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Electrorad Digi-Line

Installation, Operating & Instruction Manual



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01.04.2014



Class 1 - 230V - 50

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1.0 Warnings & Safety Information

SAFETY INFORMATION

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are older than 8 and supervised.

Keep the appliance and its cord out of reach of children aged less than 8 years.

Children of less than 3 years should be kept away from the unit unless continuously supervised.

Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children aged from 3 years and less than 8 years shall not plug in, regulate, clean the appliance or perform user maintenance.

1.0 Warnings & Safety Information (cont...)

CAUTION

Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.



In order to avoid overheating, do not cover the radiator. "Do not cover" means that the radiator must not be used for drying clothes, for example, by placing them directly on the radiator.



IMPORTANT SAFETY INSTRUCTIONS!

Before starting work disconnect power supply!

All installation work and wiring work related to the radiators, thermostats and programmers must be carried out only when de-energized.

The appliance should be commissioned by qualified professionals only.

Make sure to adhere to valid safety regulations.

Any repairs or maintenance within the warranty period should be carried out only by approved service engineers confirmed by Electrorad UK Ltd.

For the correct installation of radiators it is essential that the fixing of the radiator is carried out in such a way that it is suitable for intended use AND predictable misuse. A number of elements need to be taken into consideration including the fixing method used to secure the radiator to the wall, the type and condition of the wall itself, and any additional potential forces or weights, prior to finalising installation. **IN ALL CASES IT IS STRONGLY RECOMMENDED THAT A SUITABLY QUALIFIED PROFESSIONAL INSTALLER OR SIMILAR TRADESPERSON CARRIES OUT THE INSTALLATION.**

PLEASE NOTE: The fixing materials provided are only intended for installation on walls made of solid wood, bricks, concrete or on timber-frame stud walls where the fixing is into the timber. All walls being considered should have no more than a maximum of 3mm wall finishing. For walls made of other materials, for example hollow bricks, please consult your installer and/or specialist supplier. **ONCE AGAIN, IF YOU ARE UNSURE, IT IS STRONGLY RECOMMENDED THAT A SUITABLY QUALIFIED PROFESSIONAL INSTALLER OR SIMILAR TRADESPERSON CARRIES OUT THE INSTALLATION.**

The radiator is equipped with an overheat protection that cannot be reset (melt fuse). This overheat protection disconnects the current if the radiator becomes too hot (e.g. when covered).

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

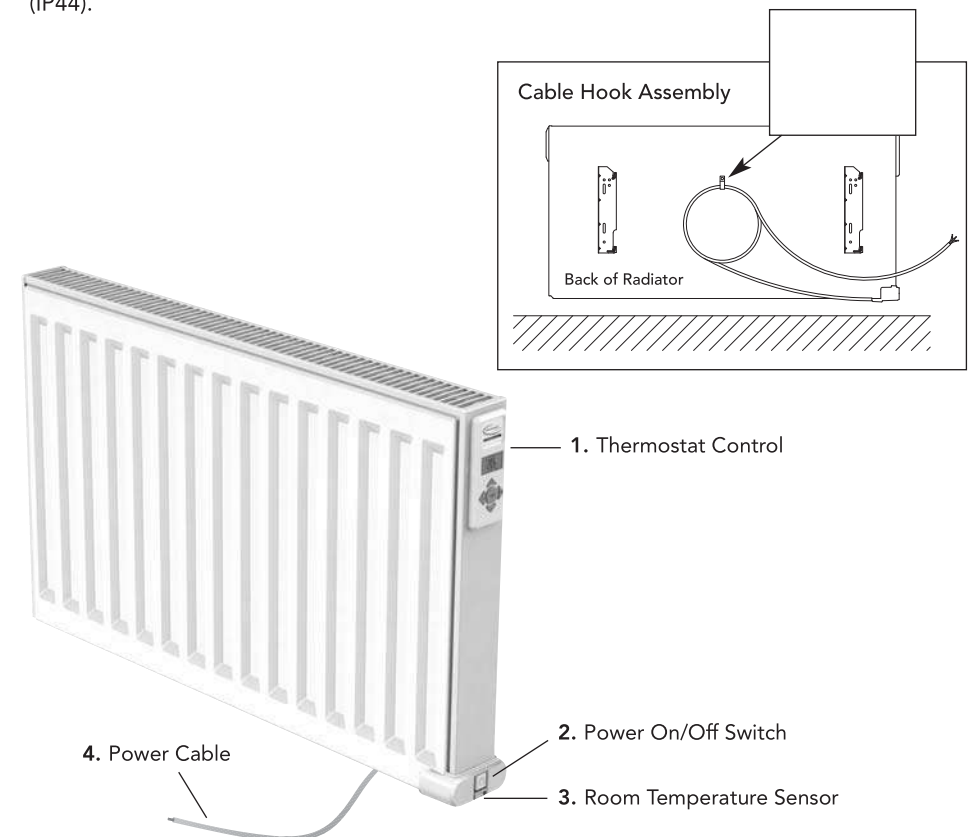
1.0 Warnings & Safety Information (cont...)

The radiator is filled with an exact amount of environmental friendly vegetable oil. Any repairs that require the radiator to be opened shall therefore only be carried out by the

manufacturer or his approved agent. Please contact Electrorad UK Ltd in case of leakage.

2.0 General Information

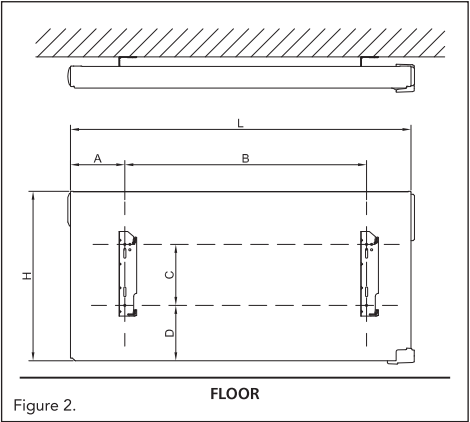
- The appliance is a sealed electric radiator designed for fixed wall mounted installation.
- The radiator conforms to the standards EN 60 335-1 and EN 60 335-2-30.
- The radiator is class 1 and splash resistant (IP44).
- The radiator complies with the European Directive 2004/108/EC (CE Marking on all radiators).
- The radiator is supplied complete with power cable and wall brackets.



3.0 Installation

POSITIONING

- The radiator must be positioned horizontally, the right way up on the wall in order for it to function correctly. Never switch the radiator on in any other position as this will damage the electrical element.
- The radiator must be positioned according to the applicable standards and the minimum distances as specified in figure 1 should be carefully observed.
- The radiator must not be located underneath an electric socket.



- This product is splash resistant with an IP44 rating. This must be considered when installing in a location containing a bath or shower, as defined by BS 7671.
- The radiator may be positioned in zone 2 (figure 4) of the bathroom, in so far as no operating controls (button, switch, etc.) are in reach of persons in the bath or under the shower.

FIXING

- Mark out the distance between the brackets and the positions for the screw holes as shown in figure 2 and the dimension tables at the top of page 7, and ensure the safety clips are used (see figure 3).

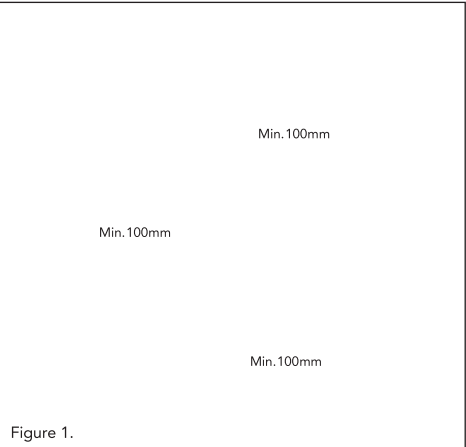


Figure 1.

Safety Clip-on Brackets

Step 1 Step 2

Figure 3.

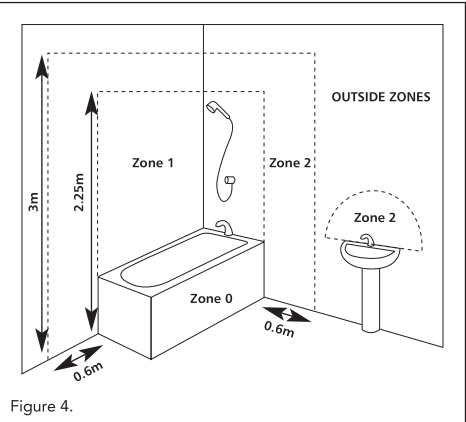


Figure 4.

3.0 Installation (cont...)

Electrorad Digi-Line Single Panel (refer to figure 2)

Height (mm)	300	500	Length (mm)	400	550	800	1050	1100	1300	1500
C	110	180	A (min)	160	160	160	160	160	160	160
D	90	163	A (max)	101	254	508	762	812	1016	1219
			B (min)	135	135	135	135	135	135	135
			B (max)	152	305	558	812	863	1066	1270

Electrorad Digi-Line Double Panel (refer to figure 3)

Height (mm)	300	500	Length (mm)	400	500	650	800	950	1000	1250	1300	1600	2000
C	110	180	A	109	160	160	160	160	160	160	160	160	160
D	90	163	B	203	203	355	508	660	711	965	1016	1320	1727

CONNECTION

- The electrical installation must comply with the local or national regulations.
- The radiator must be connected to the electrical supply, using a switched fused spur with 3mm separation on all poles.
- If the radiator is installed in a bathroom or shower room, it must be protected with a residual current device (RCD) with a rated residual current not exceeding 30 mA.

Optional Extra



Radio Frequency Programmer

Electrorad Digi-Line radiators can be used as a stand alone radiator. The radiator has a built in radio frequency receiver which can be used with a RF Programmer. Please ask for more details. Please refer to the RF Programmer instructions for use.

4.0 Maintenance, Repair & Disposal

- Use only a damp cloth for cleaning and wiping of the radiator which should be switched off at this time.
- When scrapping the radiator, follow the regulations concerning the disposal of oil.

5.0 Waste Disposal According to The WEEE Directive (2002/96/EC)



Waste disposal according to the WEEE Directive (2002/96/EC). The symbol on the product label indicates that the product may not be handled as domestic waste, but must be sorted separately. When it reaches the end of its useful life, it shall be returned to a collection facility for electrical and electronic products. By returning the product, you will help to prevent

possible negative effects on the environment and health to which the product can contribute if it is disposed of as ordinary domestic waste. For information about recycling and collection facilities, you should contact your local authority/municipality or refuse collection service or the business from which you purchased the product. Applicable to countries where this Directive has been adopted.

6.0 Warranty

The product is covered by a 10 years warranty except for the electrical and electronic components that are covered by a 2 years warranty.



7.0 Operating Instructions

The electronic thermostat has an LCD display specially designed for the regulation of the electrical radiator. It will optimize energy consumption and increase comfort levels.

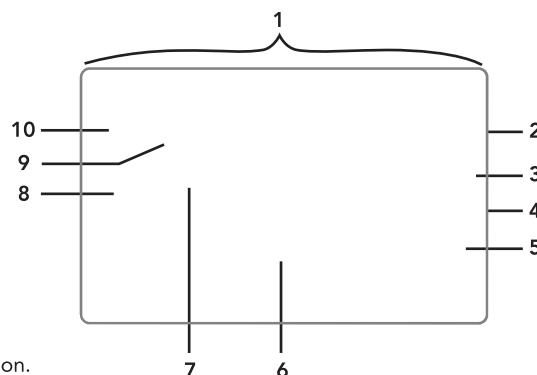
Features:

- Display with backlight
- Wireless Radio Frequency programmer option (see separate instructions)
- Timed override function.

Note: The radiator has a soft start feature built into the control software such that full power is not applied at power up, whether it is the first time the radiator is switched on or whenever the radiator loses power by switching it off. The software gradually increases power from zero to full power over a 20 minute period.

7.1 Display

1. Operating mode menu (the active mode is framed).
2. Parameter number whilst in installation mode.
3. Installation parameter menu.
4. Key lock function indicator.
5. Room temperature indicator.
6. Display zone for temperatures and parameters.
7. Heating demand.
8. Symbol for use with RF programmer (if applicable).
9. Override function in AUTO mode.
10. Wireless clock signal reception indication.



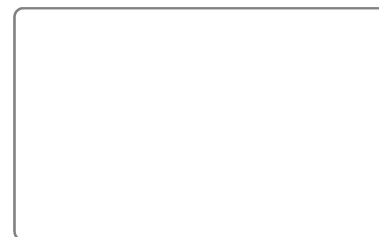
7.2 Keyboard



Keys:

- < = Left Navigation Key
- > = Right Navigation Key
- + = Plus Key
- = Minus Key
- OK = Validation Key

8.0 Working Mode Definition



How to change the working mode:

- Use the navigation keys left (<) or right (>) to display the working mode line.
- Move the frame cursor on the desired working mode and press (OK) to enter in the operating mode you have chosen.

8.1 Manual Comfort Mode



Manual working mode, the comfort setting temperature will be followed all the time. By pressing the (+) or (-) keys, the comfort setting temperature starts to blink and can be adjusted.

This temperature will also be used when following the weekly schedule on the programmer (if applicable).

8.2 Manual Reduced Mode



Manual working mode, the reduced setting temperature will be followed all the time. By pressing (+) or (-) keys, the reduced setting temperature starts to blink and can be adjusted.

The reduced temperature is intended to be used during the night or for short periods of time when not in the room/property.

This temperature will also be used when following the weekly schedule on the programmer (if applicable).

8.3 Frost Protection Mode



Use this mode if you want to protect your system against freezing when leaving the property for extended periods.

The frost protection setting temperature is fixed and can be adjusted in the parameter menu number 05 "F", see section 10 (default value 7°C).

8.4 Standby Mode



- In this mode the radiator is switched off.
- The radiator will no longer receive signals from the radio frequency programmer (if applicable).
- At any time, press any key to view the measured room temperature.
- **Attention:** In this mode, your radiators may freeze in very cold weather. Please be aware, if there is no heating in your property then your pipes could freeze. For protection of the product and property in very low temperatures, we recommend the 'frost protection' mode is used.

8.5 Automatic Mode



This mode is only to be used when paired to the timings/settings of the radio frequency programmer (if applicable).



8.6 Wireless Programmer



If a Wireless clock is paired, the thermostat will follow the set programme.

A Wireless clock signal will be shown by the flashing symbol.



The thermostat will follow the comfort temperature value.



The thermostat will follow the reduced temperature value previously set.



The thermostat will follow the frost protection setting temperature (adjustable in the parameter's menu N°05).



The thermostat is turned OFF.

Careful: In this mode your installation can freeze.

8.7 Timed Override Mode



The Timer mode allows the set temperature and heating period to be adjusted for a specific time.

This function should only be used to override the programmed settings.

- First adjust the desired setting temperature with (+) or (-). Press (OK) to start the function (default value 22°C).

- Then, adjust the duration in hours "H" if below 24H, then in day "D" with (+) or (-). Press (OK) to validate (adjustable 1 Hour to 44 days).

The ⌚ logo will blink and the number of hours/days left is displayed until the end of the period.



To stop the Timer function before the end, set the duration period to "no" with the (-) key.

8.8 Power Settings



To set the power of the front heating panel choose between:

When considering the permanent use of the radiator at 60°C or 75°C maximum, the correction factor from the table (right) should be applied for the output.

E.g. A 1000 Watt single panel programmed for a maximum surface temperature of 75°C will deliver maximum 700 Watts. A 1000 Watt double panel programmed for a maximum surface temperature of 60°C will deliver maximum 800 Watts. These values should be considered when selecting the number and type of panels to cover the calculated heat losses.

Setting*	Surface Temperature	Single Panel	Double Panel
1	60°C Max	~0.55	~0.80
2	75°C Max	~0.70	~0.90
3	90°C Max	1	1

*Please refer to Section 7.1 Display, point 2 as to where this will be shown on the display.

8.9 Sensor

Please Note: The thermostat sensor is located at the bottom of the radiator and will only read the room temperature and not the actual temperature from the radiator.

9.0 Key Lock Function



Use this function to prevent any changes of the settings (in a child's room, public area...etc.).

- To activate the Key Lock function, first press and maintain the validation key (OK) and then press simultaneously on the left key (<).



- The ⏏ logo will be displayed on the screen.



- Repeat the same procedure to unlock the keyboard.



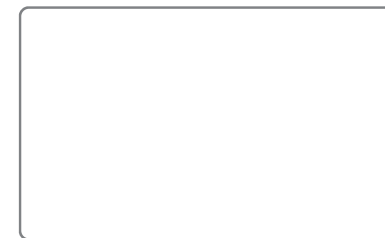
Note: The Key Lock function is available in all operating modes.

10.0 Parameter's Menu

Your thermostat has a parameter's menu. In order to enter this menu, press and hold the validation key (OK) for 5 seconds. Then the parameter menu will appear and the first menu screen will be displayed (see opposite).

Parameters can be selected using the navigation keys (<) or (>). Once the parameter is chosen, toggle the value with the (OK) key, modify it with (+) or (-) and confirm your adjustment with (OK).

To leave the parameter menu, choose the parameter « End » and press (OK).



10.0 Parameter's Menu (cont...)

N°	Default value & other possibilities
00	rF i: Wireless Radio initialization (pairing) Press OK to enter this initialization sequence. Select with (+) or (-) the radio communication type and validate by pressing OK: - rF.un: unidirectional communication, the digital thermostat only receives orders from a 4 zone radio frequency programmer. - rF.bi: bidirectional communication with the Graphic clock. The digital thermostat returns state and power consumptions to the Graphic clock (This feature is currently unavailable. A new programmer will become available in the near future). Then the backlight goes out and the digits - - - will be cycling showing that the digital thermostat is waiting for a radio link signal from the programmer to be sent (press < to cancel this radio initialization). When the radio link signal is received, the pairing is saved and the backlight lights up. It will then return to menu selection (rF i).
01	dEG: Degrees displayed Press OK to enter this parameter. Select with (+) or (-) and validate by pressing OK: °C Celsius °F Fahrenheit
04	__.: Calibration of the internal probe The calibration must be done after 1 day working with the same set temperature in accordance with the following description: Put a thermometer in the room at the same height as the programmer and check the real temperature in the room after 1 hour. When you enter in the calibration parameter the actual value is displayed. To enter the value shown on the thermometer, use the (+) or (-) keys to enter the real value. Then, press (OK) to confirm. The logo  should be displayed, to inform that a calibration is now made and saved in the memory. If you need to erase a calibration already made press on the navigation key left (<). Then the  logo must disappear. Please Note: Only the heating element managed by the thermostat must be used during the complete step of the calibration. Do not have a secondary heat source in the same room for a period of 24hrs before.

10.0 Parameter's Menu (cont...)

N°	Default value & other possibilities
05	af: Frost protection temperature: This Anti-freeze temperature should be used in Holiday mode. Adjustable 0.5 to 10.0°C with default value 7.0°C.
08	Src: intelligent front/back double regulation Press OK to enter this parameter. Select with (+) or (-) and validate by pressing OK NO : double regulation function disabled (Front=Back) YES : intelligent regulation function enabled. Only the Front heating element will regulate around the set point. Thus, the Back heating element will activate if temperature is one degree below the set point, acting as a booster.
09	Clr: Factory setting Press and hold (OK) key for 10 seconds to reset Set points temperatures and user parameters in this menu to factory default settings.
10	Software version xx.x
11	SLA: Slave mode Set this function to 'no' for normal operation.
12	End: Exit the parameter's menu Press (OK) key to exit the installation parameter menu and return to normal operation.

11.0 Technical Characteristics

Measured temperature precision	0.1°C
Environmental: Operating temperature Shipping and storage temperature	-10°C - +50°C -30°C to +70°C
Electrical protection	Class 1 - IP44
Consumption (when on stand by)	~3.5W
Setting temperature range: Comfort, Reduced Frost Protection	5°C to 37°C by 0.5°C step 0.5°C to 10°C
Regulation characteristics	Double Proportional band (PI & PWM)
Power Supply	230Vac +/- 10% 50Hz
Norms and directives: Your thermostat was designed in accordance with the following European norms and directives:	2006/95/CE - Low Voltage 2004/108/CE - EMC EN60335-1 - Heaters R&TTE 1999/5/CE - RF 2002/95/CE - RoHS

12.0 Troubleshooting & Solution

Q: My Thermostat doesn't work.

- A:
- Check the power supply.
 - Contact your installer.

Q: My Thermostat shows an Error message "Err" blink on the display.

- A:
- The text "Err" flashes.
Error detected on the internal sensor.
 - Contact your installer or seller.

Q: My Thermostat seems to work correctly but the heating doesn't work correctly.

- A:
- Is there a window open next to the radiator that is not heating?
Check the settings in Parameter 07 (on page 13).
 - Contact your installer.

Q: My Thermostat seems to work correctly but the temperature in the room is not in accordance with the program.

- A:
- Check the Clock.
 - The difference between Comfort & Reduced temperature is too high.
 - Proceed with a calibration of internal probe (see parameter 04 on page 12).

Q: The front heating panel is cooler than the back panel.

- A:
- Check the power settings as indicated in section 8.8 (on page 11).