



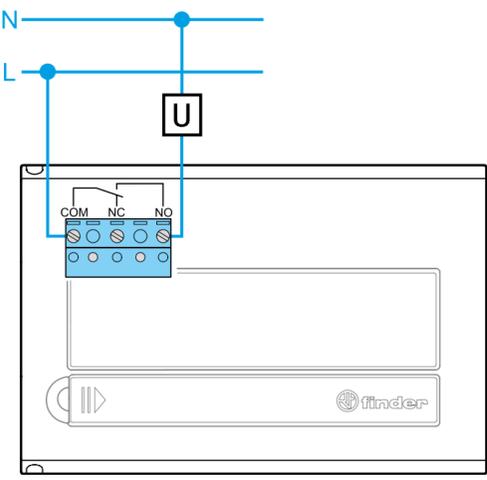
1C.71

WALL-MOUNTED TOUCH SCREEN 7 DAY PROGRAMMABLE THERMOSTAT

TECHNICAL CHARACTERISTICS

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
 Calibration: Yes
 Resolution: 0.1°C
 Tolerance: +/-0.5°C
 Display: Touch screen
 Daylight saving time: User selectable automatic time adjustment function
 Programmable thermostat lock: Yes, with PIN code
 Output: 5 A 250 V AC SPDT relay (potential free contact)
 Installation: Wall mounted
 Protection rating: IP20

CONNECTION DIAGRAM



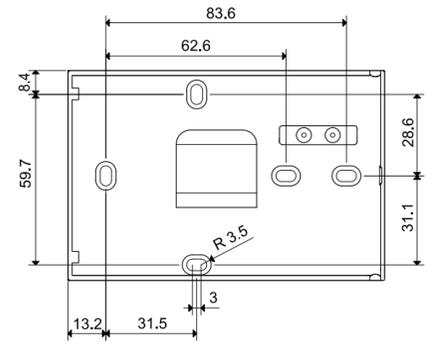
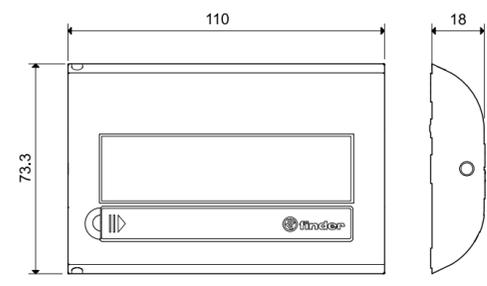
INSTALLATION

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.



BATTERY

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

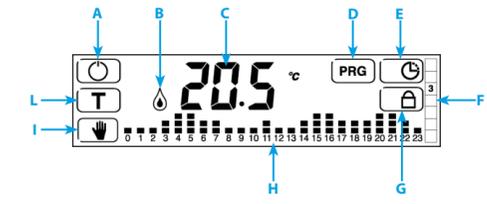
The programmable thermostat has the following three different low battery warning modes:



- 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** / **BFF** flashing in alternation, programmable thermostat switches to OFF state and the relay contact opens

FIRST TIME USAGE

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

DESCRIPTION OF KEYS

- [Power] Programmable thermostat ON/OFF
- [T] Setting the 3 temperature levels
- [Hand] Activate MANUAL mode. Press and hold for 3 sec. to programme MANUAL TIMER MODE (vacation)
- [PRG] Access programming menu
Press and hold for 3 seconds to activate PARTY FUNCTION
- [Lock] Press and hold to activate or deactivate display lock
- [Clock] Set time and date
- [Menu] Press and hold for 3 seconds to access the advanced menu
- [▲] Increase
- [▼] Decrease
- [OK] Confirm
- [Left] Go back to previous setting
Press and hold for 3 seconds to exit function
- [Left] Go back to previous setting. Press and hold for 3 seconds to exit advanced menu

DESCRIPTION OF SYMBOLS

- [Clock] Indicates if TIME and DATE setting mode is active or if current time is displayed
- 🔥 Heating ON (in WINTER mode)
- ☁ Air conditioning ON (in SUMMER mode)
- 🧊 Frost protection mode active
- 🔋 Low batteries
- °C Unit of measurement (degrees celsius)
- ΔT Temperature differential
- [Lock] Locked display or thermostat
- [Bar chart] 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

SET TIME AND DATE

Press [Clock] 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 [Left] to go back or exit the menu.

EXAMPLE
 Press [Clock]. 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
 - Once the date is set, the correct number for the day of the week is set automatically according to an internal calendar
 - Press [Left] to go back to the previous step
 - Press and hold [Left] 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 [Hand]. The manual mode temperature value set previously is displayed.



To modify the setting, press [▲] to increase or [▼] to decrease the value. Press [Hand] 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 [Lock] to activate the function.

The icon [Lock] appears on the display



Press and hold [Lock] 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

PROGRAMMABLE THERMOSTAT LOCK (with PIN)

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 [Power]
 - Press and hold [Lock] for 3 seconds to access the ADVANCED MENU
 - Press button [OK] repeatedly to access the screen 000 for entering the desired PIN code



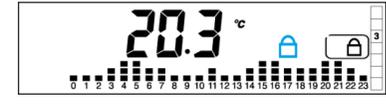
Use the [▲] and [▼] keys to set the desired PIN code number, then press [OK] to confirm. After setting the PIN, exit the advanced menu by pressing [OK] repeatedly or by pressing and holding [Left]. When the thermostat is switched on again, the main screen is displayed.



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

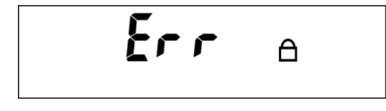


Use the [▲] and [▼] keys to enter the PIN number set previously in the advanced menu, then press [OK]



To unlock the thermostat, press and hold [Lock] for 3 seconds. The value 000 is displayed. Enter the PIN number and press [OK] to confirm.

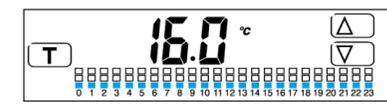
IMPORTANT
 After three failed unlock attempts, no further PIN entry attempts may be made for 20 seconds. The message Err is displayed.



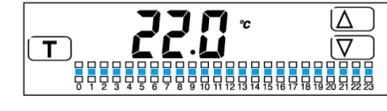
NOTE
 The display lock remains active even if the batteries of the thermostat are removed and refitted. Enter the **emergency unlock code 513** if you have forgotten the PIN. After unlocking the unit with the emergency unlock code 513, it is strongly recommended to access the advanced menu and check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

SET TEMPERATURE

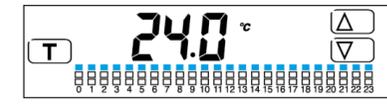
Used to set the three 3 temperature levels (**LOW-NIGHT-COMFORT**). Press [T]. The first level value flashes. Set the desired **LOW** temperature value using [▲] and [▼].



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



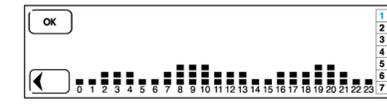
Press [T]. The third level value flashes. Set the desired **COMFORT** temperature value using [▲] and [▼].



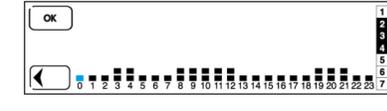
Press [T] to return to the main screen.
NOTE
 The temperature level sequence is reversed for SUMMER mode. i.e. The third level represents the lowest temperature.

PROGRAMMING

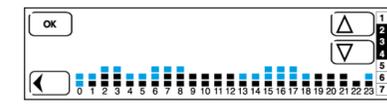
Press [PRG] to access the programming menu.
PROGRAMMING DAY/S
 The day value 1 (Monday) flashes. Press [▲] or [▼] to change the day selection.



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.

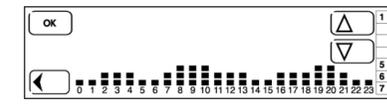


PROGRAMMING INDIVIDUAL HOURLY SETPOINT TEMPERATURES FOR 24 HOUR PERIOD
 The HOUR bar 0 flashes on the hours/temperature graph. Use [▲] and [▼] to select the temperature level. Press [OK] to confirm and move to the next hour. Repeat the same procedure for each hour.



NOTE Press [Left] 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].

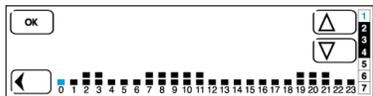
Only the remaining days are now displayed. Now programme the remaining days, following the procedure described above, or press [Left] to exit the menu.



The main screen is displayed.
NOTE
 - Press and hold [Left] 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

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.



TIMED MANUAL MODE (vacation)

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

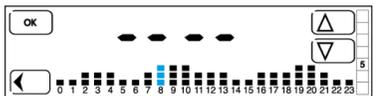


NOTE

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

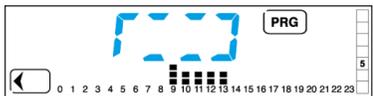
PARTY FUNCTION

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.

FROST PROTECTION FUNCTION

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 **☐** and **☐** appear on the display.



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

ADVANCED MENU

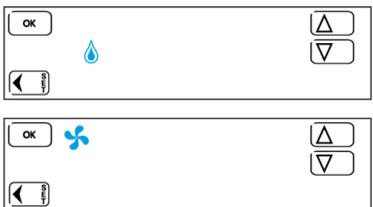
The advanced menu may be used to personalise the setup of the thermostat.

- 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 - RESET

To enter the advanced menu, press **☐** from the main screen and switch off the thermostat. Press and hold **☐** 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 **☐** or press **OK** repeatedly until the OFF screen is displayed.

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 **☐** 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.

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 **☐** 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.

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.

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 **☐** 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 **☐** 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. 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, or press and hold **☐** for 3 seconds, enter the PIN set previously, then press **OK** to confirm to activate the anti-tampering lock.

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 - RESET

Used to restore all the original factory settings.



Use the **△** and **▽** keys to set **rES**.



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.

CALIBRATION

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 **CL** 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.