



# INSTALLATION AND USER MANUAL

**plusrad**+

Electric Radiator

# INDEX

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## A. PRESENTATION

Firstly we would like to thank you for purchasing this product. Your business is much appreciated and we trust that this equipment will provide many years of use and deliver full satisfaction. Before proceeding to the installation, you should read all the instructions and recommendations detailed in this instruction manual, since the manufacturer will not be responsible for any breakdown or damage caused by misuse. Once your electric radiator is installed, keep this manual in a safe place so that it can be consulted at any time.

## B. RECYCLING



Warnings for the correct disposal of the product as established by the European Directive 2012/19 / EU. At the end of its useful life, the product should not be disposed of together with urban waste. It can be delivered to specific recycling centres or to distributors that can facilitate this service. Removing a household appliance separately means avoiding possible negative consequences for the environment and health resulting from improper disposal and recycling of the materials and components, thus obtaining significant savings in energy and resources. To underline the obligation to collaborate with a selective collection, the product shows the marking that this product includes warning signs to confirm the non-use of traditional disposal methods.

For more information, contact your local authority or the store where you purchased this device.

## C. IMPORTANT SAFETY NOTES

The installation of the heating device must be chosen correctly and must be carried out according to the rules and in accordance with the installation guides included in the manual.

The equipment should be kept away from any flammable objects and children should not be left near the appliance without being supervised. Children under 3 years of age should be kept out of the reach of the appliance unless they are continuously supervised.

Children from 3 years old to 8 years of age should only switch the appliance on / off as long as it has been placed and installed in its normal operating position.

They must also be supervised or have received instructions regarding the use of the appliance in a safe and secure manner and understand the risks of a heating device.

Children from 3 years old to 8 years old should not plug, operate, clean or perform maintenance operations.

This device can be used by children aged 8 years and above including people with reduced physical, sensory or mental abilities or lack of experience and knowledge providing they have been given appropriate supervision or training regarding the use of the device in a safe manner and understand the dangers involved. Children should be supervised to ensure they do not play with the device.

Cleaning and maintenance to be performed by the user, should not be performed by children without supervision.

**Caution: some parts of this product can get very hot and cause burns. Particular attention must be paid when children and vulnerable people are present.**

The equipment must under no circumstances be covered by clothing, or any other object, nor placed under a cabinet or any other obstacle that prevents the circulation of hot air.

**WARNING:**

**To avoid overheating, DO NOT COVER the heating appliance.**



The heating appliance must not be placed immediately below a socket outlet.

If your radiator is a dry type, it can be connected only to a supply with system impedance no more than 0,24  $\Omega$ . In case necessary, please consult your supply authority for system impedance information.

Avoid the use of extension cords as these can cause overheating and cause a fire risk. However, in case of using an extension cord, the cable must be the minimum size 14 AWG and with a power no less than 2500w.

The connecting cables of the heater itself must not come into contact with the surface of the appliance, and in the event that they can come into contact with each other, they must be protected with an insulating cover having an adequate temperature level.

The equipment must not be installed in places where there is a risk of splashing water, such as bathtubs, washbasins, etc.

The equipment must be installed so that the switches, thermostat, outlet cannot be touched directly or indirectly by a person in the bathtub or shower (respect the distances of prohibition according to RBT).

In case the power supply cable is damaged, it can only be replaced by the Technical Assistance Service, in order to avoid risks.

Always respect the safety measures when fixing the device on the wall. The electrical installation must have a switch with a fuse and magnetic protection.

Likewise, a differential protection against ground faults is advisable. The voltage and frequency values of the electricity network must be the same as those indicated on the nameplate.

It is possible that the radiator may produce slight noises at the beginning of its operation which is normal due to the expansion and contraction of aluminium. With a few times of operation, the noise should disappear.

## D. INSTALLATION

### BEFORE INSTALATION

The installation and start-up of this device is extremely simple, however you should read very carefully all the instructions and recommendations detailed in this instruction manual, as the manufacturer will not be held responsible for any damage caused by non-compliance.

Once unpacked the device, the remains of the packaging must be removed in a responsible manner since all the elements have been designed for recycling. If, once unpacked, it detects apparent damage to the appliance, you should consult your supplier before proceeding with the installation and electrical connection within a period of less than 24 hours.

Assembly and installation must be carried out following the instructions detailed in this manual.

For safety reasons, the transmitter should not be installed so that switches and other controls can be touched by a person in the bathroom or in the shower.

### VERY IMPORTANT!

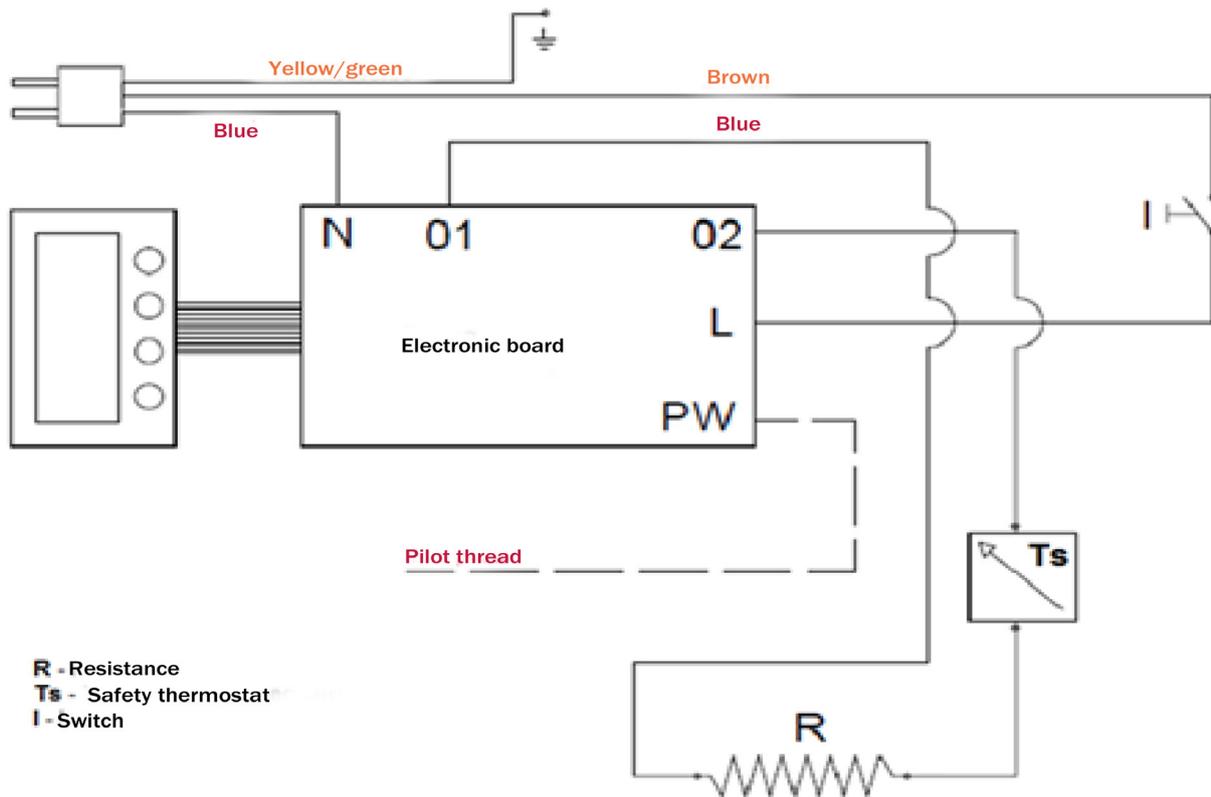
- Read the installation manual before assembling the equipment.
- Read the user manual to operate the equipment.
- Observe the warnings carefully.
- Install the equipment in a place where the air can fully circulate.
- It is advisable to be assembled by an individual with DIY skills.



### ELECTRIC CONNECTION

- If you decide to remove the 3 pin plug from the power cord then you must follow the instructions below regarding the electrical installation and the connection must be made by a qualified installer.
- If the electrical connection is spurred to a mains electric supply then it must be installed in accordance with the installation regulations in force in the country in which it is to be fitted.
- For safety reasons, verify that there is no voltage in the network prior to connecting the device to the mains.
- Before connecting the appliance to the mains it must be ensured that the supply voltage is within the indicated on the nameplate 230V.
- The device must be connected to the protective conductor of the fixed installation.
- Any incident arising from the breach of these instructions will invalidate the guarantee.
- For the electric connection please take close note of the electrical diagram with special attention to the colours of the cables.
- If the power cord is damaged, it must be replaced by the manufacturer, its after-sales service or by a similar qualified personal so that the user is not in danger.

## WIRING DIAGRAM



## WALL FIXATION

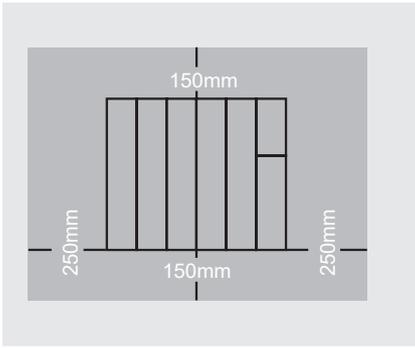
With the radiator we provide an installation kit consisting of the following elements:

- Fixing brackets.
- Template.
- Screws and fixing plugs.

Follow the following steps:

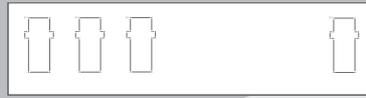
1. Take the radiator out of its packaging and choose where to hang it. Please note the minimum distances required around the heater (step1).
2. Inside the box there is a template to help place the radiator on the wall. You should look at the number of elements of your radiator and cut by the corresponding marks. Place the template against the wall and mark where the supports should be placed. (The height at which it is placed must respect the minimum distances).
3. Drill and attach the plugs.
4. Screw the brackets to hold the radiator into place. Screws and washers are provided but it is your responsibility to ensure these are suitable for your wall type. You may need to source your own screws if these are not suitable to hold the brackets to your walls securely.
5. Place the wall spacer in between the slot of the centre panels at the back of the radiator and slide this up about an inch.
6. Place the radiator on the wall brackets at a 45 degree angle, then click the radiator into place.

### STEP 1



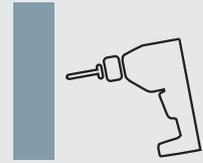
### STEP 2

Follow the instructions of the template.

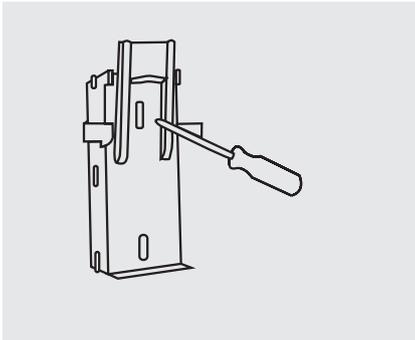


### STEP 3

Make the holes to place the equipment.

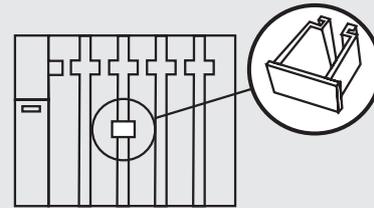


### STEP 4

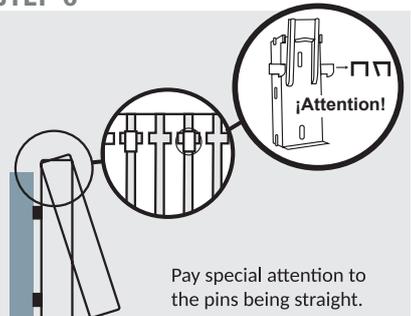


### STEP 5

Avoid rubbing against the wall.



### STEP 6



## WARRANTY

The company offers a technical guarantee for the period of 2 years.

In order for this guarantee to be valid, you must present the original of the invoice, delivery note or purchase receipt.

### *Previous requirements:*

- The warranty only covers manufacturing defects or any problem caused by such defects.
- All problems resulting from insufficient installation or power (not enough power to heat the room, incorrect installation, etc.) are not covered by this warranty.
- This radiator is for domestic use, installation in any other environment is not guaranteed.
- The manufacturer reserves the right to decide whether to repair any defective part or replace all equipment.
- All costs resulting from damage caused by improper use, transportation, improper power supply, are not covered by this warranty.
- If the appliance is not installed or installed as indicated in this manual, the responsible company will not be responsible for any possible damages caused by its misuse.
- In the last case of resorting to legislation, both parties will be under the jurisdiction of the courts of the province of the manufacturer.

## E. TECHNICAL CHARACTERISTIC

<b>Temperature measurement resolution</b>	0,1°C
<b>Slogan temperature increments</b>	0,5°C
<b>Measuring range ambient temperature</b>	0°C - 45°C
<b>Temperature selection range</b>	5°C - 35°C
<b>Weekly schedule</b>	Each 1h
<b>Maximum load (resistive only)</b>	16A TRIAC 8 A. (2000W)
<b>Supply voltage</b>	230 Vac +/- 10% 50 Hz
<b>RF</b>	868Mhz
<b>Operating temperature</b>	<70°C
<b>Consumption error measurement</b>	<3%
<b>Norms and directives:</b> The thermostat has been designed in accordance with the following European standards and directives.	EN 60730-1 : 2013 EN 61000-6-1 : 2007 EN 61000-6-3 : 2007 EN 61000-4-2 : 2009 2006/95/EC low voltage EMC 2004/108/EC

### ENERGY SUPPLY:

Connect the electric radiator using the switch installed for this function. Before using your equipment it is necessary to make some type of adjustment.

In its first use, the transmitter has an internal battery, which must be charged for a minimum of 24 hours so that the programming is not lost. If the transmitter is disconnected, the time and day of the last time before the disconnection will be saved (it does not count while it is off) unless it is connected to the Internet, which will be updated automatically.

### NOTES:

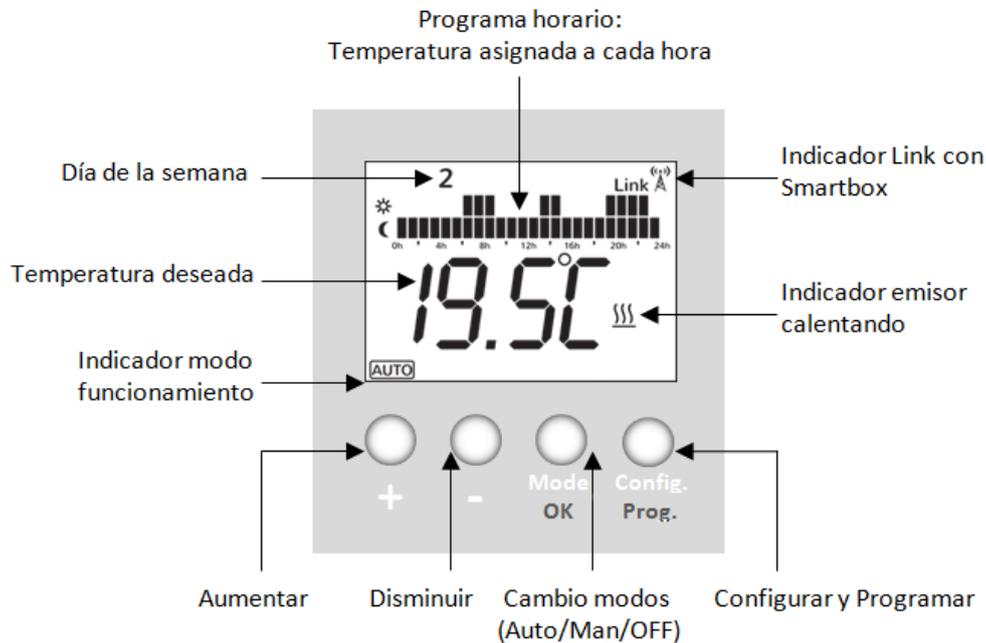
To control the radiators through the APP, you need a Multilink USB that connects the radiators to the internet, using the WiFi router in the house. The APP will allow you to configure, program and access the consumption statistics of the devices through an intuitive interface and with a simple operation (user manual included with the Multilink USB).

## F. USE OF RADIATOR

Setting the radiator in programming mode, will allow you to assign temperatures at different times of the day, for each day.

Understanding the full programming potential of your radiator will help to reduce energy consumption.

Display:



## G. OPERATING INSTRUCTIONS

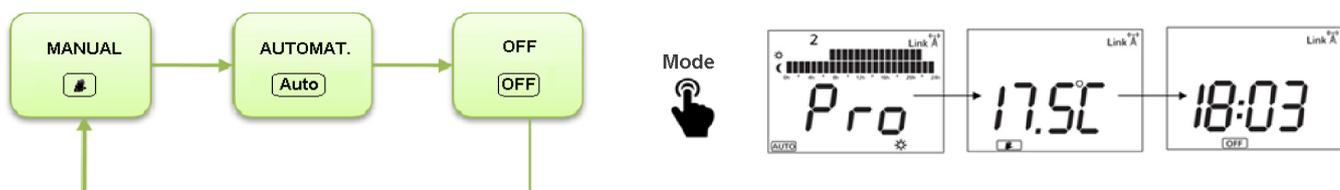
### MODES:

The radiator can work at 3 different modes:

- Auto. The setpoint temperature varies automatically according to customizable programming based on 3 temperatures (operation as programmable thermostat chronothermostat). The bars report the temperature that is programmed for each hour.
- Manual. The setpoint temperature remains fixed, depending on the user's choice (operation as digital thermostat).
- OFF. The radiator stays off.

Press "mode" to change the operation mode.

Ejemplo:



In "Manual" mode press the key [+] and [-] to change the temperature

In "Auto" mode when the temperature is modified temporarily, the change will be effective until the next heating period or the end of the day.

In "Manual" mode the temperature will be fixed.

### ADJUST PROGRAMMED TEMPERATURES:

In “Auto” mode the temperature of each hour will change automatically following the programmed Schedule. The user must assign to each hour one of the next temperatures mode:

- Comfort (☀), used normally when the user is at home.
- Eco or saving (☾), used at night or for brief absence periods.
- Freeze or minimum temperature (❄), used for longer absence periods.

To define these temperatures:

- Press “Prog”, will display the right temperature.



- Select the temperature symbol ☀ using [+] or [-].
- Press “mode” to proceed.
- Select the temperature mode that you want to change the temperature to with the “mode” key. Comfort (☀), eco (☾) o mínimo (❄).



- Change the temperature with the key [+] or [-].
- Press “mode” to modify other temperature modes or press “Prog” to exit.

### SETTING PROGRAM, TIME AND DATE

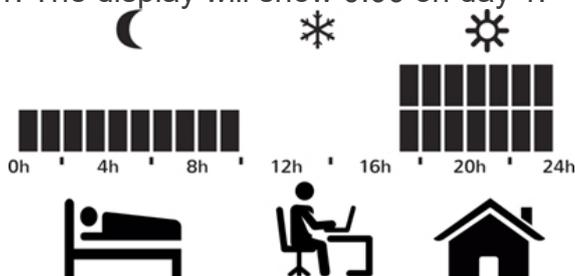
The radiator allows the creation of a weekly programmed schedule assigning to each hour one of the 3 available temperatures. The program for each day can be different.

- Use Comfort temperature for the hours that you are at home. (Represented by 2 bars at LCD).
- Use Eco-saving temperature for the night hours or short absence periods (Represented by 1 bar at LCD).
- Use Freeze-minimum temperature for long absence periods. (Represented by no bar at LCD).

Press the “Prog” key for 3 seconds to start programming settings. You can switch directly to the day and time setting by pressing “Prog” again.

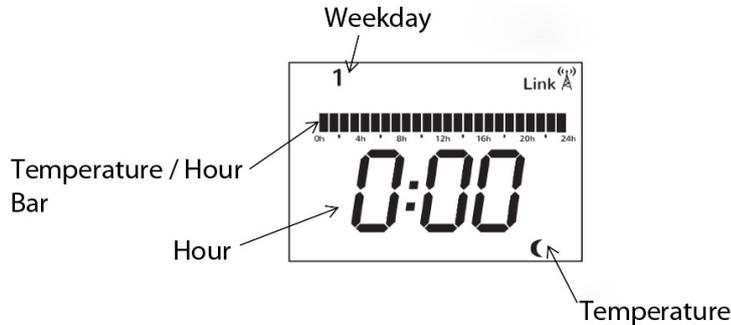
### SETTING PROGRAM

1. The display will show 0:00 on day 1.



(Ejemplo de programación)

2. With the mode key select the desired “temperature mode” for that time (Comfort , eco  or minimum ).
3. Use the [+] key to increase the value of the time until you get the value of the time you want to change the “temperature mode”.
4. Use the “mode” key to select the desired new “temperature mode” for that time.
5. Repeat operations until 24:00 (0:00 on day 2)
6. Repeat the above steps for every day until 23:00 on day 7
7. Press the [+] key to switch to the time and day setting screen.



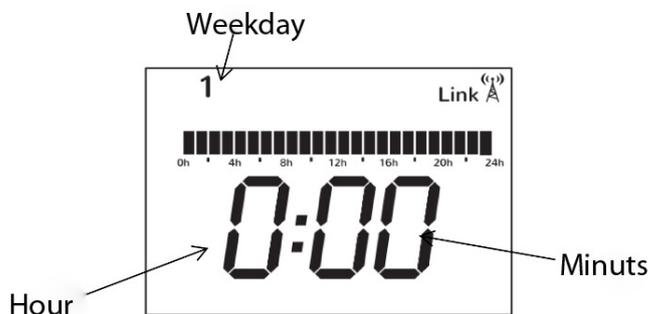
### SETTING TIME AND DAY

#### Day:

7. On the screen the current day will be flashing, press [+] or [-] to modify it
8. Press “mode” to confirm the day.

#### Hour:

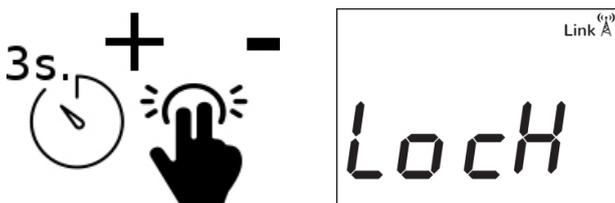
1. On the screen the current time will be flashing, press [+] or [-] to modify it.
2. Press “mode” to confirm the time.
3. On the screen the minutes will be flashing, press [+] or [-] to modify them.
4. Press “mode” to confirm the minutes and exit the time and day settings.



In case the device is already associated with a control unit, the time setting is cancelled and the time of the control unit is automatically set.

### KEYPAD LOCKING

Use this function to prevent any changes to your settings (In a child room, public area, etc...) Press [+] and [-] for 3 seconds to lock, at the LCD the “Lock” message will appear:



Pres [+] and [-] for 3 seconds to unlock.

## ADVANCED ADJUSTMENTS

To enter the advanced setting mode :

1. Press “Prog” while the radiator is in one of the main modes (OFF, AUTO, MANUAL).

The window shown will appear:



2. Press “Prog” for 5 seconds.
3. The advanced settings are:
  - C1- Choose °F or °C
  - C2- Choose type of control
  - C3- Temperature Compensation
  - C4- Firmware
  - C5- Activation protection window open (turning off 30 minutes if a drop of 2.4 ° C is detected in 4 minutes), is indicated by the icon: 
  - C6: Activation of the adaptive start-up function, so that the device predicts the optimal ignition timing to obtain the desired temperature according to the program. In this way the user does not need to take these times into account when creating the program. Maximum anticipation time: 24h. It is indicated by the icon: 
  - C7: Activation of the ON / OFF pilot wire (The pilot wire cannot work together with the device Linked to the APP. If the pilot wire is active and linked, it is deactivated. And if it is Linked, it cannot be activated).
4. To select one of the three advanced settings (C1 to C5) use the [+] / [-] keys.
5. Choose the required mode by pressing “mode”.
6. Press [+] / [-] buttons to change.
7. Press “mode” or “Prog” to confirm and exit.

## RESET RADIATOR

Press simultaneously “mode” and “Prog” for 10 seconds.

The figure appears:



Click on “mode” to confirm.

## DEFAULT SETTINGS

- Mode: OFF
- T<sup>a</sup> comfort: 19°C
- T<sup>a</sup> eco: 17°C
- T<sup>a</sup> freeze: 5°C
- T<sup>a</sup> mode manual: 19°C
- Temperature compensation Offset: 0°C
- No RF link
- Temperature units °C
- Open window detection: OFF
- Control mode: PID
- Program: All hours Eco

## **H. F.A.Q.**

### Error messages

- • OC: Temperature probe not present.
- • SC: Temperature probe shorted.
- • Err1: Actuating element in short circuit.
- • Err2: Overload (more power than allowed).
- • Err4: Overheating (> 90°C in the electronics area).

## I. ECO-DESIGN

Item	Unit
<b>Type of heat output/room temperature control (select one)</b>	
Single stage heat output and no room temperature control	no
Two or more manual stages, no room temperature control	no
With mechanic thermostat room temperature control	no
With electronic room temperature control	no
Electronic room temperature control plus day timer	no
Electronic room temperature control plus week timer	yes
<b>Other control options (multiple selections possible)</b>	
Room temperature control, with presence detection	no
Room temperature control, with open window detection	yes
With distance control option	yes
With adaptative start control	yes
With working time limitation	yes
With black bulb sensor	no
Contact information: see back cover	

Data			Value					
			Fluid					
Item	Simbol	Unit	500	750	1.000	1.500	1.800	2.000
<b>Heat output</b>								
Nominal heat output	$P_{nom}$	kW	0,5	0,75	1	1,5	1,8	2,0
Minimum heat output (indicative)	$P_{min}$	kW	0	0	0	0	0	0
Maximum continuous heat output	$P_{max,c}$	kW	0,5	0,75	1	1,5	1,8	2,0
<b>Auxiliary electricity consumption</b>								
At nominal heat output	$e_{l_{max}}$	kW	0,5	0,75	1	1,5	1,8	2,0
At minimum heat output	$e_{l_{min}}$	kW	0	0	0	0	0	0
In standby mode	$e_{l_{SB}}$	kW	0,00095	0,00095	0,00095	0,00095	0,00095	0,00095





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