pre-programmed, but these can be changed easily. The default times and temperature settings are;

07:00 - 21°C (Wake) 09:00 - 16°C (1) 16:00 - 21°C (2) 22:00 - 16°C (3) --:-- -- (4) --:-- -- (Sleep)

For Weekday/Weekend programming, the six 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 six different comfort levels.

In 24 Hour mode all days are programmed with the same comfort levels.

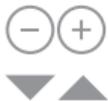
- To program the comfort levels, press the menu icon
- From the main menu select 'Edit'



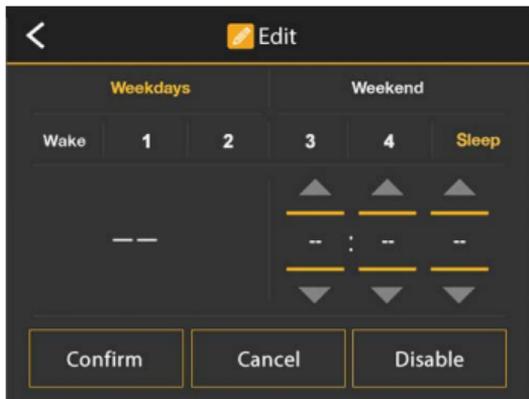
The 'Edit' screen will now show current selected with text highlighted in orange.



- Repeatedly tap the plus and minus keys to set the desired temperature for "Wake"
- Now tap the arrow keys to set Hours, Minutes and AM/PM for "Wake"
- Press the "1, 2, 3, 4, Sleep" tabs and repeat the above steps to set time and temperature for these levels.
- To set a level to unused, first select the comfort level then press the "Disable" key.....



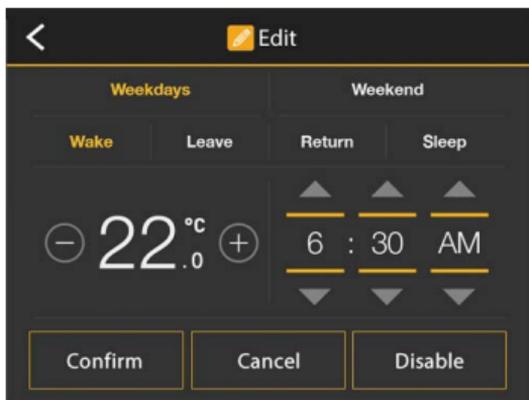
Disable



The "disabled" level will now show no temperature or timed information. This level will now be ignored and the thermostat will continue to maintain the previous pre-set comfort level.

- When complete press "Confirm" to store settings, alternatively you can press "Cancel" at any time to exit without saving..... or

neoUltra can be configured to support 4 'Comfort levels' when paired to a neohub. Via the neo app you can select the option for 4 'Comfort levels' and program them using the same method as setting 'Wake, 1, 2, 3, 4, 'Sleep'.

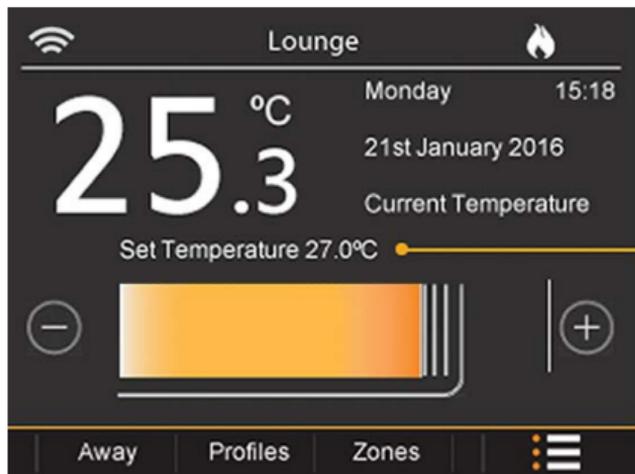


'Edit' screen showing 4 'Comfort Levels'



Temperature Control

- Swipe left or right across the set temperature bar to set your desired temperature
- Tap on the plus and minus keys to make minor adjustments to the set value.....



Set Temperature

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.

- To program a 'Temperature Hold', press the menu icon
- In the main menu press 'Hold'
- Continually tap the Up/Down keys repeatedly to set 'Hold Time & Temperature'
- Press "Confirm" to set configuration or press the back button to exit without saving



On the main screen you will now see the 'Hold' set temperature together with countdown time remaining. Once the set duration time has elapsed the thermostat will revert back to the normal program.



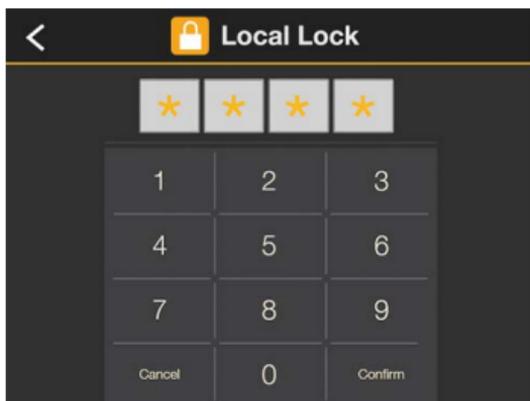
HOLD Indicator and hold time remaining.



Locking the neoUltra

The neoUltra has a screen lock facility. Once enabled the thermostat will prompt a 4-digit code entry before allowing access. To activate the lock, follow these steps.

- Press the menu icon.....
- Select 'Lock'.....



- Enter a 4 digit number followed by "Confirm"



The display will now revert back to the main screen with the addition of the lock icon.....





Unlocking the neoUltra

To unlock the neoUltra re-enter the 4 digit pin number used to enable lock.

- Touch any part of the display
- Re-enter the 4 digit pin and press "Confirm"



Confirm



Standby

In time clock mode; the timed output will be turned off during 'Standby', then return to the programmed settings once 'Standby' is cancelled.

In thermostat mode; the neoUltra will only turn the heating ON should the room temperature drop below its current frost setting, configured in the 'Feature Set-up' menu.

To enable Standby;

- Press the Menu icon
- Select 'Standby'
- Select between On or Off
- Press "Confirm" to set



Off

On

Confirm



Away

In time clock mode; the timed output will be turned off at the point 'Away' is enabled. Timed output will resume once 'Away' is cancelled or a set 'Away' duration has ended.

In thermostat mode; the 'Away' function will only turn the heating ON should the room temperature drop below its current frost setting, configured in the 'Feature Set-up' menu.

To enable 'Permanently Away';

- From the main screen press the 'Away' tab **Away**
- "On" is already highlighted Off On
- Press "Confirm" to set

To set an 'Away' period;

- From the main screen press the 'Away' tab **Away**
- Continually tap the Up/Down keys to set a number of days
- Press "Confirm" to set

The 'neoUltra' will now return to the main screen and show a snowflake symbol

To cancel 'Away';

- From the main screen press the 'Away' tab **Away**
- Press "Confirm" to set

The 'neoUltra' will now return to the main screen and will resume normal operations.

Note: 'Away' & 'Standby' modes both mean the 'neoUltra' is maintaining a lower temperature to give frost protection for an unlimited time.

'Away' would generally be used if a set number of days are applied, or the 'neoUltra' is used to set a global 'Away' to all zones on a networked system.

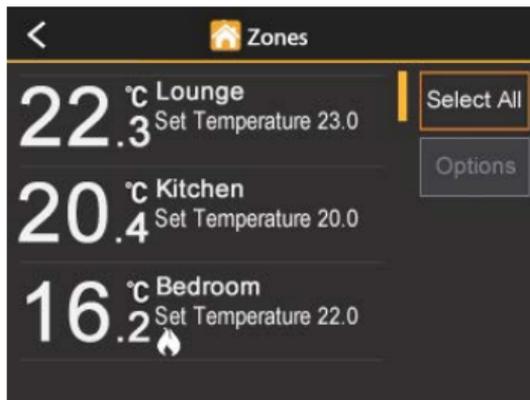


Zones

The neoUltra allows you to send commands to other devices on the network, called 'Zones'. These include; additional neoUltra units, neostat, neoStatHW, neoStat-E, neoAir & neoPlug.

To access these 'Zones';

- On the main screen tap 'Zones' from the shortcut menu **Zones**
The display will show as indicated.



- Tap on individual zones or choose 'Select All'



Note: selecting more than one device type is not allowed e.g. Thermostat & Plug or Thermostat and Timeclock. Once a certain device is selected the 'Select All' button (if pressed) will then include all of that device type on the network!

- A tick symbol will appear for each zone selected
- Tap 'Options'
- Now select one of the 4 different commands available via the pop-up menu



Options



Options for Thermostat and Time Clock

For information on how to use 'Edit, Hold, Lock & Away' commands please refer to previous sections of this manual.

- Once set, tap 'Confirm' to synchronise all pre-selected zones

Confirm



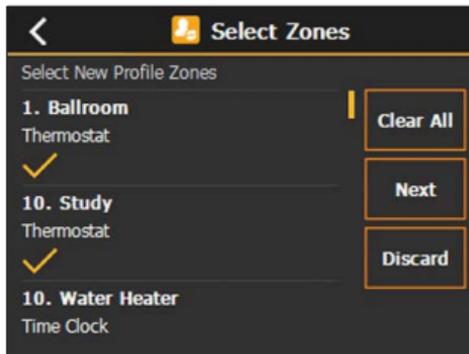
Profiles

Profiles allows you to store a series of comfort levels that will apply to a number of pre-selected thermostats which can be submitted at the required moment. Multiple profiles can be set up and labelled accordingly e.g. 'Winter' and 'Summer'. A thermostat will run a particular profile indefinitely or until a new profile is selected.

Note: Profiles are only available when the neoUltra is connected to a neoHub.

To set a Profile

- Tap 'Profiles' via the shortcut menu from the main display **Profile**
- Select 'New'
- Tap on 'New Profile' and enter the profile title using the pop up keyboard
- Tap 'Done' followed by 'Next'



- Tap on each required zone to be included in the profile.
A tick will appear to indicate selection ✓
- Tap 'Next'
- Now input the times and temperatures using the same method as entering 'Comfort levels'.
- Tap 'Confirm'. The new profile will now be displayed in the 'Profiles' menu
- From the main list select the pre-configured profile. A tick will appear ✓
- Now choose to either 'Run,' 'Edit' or 'Delete' the profile



neoPlug Access

neoPlugs can be accessed via the 'Zones' menu in the same way as the neo Thermostats and Timeclocks.

To access neo plugs on the system;

Manual On/Off

- On the main screen tap 'Zones' from the shortcut menu **Zones**
The display will show as indicated.

Tap here for manual On/Off control.



- Swipe up & down the display to find neoPlug/s on the system
- Tap the 'Power' Icon to toggle On/Off the plugs switched output



Program Options

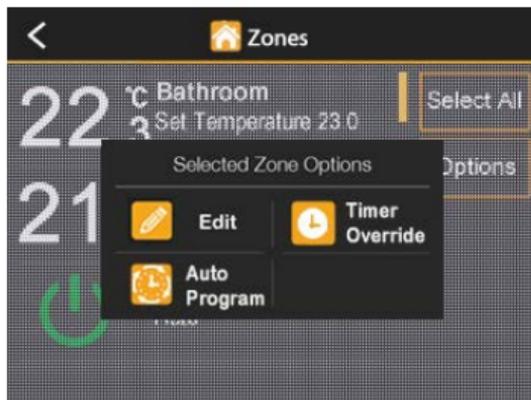
- Select one of the neoPlugs 
- Further tap on individual plug zones or choose 'Select All' for multi-zone programming 
- A tick symbol will appear for each zone selected 
- Tap 'Options' 
- Now select one of the 4 different commands available via the pop-up menu.

Options

Edit – Set 4 On/Off timed periods.

Timer Override – Override the plugs output On/Off for a limited duration.

Auto Program – Select between manual or timed operation.



Options for neoPlug operation

- Once set, tap 'Confirm' to synchronise all pre-selected plug zones..... 

See neoPlug manual for further operation.



Optional Features

THE FOLLOWING SETTINGS ARE OPTIONAL AND IN MOST CASES NEED NOT BE ADJUSTED

**NOTE: SOME FEATURES WILL NOT BE ACCESSIBLE WHEN THIS UNIT IS PAIRED TO A NETWORK!*

Differential: This function allows you to increase the switching differential of the thermostat. The default is 0.5°C which means that with a set temperature of 20°C, the thermostat will switch the heating on at 19.5°C and off at 20.0°C. With a 1°C differential, the heating will switch on at 19.0°C and off at 20.0°C.

Frost Temperature: This is the temperature maintained when the thermostat is in Frost Mode. The range is 07 - 17°C. The default is 12°C and is suitable for most applications.

Output Delay: To prevent rapid switching, an output delay can be entered.

This can be set from 00 - 15 minutes. The default is 00 which means there is no delay.

Up/Down Limit: This function allows you to 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.

Sensor Selection: On the neoUltra, you can select which sensor should be used. You can select between air temperature only, floor temperature, or both. When you enable both sensors, the floor sensor is used as a floor limiting sensor and is designed to prevent the floor from overheating.

Floor Temp Limit: This function is available when 'Sensor Selection' includes a remote floor sensor setting. You can set a floor limiting temperature between 20-45°C (28°C is the default setting).

Optimum Start: Optimum start (pre-heat) will delay 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 (with a rate of change of 20, the thermostat has calculated the heating needs 20 minutes to raise the building temperature 1°C) and starts the heating accordingly.

Rate of Change: Number of minutes for 1°C temperature rise (information only).

***Temperature Format:** This function is used to select between °C and °F.

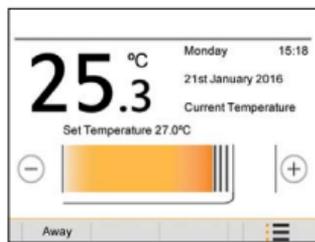
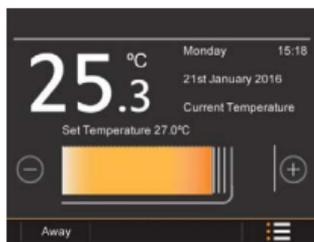
***Device Type:** This neoultra can either be used as a thermostat or a time clock.

Thermostat mode is the default setting.

***Program Mode:** neoUltra offers three programming modes and the option of configuring it to work as a non-programmable thermostat.

- Weekday/ Weekend - allows you to program 6 comfort levels for the weekday and 6 different comfort levels for the weekend.
- 7 Day Program Mode - Each day has 6 comfort levels that can be programmed independently.
- 24 Hour Mode - All days are programmed the same and repeat continuously.

Colour Theme: You can change the colour theme of the display to either Black or White.



To access the 'Feature Set-up' menu

- From the main screen, press the menu icon followed by 'Settings' then 'Feature Set-up' 
- Swipe Up/Down the display to scroll through the menu, then tap on the required feature 
- Customise the settings within the selected feature then tap "Save" 
- Alternatively tap "Discard" to exit without saving 
- Repeatedly tap the back button to return to the main display 



Feature Menu Options

Feature	Setting
Differential	0.5°, 1.0°, 2.0°, or 3.0° (1.0°C Default)
Frost Temperature	7° - 17°C (12°C Default)
Output Delay	00 - 15 minutes (00 Default)
Up/Down Limit	00° - 10°C (00°C Default)
Sensor Selection	Built In Air Sensor Remote Air Sensor Floor Sensor Probe Built In Air & Floor Sensor Probe Remote Air Sensor & Floor Sensor probe
Floor Temp Limit	20° - 45°C (28°C Default)
Optimum Start	1 - 5 Hours (Disabled Default)
Rate of Change	For Information only
*Temperature Format	°C or °F (°C Default)
*Device Type	Thermostat or Time Clock (Thermostat Default)
*Program Mode	24 Hours 5/2 Day 7 Day Non-Programmable
Colour Theme	Black or White (Black Default)



Re-calibrating the neoUltra

If you need to re-calibrate the neoUltra, follow these steps.

- From the main screen press the menu tab followed by 'Settings' then 'Calibrate'.....



- Tap the plus and minus keys to adjust the offset



- Tap save to store new settings



Error Codes

The neoUltra will display an error code if there is a fault with the temperature sensor, these error codes are explained below.

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.



History

neoUltra will show the total 'Hours Run' (heat demand) over a 24-hour period for up to 8 consecutive days. Once connected to a neoHub, neoUltra will also display run time for other neoStat's, neoStat HW's and neoplug's on the network.

To access the 'History' menu:

- From the main screen press the menu tab followed by 'History'.....



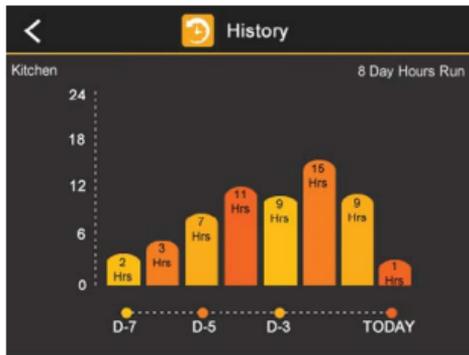
In standalone status, the 'History' will display here.

When connected to a network:

- Choose one of the devices from the menu by tapping on the room title, a tick appears to indicate selection
- Now tap 'Select'. This will take you directly into the history screen for that device.....



Select





Factory Reset

Resetting this device will delete all custom settings and remove itself from a neo network.

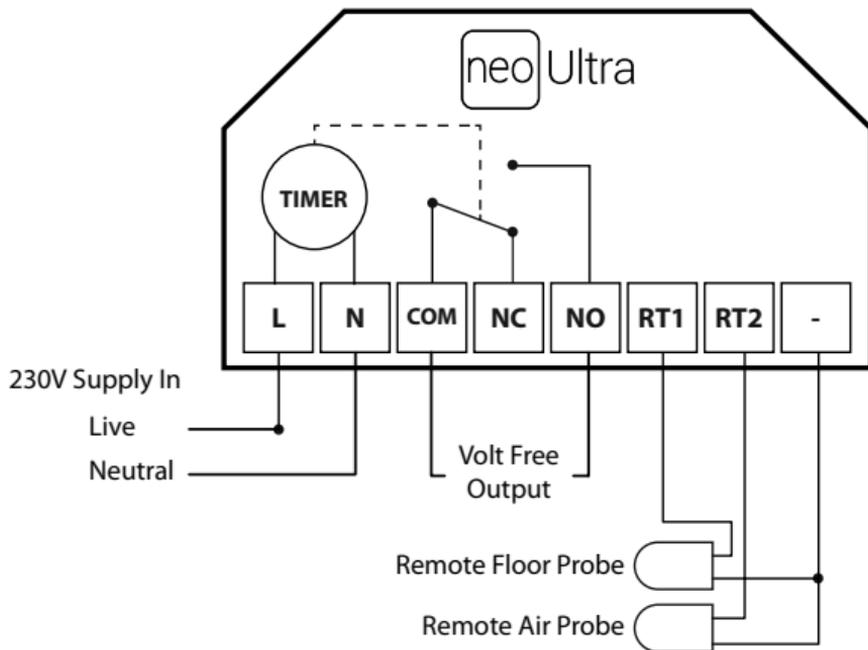
To reset the device to factory default settings, follow these steps:

- From the main screen press the menu tab followed by 'Settings'  
- Tap 'Re-set' 
- Tap 'Confirm' 

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.



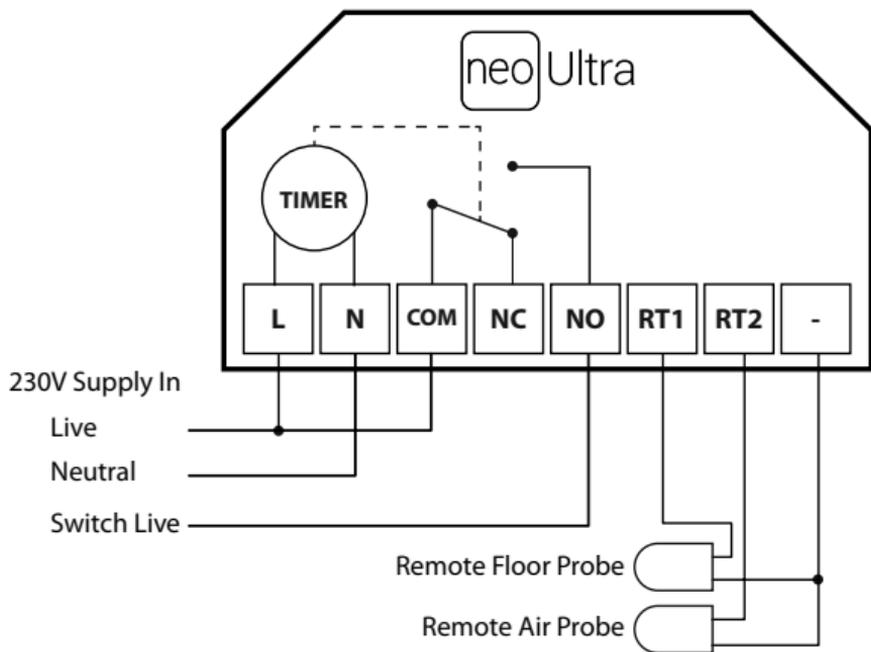
Wiring Diagram – Volt Free Output



This product must only be installed by a qualified electrician and comply with local installation regulations.



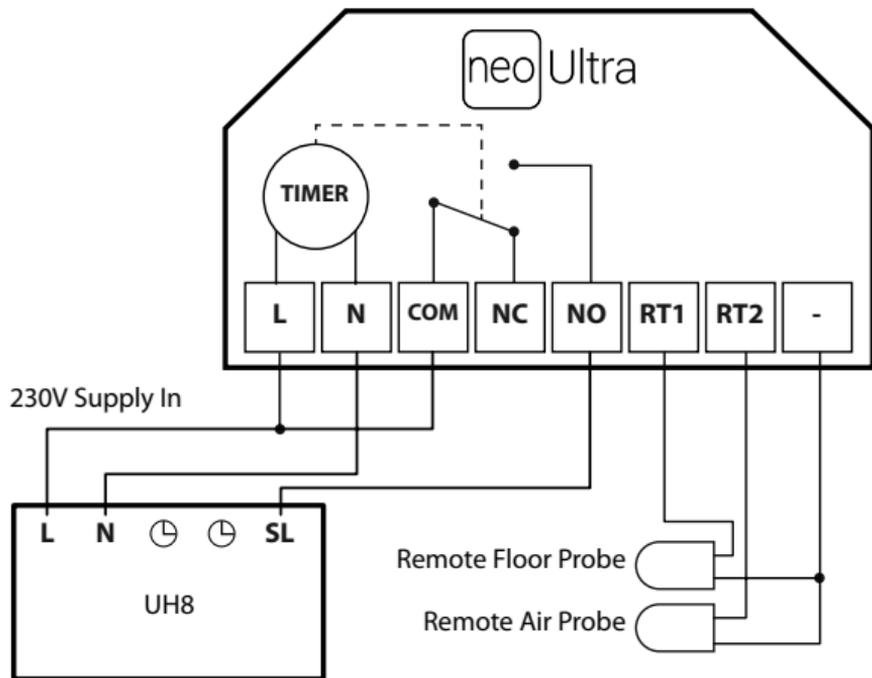
Wiring Diagram – Switch Live Output



This product must only be installed by a qualified electrician and comply with local installation regulations.

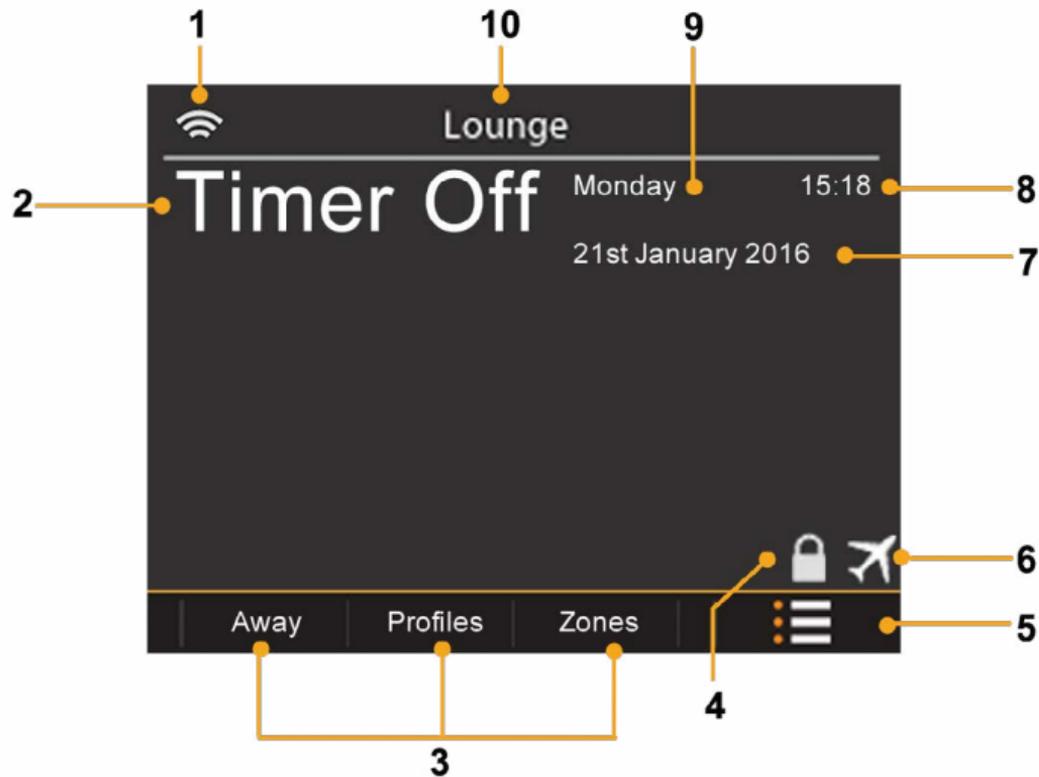


Wiring Diagram – Switch Live to UH8



This product must only be installed by a qualified electrician and comply with local installation regulations.

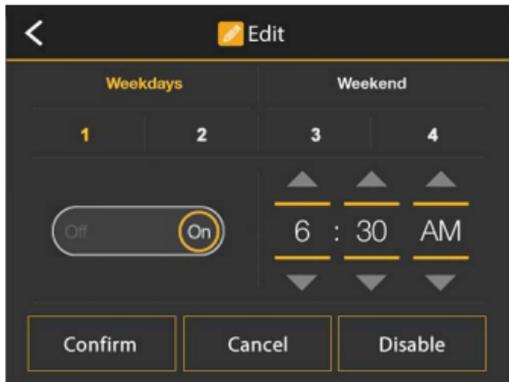
2 Time Clock Mode

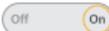
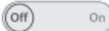


Main Display

1. Zone Indicator - Displays the zone title once paired to a network via the neo app.
2. Timer Status – Displays the current state of the timed output.
3. Short Cut Tabs – Bypasses the main menu for quick access to the “Away, Profiles, and Zones” feature.
4. Keypad Lock Indicator – Displayed when the screen is locked.
5. Menu Key – To access the ‘Main Menu’ and ‘Settings’.
6. Holiday – Displayed when the thermostat is in holiday mode.
7. Date Indicator – Shows current date (Day/Month/Year format).
8. Clock – Displays current time (24 hour format).
9. Day Indicator - Displays the day of the week

The 'Edit' screen will now show current selected with text highlighted in orange.



- "On" is already highlighted 
- Now tap the arrow keys to set Hours, Minutes and AM/PM for Time '1' On 
- To set Time '1' Off, first select 'Off' 
- Now tap the arrow keys to set Hours, Minutes and AM/PM for Time '1' Off 
- Continue to set 'Switching Times 2, 3 & 4' by repeating previous steps.
- To set an unused period, first select timer level 1,2,3 or 4 then press the "Disable" key 
- When complete press "Confirm" to store settings, alternatively you can press "Cancel" at any time to exit without saving  or 



Timer Override

To override the timed output on, follow these steps.

- From the main screen, press the menu icon 
- In the main menu press 'Hold' 
- Using the Up/Down keys select the desired hours and minutes..... 
- Press "Confirm" to set configuration or press the back button to exit without saving  or 

'Hold For' and the remaining time will now be displayed.



Optional Features

THE FOLLOWING SETTINGS ARE OPTIONAL AND IN MOST CASES NEED NOT BE ADJUSTED

**NOTE: SOME FEATURES WILL NOT BE ACCESSIBLE WHEN THIS UNIT IS PAIRED TO A NETWORK!*

***Device Type:** This neoultra can either be used as a thermostat or a time clock. Thermostat mode is the default setting.

***Program Mode:** neoUltra offers three programming modes and the option of configuring it to work as a non-programmable thermostat. (Non-programmable not available in time clock mode).

- Weekday/Weekend - allows you to program 4 On/Off switching times for the weekday and 4 different levels 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 the same and repeat continuously.

Colour Theme: You can change the colour theme of the display to either Black or White.



Feature Menu Options

Feature

*Device Type

*Program Mode

Colour Theme

Setting

Thermostat or Time Clock (Thermostat Default)

24 Hours

5/2 Day

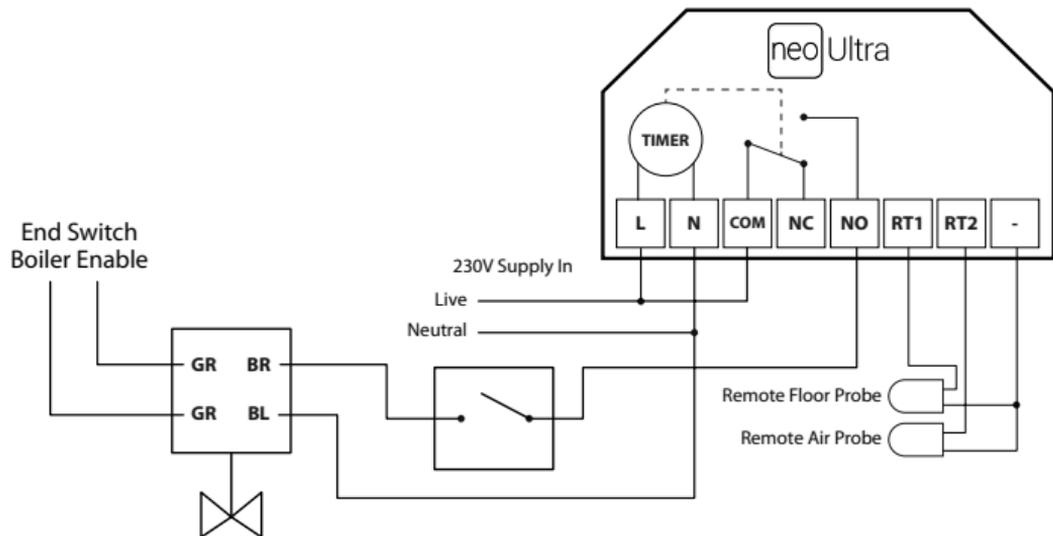
7 Day

Black or White (Black Default)



Wiring Diagram – Time Clock Mode

(S Plan)

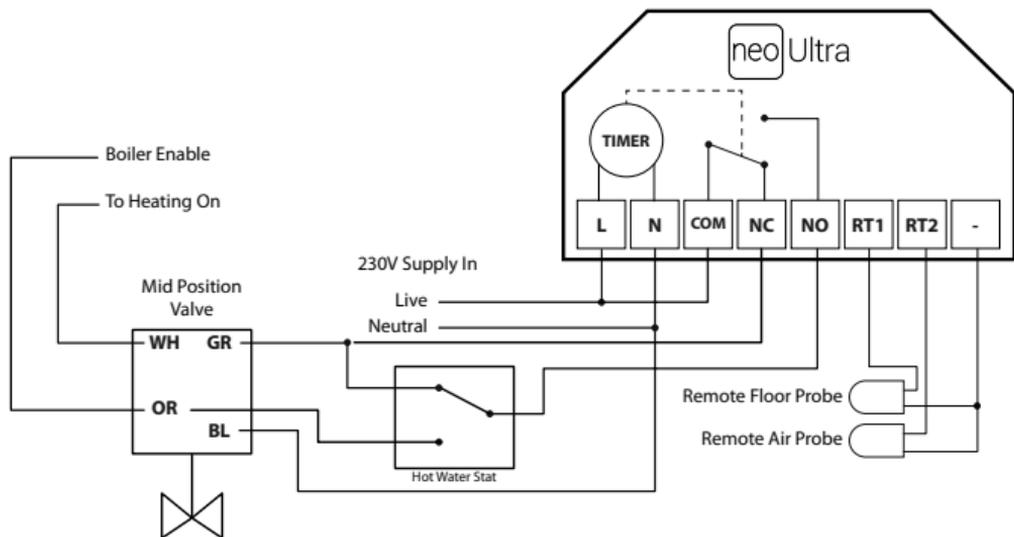


This product must only be installed by a qualified electrician and comply with local installation regulations.



Wiring Diagram – Time Clock Mode

(Mid Position Valve)



This product must only be installed by a qualified electrician and comply with local installation regulations.

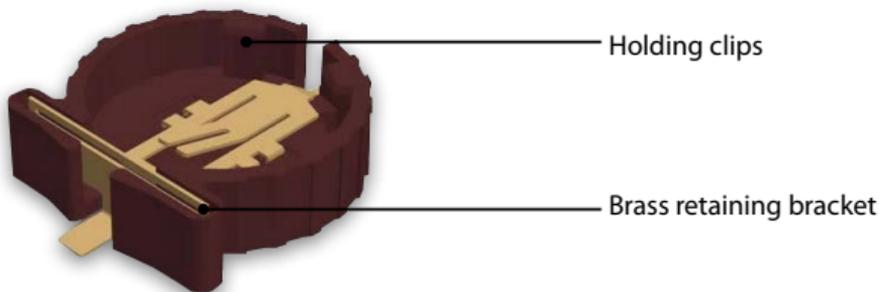


Replacing the Battery

In most cases the 3 volt lithium battery does not need replacing if the thermostat has a continual power supply. Its sole purpose is to ensure correct time keeping during a power loss to the thermostat.

To remove the battery use a small flat head screw driver or fingertip to push back the brass retaining bracket. This will automatically release the battery.

Insert the new battery (positive side up!) by locating one end underneath the holding clips then pushing down on the opposite end against the brass holding bracket.



We advise that replacement of the lithium battery be carried out by a qualified professional.



Want More Information?

Call our support team on: +44 (0)1254 669090

Or view technical specifications directly on our website:
www.heatmiser.com



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