

AIR TEMPERATURE CONTROL

Overview

In multi-zone systems, a thermostat is positioned in the room which is being heated and is set to the required temperature. Once the room gets up to the pre-set temperature, the thermostat will communicate with the wiring centre, which will close the actuator fitted on the manifold. This stops the flow of water around the underfloor heating or radiator manifolds circuit until there is a further heat demand from the thermostat. To offer ultimate comfort, Maincor advises the use of a separate circuit and thermostat for each room or occupied area, since the heat demands and losses will differ throughout the property depending on usage and external conditions. This principle can apply to both UFH and radiator systems.

Maincor offer a wide range of wired and radio controlled systems, including app enabled technology, meaning that room temperatures can be individually controlled, allowing for maximum flexibility, whilst increasing the energy efficiency of the building.

Wired Controls

The Maincor range of controls caters for customers various functionality and budgetary requirements; from simple dial thermostats, to programmable thermostats, all the way to state-of-the-art touch screen programmable thermostats.

Radio Thermostats

Battery operated radio control thermostats allow the customer the flexibility of wireless technology, a perfect solution for not damaging existing decoration. The Maincor range of programmable thermostats has both button and touch screen options available.

Neo Control Systems

The increasingly common use of smart phones and tablets has led to the development of 'app' controlled heating systems. The versatile advanced air temperature controls supplied by Maincor, allow for the control from a smart phone of multiple thermostats from anywhere in the world.

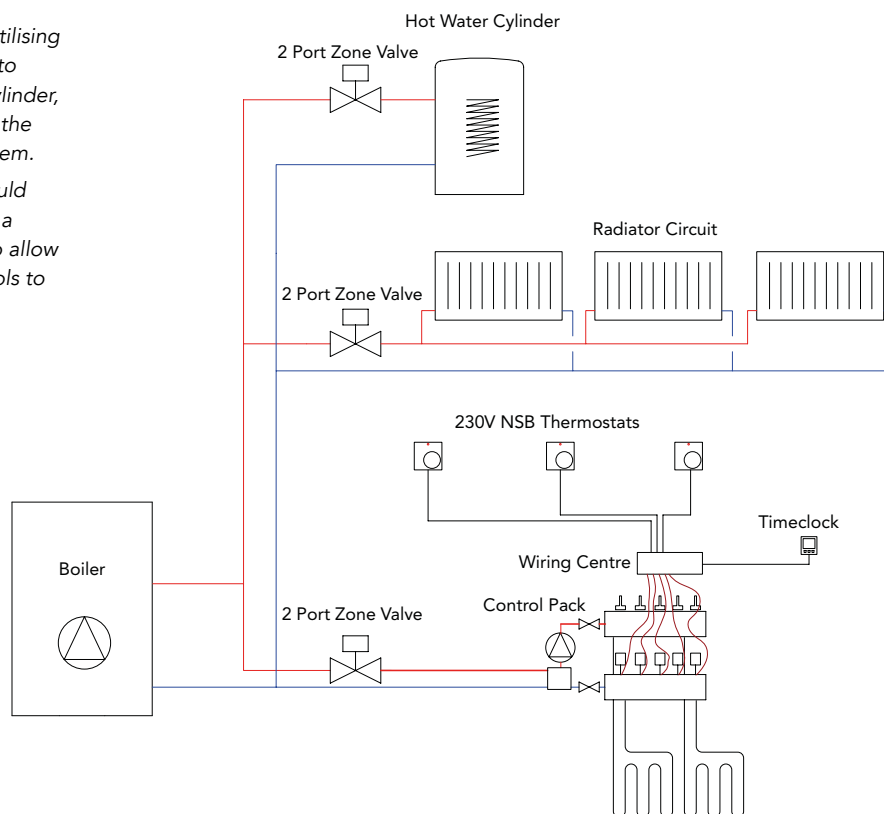
The Neo Thermostat has been designed to replace a standard mains powered thermostat and provides the ability to create a network system, with local and remote access, controlled via phone and tablet apps.

Why use Neo Controls

- **Energy Saving Optimum Start** - Ensures your home is warm when required.
- **Thermostats Controlled Via One Network** - The Neohub will automatically route the data around your property ensuring range is never an issue.
- **Smart Phone App** - Applications are available for iPhone/iPad, Android Tablets and Phones and Kindle Devices.
- **Thermostat Options** - The Neo Thermostat is available in Sapphire Black and Glacier White, and once installed is only 15mm deep and includes remote sensor options.

Typical S plan system utilising a port motorised zone to isolate the hot water cylinder, the radiator circuit and the underfloor heating system.

The radiator system could alternatively be fed via a distribution manifold to allow for sophisticated controls to be incorporated.





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Key Components - Hard Wired Controls

230V Night Setback Dial Thermostat



The 230V Thermostat has an adjustable Night Setback (NSB) feature from 2°C to 7°C (factory pre set 4.5°C). The temperature range can be limited, stopping accidental movement and includes terminals to add an optional remote sensor. The thermostat requires a 4 core plus earth cable if the NSB feature is to be utilised or 3 core plus earth if not.

Wi-Fi Thermostats



The Neo Control System uses a 3 core plus earth cable to send a demand signal from the thermostat to the 230V Wiring Centre. Data communication is managed via a wireless network. The Neohub should be plugged into a wireless router and this allows for the system to be controlled via Smart Phones or Tablets.

Time Clock



The Single Channel Time Clock is used to switch the UFH system on/off, or to operate night setback. (note, for use with Dial Thermostats - see above).

Wiring Centre



The 230V Wiring Centre has terminals to wire up to 8 thermostats (zones). The unit controls the operation of the Electro-Thermic Heads, the boiler and the Zone Valve. The unit is for use with all controls listed on this page.

230V Programmable Thermostat



The 230V Programmable Thermostat can work in 3 modes; to control the air temperature only, to control the air temperature and limit the floor temperature, or to only control the floor temperature. A floor sensor is included with each programmable thermostat and a 3 core plus earth cable is required.

Electro-Thermic Head



The manifolds are supplied with blue caps on the return manifold (bottom header) which isolate the return water. The blue caps can be removed to allow for either 24 or 240V electro-thermic heads to be fitted which open and close to control the flow of water around the heating circuits.

230V Touchscreen Programmable Thermostat



The 230V Touchscreen Programmable Thermostat offers control over the air temperature of the room where its situated, or remote sensing if the additional sensor is purchased. The thermostat requires a 3 core plus earth cable.

2 Port Zone Valve and Actuator



Maincor 2 Port Zone Valve and Actuator offers independent zone control. This normally closed valve can also activate the heat source via the volt free contacts.

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Night Setback Dial Thermostat and Time Clocks Overview and Quick Set-up



The 230V timeswitch is designed to switch the 230V Maincor NSB (Night SetBack) thermostats between full temperature and setback temperature. The timeswitch has 6 programmes which can be edited to suit the occupant requirements.

Night Set Back is recommended with underfloor heating as it will maintain a background temperature, even when the timeswitch states OFF. This ensures that the system can't cool excessively and reduces the heat up time.

The N/C switch live from terminal 5 of the timeclock is to be wired to "timeclock 1" on the UH8 wiring centre. Providing that this is done, when the timeswitch is "OFF", the thermostat will call for heat when the room temperature is 4.5°C lower than the thermostat set point. When the timeswitch is "ON", the thermostat will call for heat when the temperature drops below the set temperature.

Note, when power is applied to terminal 6 of the thermostat, the system is working in SetBack mode.

Set the Time and Day

This timeswitch is fitted with a real time clock. It is essential that the clock time and day are set accurately if you require your programmed events to start on time.

Follow the easy steps below:

1. Press the "tick" button once and the time will flash.
2. Use up or down button to change the time (hold up or down button to change by 15 minutes each time).
3. Press the "tick" button again, the day of the week will flash.
4. Use up or down button to change the day of the week.
5. Press button again to accept and exit.

Programming the Timeswitch

Note – It is faster to program the same schedule for the entire week and then to adjust the exceptional days.

Follow the easy steps below:

1. Press and hold button "M" for 5 seconds until "Program" is shown with the Day flashing. Use up or down button adjust the day (hold up or down button for 5 seconds to set all days the same).
2. Press button M to bring up the program 1. Use up or down button to set the start time (default is 6:30). (Hold up or down button to change by 15 minutes each time).
3. Press button "M" again and use up or down button to choose ON or OFF for program 1.

Press "M" again to go to Program 2. Repeat steps 2 and 3 until you finish the settings for 6 programmes. Press button "M" to accept and exit.

Factory Default Settings

Below are the default factory settings for the 6 programmes. This will switch the system to full temperature mode from 06.30 until 08.30 and again from 16.30 until 22.30. At all other times the system will be operating in Night Setback mode. This profile would suit a person who works during the day and is at home in the morning and in the evening.

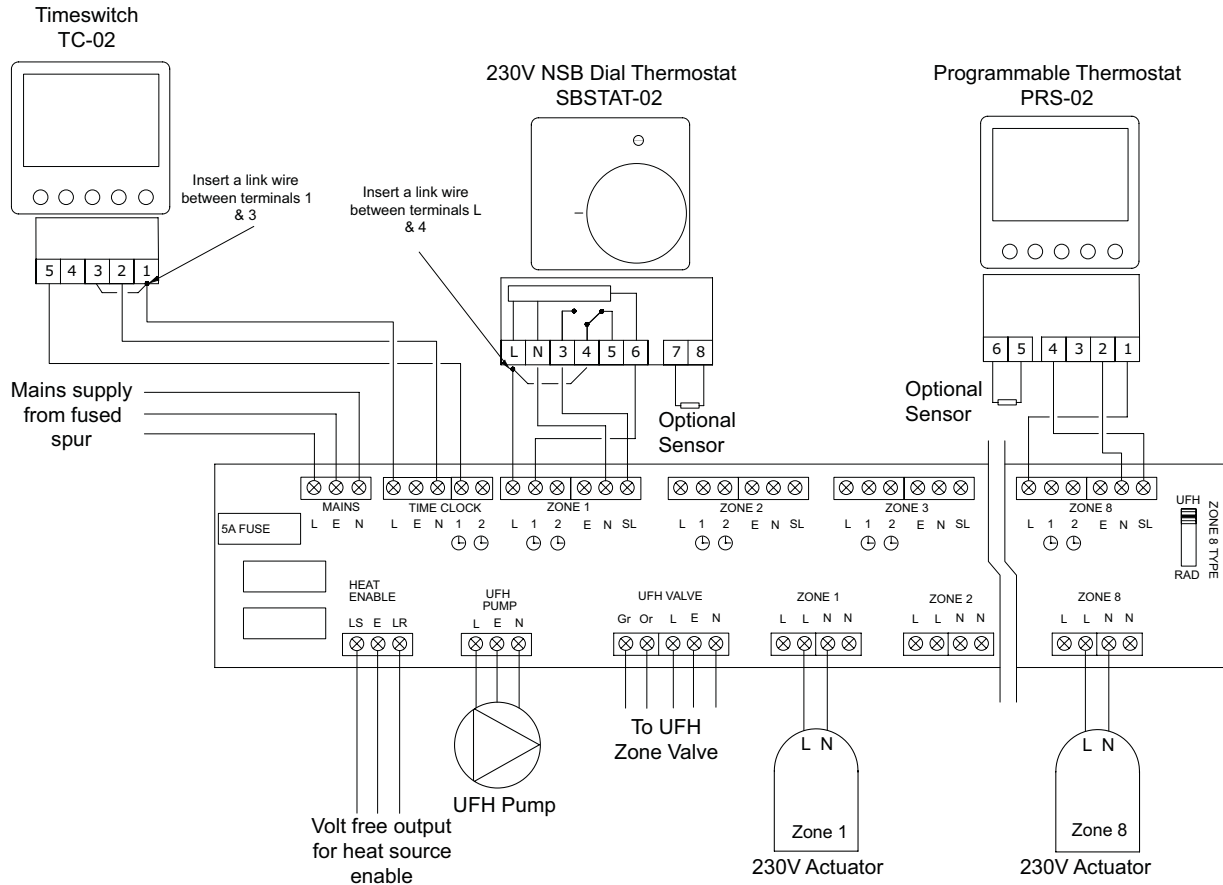
Factory Default Settings		
Programme	Start time	Setpoint
1	06.30	ON
2	08.30	OFF
3	11.30	OFF
4	13.00	OFF
5	16.30	ON
6	22.30	OFF



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Example Wiring Diagrams

Hard Wired Controls



The Gr (Grey wire) and Or (Orange wire) are to connect to the end switch on the Zone Valve. If the end switch is not being used put a link between Gr and Or. You can use up to 4 actuators per zone. When the system is wired as per the schematic above using the 230V NSB Dial Thermostat during periods when the timeswitch is in its 'OFF' period, the Night Set Back (NSB) function comes into operation.

This maintains a reduced temperature setting which will ensure that the system doesn't cool excessively. The thermostat has a default setback temperature of 4.5°C.

For further details, see the product instructions supplied with the 230V NSB Dial Thermostat. All wiring is to be in accordance with IEE Regulations.

Electro-Thermic Heads - The heads are supplied in the manual ("MAN") position. Once fitted, the grey indicator should be turned clockwise (90°) to the "AUTO" position to allow for automatic operation.

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Key Components - Radio Controls

Radio Programmable Thermostat



The Radio Programmable Thermostat can operate as a programmable or non-programmable thermostat, depending on the mode selected. The thermostat has terminals available to take an external sensor.

RF Switch



The RF Switch is a receiver for a single zone of underfloor heating which includes a boiler output enable. Output indications are provided and the unit is surface mount for easy installation.

Radio Touchscreen Programmable Thermostat



The Radio Programmable Thermostat can operate as a programmable or non-programmable thermostat, depending on the mode selected. The thermostat is not designed for use with a remote sensor.

Electro-Thermic Head



The manifolds are supplied with blue caps on the return manifold (bottom header) which isolate the return water. The blue caps can be removed to allow for either 24 or 240V electro-thermic heads to be fitted which open and close to control the flow of water around the heating circuits.

Radio Receiver



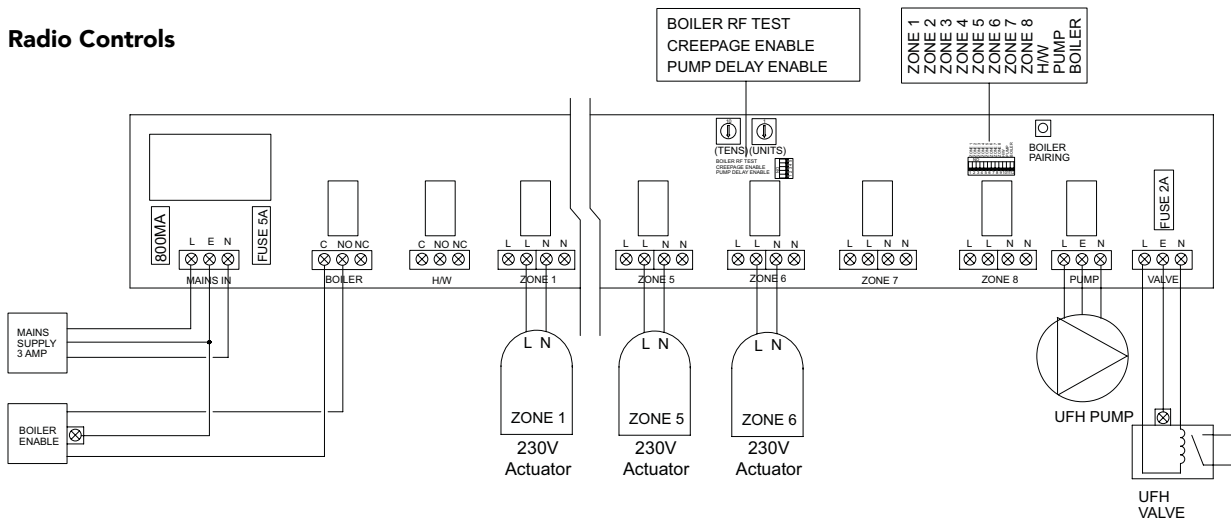
The 8 Zone Radio Receiver has terminals to wire up to 8 thermostats (zones). The unit controls the operation of the Electro-Thermic Heads, the boiler and the Zone Valve. The unit is for use with the Radio Slimline and Radio Touchscreen Thermostats.

2 Port Zone Valve and Actuator



Maincor 2 Port Zone Valve and Actuator offers independent zone control. This normally closed valve can also activate the heat source via the volt free contacts.

Radio Controls



The Gr (Grey wire) and Or (Orange wire) are to connect to the end switch on the Zone Valve. If the end switch is not being used put a link between Gr and Or. You can use up to 4 actuators per zone.

Electro-Thermic Heads - The heads are supplied in the manual ("MAN") position. Once fitted, the grey indicator should be turned clockwise (90°) to the "AUTO" position to allow for automatic operation.



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Electro-Thermic Heads



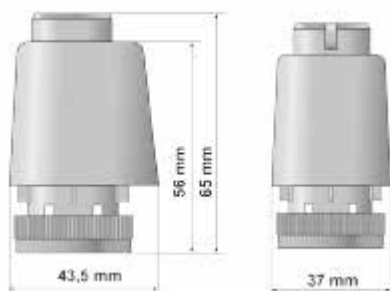
Electro Thermic actuator for the energy efficient control of underfloor heating and radiator manifold systems.

The Electro-Thermic heads are easy to install and maintain due to the manual lock-system. The lock can also be manually opened which allows immediate flow if desired.

The heads are supplied in the manual ("MAN") position. Once fitted, the grey indicator should be turned clockwise (90°) to the "AUTO" position to allow for automatic operation.

Benefits

- Compact design just 37mm wide for easy manifold installation.
- Certified quality according to standard IEC 60730-2-14.
- Long lasting durability through sophisticated materials.
- Superior electrical protection class: IP X4.
- Energy-efficient: low electrical consumption.
- No tools required for installation.
- Visual display of the actuator's status.



Type 230 V

Option	NC = normally closed
Width	37 mm
Voltage	230 V AC, + 10%...-10%, 50/60 Hz
Switch on current	300 mA
Operating current	8 mA
Operating power	2 W
Closing / opening time	ca. 170 sec.
Connection thread	M30 x 1,5
Stroke	4 mm
Displacement force	100 N ± 5%
Temperature of fluid	0 - 100 °C
Temperature for storage	-25 to + 60 °C
Ambient temperature for operation	0 to + 60 °C
Ball indentation test	90 °C
CE conformity	EN 60730
Material of body / Body color	PE / RAL 7035
Type of cable	2 x 0.75 mm PVC, RAL 7035 / 0.8 m
Overvoltage strength	2.5 kV