

LST INSTALLATION MANUAL



Image for illustration purposes only.

**TOTAL
ELECTRIC
SOLUTIONS.**

All electrical appliances produced for the Company are guaranteed for one year against faulty material or workmanship. This applies only if the appliance has been used for purposes in accordance with the instructions provided and has not been connected to an unsuitable electricity supply, or subject to misuse, neglect, damage or modified or repaired by any person not authorised by the Company. This guarantee is offered to you as an extra benefit and does not affect your legal rights. The correct electricity supply voltage is shown on the rating label attached to the appliance. Reasonable care has been taken to ensure that this guide is accurate at the time of printing. In the interest of progress the Company reserve the right to vary specifications from time to time without notice.

Overview

Please read this guide carefully and retain for future use and maintenance.

This appliance has been designed and manufactured to the highest international standards, however, care must be taken for optimal results and safety. This appliance also meets the requirements of EU Directive 2004/106/EC for EMC and 2009/125/EC Directive.

Safety & Care

The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Warning

- Do NOT site the appliance in a corner.
- Do NOT handle the appliance with wet hands.
- Do NOT use the appliance in workshops or rooms where excessive dust is generated or present.
- Ensure that nothing is pushed into any aperture of this appliance.
- Do NOT touch outlet grille when the appliance is in use.
- Do NOT cover or restrict any aperture of the appliance when in use.
- Do NOT use the appliance if damaged.
- Do NOT leave the appliance unattended where young children are present.
- If used in a bathroom, the heater is to be installed so that the switches and other controls cannot be touched by a person in the bath or shower.
- Operating temperature range -10 to +40 °C
- The heater MUST be fully secured in the vertical position before being switched on.

Thermally Operated Cut-Out

The appliance is fitted with a thermally operated cut-out (TOC). This is a safety device, which

switches the heater off if, for any reason, the appliance overheats. The TOC can only be re-set after the appliance has cooled down. In order to re-set the TOC, proceed as follows:

- Switch off appliance and leave for approximately 10 minutes.
- Switch appliance back on and TOC will re-set.
- Ensure that the appliance is functioning correctly. If the TOC operates again, the appliance should be checked by a competent electrician.

The heater carries a 'Do Not Cover' label to warn the user that if the appliance is covered, there is a risk of overheating.

Cleaning

Always disconnect the heater from the mains before cleaning. The heater should not require any maintenance, but it is strongly advised that it is kept clean. An occasional wipe over with a soft cloth is all that should be necessary.

- Do NOT use metal or furniture polish on any part of the heater.
- Do NOT touch the heater with wet hands or in any way bring water into contact with it.

If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

If Your Heater Does Not Work

- Check that power is available to the heater.
- Check that the thermal cut-out has not operated. Follow the reset instructions given under the section headed 'Thermally Operated Cut-out'.
- Check that the fuse in the spur unit has not blown. This can be done by replacing the fuse with another suitable fuse.

Should none of the above remedies work, then telephone the helpline number shown in these instructions (UK ONLY). Do not attempt to repair the heater.

Connection to the Main Supply

Electrical installation should be carried out by a competent installer, preferably registered with NICEIC (National Inspection Council for Electrical Installation Contracting) in accordance with the 17 edition of the IEE Wiring Regulations, (BS.7671), and any relevant Local Authority Bye-Laws. This heater is fitted with a 3-core mains supply cable and must be permanently connected to the electricity supply via a double pole switch having 3mm gap on each pole. **There are no exceptions.** A switched Fused Connection unit to BS.1363. Part 4 is a recommended mains supply connection accessory to ensure compliance with safety requirements applicable to fixed-wiring installation.

Note: When switched on for the first time the appliance may emit a slight smell. This is purely the evaporation of a fluid used in the manufacturing process.

WARNING: This appliance must be earthed.

General Safety

Our Low Surface Temperature heaters have been designed and built to the NHS requirement for safe surface temperatures which is that no surface which can be touched by the user will be more than 43 °C (at a room temperature of 21 °C) This means that our Low Surface Temperature heaters out-perform the European Standard by a significant margin.

The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Safety Monitor

As part of the intelligent control (see section 15), the heater has built-in safety monitoring. In the unlikely event of a fault, the safety monitoring will help prevent high surface temperatures. The safety monitor will identify overheating, fan failure and certain electronic faults. When the safety monitor identifies a fault, the heater runs in restricted mode. However, in the event of a serious fault the heater stops running. The heater indicates a fault by beeping twice. It will not beep again until the unit is switched off and then back on, but the LED will flash red continuously.

2. Optional PLK1 Locking Device

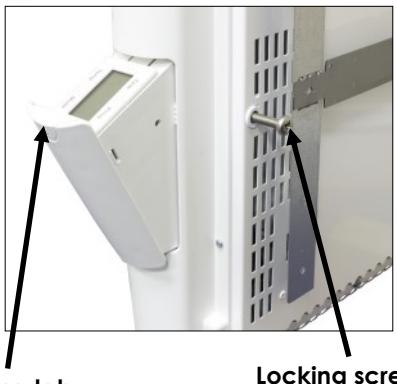
The PLK1 locking device can be used to mechanically lock the controls to prevent tampering with settings. As it is not supplied with the heater, kindly contact our Sales team if required.



- Locking tab



- Locking screw



1. Mounting

This unit is for wall mounting only. It is designed to be very quiet in operation if mounted correctly. It must be fitted using the wall bracket supplied and screws for a 5mm hole. The wall bracket provided has been specially designed to minimise noise levels. **Care must be taken when handling the bracket not to bend or distort it.**

When fitting more than one heater in a room we would recommend that they are sited on the same wall to optimise airflow and ensure quiet operation.

To wall mount, the wall bracket supplied must be used. Remove the wall bracket from the heater, with the chains attached, by removing the 2 securing screws from the top of the rear panel.

Fix the wall bracket to the wall using 4 screws.

Fig 1: Present the heater to the bracket

Fig 2: Locate the heater onto the bottom lugs via the 2 slots in rear panel. Hinge the heater upwards and attach the chain assembly, then move the heater to the upright position. The link plates should slide under the slotted bracket lip.

Fig 3: Tighten both retaining screws.

MOUNTING ON A PLASTERBOARD WALL

- Ensure at least one of the wall brackets is secured to the timber frame of the studded wall by using standard wood screws.
- Where the bracket is fitted onto plasterboard only, ensure plasterboard fixings are used. Standard wall plugs will not be suitable.
- Where possible mount the heater(s) on an outside wall to inhibit transfer of sound within the building.

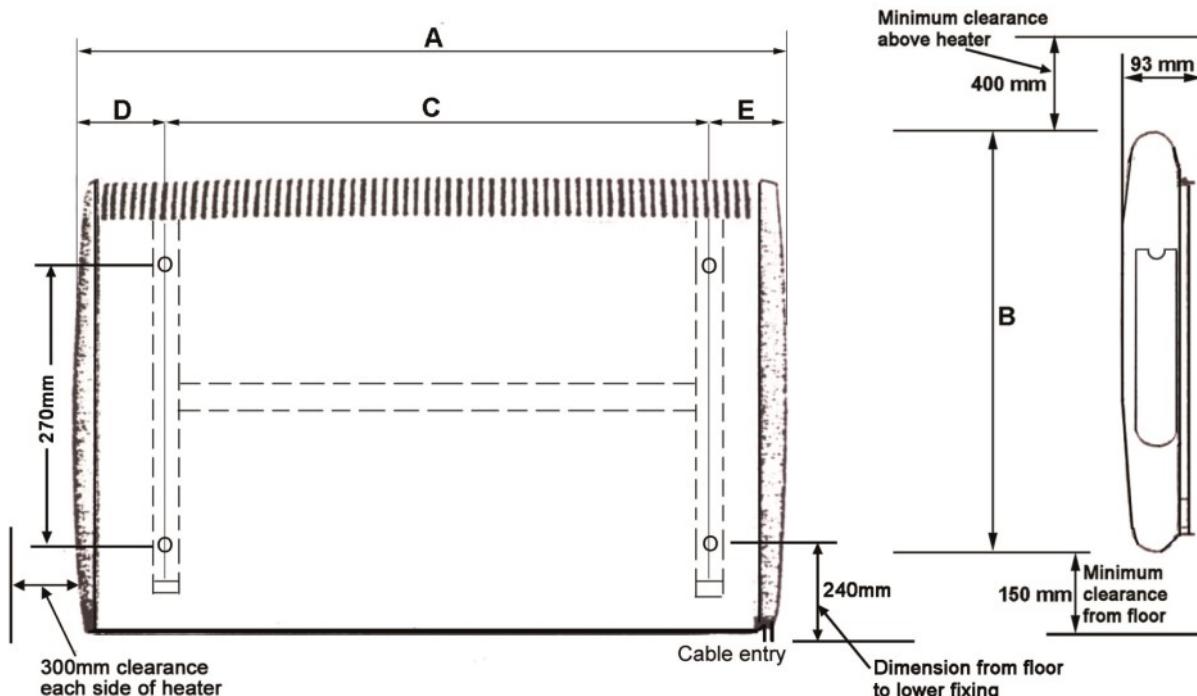
NB: Failure to follow the instructions and recommendations provided could result in increased noise levels.

The heater must not be located immediately below a fixed socket outlet.

Installation

Mounting bracket

This unit must be installed using the mounting bracket and chains provided. The chains are used to prevent the unit from being dropped when the securing screws are loosened. This means the securing screws can simply be loosened to view behind the heater. This allows the rating label to be viewed easily and also makes it easier to clean the unit.



	WATTS	MILLIMETRES			
		A	B	C	D/E
PLSTi050E/PLSTi075E	500/750	506	430	210	148
PLSTi100E	1000	640	430	364	138
PLSTi150E/SSE	1500	892	430	616	138

See diagram below for Mounting

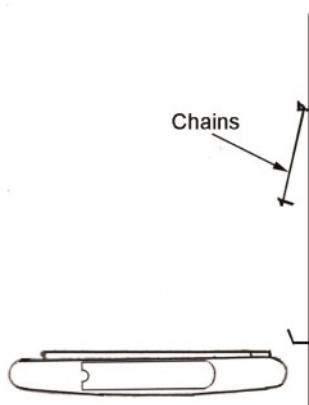


Fig 1

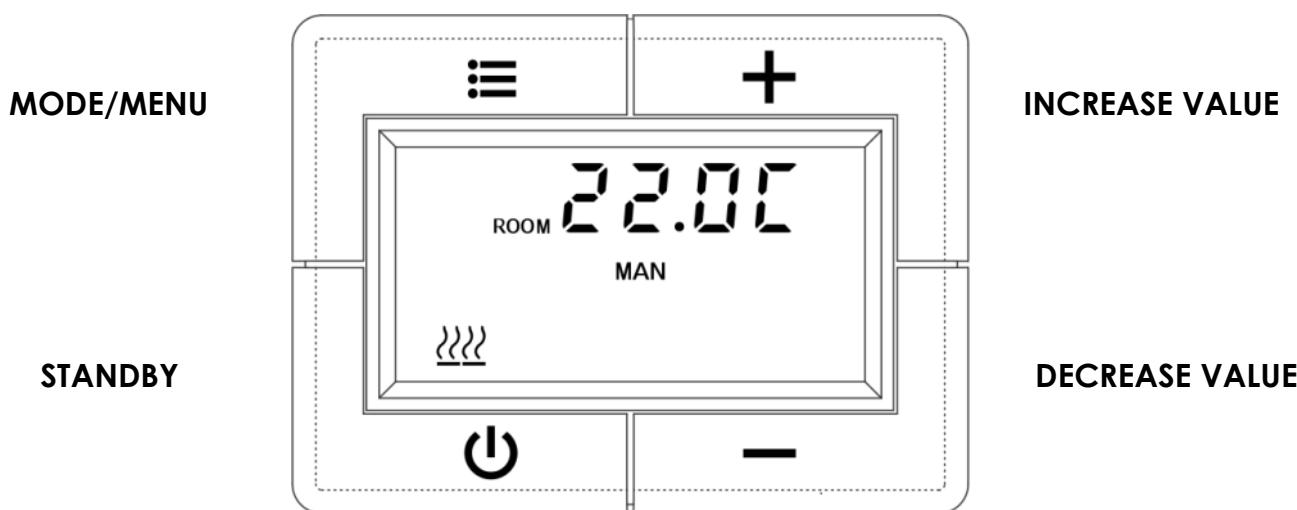


Fig 2



Fig 3

Note: The heater must be secured using the securing screws as per Fig 3 before being switched on.



3. Basic Operation

The PLSTi has 4 standard operating modes:

BOOST, MANUAL, SETB and PROG.

Each mode can be selected by pressing the MENU button to cycle through the options. The cycle sequence will always start with **BOOST** mode followed by **MANUAL**, **SETB** and **PROG**.

The PLSTi also has a **STANDBY MODE**. To enter/exit this mode, press the standby button. In **STANDBY MODE**, the heating will not be activated.

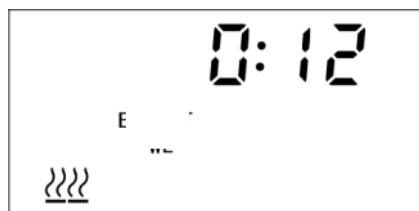
To adjust the operating mode/settings of the PLSTi, the display must first be activated.

If the controller is in **STANDBY MODE**, press the power button. The heater will exit standby mode and the display will be activated for 5 seconds.

If the controller is not in **STANDBY MODE**, press either of the + or - or menu buttons once. The display will be activated for 5 seconds.

4. BOOST - 15 minutes

The boost feature increases the room temperature for 15 minutes. To amend the set temperature when in **BOOST** mode, activate the display and use the + and - buttons to change the temperature. Once the temperature is set, you can leave the display to return to the main screen and the settings will be saved. After 15 minutes, the PLSTi will return to the previous operating mode.



5. MAN - Manual Mode

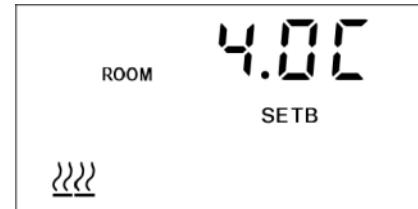
In **MANUAL** mode, the heater maintains a chosen set temperature between 15°C and 35°C. To amend the set temperature when in **MANUAL** mode, activate the display and use the + and - buttons to change the temperature. Once the temperature is set, you can leave the display to return to the main screen and the settings will be saved.

When the room temperature reaches the set temperature, the heating is disabled.



6. SETB - Setback Mode

In **SETB** mode, the heater maintains a chosen set temperature between 4°C and 15°C. To amend the set temperature when in **SETB** mode, activate the display and use the + and - buttons to change the temperature. Once the temperature is set, you can leave the display to return to the main screen and the settings will be saved.



7. PROG - Automatic time mode

In this mode, the heater will follow the week's time / temperature program.

The temperature can be temporarily overridden in **PROG** mode by simply activating the display and using the + and - buttons to set the new temperature. The new set temperature will be then maintained until the next program step.



8. Heat symbol

Every time there is a demand for heat, the display will show the heat icon.



9. Keys Locking

Press and hold + and - together for 5 seconds. The display will show the  symbol. Repeat the step to unlock.



10. Setting the time and day

The PLSTi will come set with the correct time and day. It has an internal battery back up that can remember the settings. It will automatically change the clock to adjust to British summer time.

Should you need to alter the time, see section 20 "set-up menu".

11. Open window detection

Ensuring you do not waste energy on heating the outside world, the heater is equipped with optional open / closed window detection. The heater recognises sudden drops in temperature when a window or a door is opened and turns the heating off to save energy. When the window is closed, the heater will automatically detect a temperature rise, and switch itself back on. Once enabled in the setup menu, the open window detection is fully automatic and does not require any human intervention to be activated. When the open window detection has been triggered, the heat symbol will flash on/off as shown below.



The system has been factory set to default time and temperature values. If necessary, all values can be adjusted. When the heating is on, open window detection sensor will automatically switch the heater off when it detects a fall in temperature of 2°C in less than 10 minutes (this temperature can be changed in menu 8 and time in menu 7). If a temperature rise of 2°C in less than 30 seconds is detected, the heater will switch itself back on (this temperature can be changed in menu A and time in menu 9).

12. Status light on the heater

Light colour	Heater status
	STAND-BY No heat output
	Reduced heat output
	Full power heat output

13. Heat symbol on the display

Every time there is a demand for heat, the display will show the heat icon.

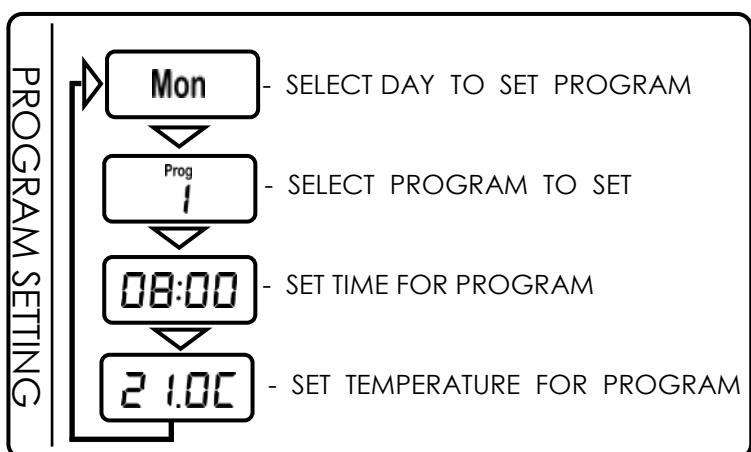
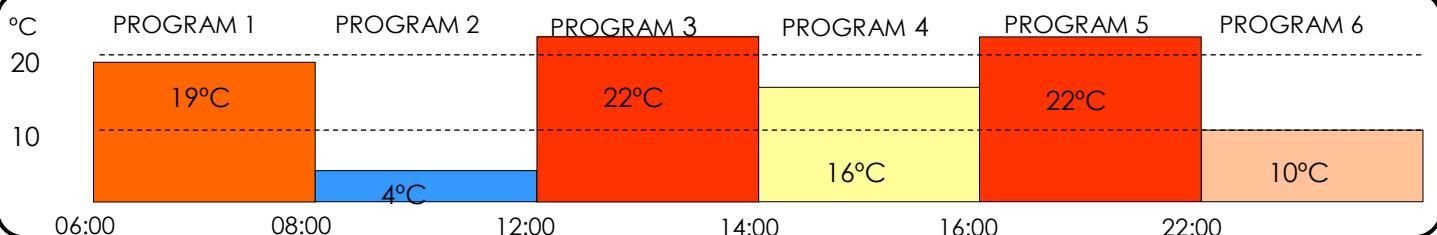
-  - Reduced heat output when the room temperature is close to the set temperature - allowing for almost silent operation.
-  - Full heat output

14. Fan only mode

This appliance comes with a fan only option. This is very good for the warmer months to help improve air circulation. To enter fan only mode, activate the display, reduce heater temperature using MENU button until no heat symbol is showing. Then use menu button to scroll until the display shows a fan symbol. To exit fan simply activate the display and press the MENU button.

15. Setting the automatic program schedule

An example of one day program on PLSTiE



This section provides an example of how to set the 7-day program for one day. The example will program the timer to maintain 21°C from 08:00 until 16:00. It will maintain 4°C from 16:00 onwards. It does this by setting the programs as follows;

Prog 1 - Set to 08:00 and 21°C

Prog 2 - Set to 16:00 and 4°C

Prog 3, 4, 5, 6 - Set to inactive

The steps to program this are shown below;

Step 1: Press and hold the MENU button. The display below should show with Monday flashing.



Step 2: Press the MENU button. Prog 1 in the top left of the display should flash. This represents the program number. Each day has 6 programs.



Step 3: Press the MENU button. The time should flash. Use the + and - buttons to set the time you want the heating to switch on.



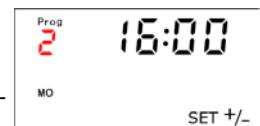
Step 4: Press the MENU button. The temperature should flash. Use the + and - buttons to set the temperature you want to maintain.



Step 5: Press the MENU button. Monday should flash again.



Step 6: Press the MENU button. Prog 1 in the top left of the display should flash. Use the + button to increment this to Prog 2. (Note: you can cycle between the different programs using the + and - buttons)



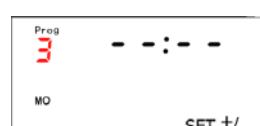
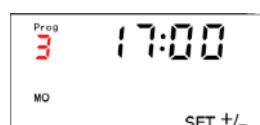
Step 7: Press the MENU button. The time should flash. Use the + and - buttons to select the time you want the heating to switch off.



Step 8: Press the MENU button. The temperature should flash. Use the + and - buttons to select a frost protection temperature.



Step 9: Repeat these steps for programs 3-6 if additional time periods are required. Any programs not being utilized must be deactivated. To do this, simply select the program in question as per step 6 and press the STANDBY button. The time should change to dashes as shown below. To reactivate the program, simply press the STANDBY button again.



16. Overview of program mode

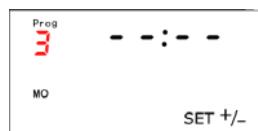
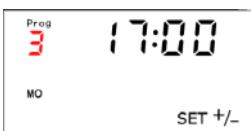
The PLSTi has a 7-day, 5-day + 2-day and a 24 hour timer available. This can be chosen in the setup menu. Up to 6 programming steps are available for each day. In the programming you can set a start time and a temperature for each program.

17. Basic operation in program mode

1. Press and hold MENU for 5 seconds to enter the program setting.
2. The day will be flashing. Use + and - to navigate day, press MENU to select day.
3. PROG 1 will be flashing. Use + and - to navigate program, use MENU to select program.
4. The time will be flashing. To set time, use + and - , press MENU to set the time.
5. The temperature will be flashing. To set temperature, use + and - to change temperature, press MENU to set temperature.

18. Setting program inactive

If you do not require the use of all 6 programs they can be deactivated. When in programming mode select the program you want to make inactive and press the STANDBY button. To activate the program again, press the STANDBY button.



19. Copy day function

If you require the same set of programs throughout the week, a 24 hour timer is available. This will use the same program every day. A 5-day + 2-day timer is also available. This will use the same programs Monday-Friday, and the same programs Saturday and Sunday. These modes are enabled in the setup menu, as explained in the "setup menu" section 20.

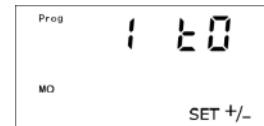
Alternatively, it is possible to copy a program from one day to another.

To do this, follow the steps below;

Step 1: Press and hold MENU for 5 seconds to enter the program setting.



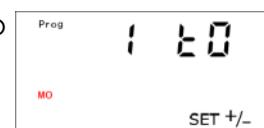
Step 2: Press and hold STANDBY for 5 seconds to enter the copy day setting.



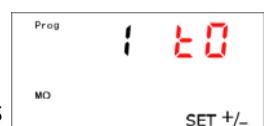
Step 3: Use the MENU button to select the day to copy the programs from. 1= Monday, 2 = Tuesday and so on.



Step 4: Use the + and - buttons to select the day to copy the programs to.



Step 5: Press the STANDBY button to copy the programs. The 'TO' will flash to confirm the programs have been copied.



20. Setup Menu

1. Press and hold MENU and - together for 5 seconds.
2. The display will enter the setup menu.
3. Use + and - to change a value.
4. Use TIME to scroll between the settings.
5. Use standby button to exit the setup menu.

Each available setting is explained on the following page.

1 - Temperature calibration

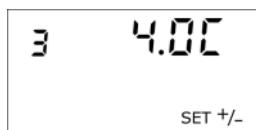
The temperature reading is factory calibrated but if for any reason it needs adjusting (better accuracy required, to suit different position in the room etc.), the reading can be recalibrated in 0.5 degree steps.



2 - Celsius / Fahrenheit



3 - Set minimum temperature



4 - Set maximum temperature



5 - Enable/disable open window detection



6 - Open window detection time



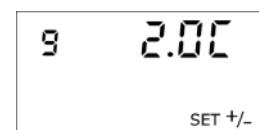
7 - Temperature drop in open window detection time



8 - Closed window detection time



9 - Temperature rise in closed window detection time



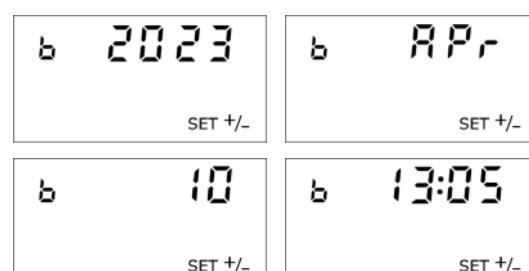
A - Program mode select.

Choose between a 7-day, 5-day 2-day or a 24 hour timer.



B - Time and Date setting.

The year is shown first, use + and - to change, then press menu to change month, day, hours and minutes.



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