ORIGINAL OPERATING INSTRUCTIONS

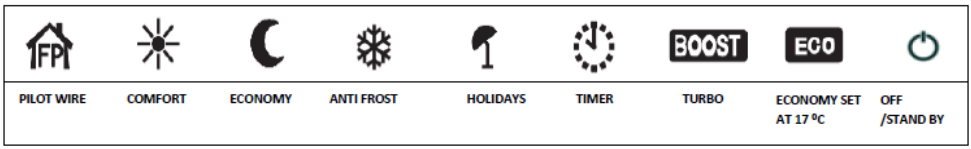
Read carefully and retain for future reference

Generic Top Electronics

PROGRAMMABLE DIGITAL THERMOSTAT

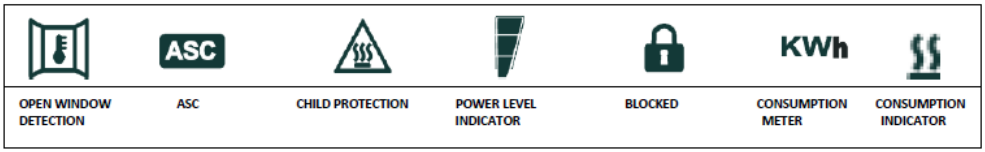
This radiator is equipped with various functions and operating modes that the user can select using the “MODE” button.

The operating modes are: Pilot Wire, Comfort, Economy, Anti-Frost, Holidays, Timer, Turbo, Eco and Off (Stand-by). These are their related icons:



- **Pilot Wire Mode**: The thermostat’s functions are controlled through a signal received from the “Pilot Wire” unit. **FOR USE IN FRANCE ONLY**
- **Comfort Mode**: The thermostat keeps the room temperature at the value established by the user.
- **Economy Mode**: The thermostat keeps the room temperature below the configured Comfort value.
- **Anti-Frost Mode**: The thermostat keeps the room temperature above 7 ° C.
- **Holiday Mode**: The radiator enters the “Anti-frost” mode for the period of time established by the user.
- **Timer Mode**: The thermostat operates as per a daily/weekly programme defined by the user.
- **Turbo/boost Mode**: The thermostat continuously feeds the resistance during the period that is adjustable by the user, the maximum is 2 hours. After the period of time, the device returns to the previous operating mode. For safety reasons, the room temperature is automatically controlled in order not to exceed 32 ° C.
- **Economy Mode set at 17°C**: The device keeps the room temperature stable at 17 ° C
- **Off (Stand-by) Mode**: In this mode the electric resistance is not being fed and the light at the back of the screen goes off. However, the thermostat is operating.

Other thermostat functions are:



• **<u>Other functions and icons</u>**

- **Open window detection**: This function allows us to detect that a window is open due to a sudden drop in room temperature. In this case, the device stops feeding the resistance for a maximum of 30 minutes or until an abrupt increase in room temperature shows that the window has been closed.

- **Adaptive temperature control (ASC)**: This function anticipates radiator's operating start time regarding the programmed value (only for Timer mode).

- **Safety for children**: This function reduces the radiator's surface temperature.

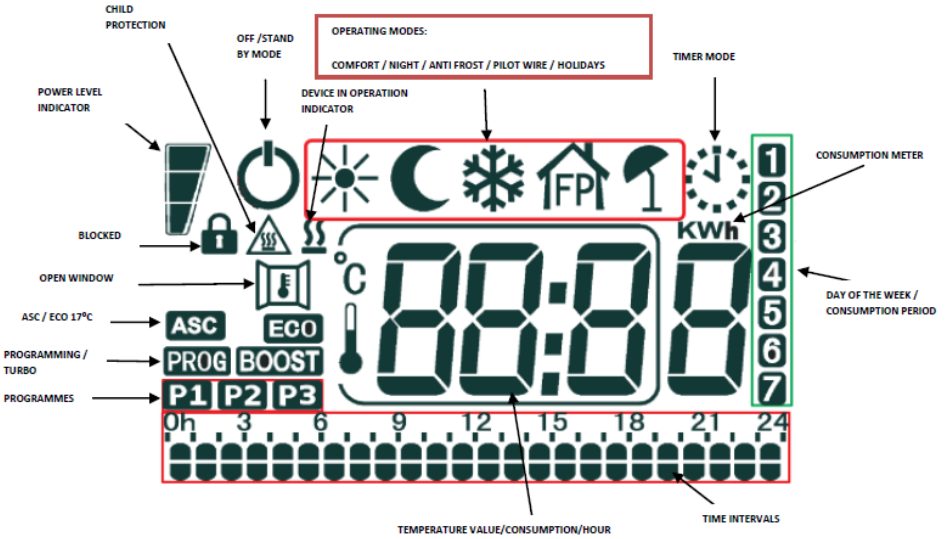
- **Power level indicator**: Instantaneous consumption visualisation.

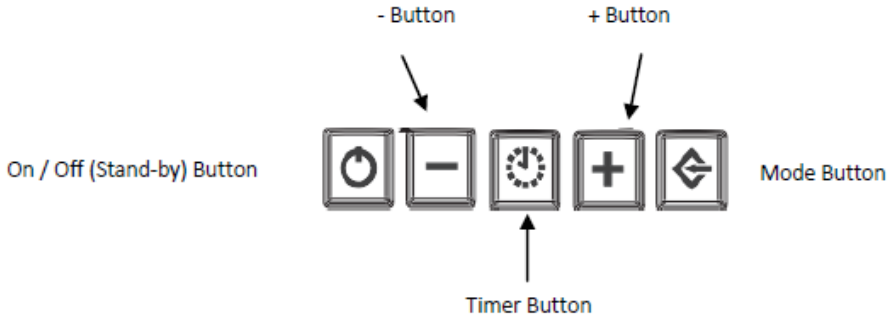
- **Blocked**: Function to prevent accidental or improper use.

- **Consumption meter:** This function lets us know the consumption data for different periods, in kWh.

- **Consumption indicator:** To see if the device is consuming at the moment or not.

SCREEN





1. ON / OFF (STAND-BY)

Press the On/Off (Stand-by) button to turn the radiator on or to set the off/stand-by mode.

If the off/stand-by mode is activated, the corresponding icon will appear on the screen and there will be two 0.5 second bleeps and the time will be shown.

When the device is turned on, there will be a one second bleep and the icon will disappear.

2. MAIN FUNCTIONS

PILOT WIRE Mode: (FOR USE IN FRANCE ONLY). In this mode, the radiator is controlled by a unit with this type of system.

In order to activate it, follow these steps:

1. Press the “Mode" button several times until the icon appears on the screen. From this moment onwards, the radiator’s operating mode is the one determined by the unit.

COMFORT Mode: This is the radiator’s standard operating mode to maintain the user’s desired temperature.

In order to activate it, follow these steps:

1. Press the “Mode" button several times until the icon appears on the screen.
2. Select the desired temperature using the and buttons. The minimum value that can be programmed is equal to the value of the temperature programmed in economy mode plus 0.5°C. The maximum value is 32°C.

ECONOMY Mode: Selecting this mode, the radiator maintains the room temperature at the one selected for it.

In order to activate it, follow these steps:

1. Press the “Mode" button several times until the icon appears on the screen.
2. Select the desired temperature using the and buttons. The maximum value that can be programmed is equal to the value of the COMFORT temperature less 0.5°C. The minimum value is 7°C.

NOTE: The COMFORT and ECONOMY temperatures are the programme’s determining values. It is not possible to select a temperature value for the ECONOMY mode superior to the COMFORT temperature, as the electronic thermostat does not allow

it. When operating, it is possible to change the temperature easily by pressing the and buttons.

ANTI-FROST MODE: Selecting this mode, the room temperature is set at 7°C. In order to activate it, press the “Mode" button several times until the icon appears on the screen.

HOLIDAY MODE: Selecting this mode, the radiator enters the ANTI-FROST mode for the period of time established by the user.

In order to activate it, follow these steps:

1. Press the “Mode" button several times until the icon appears on the screen.
2. Using the and buttons it is possible to select the holiday period duration, from 12 hours to 40 days, with an increase of one hour 12 to 24 and with an increase of one day from 24 hours.

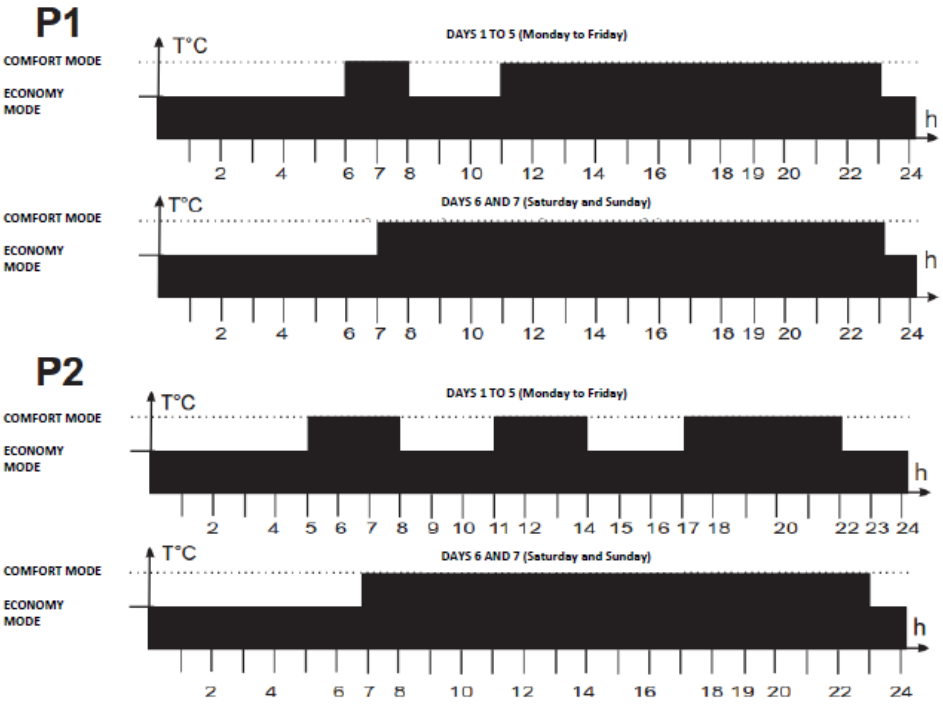
TIMER MODE: In this mode, the room temperature is maintained at the COMFORT or ECONOMY temperature depending on the programmes established for the different time intervals during the day (P1, P2 or P3).

In order to activate it, follow these steps:

1. Press the “Mode" button several times until the icon appears on the screen.
2. Press the TIMER button to select one of the pre-established factory programmes (P1 P1 and P2 P2) or the programme that is configurable by the user (P3 P3).

For configurable programming P3, please look at section “**4. PROGRAMMING**” in this manual.

The pre-established P1 and P2 programmes are:



BOOST **TURBO/BOOST MODE:** This mode can be used when we need to heat the room quickly.

In order to activate it, follow these steps:

1. Press the "Mode" button several times until the BOOST icon appears on the screen.
2. Pressing the + and − buttons it is possible to select the TURBO/BOOST period duration from 5 to 120 minutes. When this function is activated, the radiator operates at its maximum power, ensuring that the room temperature does not exceed 32°C. When the programmed time (indicated by the countdown on the screen) finishes, the radiator returns to the previously established mode.

ECO **ECONOMY MODE 17°C:** Activating this mode the radiator operates at a pre-established, unchangeable temperature of 17°C. This function allows for lower consumption when, for example, the room or the house is empty for an indefinite period of time.

To select this mode, press the “Mode" button several times until the ECO icon appears on the screen.

3. OTHER FUNCTIONS AND ICONS

OPEN WINDOW DETECTION: The radiator is able to detect if a window has been opened through a sudden drop in temperature (5°C in a maximum of 30 minutes). If this happens, the device disconnects for 30 minutes so as to, later on, operate again at the previously established mode if it detects continuous increases in temperature of one degree (because, for example, the window has been closed). If this is not the case, the device will remain disconnected for an additional period of 30 minutes.

When the open window detection is activated, the corresponding symbol will appear intermittently on the screen (except in off/stand-by mode). When it is deactivated, the symbol disappears.

In order to activate this function, please look at section “**4. PROGRAMMING**”.

CHILD PROTECTION: When this function is activated, the temperature on the front part of the radiator is lowered so that it is safe when children are present. Moreover, this function means that the same radiator can be used in rooms smaller than the one it is installed in without significant changes in room temperature.

When this function is activated, the power level that the radiator operates at is the one established by the user (40% - 50% - 60%).

In order to activate this function, please look at section “**4. PROGRAMMING**”.

ASC **ASC (ADAPTIVE TEMPERATURE CONTROL):** When this function is activated, the device connects before the time established in the programming (maximum 2 hours beforehand) to ensure that the room is at the programmed temperature at the established time.

When this function is activated, the corresponding ASC icon appears on the screen (except in off/stand-by mode).

In order to activate this function, please look at section “**4. PROGRAMMING**”.

POWER LEVEL INDICATOR: This appears on the left-hand side of the screen and it depends on the programmed temperature level. The higher the programmed temperature is, the greater the number of bars shown on the icon. This is instantaneous consumption visualization as, the higher the programmed temperature is, the higher the energy consumption is.

BLOCK FUNCTION: It is possible to block the radiator to prevent children from using it improperly or, for example, in a public space.

In order to block/unblock the buttons, press the "Mode" button and keep in pressed down for 3 seconds, until the icon appears (blocked) or disappears (unblocked).

CONSUMPTION METER FUNCTION: This function allows us to read the radiator's consumption expressed in kWh. In order to do so, the power of the emitter must be previously adjusted, following these steps:

1. Unplug the device from the electricity supply.
2. Simultaneously press buttons and .
3. Without releasing the buttons, plug the device into the electricity supply for at least 5 seconds until you can see the power adjustment function, as shown in this image:

4. Use the and buttons to select your radiator's power in Watts.
5. Confirm the selection with the button.

This operation only needs to be done the first time and then it will stay saved; it is not necessary to repeat it every time you wish to consult consumption.

Now you can read the consumption for various periods of time in the following way:

1. Turn the radiator to off/stand-by mode.

2. Press the [−] button for more than 3 seconds until the consumption data is shown on the screen.
3. Using the [+] and [−] buttons, we can scroll the consumption menu.
4. The icons will appear on the right-hand side of the screen. Each one shows the consumed kWh during the corresponding period of time, as shown here:

1 = current day

2 = previous day

3 = current week

4 = previous week

5 = current month

6 = previous month

7 = current year

1+2 = previous year

1+3 = total

1+7 = radiator power indicator

CONSUMPTION INDICATOR: When the room temperature falls below the configured temperature, the radiator's thermostat feeds the resistance and the "ʃʃ" symbol lights upon the screen, with which it is consuming energy. As soon as the room temperature reaches the selected temperature, the thermostat stops feeding the resistance and the "ʃʃ" icon disappears from the screen, as it is no longer consuming energy.

IMPORTANT NOTE: If "ALL" appears on the screen then the temperature sensor is broken or damaged and the radiator does not work. Please contact our technical service.

4. PROGRAMMING

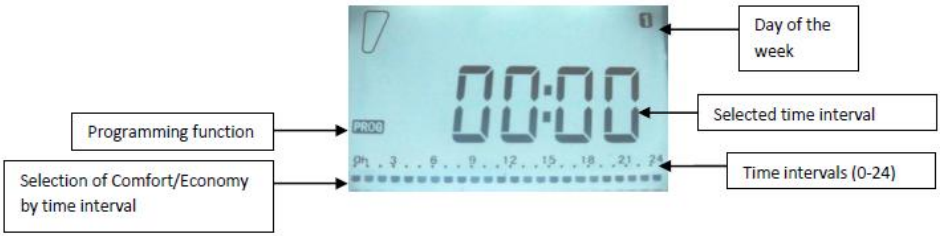
DAY AND TIME PROGRAMMING

1. Turn the radiator to off/stand-by mode. The icon will be shown.
2. Press the button for more than 3 seconds until the functions can be seen. Using the button you can scroll through the following options: "**ted**"(hour and date), "**prog**"(programming) and "**ofst**"(calibration of the temperature sensor).
3. Select the "**ted**" option and confirm with the button.
4. Enter the current year (15-99) using the and buttons. Press the button to confirm the selection.
5. Enter the current month (1-12) using the and buttons. Press the button to confirm the selection.
6. Enter the current date (1-31) using the and buttons. Press the button to confirm the selection.
7. Enter the day of the week (1=Monday, 2=Tuesday, 3=Wednesday, 4=Thursday, 5=Friday, 6=Saturday, 7=Sunday) using the and buttons. Press the button to confirm the selection.
8. The current hour should then appear on the screen with the digits intermittently lighting up. The hour can be modified using the and buttons. Press the button to confirm the selection.
9. The digits indicating the minutes light up intermittently on the screen. The minutes can be set using the and buttons. Press the button to confirm the selection.

CONFIGURATION OF THE P3 PROGRAMME

You can configure your own operating programme (P3) for each day of the week by following these steps:

1. Turn the radiator to off/stand-by mode. The will be shown.
2. Press the button for more than 3 seconds. Using the button you can see the following options: "**ted**"(hour and date), "**prog**"(programming) and "**ofst**"(calibration of the temperature sensor).
3. Select the "**Prog**" option and confirm with the button.
4. The programme will start on the first day of the week (1=Monday), and at 0 hours. The day is divided into intervals of one hour each.



5. Pressing the [+] button we select the COMFORT mode in this time interval (the whole interval will be highlighted). Pressing the [−] button we select the ECONOMY mode for this time interval (half an interval will be highlighted). And so on until completing the 24 hours of day 1=Monday. Confirm the programming with the [⏎] button.
6. Automatically, the programming goes on to day 2=Tuesday, maintaining the programming established for Monday. If you wish to maintain it, press directly on the [⏎] button to confirm and go to the next day. Otherwise, you can change using the [+] and [−] buttons to programme as you wish.
7. Follow the same steps for each day of the week until reaching day 7=Sunday.

CALIBRATION OF THE TEMPERATURE SENSOR

If the radiator is not installed in the optimum location to suitably detect the room temperature (for example: it is installed on a cold wall or there are draughts…) the measured room temperature may be different from the real temperature. In order to achieve maximum efficiency, it is recommendable to eliminate this temperature difference.

To do so, follow these steps:

1. Turn the radiator to off/stand-by mode. The [⏻] icon will be shown.
2. Press the [⏲] button for more than 3 seconds. Using the [+] button we can see the following options: "**ted**"(hour and date), "**prog**"(programming) and "**ofst**"(calibration of the temperature sensor).
3. Select the "**ofst**" option and confirm with the [⏎] button.

4. With the and , buttons establish the temperature difference between the room temperature (measured with a thermometer) and the temperature detected by the radiator. This difference can be adjusted between -5°C and +5°C.
5. Press the button to confirm the selection.

ACTIVATING OTHER FUNCTIONS

OPEN WINDOW DETECTION

1. Turn the radiator to off/stand-by mode. The will be shown.
2. Press the button for more than three seconds, until you can see the icon.
3. Press the button again to activate or deactivate the open window detection function (ON=activate; OFF=deactivate).
4. Press the button to confirm the selection and go to the next function:

ASC (ADAPTIVE TEMPERATURE CONTROL)

1. Press the button to activate or deactivate the ASC function (ON=activate; OFF=deactivate).
2. Press the button to confirm and go to the next function:

CHILD PROTECTION

1. Press the button to activate or deactivate the child protection function (ON=activate; OFF=deactivate).
2. Press the button to confirm the selection. If you have selected to deactivate it (OFF), the radiator will automatically go to off/stand-by mode. If, on the other hand, you have selected to activate it (ON), you can programme the percentage of power desired between the following values: 40% / 50% / 60%. Using the button you select one or another.
3. Confirm the desired percentage with the button. In this way, all the changes made to the anterior functions will be saved and the radiator will return to its off/stand-by state .

THERMAL SAFETY

In the case of overheating, a safety device automatically cuts the radiators operation. After cooling the radiator will automatically reset.

MAINTENANCE

Your radiator requires no regular maintenance, however, to ensure its good operation:

Always disconnect the device from the mains before performing any cleaning or maintenance operation.

Let it cool down before cleaning.

To avoid any risk of electrical shock, clean the unit with a soft, damp cloth to wipe the outside of the radiator and remove dust and dirt cloth.

Do not use detergent, solvent, abrasive products or any other chemical product to clean the radiator.

NEVER immerse the device in water or any other liquids.

You can use a vacuum or flexible brush to clean the air grilles. This maintenance must be carried out regularly to ensure optimum performance. Ensure the radiator is totally dry before turning it back on.

EU Declaration of Conformity

CE

Product:	**Ceramic Heater**
Trademark:	HJM
Models:	**PECS**
Types:	**PECS1000.** **PECS1500.** **PECS2000.**
Batch & Serial No.:	**Mx- YYDDD-XXX** [(1)]

(1) Explanation of code "Lot & Serial No.": *Lot* = **Mx - YYDDD**; *where*: **Mx** = ***Production Line No.***; **YY = *year* (15,16,17...99)** and **DDD = *jour corrélative* (001,..., 365)**.

Serial No. = **XXX (001,..., 999)**.

We:

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Hereby declare, that the following equipment complies with all the essential requirements for health and safety of European Directives.

2014/30/UE EMC DIRECTIVE 2014/35/UE LV DIRECTIVE
2011/65/UE RoHS DIRECTIVE 2009/125/EC (ErP Directive)

With reference to the application of the followinf standards:

2014/30/UE EMC DIRECTIVE	**EN 55014-1:2006 +A1:2009 +A2:2011** **EN 61000-3-2:2014** **EN 61000-3-3:2013** **EN 55014-2:1997 +AC: 1997 +A1:2001 +A2:2008** **EN 61000-4-2:2009** **EN 61000-4-3:2006 +A1:2008 +A2:2010** **EN 61000-4-4:2012** **EN 61000-4-5:2006** **EN 61000-4-6:2013** **EN 61000-4-11:2004**
2014/35/UE LV DIRECTIVE	**EN 60335-2-30:2009 + CORR:2010 +A11:2012** **EN 60335-1:2012 +AC:2014 +A11:2014** **EN 62233:2008 +CORR:2008**
2011/65/UE RoHS DIRECTIVE	**EN 62321-1:2013**
2009/125/EC (ErP Directive)	**UE 2015/1188**

Model: **PECS**

Item	Symbol	Value	Unit		Item	Unit
Heat output 2000					**Type of heat output/room temperature control (select one)**	
Nominal heat output	P_{nom}	2	kW		single stage heat output and no room temperature control	NO
Maximum continuous heat output	$P_{max,c}$	2	kW		Two or more manual stages, no room temperature control	NO
Auxiliary electricity consumption					with mechanic thermostat room temperature control	NO
At nominal heat output	el_{max}	2	kW		with electronic room temperature control	NO
In standby mode	el_{SB}	0.0005	kW		electronic room temperature control plus day timer	NO
					electronic room temperature control plus week timer	YES
Heat output 1500					**Other control options (multiple selections possible)**	
Nominal heat output	P_{nom}	1.5	kW		room temperature control, with presence detection	NO
Maximum continuous heat output	$P_{max,c}$	1.5	kW		room temperature control, with open window detection	YES
Auxiliary electricity consumption					with distance control option	NO
At nominal heat output	el_{max}	1.5	kW		with adaptive start control	YES
In standby mode	el_{SB}	0.0005	kW		with working time limitation	YES

Heat output 1000					with black bulb sensor	NO
Nominal heat output	P_{nom}	1	kW			
Maximum continuous heat output	$P_{max,c}$	1	kW			
Auxiliary electricity consumption						
At nominal heat output	el_{max}	1	kW			
In standby mode	el_{SB}	0.0005	kW			
Contact details	**HERMANOS JULIÁN M., S.L.** Head Office: Esposos Curie,44 / Factory: Gutenberg,91-93 Polígono Industrial "Los Villares" . 37184 Villares de la Reina . Salamanca . España Tf.+34 923 222 277 +34 923 222 282 . Fax +34 923 223 397 **http://www.calorhjm.es**					

Requirements regarding ecodesign for local heating:

$$\eta_S = \eta_{S,on} - 10\% + F(1) + F(2) + F(3) - F(4) - F(5)$$

$$\eta = 40 - 10\% + 0 + 7 + 2 - 0 - 0 = \mathbf{39}\%$$

RECYCLING (Disposal of the product at the end of its useful life)

According to European Directive **2012/19/UE**, on waste electrical and electronic equipment (WEEE), old electrical household appliances cannot be disposed of in the usual municipal containers; they have to be collected separately to optimise the recycling of the components and materials that comprise it, and reduce the impact on human health and the environment.
The crossed-out wheeled bin is marked on all Electrical and Electronic products, to remind the consumer of their obligation dispose of them separately.

The consumer must contact the local authority or the vendor to learn about the correct disposal of his/her old electrical household appliance.

In the case of scrapping the radiator, containing oil; should the provisions concerning the disposal of oil followed.

Made by

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