

**HaiLin**  
Controls

TUE

2

09:30<sup>AM</sup>

ROOM TEMP

18.5<sup>°C</sup>



M

OK



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## WHAT IS HA231N-TL ?

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HA231N-TL is a multi-function thermostat/timer for any part of your heating or hot water system where thermostatic or programmable control is required

The HA231N-TL consists of three main modes:

1. Standalone programmable/non-programmable thermostat
2. Setback thermostat with central programmer
3. Single channel timer

## 1. PROGRAMMABLE/NON-PROGRAMMABLE THERMOSTAT

HA231N-TL operates by itself as an independent control to the rest of the heating system as a thermostat in either programmable or non-programmable operation.

- A. Non-programmable – operates as a simple thermostat where the temperature is held at the set point continuously.
- B. Programmable – operates as a fully programmable thermostat with 4 times at which to set a target temperature. This enables you to regulate the temperature in your home by setting specific temperatures for times of day.

This way the thermostat doesn't operate the heating as On/Off but as an Up/Down control to the specific temperatures you set on your HA231N-TL.

This enables you to have intricate control in each room creating a micro climate in different areas of your home and regulating the temperature for night, for when your home is unoccupied, or even when individual rooms are unoccupied or not used.

## 2. SETBACK THERMOSTAT WITH CENTRAL PROGRAMMER

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HA231N-TL operates as temperature control on a room by room basis in conjunction with a timeclock (supplied separately) providing central timed control for larger areas or whole houses.

HA231N-TL is set to non-programmable and maintains the temperature at the set point whilst the programmer is on. When the programmer is off, it automatically drops the set temperature by up to 5°C for example during the night or whilst the property is unoccupied.

This enables the operation of an efficient system with simple to use thermostat and central programmer rather than multiple thermostats that need programming one at a time.

### 3. SINGLE CHANNEL TIMER

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HA231N-TL can operate as an independent timer control for any part of your heating or hot water system.

This enables you to have accurate timer control of your heating and hot water system, ensuring the system operates at the time you require and set, available in 5 minute increments.



## INSTALLATION PROCEDURE

Care should be taken on where the HA231N-TL thermostat is installed as being the ultimate control of your heating it is important that it is not installed near any secondary hot or cold sources. It should be installed at chest/eye level and where it will receive an even reading of the temperature of the room. It should be installed out of direct sunlight, away from draft or heat sources such as airing cupboards. It is designed to be mounted flush and will require an electrical back box with a depth of at least 35mm.

### Step 1

Separate the two halves of the thermostat by using a small flat screwdriver to disengage the clips in the top edge.

### Step 2

Ensure that the front (Screen) part of the thermostat is kept somewhere safe and clean. Terminate the cable for the thermostat in accordance with wiring diagrams on pages 48-51.

### Step 3

Fix the thermostat back plate back to the back box with the screws provided, ensuring this is secure.

### Step 4

Clip the front on to the back plate engaging the bottom clips first.








## SETTING YOUR PROGRAM MODE SELECTION

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HA231N-TL has been set by default to a non-programmable thermostat.

To change between programmable, non-programmable, setback thermostat and single channel timer follow these steps.

1. Press and hold the  button to turn the screen off
2. Press and hold M until the 'SET SETUP' main menu item flashes.
3. Press OK 5 times or until the small digit shows '05'.
4. Press   to change the large number for the following modes
  - 00 – Non-programmable/setback thermostat
  - 01 – Weekday/Weekend programmable
  - 02 – 7 day programmable
5. Press OK 10 times or until the small digit shows '15'.
6. Press   to change the large number for the following modes
  - 00 – Setback thermostat disabled
  - 01 – Setback thermostat enabled (non-programmable only)

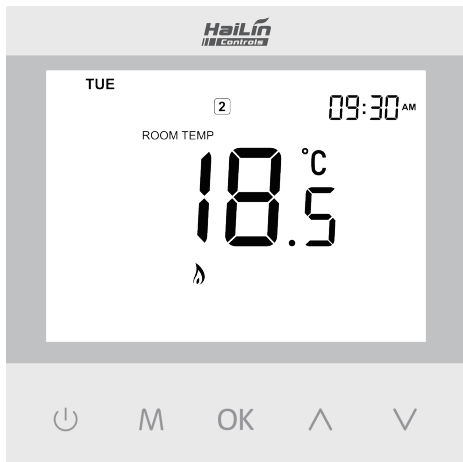
## SETTING YOUR PROGRAM MODE SELECTION

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7. Press OK 2 times, or until the small digit shows '17'
8. Press ▲▼ to change the large number for the following modes
  - 00 – Thermostat
  - 01 – Timer
9. Press ⓪ button to return to the home screen.

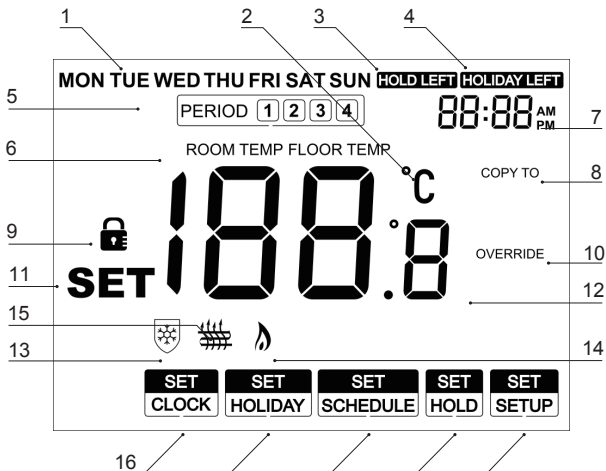
## PROGRAMMABLE MODE(5+2 AND 7 DAY)

PROGRAMMABLE MODE (5+2 AND 7 DAY)



## LCD DISPLAY

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PROGRAMMABLE MODE(5+2 AND 7 DAY)

## LCD DISPLAY

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1. Day of the week – Displays the current day.
2. Temperature unit – Degrees Celsius (°C) or Fahrenheit (°F).
3. Hold left indicator – Displays when the HOLD FOR function is active along with the hours of hold remaining.
4. Holiday left indicator – Displays when the holiday function is active along with the number of days remaining.
5. Time period – Displays the current program period as set in the program of the thermostat.
6. Room/floor Temperature – Indicates the current sensor set up and point of temperature measurement.
7. Time – Displays the current time in 24 or 12 hour format.
8. Copy function – Enables the copying of times between days.
9. Keypad lock – Displays when the keypad is locked.
10. Override – Displays when a temporary override is set.
11. SET – Displays when any program or parameter is being changed.
12. Temperature – Displays the current sensor temperature.
13. Frost shield – Displays when the thermostat is in frost protection mode.

## LCD DISPLAY

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13. Flame symbol – Displays when the thermostat is calling for heat.
14. Floor protection – Displays when the floor limit temperature is reached.
15. Main menu – Displays when setting schedule and feature parameters.

## SETTING THE CLOCK

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To set/change the clock and day follow these steps. This is not applicable if the thermostat is in non-program mode.

1. Press M so the 'SET CLOCK' main menu item flashes.
2. Press OK to confirm. The current hour will flash
3. Press ▲▼ to change the hour and press OK.
4. Press ▲▼ to change the minute and press OK.
5. Press ▲▼ to change the day and press OK.
6. Press M to save the change and the ⓪ button to return to the home screen.

## CHANGE/CHECK THE TEMPERATURE SETTINGS

To set/change the temperature (temporary override) follow these steps. Note, this only changes the temperature until the next program time.

1. Press ▲▼ once to view the current temperature setting.
2. Press ▲▼ repeatedly to change the thermostat in increments of 0.5°C.
3. Press OK to save the new temperature and return to the home screen. The thermostat will display 'OVERRIDE' to confirm a different temperature has been set.

The 🔥 symbol will show when the thermostat is calling for heat.

If a floor sensor has been installed this temperature can be checked by pressing and holding the 'OK' button. The thermostat will return to the home screen after 10 seconds.

You can also change the temperature this way in the Frost, Holiday and Hold modes.

## SCHEDULE AND COMFORT SETTINGS

HA231N-TL comes pre-programmed with comfort

levels set. The factory default settings are:

<b>Weekday and weekend – 5/2 day programming</b>				
Mon-Fri	5.30-20 °C	8.00-16°C	16.00-20°C	22.00-16°C
Sat-Sun	6.30-20°C	9.00-16°C	16.00-20°C	23.00-16°C

<b>Monday to Sunday – 7 day programming</b>				
Mon-Sun	5.30-20 °C	8.00-16°C	16.00-20°C	22.00-16°C

To set/change the program comfort levels follow these steps.

1. Press M to display the main menu items.
2. Press M until the 'SCHEDULE' main menu item flashes.
3. Press OK to confirm. 'MON ~ FRI' will flash.
4. Press ▲▼ to select different day(s) and press OK.
  - 'Period 1' is displayed and the corresponding hour flashes.

## SCHEDULE AND COMFORT SETTINGS

5. Press▲▼ to change the hour for 'Period 1'.
6. Press OK to confirm and minute for 'Period 1' flashes.
7. Press▲▼ to change the minute for 'Period 1'.
8. Press OK to confirm and temperature for 'Period 1' flashes.
9. Press▲▼ to change the temperature for 'Period 1'.
10. Press OK to confirm.
  - 'Period 2' is displayed and the corresponding hour flashes.
11. Repeat steps 5 to 10 for Periods 2, 3 & 4.
12. After pressing OK for 'Period 4', 'COPY TO' will flash.
  - a. Press▲▼ to cancel copy function and set other days manually.
  - b. Press OK to apply copy function.

*Note: When set to 5+2 day programming, pressing OK skips points c and d.*
  - c. Press▲ to select a day, press▼ to deselect a day.

*Note: Selected days are shown without flashing.*
  - d. Press OK to save the copy and you will return to main menu.
13. Repeat steps 2-12 to set and/or copy further days.
14. Press M to save the change and the⊕button to return to the home screen.

## SETTING THE HOLIDAY MODE

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To set/change the holiday mode follow these steps (this is not applicable in non-programmable mode.)

1. Press M until the 'SET HOLIDAY' main menu item flashes.
2. Press OK to confirm. The 'HOLIDAY LEFT' symbol will show and the number of days will flash.
3. Press ▲▼ to change the number of days the holiday should be set for (Note: Holiday starts from 00:00 of the next day and ends on 23:59 of the last day).
4. Press OK to confirm and the temperature for the holiday will flash.
5. Press ▲▼ to change the temperature for the holiday period.
6. Press M to save the holiday and the ○ button to return to the home screen.

**Note:** *Setting holiday mode will remove any hold mode set - see page 18.*

## SETTING THE HOLD MODE

To set/change the hold mode follow these steps. **Note:** This function is also applicable in non-programmable mode.

1. Press M until the 'SET HOLD' main menu item flashes.
2. Press OK to confirm. The 'HOLD LEFT' symbol will show and the number of hours flash.
3. Press ▲▼ to change the number of hours the hold should be set for.
4. Press OK to confirm and the temperature for the hold period flashes.
5. Press ▲▼ to change the temperature for the hold period.
6. Press M to save hold period and the ⓪ button to return to the home screen.

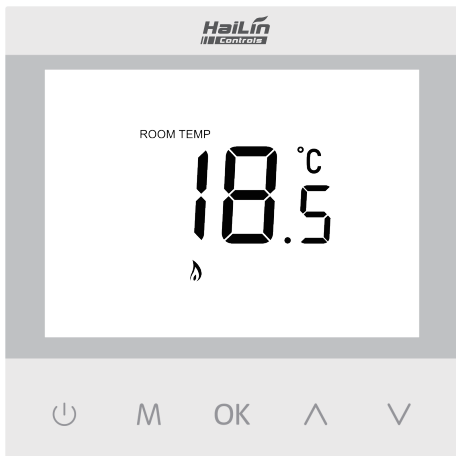
**Note:** *Hold mode cannot be set if there is a holiday mode already set*

## OPTIMUM START

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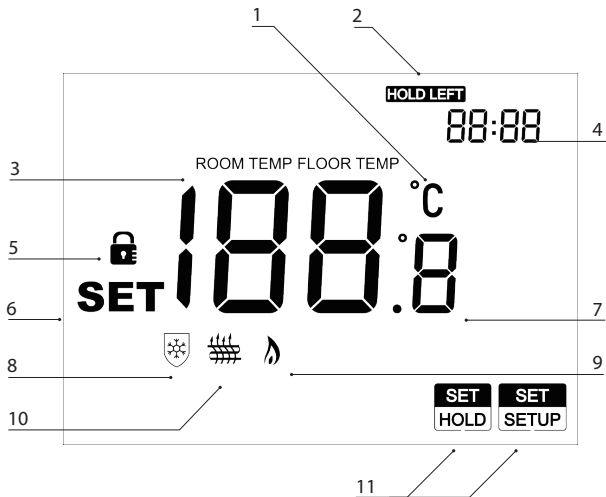
HA231N-TL will typically turn the heating on at the time set in the program. With the optimum start feature enabled it will display a flashing 🔥 symbol and turn the heating on beforehand in order to reach the required temperature for the time set. See page 41 for further details and page 44 for details on enabling this optional feature.

NON-PROGRAMMABLE MODE



## LCD DISPLAY

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NON-PROGRAMMABLE MODE

## LCD DISPLAY

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NON-PROGRAMMABLE MODE

1. Temperature unit – Degrees Celsius (°C) or Fahrenheit (°F).
2. Hold left indicator – Displays when the HOLD FOR function is active along with the hours of hold remaining.
3. Room/floor temperature – Indicates the current sensor set up and point of temperature measurement.
4. Time – Displays the current hold time left when in hold mode.
5. Keypad lock – Displays when the keypad is locked.
6. SET – Displays when any program or parameter is being changed.
7. Temperature – Displays the current sensor temperature.
8. Frost shield – Displays when the thermostat is in frost protection mode.
9. Flame symbol – Displays when the thermostat is calling for heat.
10. Floor protection – Displays when the floor limit temperature is reached.
11. Main menu – Displays when setting schedule and parameters.



## CHANGE/CHECK THE TEMPERATURE SETTING

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To set/change the temperature follow these steps.

1. Press ▲▼ once to view the current temperature setting.
2. Press ▲▼ repeatedly to change the thermostat in increments of 0.5°C.
3. Press OK to save the new temperature and return to the home screen.

The 🔥 symbol will show when the thermostat is calling for heat.

If a floor sensor has been installed this temperature can be checked by pressing and holding the 'OK' button. The thermostat will return to the home screen after 10 seconds.

You can also change the temperature this way in the Frost and Hold modes.



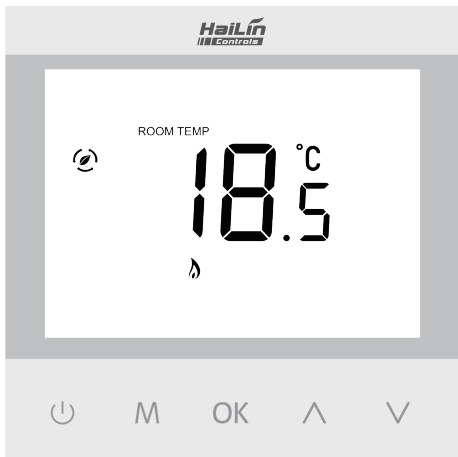
## SETTING THE HOLD MODE

To set/change the hold mode follow these steps. **Note:** This function is also applicable in non-programmable mode.

1. Press M until the 'SET HOLD' main menu item flashes.
2. Press OK to confirm. The 'HOLD LEFT' symbol will show and the number of hours flash.
3. Press ▲▼ to change the number of hours the hold should be set for.
4. Press OK to confirm and the temperature for the hold period flashes.
5. Press ▲▼ to change the temperature for the hold period.
6. Press M to save hold period and the ⓪ button to return to the home screen.

## NON-PROGRAMMABLE SETBACK MODE

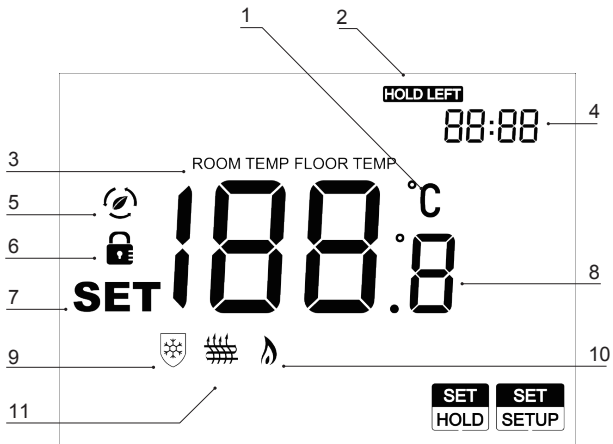
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NON-PROGRAMMABLE SETBACK MODE

## LCD DISPLAY

NON-PROGRAMMABLE SETBACK MODE





## LCD DISPLAY

---

1. Temperature unit – Degrees Celsius (°C) or Fahrenheit (°F).
2. Hold left indicator. – Displays when the HOLD FOR function is active along with the hours of hold remaining.
3. Room/floor temperature – Indicates the current sensor set up and point of temperature measurement.
4. Time – Displays the current hold time left when in hold mode.
5. Setback – Is displayed when in temperature setback.
6. Keypad lock – Displays when the keypad is locked.
7. SET – Displays when any program or parameter is being changed.
8. Temperature – Displays the current sensor temperature.
9. Frost shield – Displays when the thermostat is in frost protection mode.
10. Flame symbol – Displays when the thermostat is calling for heat.
11. Floor protection – Displays when the floor limit temperature is reached.



## CHANGE/CHECK THE TEMPERATURE SETTING

---

To set/change the temperature follow these steps.

1. Press ▲▼ once to view the current temperature setting.
2. Press ▲▼ repeatedly to change the thermostat in increments of 0.5°C.
3. Press OK to save the new temperature and return to the home screen.

The 🔥 symbol will show when the thermostat is calling for heat.





If a floor sensor has been installed this temperature can be checked by pressing and holding the 'OK' button. The thermostat will return to the home screen after 10 seconds.

You can also change the temperature this way in the Frost and Hold modes.

## SETBACK TEMPERATURE

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HA231N-TL has a built in temperature setback when a timer/programmer is connected. This setback is adjustable using the following steps.

1. Press and hold the  button until the screen goes blank
2. Press and hold the M button until the 'SET SETUP main menu item flashes.
4. Press OK 16 times, or until the small digit shows '16'.
5. Press   to change the large number for the following modes  
03 – 05 = 3°C-5°C
6. Press the  button to return to the home screen.

## FEATURES AVAILABLE ON ALL PROGRAM MODES







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### FROST PROTECTION




To set the thermostat in frost protection mode press the  button. The  symbol will display indicating that the thermostat is in frost mode and set to a lower temperature – factory default of 12°C

### KEYPAD LOCK

The keypad can be locked to prevent any accidental adjustment or tampering of the thermostat.

Press and hold  and  until the  symbol shows. Keypad is now locked. Press and hold  and  until the  symbol disappears to unlock.

### FLOOR LIMIT PROTECTION

If a floor sensor has been installed this  enables a floor limit temperature to be set and controlled through the optional features, explained on pages 41-43. This will stop the heating when the floor temperature reaches this point and will show  the  symbol.

## SINGLE CHANNEL TIMER MODE (5+2 AND 7 DAY)

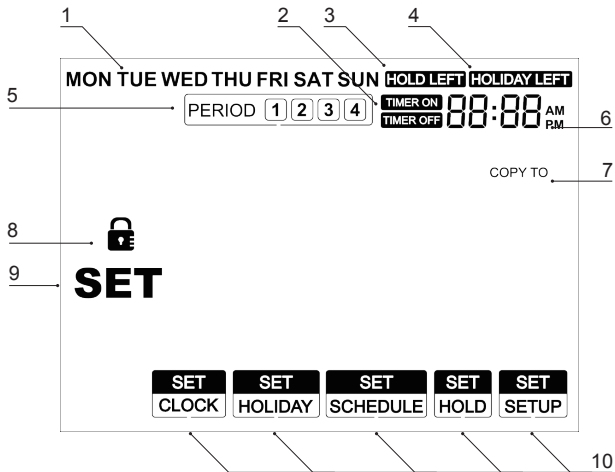
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SINGLE CHANNEL TIMER MODE(5+2 AND 7 DAY)

## LCD DISPLAY

SINGLE CHANNEL TIMER MODE(5+2 AND 7 DAY)



## LCD DISPLAY

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1. Day of the week – Displays the current day.
2. Timer on/timer off status.
3. Hold left indicator – Displays when the HOLD FOR function is active along with the hours of hold remaining.
4. Holiday left indicator – Displays when the holiday function is active along with the number of days remaining.
5. Time period – Displays the current program period as set in the program of the thermostat.
6. Time – Displays the current time in 24 or 12 hour format.
7. Copy function – Enables the copying of times between days.
8. Keypad lock – Displays when the keypad is locked.
9. SET – Displays when any program or parameter is being changed.
10. Main menu – Displays when setting schedule and parameters.

## SETTING THE CLOCK

---

To set/change the clock and day follow these steps. This is not applicable if the thermostat is in non-program mode.

1. Press M so the 'SET CLOCK' main menu item flashes.
2. Press OK to confirm. The current hour will flash
3. Press▲▼to change the hour and press OK.
4. Press▲▼to change the minute and press OK.
5. Press▲▼to change the day and press OK.
6. Press M to save the change and the ⓪ button to return to the home screen.

## SETTING TIMER ON AND OFF TIMES

HA231N-TL comes pre-programmed with timer on and off times set. These factory default settings are.

<b>Daily programming</b>				
	Period 1	Period 2	Period 3	Period 4
On time	5:30	11:30	17:00	20:00
Off time	7:00	12:00	18:00	22:00

## SETTING TIMER ON AND OFF TIMES

To set/change the program comfort levels follow these steps.

1. Press M to display the main menu items.
2. Press M until the 'SCHEDULE' main menu item flashes.
3. Press OK to confirm. 'MON ~ FRI' will flash.
4. Press ▲▼ to select different day(s) and press OK.
  - a. 'Period 1' is displayed and the On hour flashes.
5. Press ▲▼ to change the On hour for 'Period 1'
6. Press OK to confirm and the On minute for 'Period 1' flashes.
7. Press ▲▼ to change the On minute for 'Period 1'
8. Press OK to confirm and the Off hour for 'Period 1' flashes
9. Press ▲▼ to change the Off hour for 'Period 1'
10. Press OK to confirm and the Off minute for 'Period 1' flashes
11. Press ▲▼ to change the Off minute for 'Period 1'
12. Press OK to confirm.

## SETTING TIMER ON AND OFF TIMES

- a. 'Period 2' is displayed and the On hour flashes
13. Repeat steps 5 to 12 for Periods 2, 3 & 4.
14. After pressing OK for 'Period 4', 'COPY TO' will flash.
  - a. Press ▲▼ to cancel copy function and set other days manually
  - b. Press OK to apply copy function and press ▲ to select a day, press ▼ to deselect a day

**Note**-Each day is selected when not flashing.

  - c. Press OK to save the copy and advance to the next day.
15. Repeat steps 5-14 for each day.
16. Press M to save the change and the Ⓞ button to return to the home screen.

## SETTING THE HOLIDAY MODE

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To set/change the holiday mode follow these steps.

1. Press M to display the main menu items.
2. Press M until the 'SET HOLIDAY' main menu item flashes.
3. Press OK to confirm. The 'HOLIDAY LEFT' symbol will show and the number of days flash.
4. Press ▲▼ to change the number of days the holiday should be set for (Note: Day one is from 00:00 of the next day).
5. Press M to save the holiday and the ○ button to return to the home screen.

**Note:** *If holiday mode cannot be set if there is a hold mode already set.*

## SETTING THE HOLD MODE

---

To set/change the hold mode follow these steps. Note: This function is also applicable in non-programmable mode.

1. Press M until the 'SET HOLD' main menu item flashes.
2. Press OK to confirm. The 'HOLD LEFT' symbol will show and the number of hours flash.
3. Press ▲▼ to change the number of hours the hold should be set for.
4. Press M to save hold period and the ⓪ button to return to the home screen. **Note:** *Hold mode cannot be set if there is a holiday mode already set.*

## OVERRIDING OFF DURING ON TIME ON PERIOD

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To override the timer to go off partway through an on period


1. Press the ⓪ button-The screen will go blank with just the 'Timer Off' icon showing. This will remain until the next timer on period where it will automatically turn back on and resume with the programmed schedule. If you wish to cancel the override off press the ⓪ button again and it will turn back on and resume with the programmed schedule.

## FACTORY RESET

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Should you need to reset to factory default settings follow these steps.

Press and hold the  button to turn off.

Press and hold  and .

It will display all icons on the screen for 2 seconds. The Factory reset is now complete.



## OPTIONAL FEATURES EXPLAINED

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The following settings are optional parameters to change how the thermostat works and what it displays. In many cases these need not be adjusted.

**Feature 01 – Sensor Selection:** HA231N-TL has the option of using its own built-in air sensor (default), a remote air sensor, floor sensor or a combination of these sensors for floor limit protection when both an air and floor sensor are used.

**Feature 02 – Time Format:** HA231N-TL has the option of displaying the time in 24 (default) and 12 hour format.

**Feature 03 – Temperature Format:** HA231N-TL has the option of displaying the temperature in Celsius°C(default) and Fahrenheit°F.

**Feature 04 – Frost Protection:** HA231N-TL has the option to enable or disable frost protection, This feature is disable by default .

**Feature 05 – Program Mode:** HA231N-TL has the option to operate as a non-programmable thermostat or a programmable thermostat with 5/2 day or 7 day programming. Default is non-programmable.



## OPTIONAL FEATURES EXPLAINED

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**Feature 06 – On/off status:** HA231N-TL can be set to come on or stay off when power is turned on to the thermostat. Default is auto on/off from last power off.

**Feature 07 – Temperature calibration:** HA231N-TL has the option to adjust the sensor calibration by +/- 10 °C in 0.5°C increments. Default is 0°C.

**Feature 08 – Switching differential:** HA231N-TL has the option to changing the switching differential between 1 and 3 °C. Default is 1°C.

**Feature 09 – Maximum temperature:** HA231N-TL has the option to adjust the maximum temperature set point. This can be used as a limit on how high the heating is set to. This range is from 2°C to 49.5°C. Default is 35°C.

**Feature 10 – Minimum temperature:** HA231N-TL has the option to adjust the minimum temperature set point. This can be used as a limit on how low the heating is set to. This range is from 0 °C to 47.5°C. Default is 5°C.

**Feature 11 – Output delay:** HA231N-TL has the option to delay



## OPTIONAL FEATURES EXPLAINED


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the switch output to prevent rapid switching on and off. This can be set from 00 – 15 minutes. Default is 00.

**Feature 12 – Optimum start:** HA231N-TL has the option to set an optimum start of up to 3 hours, see page 19 for more detail. Default is 0 hours.

**Feature 13 – Rate of change:** For information only.

**Feature 14 – Floor temperature limit:** HA231N-TL has the option to adjust the floor limit temperature used when a floor sensor is installed and connected. This range is from 20°C to 60°C. Default is 28°C.

**Feature 15 – Setback enable:** HA231N-TL has the option to be programmed as a setback thermostat controlled from a separate programmer. The programmer switched live should be connected to the  terminal. Program mode (Feature 5) needs to be set to 00 (non-programmable) to enable this feature.

**Feature 16 – Setback temperature:** HA231N-TL has the option to adjust the setback temperature from 3°C to 5°C. Default is 4°C.





**Feature 17 – Thermostat or timer:** HA231N-TL has the option to operate as a thermostat or as a single channel timer.



## CHANGING THE OPTIONAL FEATURES

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To change the optional features follow these steps, selecting the required feature number and setting value.

1. Press and hold the  button until the screen goes blank
2. Press and hold the M button until the 'SET SETUP' main menu item flashes.
3. Press OK to confirm. The small digits display the feature number, the large digits display the setting value for the feature.
4. Press OK to cycle through the feature numbers.
5. Press   to change setting number for each feature.
6. Press the  button to return to the home screen.

## OPTIONAL FEATURE TABLE

Feature No.	Description	Setting No.
01	Sensor selection	00=Internal air sensor (Default) 01=Remote air sensor 02=Remote floor sensor 03=Internal air and remote floor sensor 04=Remote air and remote floor sensor
02	Time format	12=12 hour, 24=24 hour (Default)
03	Temperature format	00=°C (Default), 01=°F
04	Frost protection	00=Enabled 01=Disabled(Default)
05	Program mode	00=Non-programmable (Default) 01=5/2 day programmable 02=7 day programmable
06	On/off status	00=Off when powered up 01=On when powered up 02=Auto memory when power lost (Default)
07	Temperature calibration	-10°C ~ +10°C (-18°F ~ +18°F)(Default =0)
08	Switching differential	1°C ~ 3°C (2°F ~ 5°F) (Default =1°C)
09	Maximum temperature	2°C ~ 49.5°C (36°F ~ 121°F) (Default =35°C)
10	Minimum temperature	0°C ~ 47.5°C (32°F ~ 117°F) (Default =5°C)
11	Output delay	00 ~ 15 minutes (Default = 00)

## OPTIONAL FEATURE TABLE

12	Optimum start	00 ~ 03 hours (Default = 00)
13	Rate of change	Information only, non-adjustable
14	Floor temperature limit	20°C ~ 60°C (68°F ~ 140°F) (Default =28°C)
15	Setback enable	00=OFF (Default) 01=ON
16	Setback temperature	3°C ~ 5°C (5°F ~ 9°F) (Default =4°C)
17	Thermostat or timer mode	00=Thermostat 01=Timer

## OPTIONAL FEATURE TABLE

Technical Specifications	
Specifications	HA231N-TL
Operating Voltage	230Vac±10%,50/60 Hz
Output	Volt free
Switch rating	3A (1) at 230Vac
Terminals	max 2.5mm <sup>2</sup> wires
IP rating	IP20
Operating temperature range	0°C to 40°C

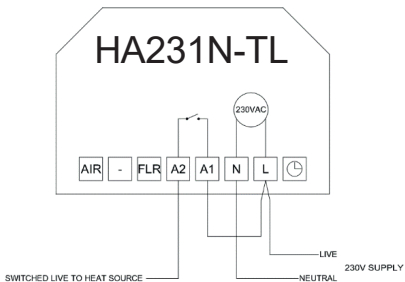
## ERROR CODES

Use the following table to determine and resolve error codes.

Code	Fault/Error	Solution
E0	Internal sensor fault	Replace thermostat
E1	Remote floor sensor fault	Check programming for sensors – optional feature 01 Check floor sensor connections Check for damage on floor sensor or incorrect floor sensor resistance
E2	Remote air sensor fault	Check programming for sensors – optional feature 01 Check air sensor connections Check for damage on air sensor or incorrect air sensor resistance
HI	Temperature higher than 55°C	Move thermostat to a cooler area Check for influence from external heat source Check calibration
LO	Temperature lower than 0 °C	Move thermostat to warmer area Check for influence from draught or external cooling Check calibration Start heating to increase room temperature.

## WIRING DIAGRAMS

HA231N-TL basic wiring diagram with switch live for heat item.



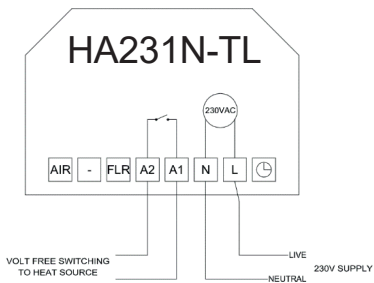
WIRING DIAGRAMS

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

## WIRING DIAGRAMS

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HA231N-TL wiring diagram with volt free switching for heat item.

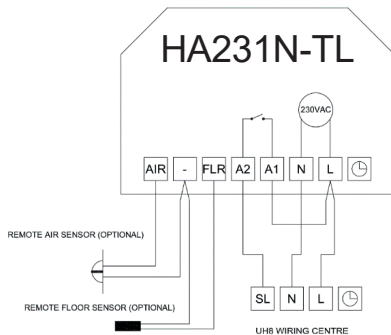


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WIRING DIAGRAMS

## WIRING DIAGRAMS

HA231N-TL wiring diagram connecting to UH8 Wiring Centre.

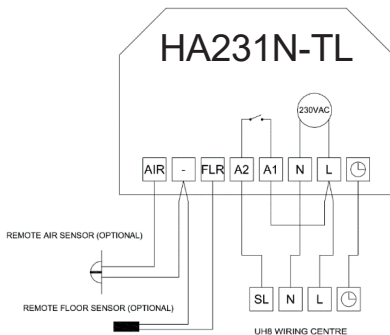


WIRING DIAGRAMS

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## WIRING DIAGRAMS

HA231N-TL basic wiring diagram in setback mode connecting to UH8 Wiring Centre.



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

