



CALEFFI
Hydronic Solutions

**INSTRUCTION MANUAL
SATKF2000**

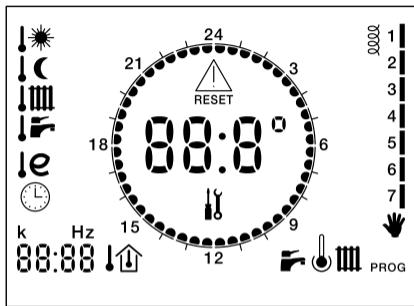
SATK'S SERIES HIUs REMOTE CONTROL DEVICE

Other languages



Technical features

Supply	by communication bus
Number of temperature levels	2 (DAY/NIGHT)
Temperature setting range DAY	5–30°C
Temperature setting range NIGHT	5–30°C
Temperature setting range MANUAL	5–30°C
Differential operation temperature OFF	0–1.0°C
Differential operation temperature ON	-1.0–0.1°C
Correct working range room temperature probe	-40–50°C
Temperature resolution	0.1°C
Room anti-frost start temperature range	0.1–10.0°C
Room anti-frost end temperature	start value + 0.6°C
Timer programmer resolution	30 minutes
Maximum number of startings and shutdowns per day	48
Number of standard heating programs	1
Number of standard pre-heating programs	1
Internal clock time retention in case of power loss	1 hour
Operating temperature range	0–50°C
Stocking ambient temperature	-10–50°C
Size(L×H×D)	120×90×30 mm
Maximum cable length for H.I.U. connection	30 m
Cable section for H.I.U. connection	0,5–1,5 mm ²



Keys



Select operating mode



Set time and temperature



Weekly program



Change displayed value (turn).
Select automatic / manual (press).
Confirm (press).



Alarm reset



Select temperature level
(day/night)



Temperature display

LCD symbols

ICON	STEADY	BLINKING	ICON	STEADY	BLINKING
	Current temperature/ water temperature	Fault code		Aux. contact closed	
	Time/temperature				Set day temperature
	Current day of the week	Change day of the week			Set night temperature
	DHW enabled	DHW requested		Heating temperatur	Set heating temperature
	Heating enabled	Heating requested		DHW temperature	Set DHW temperature
	DHW preheating enabled	DHW preheating active		Return temperature	
	RTL active (eco mode)				Set heating / DHW max. return temperature
	Manual mode			Current temperature level = day	
PROG	Heating program	Change heating program		Current temperature level = night	
PROG +	DHW preheating program	Change DHW preheating program		Fault - manual restore required	
	Current room set point			Fault requiring technical service	Antilegionella cycle in progress
	Outside temperature / weather comp. active			Day level	
	Return comp. active			Night level	
		Set time and day of the week		Service required	

Contents

1 - How to use this instruction booklet	1
2 - General instructions	2
3 - Main features	3
4 - Installation	4
5 - Configuring operating parameters	8
6 - Selecting operating mode	12
7 - Setting up clock	15
7.1 - Setting up clock	16
7.2 - Setting up room DAY temperature	18
7.3 - Setting up room NIGHT temperature	19
7.4 - Setting up HEATING flow temperature	20
7.5 - Setting up DOMESTIC HOT WATER temperature	21
7.6 - Enabling/disabling DOMESTIC HOT WATER pre-heating.....	22
7.7 - Setting up outside probe K value	23
7.8 - Return temperature limits	26
8 - Setting up clock and temperature	25
8.1 - MANUAL operation	26
8.2 - AUTOMATIC operation	27
8.3 - AUTOMATIC (holiday) operation.....	28



9 - Weekly heating program	29
9.1 - Display heating program	30
9.2 - Change heating program	31
10 - Weekly domestic hot water pre-heating program.....	32
10.1 - Display pre-heating program	33
10.2 - Change pre-heating program	34
11 - Fault signalling	35
11.1 - Restorable faults	35
11.2 - Not restorable faults	36
12 - Display values	37
12.1 - Display set room temperature	38
12.2 - Display temperature from domestic hot water probe	38
12.3 - Display temperature from heating flow probe	39
12.4 - Display temperature from outside probe	39
12.5 - Display temperature from return probe	40
12.6 - Display flow meter rotation frequency	40
13 - Reset of default value	41
14 - Other icons	43
15 - Room anti-freeze function	44
16 - Anti-legionella function	45

1 - How to use this instruction booklet

This booklet is divided into two sections, each of which having its own addressee:

- **Installer section**, this gives instructions regarding the accurate installation and configuration of the remote control device.
- **User section**, this gives detailed instructions regarding the steps to carry out in order to personalize the functioning of the **SATK'S** remote control device.

Some hints

- When a numeric value is blinking you can change it by turning button .
- The value as changed by turning button  will be automatically stored when the blinking stops.



The use of the symbol shows the impossibility to dispose this product as domestic waste.

The correct disposal of this product helps to prevent potential negative consequences for the environment and human health.

2 - General instructions

- Carefully read this manual because it will give you important instructions regarding the safety of use, installation and maintenance.
- The system must be implemented in compliance with the safety regulations in force.
- After unpacking and before installing check that the product is intact.
- This device is to be used only for the use it has been designed for any different use is improper.
- In case of repair, contact only technical service centers authorized by the manufacturer.
- Non-compliance with the above may endanger the safety of the device.
- The manufacturer cannot be held liable for any damages resulting from bad operation, extraordinary events, configuration errors or improper, wrong and unreasonable use of the device.
- The manufacturer reserves the right to eventually make changes to the device and whatever else appears necessary for the continual improvement thereof.

3 - Main features

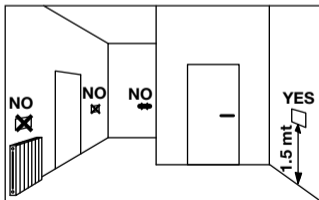
The **SATK'S** remote control device is electrically connected to the heat interface unit by means of two non polarized conductors. They give it the necessary supply to operate and constitute also the communication between the two devices. After installing it is immediately ready to run with its memorized standard program. This program can be changed according to the needs of the user.


The programming of the **SATK'S** remote control device is extremely easy - a large LCD-display makes it possible to check and change the set values at any time.

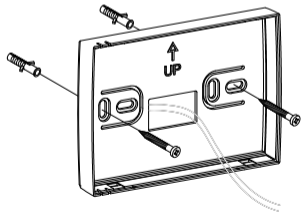
4 - Installation

1. The **SATK'S** remote control device must be installed only by expert personnel. To correctly install the device and in compliance with the regulations in force about electrical appliances, use a dedicated cable raceway to connect it. In case this is impossible, any interference due to electric wires may cause poor working of the remote control device.

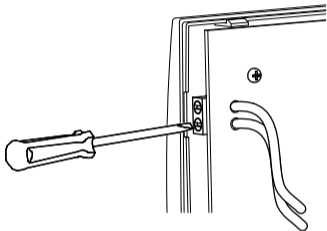
When used as a room thermostat, install the **SATK'S** remote control device at approx. 1.5 m over floor in a place suitable for correct sensing of the room temperature. Do not install behind doors, curtains, near heat sources nor expose to direct sunlight or water sprinkles.



1. Cut off electricity from heat interface unit.
2. Use a screwdriver and gently press on the two lower splines to take off the device from the back of its fixing template.
3. Insert both ends of the connecting wire into their proper seat on the fixing template. Use the proper holes to install the **SATK'S** remote control device directly onto the wall or onto a housing. The necessary screws are supplied together with the device. Pay attention to the sign  "UP".

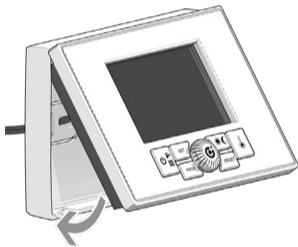


4. Connect the cable to the terminal box.



N.B.: *The connection is not polarized.*

5. Fix your remote control device to its template. First insert the upper part and then press and turn until it is completely closed.



6. Supply power to the heat interface unit.

Now the installation is completed. If it was done correctly the remote control device is now powered and the LCD display will show the following message for a few seconds:







As soon as the connection is established the normal operating condition will be displayed:



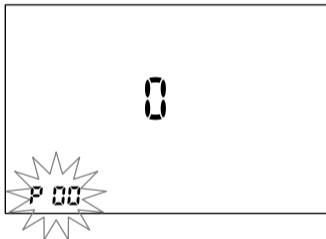
5 - Configuring operating parameters






This operation must be done by technical service personnel only. Errors in the configuration of your SATK'S remote control device may lead to malfunctioning.

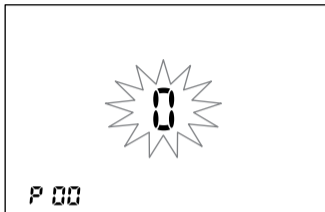
This operation configures the remote control device to be compatible with its installation position.

1. Move the remote control device to **OFF** by repeatedly pressing button 
2. Press the keys  and  and keep them pressed until the display will show **PAR**.
3. To confirm the function press button 

Instead of the time the display will show the parameter number, and instead of the temperature the parameter value. The parameter number will be blinking.



1. Turn button  to select the parameter number to be displayed. The display will show the corresponding parameter value.
2. Press button : to change this value. The corresponding parameter value will start blinking.
3. Turn button  to change the displayed value.
4. If within 30 sec. no key is pressed, normal operation will be restored and the last change made will not be saved.
5. Press button  to store the value.
6. To change the parameter repeat from point 4.
7. To exit the configuration context press key .



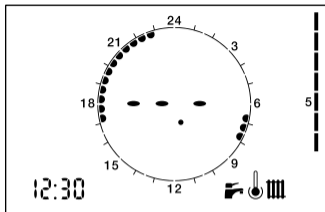
Hereafter you can find the definition of parameters you can change:

- **P00 - Remote control device configuration**

it enables / disables clock and thermostat functions of the device

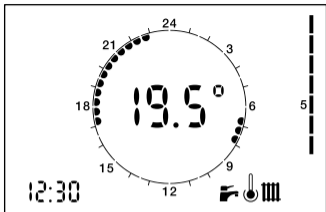
P00 = 0 – The thermostat function is disabled. The device can be used to set the space heating time program for the heat interface unit. When one or more external thermostats are connected to the heat interface unit, the remote control device, if set in AUTOMATIC mode (see 8.2) defines the hours of the day where a request for provision of space heating is accepted. If set in MANUAL mode (see 8.1) space heating is possible all day, according to the signals from external thermostats.

The digits in the central part of the display will show DHW/heating flow temperature, when the heat interface unit is in operation. When in stand-by --.- is shown on the display.



P00 = 1 – The thermostat function of the remote control device is enabled. It acts as a normal room chrono-thermostat. The space heating program on the device has no impacts on the provision of space heating to the heating zones controlled by other room thermostats (if any).


The digits in the central part of the display will show the current ambient temperature.







- P01 - Room temperature sensor compensation**
 It is the value (-5.0°C ÷ +5.0°C) to be added to/detracted from the displayed room temperature in order to compensate any possible error.
- P02 - Room anti-frost start temperature**
 It defines the start temperature for the room anti frost function (0.1°C ÷ 10°C). N.B.: 0.0 = value 0.0 disables the room anti frost function.

- P03 - Differential operation temperature OFF**
 It is the value to be added to the room setpoint in order to define the end of the space heating demand. Example:
 $T_{set\ point} = 20.0^{\circ}C$
 $P03 = 0.5^{\circ}C$
 $T_{set\ point} + P03 = 20.0 + 0.5 = 20.5^{\circ}C$
 The central heating demand ends whenever the room temperature is higher than 20.5°C.
- P04 - Differential operation temperature ON**
 It is the value to be subtracted from the room setpoint in order to define the start of the space heating demand. Example:
 $T_{set\ point} = 20.0^{\circ}C$
 $P04 = 0.5^{\circ}C$
 $T_{set\ point} - P04 = 20.0 - 0.5 = 19.5^{\circ}C$
 The central heating demand starts whenever the room temperature is lower than 19.5°C.

6 - Selecting operating mode

Select the operating mode by pressing key  several times.

The operating modes you can set are:

SELECTED STATUS	ID ICONS
OFF	
SUMMER	
WINTER	
HEATING ONLY	

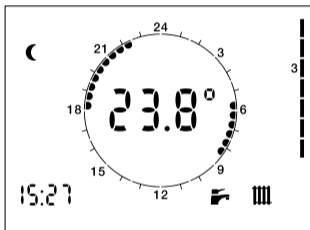
1. **OFF:** all requests are disabled.



2. **SUMMER:** the heat interface unit is enabled to produce domestic hot water only.

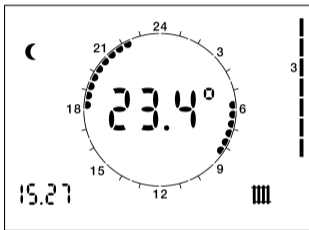


3. **WINTER:** the heat interface unit is enabled to produce both domestic hot water and space heating.




4. **HEATING ONLY:** the only operating mode enabled is space heating.





No matter which function has been selected, the room anti-freeze function is always operative (cfr. respective section).








7 - Setting up clock and temperature


To set the clock and the temperature set points of this remote control device and of the boiler press key  several times.

The menu is as follows:

SELECTED STATUS	ID ICONS
CLOCK	
TEMPERATURE DAY	
TEMPERATURE NIGHT	
HEATING FLOW TEMPERATURE	

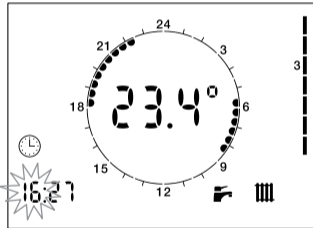
SELECTED STATUS	ID ICONS
DOMESTIC HOT WATER TEMPERATURE	
COMFORT MODE	
HEATING MAX RETURN *	
DHW MAX RETURN *	
KD OUTSIDE PROBE *	

* These parameters may not be accessible


In place of the time, the quantity value is displayed in the lower left corner. Its identifying icon will be blinking. In order to conclude the setting phase press key  several times until all identifying icons are off.

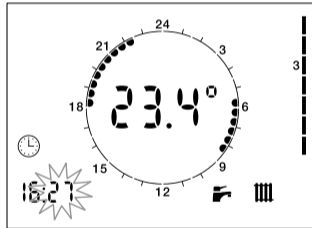
7.1 - Setting up clock

1. Press key : the hour will blink.



2. Turn button  to set the required value.

3. Press button  to confirm the input value. The hour will stop blinking and the minutes will start blinking.

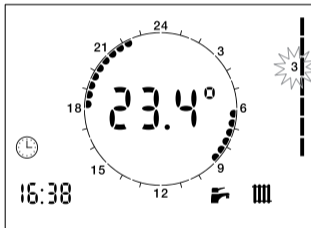


4. Turn button  to set the value.




5. Press button  to confirm value. The minutes stop blinking and the day of the week will start blinking.

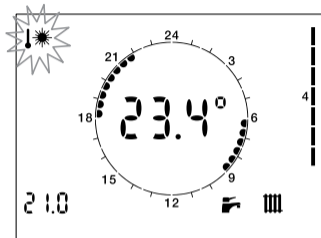
Turn button  to set the value.

Press button  to confirm value. The day of the week stops blinking and icon  goes off.






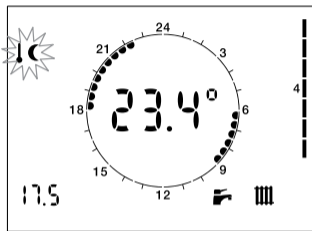
7.2 - Setting up room DAY temperature (if thermostat enabled)

1. Press key  until  icon starts blinking.
2. Turn button  to set the value you want.






7.3 - Setting up room NIGHT temperature (if thermostat enabled)

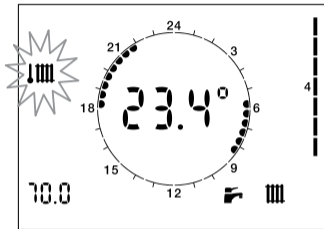
1. Press key  until  icon starts blinking.
2. Turn button  to set the temperature you want.






7.4 - Setting up HEATING flow temperature

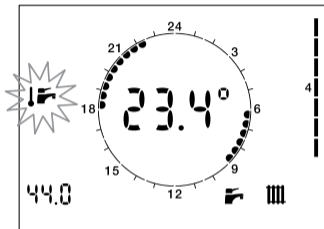
If the remote control device has been configured as modulating, this parameter determines the max. temperature value as computed by the modulation algorithms.

1. Press key  until icon  starts blinking.
2. Turn button  to set the value you want.






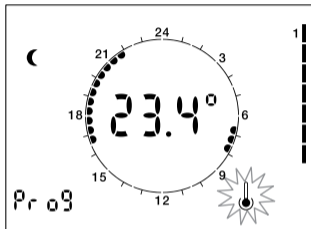
7.5 - Setting up DOMESTIC HOT WATER temperature

1. Press key  until icon  starts blinking.
2. Turn button  to set the value you want.



7.6 - Enabling / disabling DOMESTIC HOT WATER pre-heating

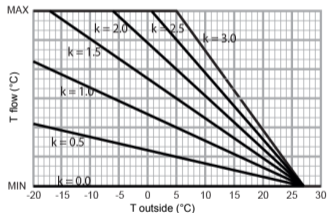
1. Press key  until icon  starts blinking.
2. Turn button  to enable (ON), disable (OFF) or enable according to the weekly domestic hot water pre-heating program (PROG) the function.





7.7 - Setting up outside probe K value

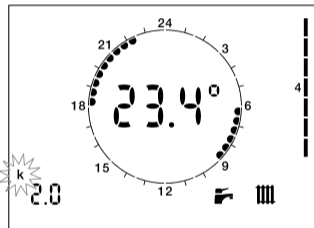
This setting option is available only if the outside probe is connected and the use for modulation is enabled.

This parameter allows to select the steepness of the modulation curve for weather compensation.



MIN can be either 25°C or 45°C according to the setting of the heat interface unit. MAX is the set heating flow temperature.

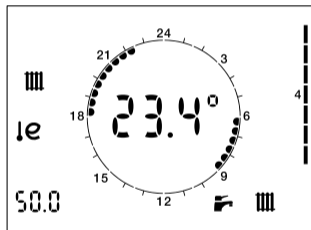
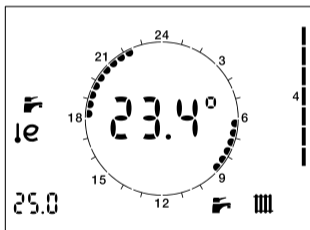
1. Press key  until icon **k** starts blinking.
2. Turn button  to set the value you want.



7.8 - Return temperature limits (if the relative function is enabled)

The set points identified by icons and should not be changed.

These values should be set by technical personnel only



8 - Setting up clock and temperatures

If the operation mode selected is WINTER or HEATING ONLY, the device allows you to manipulate the room temperature either MANUALLY or AUTOMATICALLY.






If the thermostat function is enabled (**P00 = 1**):



- In MANUAL mode the user selects the room temperature he wants, and this temperature will be maintained until a change is made.
- In AUTOMATIC mode the room temperature set point is determined by the correspondence between time-day and the set weekly program.
- In AUTOMATIC (holiday) mode the room temperature set point is determined by the correspondence between time-day and the set holiday program.

If the thermostat function is disabled (**P00 = 0**):

- In MANUAL mode the heating function depends solely on the signals from external thermostats connected to the heat interface unit.
- In AUTOM. / AUTOM. (holiday) mode the remote control device acts as a clock, setting a time program for the heating function for all thermostats connected to the heat interface unit.




8.1 - MANUAL operation


1. Press key  until icon  appears. The central digits on the display will show the set temperature blinking.
2. Turn button  to set the temperature you want.
3. After 30 secs the central display will go back to showing the current ambient temperature.
4. The set temperature can be changed again at any moment by turning button .
5. The set temperature can be displayed by pressing key .

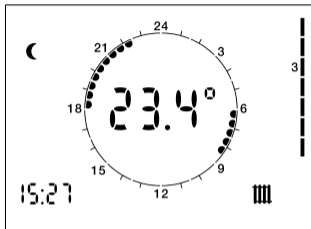
If the thermostat function is disabled, pressing key  until icon  appears results in disabling the time programming of space heating set on the device.



8.2 - AUTOMATIC operation




1. Press button  until the heating clock corona will be displayed.
2. Icon  or  will light up to show which is the current set temperature level.


If the thermostat function is disabled, pressing button  until the heating clock corona will be displayed enables the time programming of space heating set on the device (for any external thermostat connected to the heat interface unit).

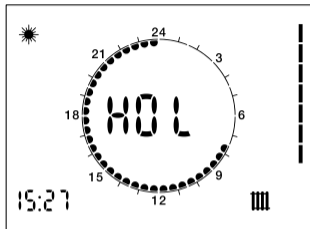


8.3 - AUTOMATIC (holiday) operation

The space heating program will be according to the set pattern of the holiday day, no matter what the day of the week is.


1. Press button  until "HOL" will be shown in the central display
2. Icon  or  will light up to show which is the currently set temperature level.

If the thermostat function is disabled, pressing button  until the heating clock corona will be displayed enables the holiday time programming of space heating set on the device (for any external thermostat connected to the heat interface unit).




9 - Weekly heating program







When operation mode WINTER or HEATING ONLY is selected, the remote control device allows operation in AUTOMATIC mode in which a priorly set program manages the room temperature during the various times of the day. The room temperature can be set to two independent levels: DAY (☀) and NIGHT (☾); the weekly heating program distributes these levels over the day. Inside the remote control device there is a standard program to control the room temperature that can be changed by the user.

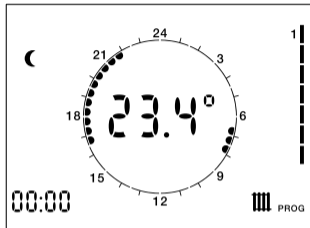
The display / change mode of the heating program will be actuated by pressing key ; the lighting of icon **PROG** shows that it is on.

FUNCTION	ID ICON
DISPLAY HEATING PROGRAM	PROG steady
CHANGE HEATING PROGRAM	PROG blinking













After making the changes press key  again to exit the programming area.

9.1 - Display heating program


1. Press key . Icons **PROG** and **1** will appear on the display and show the first day of the week. Icons / and the jumper are ON  or OFF  matching the DAY / NIGHT level of the displayed time.
2. Turn button  in order to scroll the times of the day and to move from one day to another.



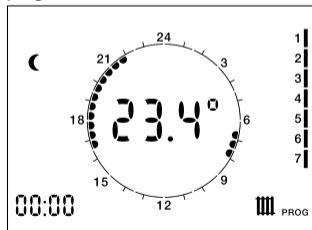
9.2 - Change heating program

1. Press key . Icons and will appear on the display and show the first day of the week. Icons / and the jumper are ON  or OFF  matching the DAY/NIGHT level of the displayed time.
2. Press button  to go to the program change zone: icon  and the day of the week will blink.
3. Turn button  to select the day.
4. Press button  to confirm the day you selected and to move to the time. The day of the week will stop blinking and the time will start blinking.
5. Turn button  to select the time.
6. Press key  to change the temperature level DAY / NIGHT assigned to the current time.
7. Turn button  until the time period you

want the current level to be kept.

8. Press key  to change the level and so on.
9. Repeat operations from point 2 on in order to change the day.

The eighth day (indicated by all numbers from 1 to 7 displayed) is used to set the "HOLIDAY" day program.




10 - Weekly domestic hot water pre-heating program









The SATK'S remote control device can run (same as for heating program) a weekly program to enable (☀) or disable (☾) the pre-heating function by time ranges.

Inside the remote control device there is a standard program to control the DHW pre-heating function the user can display and change it.

The pre-heating program display / change mode is the same as the one used for the heating program:


















the lighting up of icons and  shows that it is on.

10.1 - Display pre-heating program

1. Press key . Icons **PROG** and **1** will appear on the display and show the first day of the week.
2. Press key . Icon  will light upon the display and show the pre-heating program. Icon  (pre-heating enabled) or  (pre-heating tank disabled) and the jumper are ON  or OFF  matching the level of the displayed time.
3. Turn button  to scroll the times of the day and to move from one day to another.



10.2 - Change pre-heating program



1. Press key . Icons and 1 will appear on the display and show the first day of the week.
2. Press key . Icon  will light up on the display and show the pre-heating program. Icons  (pre-heating enabled)  or (pre-heating disabled) and the jumper are ON  or OFF , accordingly.
3. Press button  to move to the program change zone: icon  and the day of the week will blink.
4. Turn button  to select the day you want.
5. Press button  to confirm the day you selected and to move to the time. The day of the week will stop blinking and the time will start blinking.
6. Turn button  to select the time you want.
7. Press key  to change status ENABLED () / DISABLED () assigned to current time.
8. Turn button  until the time period you want the current level to be kept.
9. Press key  to change level and so on.
10. Repeat operations from point 3 on to change the day.

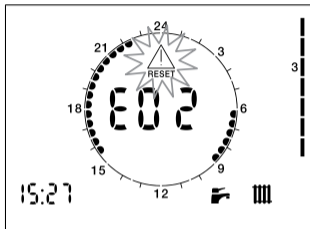
11 - Fault signalling

The remote control device will display any faults with code **E...** blinking in place of the temperature display.


To learn about the type of fault refer to the heat interface unit instruction booklet. There can be two kinds of faults: those which can be restored by the user and those which cannot be restored.

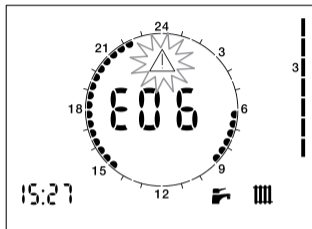
11.1 - Restorable faults

You recognize these faults because icon  will light up and blink together with icon RESET; they can be reset by pressing key 




11.2 - Not restorable faults






These faults are identified by the icon  ; these faults cannot be reset by the user but require technical service.



12 - Display values

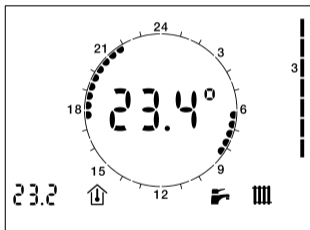
Pressing key  repeatedly your **SATK'S** control device is able to display the following quantity values:

The value is displayed in the lower left corner, in place of the time, and is identified by its icon.

SELECTED QUANTITY	ID ICON
SET ROOM TEMPERATURE	
DOMESTIC HOT WATER TEMPERATURE	
HEATING FLOW TEMPERATURE	
OUTSIDE TEMPERATURE	
RETURN TEMPERATURE	

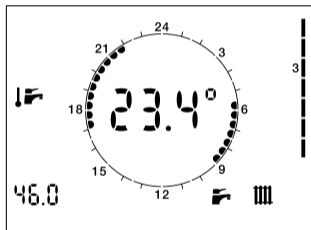
12.1 - Display set room temperature (if thermostat is enabled)

This is the temperature set for the activated temperature level (DAY - NIGHT - MANUAL).



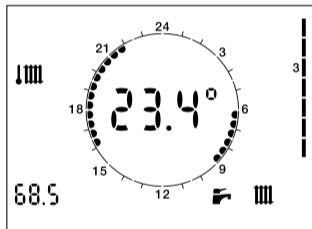
12.2 - Display temperature from domestic hot water probe

This is the temperature read by the domestic hot water probe fitted in the heat interface unit



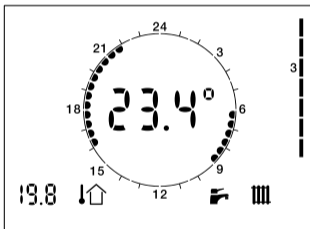
12.3 - Display temperature from heating flow probe

This is the temperature read by the heating flow probe fitted in the heat interface unit.



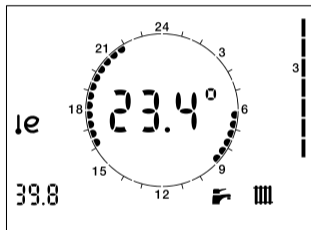
12.4 - Display temperature from outside probe

This is the temperature read by the outside probe connected to the heat interface unit.



12.5 - Display temperature from return probe

This shows the primary return temperature.



12.6 - Display flow meter rotation frequency

This is the rotation speed of the turbine of the flow meter.



13 - Reset of default values

If necessary the original values of the remote control device as set by the manufacturer can be restored.

The restored values are as follows:



- Temperature DAY: 20°C
- Temperature NIGHT: 16°C
- Temperature MANUAL: 20°C

Weekly heating program

Days	NIGHT	DAY
Monday - Friday	00.00 ÷ 06.00 08.00 ÷ 16.30 22.00 ÷ 00.00	06.00 ÷ 08.00 16.30 ÷ 22.00
Saturday - Sunday	00.00 ÷ 07.00 23.00 ÷ 00.00	07.00 ÷ 23.00

Weekly DHW pre-heating program

Days	DISABLED	ENABLED
Monday - Friday	00.00 ÷ 06.00 08.00 ÷ 17.00 22.00 ÷ 00.00	06.00 ÷ 08.00 17.00 ÷ 22.00
Saturday - Sunday	00.00 ÷ 07.30 22.00 ÷ 00.00	07.30 ÷ 22.00

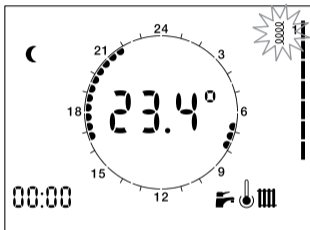
1. Move the remote control device to OFF position.
2. Press keys  and  and keep them pressed for longer than 5 secs.
3. The operation is confirmed when **dEF** appears on the display.



14 - Other icons

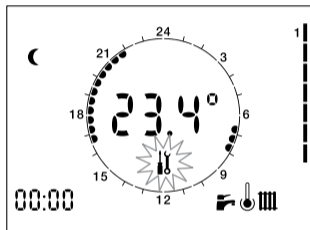
Some other icons may appear in case specific functions have been enabled.


Auxiliary contact closed:



This function has no effect on the provision of the heating services of the heat interface unit. The lighting up of icons can therefore be ignored.

Maintenance required:




if the heat interface unit has been configured for scheduled maintenance, icon  indicates that the device needs to be serviced.

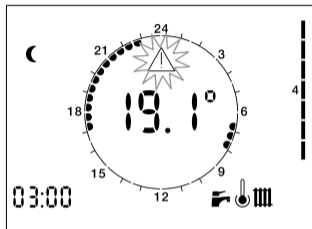
15 - Room anti-freeze function

The **SATK'S** controller is able to support the room-antifrost function.

In all the operating modes the central heating demand is generated whenever the measured room temperature is lower than the activation threshold (parameter P02). This grants protection of the heating installation from the freezing risk. The function can be eventually disabled through proper setting of parameter P02 (P02 = 0.0).

16 - Anti-legionella function

In case the antilegionella function is enabled, from 3:00 a.m. to 3:30 a.m. the domestic hot water temperature set point is increased to provide thermal disinfection of the heat exchanger. During this cycle icon  blinks.





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