1C.81

WALL-MOUNTED TOUCH SCREEN 7 DAYS PROGRAMMABLE THERMOSTAT

finder®

SWITCH TO THE FUTURE

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Power: **2 x 1.5 V AAA alkaline batteries**
Settable temperature range - WINTER: **(+5…+37)°C**
Settable temperature range - SUMMER: **(+5…+37)°C**
Settable temperature range - FROST PROTECTION: **(+2…+8)°C**
Temperature differential ΔT: **(0.1…0.9)°C**
Supervisor: **Yes**
Calibration: **Yes**
Resolution: **0.1°C**
Tolerance: **+/–0.5°C**
Display: **Touch screen**
Backlight: **Yes**
Buzzer: **Yes, for audible key feedback and function signals**
Minimum time interval for programming: **30 minutes**
Daylight saving time: **User selectable automatic time adjustment function**
Programmable thermostat lock: **Yes, with PIN code**
NFC: **Yes**
Output: **5 A 250 V AC SPDT relay (potential free contact)**
Installation: **Wall mounted**
Protection rating: **IP20**

ADDITIONAL NOTES
The programmable thermostat produces three different audible signals:
- **SHORT BEEP**: When a button is pressed
- **3 LONG BEEPS**: To confirm a saved parameter
- **TRILL SOUND**: Error

SAFETY INSTRUCTIONS

Electrical equipment must only be installed and assembled by expert personnel.

Before connecting the programmable thermostat, ensure that all associated utilities (pumps, valves, boiler etc.) are not connected to the supply and that the load is within the ratings marked on the thermostat.

LOCATION

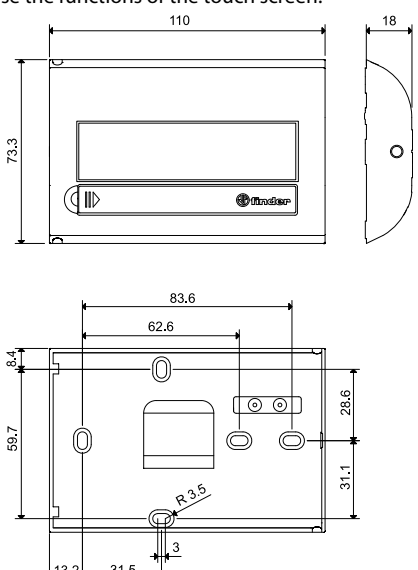
Install the programmable thermostat approximately 1.5 m above the floor, and away from sources of heat (radiators, sunlight, cookers) and from doors and windows.

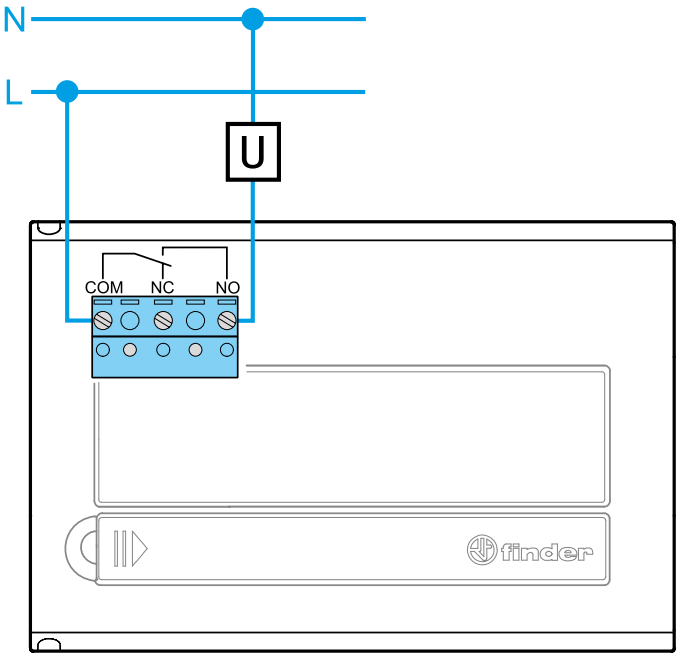
CLEANING

Clean with a damp cloth only.

IMPORTANT

Do not overtighten the screws when installing, as this may warp the base and compromise the functions of the touch screen.

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Fit the batteries in the compartment, ensuring that the polarities are correct as indicated.

IMPORTANT

- Fitting the batteries with the wrong polarity may damage the programmable thermostat
- If battery charge drops below the minimum permissible level, the programmable thermostat switches to OFF state and the relay contact opens
- Remove the batteries if the programmable thermostat is not used for a prolonged period of time

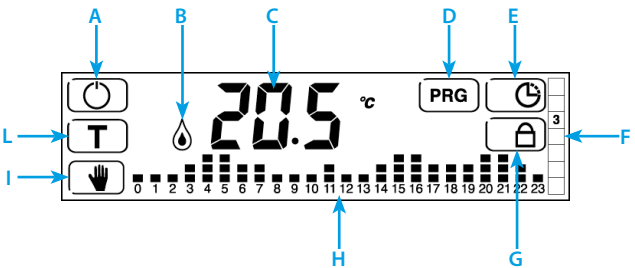
The programmable thermostat has the following three different low battery warning modes:

- Low battery icon displayed **STEADY**: the functionality of the programmable thermostat will soon be compromised
- Low battery icon **FLASHING**: programmable thermostat requires imminent battery replacement
- Messages bAtt/OFF flashing in alternation, programmable thermostat switches to OFF state and the relay contact opens

NOTE

The correct date and time settings are maintained if the batteries are removed and replaced within one minute with the low battery icon displaying STEADY.

After fitting the batteries, the display shows all the icons and the software version for a few seconds, and then prompts the user to set the time and date. Use the [△] [▽] keys to modify the value and press [OK] to confirm. The main screen is then displayed.



A ON/OFF
B Active icons
= air conditioning ON
= heating ON
C Temperature in °C
D Access programming mode
E Set time and date
F Day of week (indicated as a number from 1 to 7)
G Lock/unlock display or thermostat
H Time/temperature profile
I MANUAL mode ON/OFF
L Set temperature levels

NOTE
Touch the centre of the display to view the time and switch on the backlight.

DESCRIPTION OF KEYS

Programmable thermostat ON/OFF

Setting the 3 temperature levels

30 minute delay key (if function is enable in advanced menu)

Activate MANUAL mode. Press and hold for 3 sec. to programme MANUAL TIMER MODE (vacation)

Access programming menu
Press and hold for 3 seconds to activate PARTY FUNCTION

Press and hold to activate or deactivate display lock

Set time and date

Press and hold for 3 seconds to access the advanced menu

Increase

Decrease

Confirm

Go back to previous setting
Press and hold for 3 seconds to exit function

Go back to previous setting. Press and hold for 3 seconds to exit advanced menu

DESCRIPTION OF SYMBOLS

Indicates if TIME and DATE setting mode is active of if current time is displayed

Heating ON (in WINTER mode)

Air conditioning ON (in SUMMER mode)

Frost protection mode active

Data transfer

Shows setting limits in supervisor menu

Low batteries

+30 Start delayed by 30 minutes

°C Unit of measurement (degrees celsius)

ΔT Temperature differential

Locked display or thermostat

24 hour time/temperature profile

1 2 3 4 5 6 7 Days of week

1 2 3 4 5 6 7 Days of week selected

Press [⏲] to set the time and date.
The following values are shown in the order indicated:
HOURS/MINUTES/DATE/MONTH/YEAR
Use the [▽] or [△] keys to modify the flashing values.
Press [OK] to confirm and move to the next screen.
Press [◀] to go back or exit the menu.

EXAMPLE
Press [⏲].
The **HOURS** value flashes.
Use the [△] or [▽] buttons to set the correct hours value.

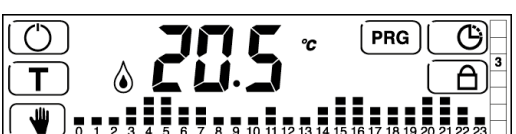
Press [OK] to confirm the hours value entered and set the **MINUTES** value

Press [OK] to confirm the minutes value entered.
Now set the **DATE**

Press [OK] to confirm the **DATE** value and set the **MONTH**

Press [OK] to confirm the **MONTH** value and set the last two figures of the **YEAR**

Press [OK] to confirm and exit the TIME/DATE setting menu.
The main screen is displayed.



NOTES

- The thermostat has approximately 1 minute of reserve power after the batteries are removed.
  After this period, the time, date and year settings are lost.
- Once the date is set, the correct number for the day of the week is set automatically according to an internal calendar
- Press [◀] to go back to the previous step
- Press and hold [◀] for more than 3 seconds to return to the main screen and save all values confirmed previously by pressing [OK]

MANUAL SETTINGS

From the main screen, press [✋].
The manual mode temperature value set previously is displayed.

To modify the setting, press [△] to increase or [▽] to decrease the value.
Press [✋] to exit this mode.

NOTE
The current temperature reading is displayed if there is no user input for 3 seconds.

DISPLAY LOCK

This function locks the display to prevent accidental changes to the settings caused by unintentionally touching the screen.
Press and hold the button [🔒] to activate the function.

The icon 🔒 appears on the display and the unit sounds 3 beeps to confirm activation.

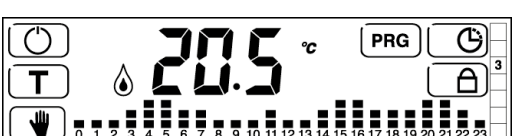
Press and hold [🔒] for 3 seconds to deactivate the function

NOTE
The PIN set in the advanced LOCK menu must be 000 for the DISPLAY LOCK function to be available (see page 28)

This advanced function may be used to lock the thermostat. To activate the function, set a 3 figure PIN code, which will be requested each time the user wishes to lock or unlock the thermostat.

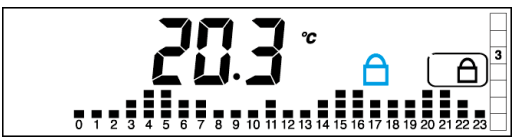
To set the PIN:
- Turn the thermostat off by pressing [⏻]
- Press and hold [SET] for 3 seconds to access the ADVANCED MENU
- Press button [OK] repeatedly to access the screen 000 for entering the desired PIN code

Use the [△] and [▽] keys to set the desired PIN code number, then press [OK] to confirm. After setting the PIN, exit the advanced menu by pressing [OK] repeatedly or by pressing and holding [SET] for 3 seconds, until the beep is heard confirming that the PIN code has been saved correctly. When the thermostat is switched on again, the main screen is displayed.



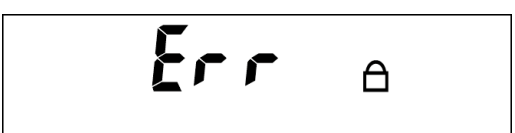
To activate the thermostat lock with PIN code, press and hold [🔒] for 3 seconds. The following screen is displayed

Use the [△] and [▽] keys to enter the PIN number set previously in the advanced menu, then press [OK]. The unit beeps 3 times to confirm that the thermostat is locked and the following screen is displayed



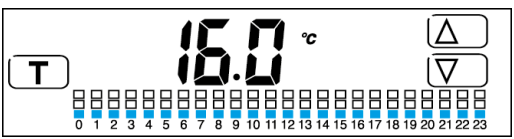
To unlock the thermostat, press and hold [🔒] for 3 seconds.
The value 000 is displayed.
Enter the PIN number and press [OK] to confirm.
The unit beeps 3 times to confirm that the thermostat is unlocked.

IMPORTANT
After three failed unlock attempts, no further PIN entry attempts may be made for 20 seconds.
The message Err is displayed.

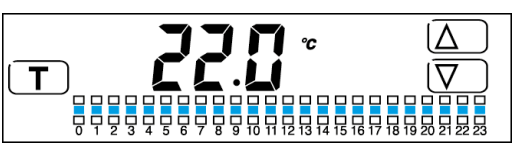


NOTE
The display lock remains active even if the batteries of the thermostat are removed and refitted.
Enter the **emergency unlock code 513** if you have forgotten the PIN.
After unlocking the unit with the emergency unlock code 513, it is strongly recommended to access the advanced menu and check and/or modify the user-defined PIN set previously.

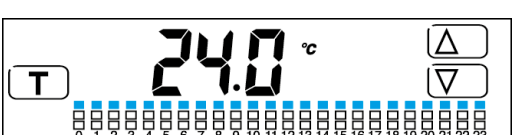
Used to set the three 3 temperature levels
(**LOW**-**NIGHT**-**COMFORT**).
Press [T].
The first level value flashes. Set the desired **LOW** temperature value using [△] and [▽].



Press [T].
The second level value flashes. Set the desired **NIGHT** temperature value using [△] and [▽].



Press [T].
The third level value flashes. Set the desired **COMFORT** temperature value using [△] and [▽].



Press [T] to return to the main screen.

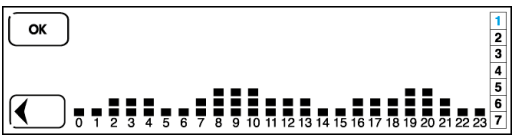
NOTE
The temperature level sequence is reversed for SUMMER mode.
i.e. The third level represents the lowest temperature.

Press PRG to access the programming menu.

PROGRAMMING DAY/S

The day value 1(Monday) flashes.

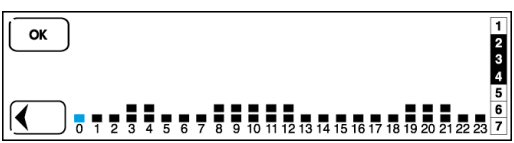
Press △ or ▽ to change the day selection.



Select the desired day/s (e.g. 2, 3 and 4) with OK.

The selected days are highlighted against a black background.

Press on the profile to programme hours/temperatures.



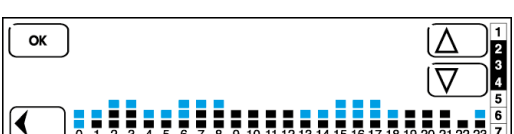
PROGRAMMING INDIVIDUAL HOURLY SETPOINT TEMPERATURES FOR 24 HOUR PERIOD

The HOUR bar 0 flashes on the hours/temperature graph.

Use △ and ▽ to select the temperature level.

Press OK to confirm and move to the next hour.

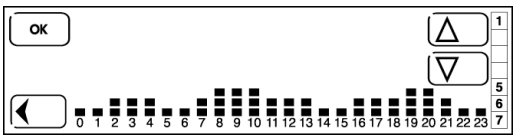
Repeat the same procedure for each hour.



NOTE Press ◁ to go back to the previous setting.

Press and hold the button for 3 seconds to exit programming mode and save all settings confirmed previously by pressing OK.

Once the temperatures are set for all 24 hours, the unit beeps three times to confirm that the settings have been saved.
Only the remaining days are now displayed.
Now programme the remaining days, following the procedure described above, or press [◀] to exit the menu.



The main screen is displayed.

NOTE
- Press and hold [◀] for 3 sec. at any time to exit programming mode and return to the main screen. All parameters confirmed previously by pressing [OK] are saved.
- To review the settings programmed for a specific day, press [PRG] in the main menu and scroll between 1 and 7 with the arrow keys. Selecting a day displays the respective profile programmed
- If the DELAYED START function is enabled in the advanced menu, the button [+ 30] is displayed, which may be used to delay the start of the selected hour period by 30 minutes (see pages 22-30).

COPY FUNCTION

Press PRG to access the programming menu.

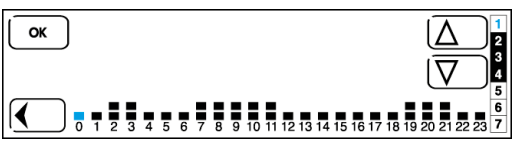
Day 1(Monday) flashes. Press △ or ▽ to change the selection.

For example, to copy the programme settings for day 2 into days 3 and 4, select the days by pressing OK, selecting the day you want to copy (in this case 2) first.

The selected days are highlighted against a black background.

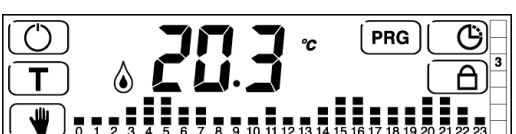
Now press the time/temperature profile.

The first hour bar in the profile flashes.



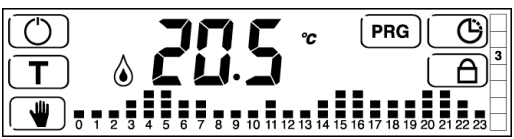
Now press and hold ◀ for 3 seconds.

The unit beeps three times to confirm that the programme has been copied.



This function may be used to maintain a temperature value for a period of time set by the user.
Once the set period of time has elapsed, the unit returns to the main screen.

From the main screen,



press and hold [✋] for 3 seconds.

Use the [△] and [▽] keys to set the hour value of the time at which the function will end.
Press [OK] to confirm, then set the minute value with the same procedure.
Now follow the same procedure to set

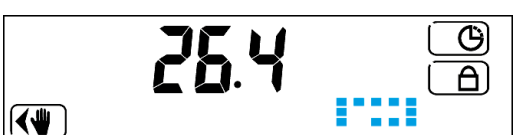
the date

the month

and the year

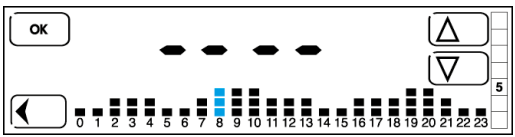
After pressing OK to confirm, use the △ and ▽ buttons to set the desired temperature.

After setting the temperature and pressing OK to confirm.
The thermostat starts operating in timed manual mode, and a cycling animated graphic is shown on the right hand side of the display to indicate that the function is active

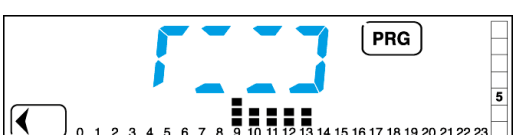


NOTE
The display shows the measured temperature, not the set temperature, when this function is active. To view or modify the set time, press ◷. Then press OK repeatedly to reach the screen with the value you want to modify. Use the △ and ▽ buttons to modify, then press OK to confirm and exit the menu.
Press ✋ to deactivate the function while it is still active.
The main screen is displayed.

This function may be used to temporarily modify the set temperatures.
From the main screen, press and hold PRG for 3 seconds



The display shows the profile for the current day, with the current hour bar flashing (hour bar 8 in this example).
Use △ and ▽ to modify the temperature.
Press OK to confirm and move sequentially onto the next bar to the right, to set the other hours in the day, or press ◀ to go back to the previous value.
After modifying as desired, simply press no other keys to activate the programme.
The function starts after a few moments, with a cycling animated graphic shown on the display to indicate that the function is active.



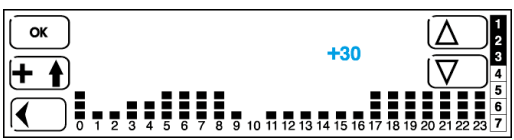
Only the modified hour bars are displayed while the function is active.

NOTE
The modification is only effective for up to 24 hours, after which the original programme is restored.
The main screen is displayed again once the function ends.
Press ◀ at any time to exit the function. To view or modify the profile, simply press PRG and repeat the modification procedure described previously.

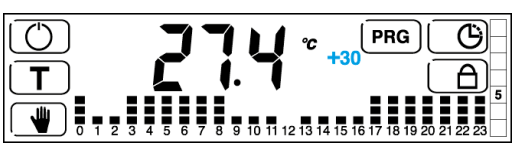
The frost protection function is active when the thermostat is set to WINTER mode and is off.
This function protects the system against damage caused by very low temperatures.
When the set temperature threshold is reached, the function is activated and the icons appear on the display.

Press the ON key at any time to turn the thermostat on and display the main screen.

This function may be used to delay start by 30 minutes after the activation time indicated by the hour bar.
To activate the function, access the advanced menu and enable delayed start (see page 30).
From the main screen, press [PRG]. Select the day or days with [△] [▽], and press [OK] to confirm.
Highlight the desired hour and press [+] to delay start by 30 minutes.
The symbol '+30' is displayed for the selected hour.



The symbol '+30' is displayed while the thermostat is operating normally.



Press and hold [◀] for 3 seconds to exit programming mode.
The unit beeps 3 times to confirm that the settings have been saved.

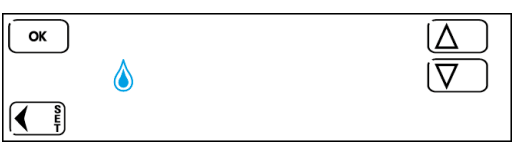
The advanced menu may be used to personalise the setup of the thermostat.

1 - SUMMER – WINTER MODE
2 - FROST PROTECTION FUNCTION
3 - TEMPERATURE DIFFERENTIAL
4 - PUMP ANTI-SEIZE FUNCTION
5 - DAYLIGHT SAVING SETTINGS
6 - PROGRAMMABLE THERMOSTAT LOCK (with PIN)
7 - ENERGY SAVING E1
8 - ENERGY SAVING E2
9 - DELAYED START
10 - RESET

To enter the advanced menu, press [⏻] from the main screen and switch off the thermostat.
Press and hold [SET] for 3 seconds.

1 - SUMMER – WINTER MODE

One of the following screens is displayed



The icon indicates winter mode (heating), while the icon indicates summer mode (cooling). Use the [△] and [▽] keys to set the desired mode. Press [OK] to confirm and go to the next menu.
To exit the menu, press [SET] or press [OK] repeatedly until the OFF screen is displayed.
If any settings were modified, the unit beeps 3 times to confirm that the changes have been saved.

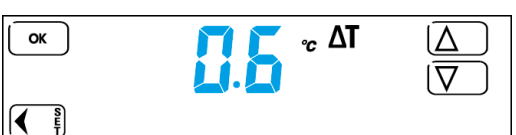
2 - FROST PROTECTION FUNCTION

After setting Summer or Winter mode, press [OK] to view the frost protection function screen.
Set the desired temperature within a range from 2°C to 8°C with the [△] and [▽] keys.
Press [OK] to confirm and go to the next menu.

Press [SET] to go back to the previous menu, or exit the advanced menu by pressing and holding [SET] for 3 seconds or pressing [OK] repeatedly until the OFF screen is displayed. If any settings were modified, the unit beeps 3 times to confirm that the changes have been saved.

3 - TEMPERATURE DIFFERENTIAL

After confirming the desired frost protection temperature with [OK], the following screen is displayed.

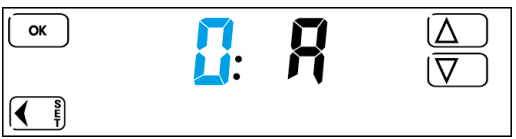


The temperature differential setting is used to set the thermostat correctly for the type of system to be controlled.
Set the temperature differential within a range from 0.1°C to 0.9°C with the [△] and [▽] keys.
Press [OK] to confirm and go to the next menu.

Press [SET] to go back to the previous menu, or exit the advanced menu by pressing and holding [SET] for 3 seconds or pressing [OK] repeatedly until the OFF screen is displayed. If any settings were modified, the unit beeps 3 times to confirm that the changes have been saved.

4 - PUMP ANTI-SEIZE FUNCTION

After programming the temperature differential, press OK to display the following screen



(anti-seize function off)

The pump anti-seize function makes the thermostat function as an on-off timer. With a value between 1 and 99 HOURS set for the function, the programmable thermostat closes the relay contact for a period of 30 seconds at each time interval set.
Example:

If a value of 48 (48 hours = 2 days) is set with the △ and ▽ keys and confirmed by pressing OK, the thermostat closes the relay contact for 30 seconds once every 2 days.
When the function is enabled in the menu, the timer starts from the last time the relay contact was switched off.
Press ◀ to go back to the previous menu, or exit the advanced menu by pressing and holding ◀ for 3 seconds or pressing OK repeatedly until the OFF screen is displayed.
If any settings were modified, the unit beeps 3 times to confirm that the changes have been saved.

5 - DAYLIGHT SAVING SETTINGS

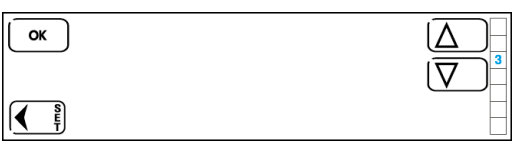
This function configures the thermostat to:
- change the clock for daylight saving time automatically (dat1)
- not change the clock for daylight saving time automatically (dat0)
- set day “1”, for example, as Monday or Sunday (dat2)

The following screen is displayed:

By pressing OK to confirm, the thermostat changes the clock for daylight saving time automatically.
Set this value to △ (zero) with the ▽ and 0 keys to disable automatic clock adjustment for daylight saving time and change the clock manually.

Set the value to 2 with the [△] and [▽] keys to enter the day of the week manually with the TIME and DATE keys.

Press [OK] to confirm and go to the next menu.
Then exit the advanced menu and modify the day 1 setting as follows:
press and hold [SET] for 3 seconds (the OFF screen is displayed).
Press [⏻] to turn the thermostat on.
Press [🕒] to view the hours and minutes and then the week bar.



Use the [△] and [▽] keys to select the correct day.
For example:
If the current day is Wednesday and you want to set Sunday as day 1 (start of week), select 4 on the display and press [OK] to confirm.

NOTE
Only one of the three settings may be configured. If this parameter is set to 1 or 0, the first day of the week is set as Monday by default.
If the parameter is set to 2, the first day of the week may be selected but the clock will not be adjusted automatically for daylight saving time.

6 - LOCK FUNCTION (with PIN)

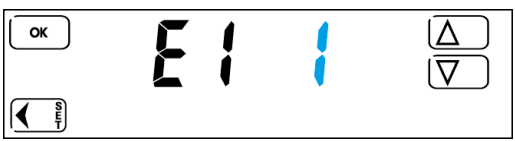
This menu option may be used to enable a LOCK function protected by a numerical access code to prevent tampering (see page 12).
From the advanced menu, press [OK] repeatedly to view the following screen:

To set the display lock only, set 000 as the PIN with the [△] and [▽] keys.
To set the PIN-protected thermostat lock function (to prevent tampering), set a PIN number between 001 and 999.
After enabling the lock function, from the main screen, press and hold [🔒] for 3 seconds to lock the display (see page 11), or press and hold [🔒] for 3 seconds, enter the PIN set previously, then press [OK] to confirm to activate the anti-tampering lock (see page 12).
Perform the same procedure to unlock.

NOTE
Enter the **emergency unlock code 513** if you have forgotten the PIN.
After unlocking the unit with the emergency unlock code 513, it is strongly recommended to access the advanced menu and check and/or modify the user-defined PIN set previously.

7 - ENERGY SAVING E1

When the Energy Saving E1(ECO1) function is active, the thermostat automatically optimises the operation of the system - specifically, using an internal mathematical algorithm to compensate for inertia and adjust activation intervals and temperature settings appropriately to improve perceived comfort. This function also significantly reduces energy consumption. Once in the advanced menu, press [OK] repeatedly to reach the E1 function. Use the [△] and [▽] buttons to select the following values as desired.



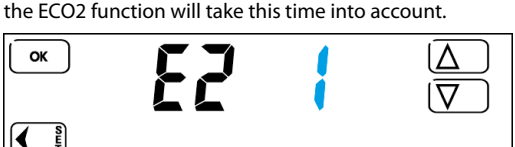
E1 = 0 Function off
E1 = 1 Function on
E1 = 2 Function on if heating system is equipped with zone selector valves with opening times greater than 10 seconds and less than 90 seconds

NOTE

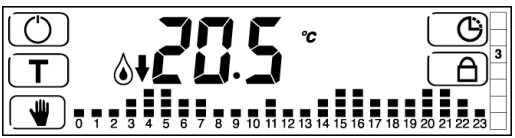
This function is not recommended for forced ventilation heating systems (e.g. fan coil).

8 - ENERGY SAVING E2

With the Energy Saving E2 (ECO2) function active, the thermostat determines how long it takes the ambient air to reach the desired temperature.
This entirely automatic function adjusts the activation intervals, anticipating and shortening activation times as necessary to save energy.
If activation times were set manually, in some cases it may be necessary to anticipate/shorten activation times significantly to reach the desired temperature at the desired time.
This function also takes the season, insulation and heat losses into account, adjusting and shortening activation times accordingly. **Example**. If it takes 1.5 hours to increase the temperature by 4°C in January but only 40 minutes in March, the ECO2 function will take this time into account.



NOTE
When the thermostat is automatically anticipating/shortening activation times (relative to the programmed hour period), the symbol ↓ is displayed in the main menu.



NOTE
When the E2 function is activated, the thermostat takes a few days to monitor ambient conditions before the function is fully effective.

9 - DELAYED START

This function is used to delay start by 30 minutes after the programmed hour period.
The following screen is displayed after the ENERGY SAVING E2 menu:

Press one of the two arrow keys [△] [▽] to enable the function, and press [OK] to confirm.

To exit the advanced menu, press [OK] repeatedly or press [SET] until the unit sounds three beeps confirming that the modification has been saved. The thermostat is now off.
Press [⏻] to switch the thermostat on, and configure the settings as indicated on page 22.

10 - RESET

Used to restore all the original factory settings.

Use the [△] and [▽] keys to set rES 1.

Press [OK] to confirm. The thermostat switches off completely and then restarts, displaying the software version and then the main screen.
The unit has now been reset and all factory settings have been restored.

NOTE

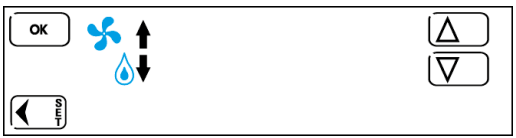
Resetting does not cancel the time and date.

With the unit OFF, press and hold in the centre of the display for a few seconds to access the "**SUPERVISOR**" configuration function. This function is used to set the maximum and minimum temperatures usable for different seasons, in both heating and air conditioning modes.
Setting the "**SUPERVISOR**" lock PIN makes it no longer possible to select Summer and Winter modes in the advanced menu, and impedes access to the calibration function.
The access code is NOT requested when the supervisor setup function is accessed for the first time.
If a PIN (other than "000") is configured, the system requests the code to allow access.
If the wrong code is entered, the message ERR is displayed for a few seconds and the unit switches OFF again.
After three failed unlock attempts, no further PIN entry attempts may be made for 20 seconds.
The message **Err** remains on the display.

IMPORTANT
If lost, the PIN code CANNOT be recovered or reset, even by resetting the thermostat.
It is strongly advisable to write the access code down and keep it in a safe place.

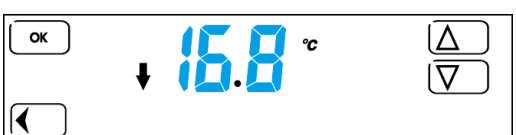
NOTE
Using the RESET function with SUPERVISOR PIN number = 000 restores ALL factory settings, including the maximum and minimum temperature values configured with the SUPERVISOR function.
Using a SUPERVISOR PIN number other than zero resets ALL settings except for the values configured with the SUPERVISOR function.

SUPERVISOR PIN number "000"
With the unit OFF, press and hold in the centre of the display for a few seconds, then select SUMMER/WINTER mode



Set the maximum user settable temperature value

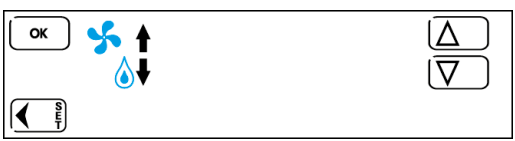
Set the minimum user settable temperature value



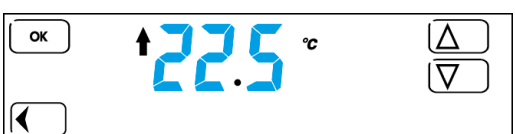
If required, enter a lock code

SUPERVISOR PIN number other than “000”
With the unit OFF, press and hold in the centre of the display for a few seconds. Enter the code with the arrows (if a code was set previously) then press OK.

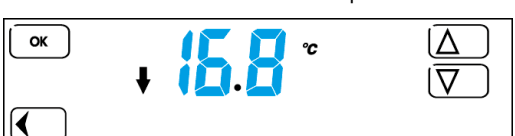
Select SUMMER/WINTER mode



Set the maximum user settable temperature value

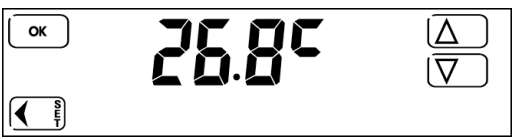


Set the minimum user settable temperature value



If required, enter a lock code

The thermostat is calibrated in the factory.
Should it be necessary to modify the temperature value measured and shown on the display, proceed as follows.
From the main screen, press and hold the OFF button for 4 seconds.
The screen CAL is displayed, followed by



Use the △ and ▽ keys to set the desired value, then press OK to confirm the modification and exit calibration mode.
If no other keys are pressed, the unit exits the menu automatically after a few seconds and returns to the main screen.
To restore the factory settings, access the advanced menu and reset the thermostat.

The thermostat may be programmed from a smartphone with NFC technology.
Enable NFC on your smartphone.
Hold the smartphone close to the thermostat as shown in the image.
The smartphone will be directed to Google Play Store, where the appropriate app can.

After downloading the APP, DO NOT move the smartphone away from the unit while communicating with/programming the thermostat.

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