BT-DPRF-02

IMPORTANT!

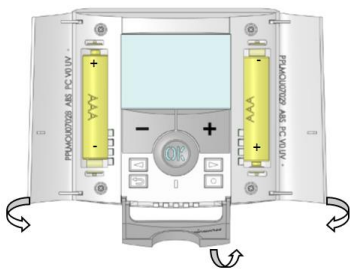
Before starting work the installer should carefully read this Installation & Operation Manual, and make sure all instructions contained therein are understood and observed.
- The thermostat should be mounted, operated and maintained by specially trained personnel only. Personnel in the course of training are only allowed to handle the product under the supervision of an experienced fitter. Subject to observation of the above terms, the manufacture shall assume the liability for the equipment as provided by legal stipulations.
- All instructions in this Installation & Operation manual should be observed when working with the controller. Any other application shall not comply with the regulations. The manufacturer shall not be liable in case of incompetent use of the control. Any modifications and amendments are not allowed for safety reasons.
The maintenance may be performed by service shops approved by the manufacturer only.
- The functionality of the controller depends on the model and equipment. This installation leaflet is part of the product and has to be obtained.

APPLICATION

- The thermostats BT-DPRF-02 are developed to control and manage all type of Electrical heating system or materials.
- The controllers have been designed for use in residential rooms, office spaces and industrial facilities.
Verify that the installation complies with existing regulations before operation to ensure proper use of the installation.

Table of content

1. Presentation

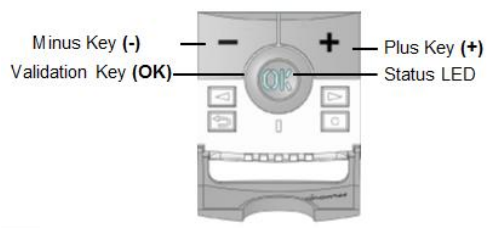


Electronic programmable thermostat with LCD display specially designed to control different type of heating systems.
It will be your best partner to optimize your energy consumption and increase your comfort.

- Modern design with soft touch material.
- Wireless Bidirectional communication 868 MHz.
- "Easy program creation" function.
- Weekly programmable by step of 30min.
- Temporary override function.
- Anti freeze function.
- Holiday or Reception function.
- EEPROM non volatile memory.
- 2 AAA batteries for 2 years operating life.
- 2 parameter menus, (User and Installer)
- 3 types of receivers for all possibilities of uses.

In option
External sensor with several possibilities of regulation. (Floor, combined…)

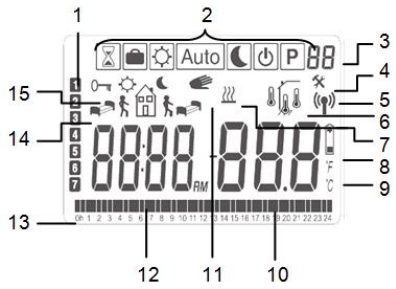
1.1. Keyboard



Left Navigation key (◄)
Right navigation key (►)
Escape key ( )
Edition key ( )

1.2. LED & Display

Red Fix: Heating demand (when backlight is lit up):
Green flash: your validation is required
Red flash: Error on sensor or batteries



1: Current day of the week
2: Operating mode menu (active mode is framed).
3: Program number or parameter number if "**4**" is displayed.
4: Installation Parameter menu.
5: RF transmission logo.
6: Type of sensor used and temperature displayed.
Regulation => Internal or external sensor.
Regulation => Floor sensor.
(Only available with receiver)
Regulation => Internal sensor with Floor limitation.(Only available with receiver)
7: Heating demand indication.
8: Low batteries indicator.
9: °C or °F unit indicator
10: Setting or measured temperature if "**5**" is displayed.
Parameter value if "**4**" is displayed.
11: Temporary override function activated.
12: Time or parameter title if "**4**" is displayed.
13: Program of the current day
(the current time bar blinks)
14: Pictogram for program creation, program state in normal operating mode.
15: Key lock indicator.

2. First Installation

This section will guide you to set up your thermostat for the first time.

2.1. Batteries installation

- Open the two side's covers and Insert the 2 AAA Alkaline supplied batteries (or remove the small protection sticker if the batteries are already installed in the compartment)
- Close the two side's covers.
- Now your thermostat will propose you to adjust the current time and date.

2.2. Time and Date adjustment

Each time a value blinks, you can adjust it with the **(-)** and **(+)** keys, once the value is chosen, validate it with the **(OK)** key.
The thermostat will jump automatically to the next value.
Note: you can always come back to the previous value by pressing the escape key ( ).
List order of the time and date adjustments:

Time and day:
Adjustment of the hours,
Adjustment of the minutes
Adjustment of the day (1 = Monday)
Date:
Adjustment of the day number
Adjustment of the month number (01 to 12)
Adjustment of the year
Then the message "**Save**" and blinking green LED appears, press **(OK)** to validate the adjusted time and date.
You can always reach the time and date adjustments, by pressing and maintaining the edition ( )key during 2 seconds in normal operating modes.

2.3. RF installation

2.3.1. With receivers

- First of all to configure your thermostat with the receiver, you must put your receiver in « **RF init** ». mode. (please refer to the receiver leaflet for this, only the RF receiver of the same range are compatibles)
- Now on the thermostat press and maintain the edition key ( ) during 5s, then the parameter « **RF ini** » must be display.

The thermostat will send now the radio configuration signal to the receiver.
- After few seconds the thermostat and receiver should exit by their self the RF init mode, this is the normal procedure to confirm a correct pairing.

- Now you can check the RF distance, go to the room which must be regulated. Put your thermostat on the final position (On the wall or table...), then put the thermostat in Comfort mode (setting temperature position 37°C). Close the door and go to the receiver to check if the new status of the thermostat has received. (The heating is generally showed by a Red LED on the receiver).
- Now return to the thermostat and switch off it. Check on the receiver again if it's also switched off (The red LED must be turned off)

If the RF signals were received correctly, adjust your setting temperature as you want.
If the RF signals weren't received correctly, check the installation (Receiver position, distance...) or restart the RF init rules to be sure.

* To make the installation easier it will be better to have the thermostat near to the receiver during the configuration mode. (A minimal distance of > 1meter must be respected)

2.3.2. Case of Central

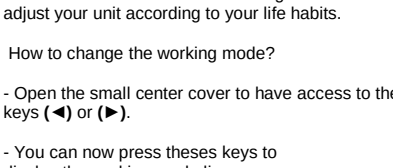
The link is done with central

2.4. Starting

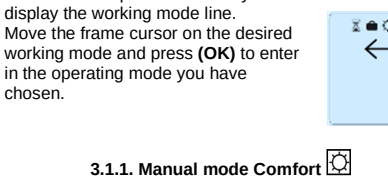
The thermostat is now ready to work.

The default working mode will be automatic Auto with a standard built-in program "**P1**".

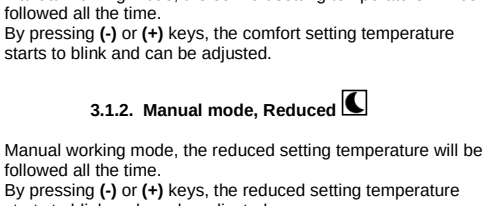
Monday to Friday



Saturday & Sunday



Note:
You can customise your program as you want, See the next part "**Working mode definition**" chapter "**Program**" for more explanation.



At any time, when the backlight is extinct, press the **(OK)** key to lit-up the backlight,
and then press another time the **(OK)** key to show the current setting temperature.

3. Working mode definition

Following your installation (Unit installed) your thermostat will offer different possibilities.

- Following the model of receiver linked with your thermostat, you will have also different possibilities for the working and regulation (Floor regulation, air regulation combined with floor limitation, Pilot wire function…)

3.1. Autonomous working

(Available with all receiver models)

Your thermostat has several working modes to allow you to adjust your unit according to your life habits.

How to change the working mode?

- Open the small center cover to have access to the navigation keys **(◄)** or **(►)**.

- You can now press theses keys 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.

3.1.1. Manual mode Comfort

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

3.1.2. Manual mode, Reduced

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.

3.1.3. OFF mode

Use this mode if you need to switch off your installation.

Be Careful:
In this mode your installation can freeze.

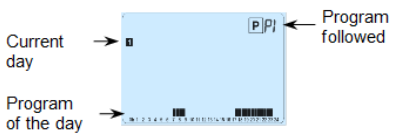
- At any time, when display is off, press on the **(Ok)** key to display a few seconds the current temperature and time.
- To restart your installation, use the navigation keys **(◄)** or **(►)**.

3.1.4. Automatic mode Auto

In this mode the thermostat will follow the chosen program (Built-in or customized) according to the actual time and the Comfort and Reduced setting temperatures.

You can easily override temporarily the current program by pressing **(-)** or **(+)**. The thermostat jumps to Timer mode in which you select a setpoint and a time. The thermostat returns automatically to the Automatic mode at the end of the time.

3.1.5. Program mode P



When you enter in the Program mode, the first operation is to choose the program number with **(-)** or **(+)** keys.
You can choose between a built-in program **P1** to **P9** or a user program **U1** to **U4**.
If you chose a Built-in program **P1** to **P9**,
You can only see and chose the program.
P1: Morning, Evening & Weekend
P2: Morning, Midday, Evening & Weekend
P3: Day & Weekend
P4: Evening & Weekend
P5: Morning, Evening (Bathroom)
P6: Morning, afternoon & Weekend
P7: 7H – 19H (Office)
P8: 8H – 19H & Saturday (Shop)
P9: Weekend (Secondary house)

(See the Annexe parts to view a complete description of the Built-in program)

- Use the navigation keys **(◄)** or **(►)** to change the program day displayed.

- Press the **(OK)** key to confirm your choice and come back to the main screen (in AUTO mode)
If you chose a user program U1 to U4,
As above you can choose the program, see it,
but you can also customise it.
Default setting:
U1, U2, U3, U4 = Comfort all week

- Press on the edition key ( )to customise a user program.

Symbols and explanation for program creation:


First step of the day (Comfort temp.)
The wakeup hour need to be adjusted.


Middle step of the day (Reduced temp.)
The leaving hour need to be adjusted


Middle step of the day (Comfort temp.)
The comeback hour will need to be adjusted


Last step of the day (Reduced temp.)
The sleeping hour need to be adjusted

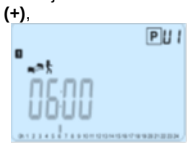
- The program step is 30 minutes

- Each time a value or icon blinks you are invited to make a choice with **(-)** or **(+)** keys,
once the choice is made press the **(OK)** key to jump to the following step.

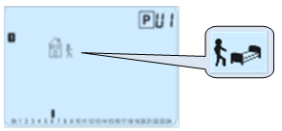
- The program creation will always start with the day **1** (Monday).

Once you have pressed the ( ) key, the following display will appear:

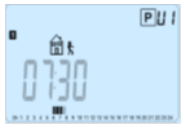
Now you are invited to adjust the hour of the first step of the program with **(-)** or **(+)**,



Press **(OK)** to validate and go to the following step.



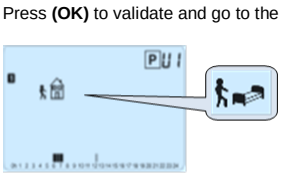
Now you are invited to choose the type of the next step of the program (blinking icons),
2 choices will be possible:
- 1st choice is to choose the sleep icon. (End of the day)
- 2nd choice is to choose the leaving icon, to add one step to the program during the day.
When the choice is made, press **(OK)** to validate.
Then you can adjust the step hour with **(-)** or **(+)**,



When step hour is set press **(OK)** to jump to the next step.

You will be directly invited to adjust with **(-)** or **(+)** the hour of the comeback step.

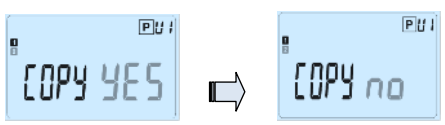
Press **(OK)** to validate and go to the following step.



You are again invited to choose the type of the next step of the program (blinking icons),
2 choices will be possible:
- 1st choice is to choose the sleep icons. (End of the day)
- 2nd choice is to choose the leaving icons, to add another step to the program during the day.
When the choice is made, press **(OK)** to valid and you can adjust the hour of this step with **(-)** or **(+)**,

Press **(OK)** to validate and finish the edition of the first day.

Now you can choose to copy the program day just created to subsequent days

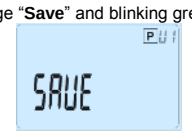


Change the choice "**Yes**" or "**no**" with **(-)** or **(+)** and validate your choice with **(OK)**.

- If you select "**no**", you will be invited to create a program for Tuesday (repeat the previous method to built it.)

- If you select "**Yes**", you will have the possibility to copy the program to the following day (on Tuesday on Wednesday... up to the last day of the week
(7 Sunday).
When you press **(OK)** on the last day (7 Sunday) you will be invited to "**SAVE**" your program.

Then the message "**Save**" and blinking green LED appears:



Press **(OK)** key to save your program and return to **AUTO** operating mode following your user program.

Press the escape key **( )**to erase your user program changes and come back to operating mode.

2.4.1. Holiday mode

The Holiday mode allows you to set the anti-freeze temperature for a selected number of days

- You can adjust, the duration in day "**d**" with **(-)** or **(+)**, press **(OK)** to start. (Adjustable 1 to 99 days)

- The anti-freeze setting temperature is fixed and can be adjusted in the parameter menu number
06 'HG', see chapter 6. (Default value 10°C)

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

If you want to stop the Holiday function before the end, set the duration period to "**no**" with **(-)** key.

3.1.6. Timer mode

The Timer mode allows you to adjust, the temperature and the duration for a special time.
This function can be used when you stay at home for several days, or if you want to override the program for some time (reception...)

- You can first adjust, the duration in hours "H" if below 24H, then in day "**d**" with **(-)** or **(+)**, press **(OK)** to validate.
(Adjustable 1 Hour to 99 days)

- In a second time, you can adjust the desired setting temperature with **(-)** or **(+)**, press **(OK)** to start the function.
(Default value 22°C)

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

If you want to stop the Timer function before the end, set the duration period to "**no**" with **(-)** key.

3.2. In combination with Central

If your thermostat works in combination with a wireless Central, it will become a remote unit.
All the working will be now done on the Central, you can view all information sent by the Central or by the receiver and also change the room setting temperature from this unit.

Screen shot of thermostat in combination with the wireless Central.

Note: the time will be also sent by the Central, then all your installation will be synchronized with the same time.

4. Special function

4.1. Keyboards lock Function

Use this function to prevent all change of your settings (In a child room, public area…)

- To activate the Key lock function, first press maintained the escape key **( )**and then press simultaneously on the edition key **( )**.
- The " " logo will be displayed on the screen.
- Repeat the same procedure to unlock the key board.

4.2. Open window function

Conditions of open window detection:
The thermostat detects an "Open window" if the displayed temperature (internal or ambient sensor) decreases by 3°C or more during a 5 minutes period (or less).
In this case, the thermostat stops heating for 15 minutes.
The function remains active during those 15 minutes so the stop can last more time if the temperature continues decreasing.
As an indicator of this function, the room temperature will blink.
Return to normal mode:
The thermostat returns automatically to normal mode after the stop period.
The function can be overridden by pressing the **(OK)** button during the stop heating phase.
Then the blinking temperature should stop to indicate the end of the detection.
Special cases:
- This function doesn't work if Thermostat is in Floor regulation
- This function doesn't work if Thermostat is in OFF / Antifreeze Mode
- If temperature is less than 10°C, thermostat will regulates at 10°C during the stop phase

4.3. Information

With this function, by several presses on the escape key **( )**. you can quickly view all currents temperatures of the probe sensors connected to your thermostat or your receiver linked (room, Ambient or Floor sensors)
This "Scroll function" is only available in the main screen.

You can view alternatively:
- Current setting point temperature.
- Room temperature.
- Ambient temperature (if external sensor connected)
- Floor temperature (with receiver only)

5. Parameter's menu

Your thermostat has a parameter's menu, in order to enter in this menu, press and maintain the edition key **( )** during 5sec. Then parameter menu will appear and first parameter screen will be displayed:

Now you can select a parameter which must be adjusted with the navigation keys **(◄)** or **(►)**, once the parameter 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)**.

N°	Default value & other possibilities
00	**RF INI:** Radio configuration Sends the radio link signal in order to assign this RF Thermostat with it's RF receiver. You also need to set simultaneously the receiver in radio configuration mode (On a simple receiver press and maintain button until the green light lit's up, see receiver leaflet)
01	**dEG:** Unit of the temperatures displayed **°C** Celsius **°F** Fahrenheit
02	__:__ Selection of the Time clock unit **24H** (24:00) **12H** (12:00 AM /PM)
03	**dst:** Daylight Summer time change Summer<->Winter **YES** automatic change according to date. **no** no daylight summer time automatic change.
04	**AirC**: Calibration of the internal probe The calibration must be done after 1 day working with the same setting temperature in accordance with the following description: Put a thermometer in the room at 1.5M distance from the floor (like the thermostat) and check the real temperature in the room after 1 hour. When you enter on the calibration parameter "**no**" is displayed on the right to indicate no calibration has made. To enter the value shown on the thermometer, use the **(-)** or **(+)** keys to enter the real value. Then, press **(Ok)** to confirm. The message "**Yes**" should be displayed; the value will be stored in the internal memory. If you need to erase a calibration press on the escape key **( )**. The old value will be erased and the message "**no**" will be displayed. * Pay attention: Only the heating element driven by the thermostat must be used during the complete step of the calibration.
05	**OutC** , **AMbC** , **FlrC**: Calibration of the external wired probe Same calibration method as described in parameter "04 AirC" above.
06	**HG:** Anti-freeze temperature used in Holiday mode Default value 10°C. Use the **(-)** or **(+)** keys to change the anti-freeze setting temperature. Then press **(Ok)** to confirm.
07	**ITCS: YES, no** The Intelligent Temperature Control System will activate your installation in advance (2 hours maximum) to assure the desired temperature at the hour programmed following your weekly program. This automatic control system works in the following way: When you start your thermostat for the first time, it will measure the time taken by your installation to reach the set temperature. The thermostat will re-measure this time at each program change to compensate external temperature change & influence. You can now program your thermostat without the need to adjust the temperature in advance because your thermostat does it automatically for you.
08	**Clr ALL**: Reset to Factory setting Press and maintain **(Ok)** key during 10s to reset Set points temperatures and user parameters in this menu to factory default settings. User programs will also be resetted. **Pay attention:** Ensure you that you have all necessary elements to re-setup your installation before using this function.
09	Displayed only if the BT-DRF-02 is linked with a multizones receiver **CHAn—** --: number of the linked zone
10	Software version VErS
11	**End**: Exit the parameter's menu Press **(OK)** key to exit installation parameter menu and return to normal operation.

6. Technical characteristics

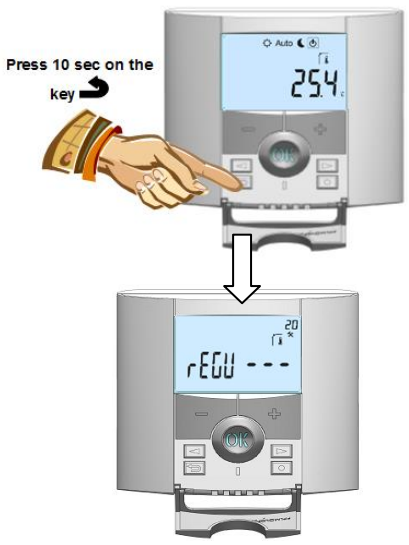
Environmental: Operating temperature: Shipping and storage temperature:	 0°C - 40°C -10°C to +50°C
Electrical Protection Installation Category Pollution Degree	IP30 Class II 2
Temperature precision	0.1°C
Setting temperature range Comfort, Reduced Holiday (Antifreeze) Timer	 5°C to 37°C by 0,5°C step 10.0°C (adjustable) 5°C to 37°C
Regulation characteristics	Proportional Band (PWM 2°C/10min) or Hysteresis 0.5°C
Power Supply Operating life	2 AAA LR03 1.5V Alkaline ~2 years
Sensing elements: Internal & External (option)	 NTC 10kΩ at 25°C
Radio Frequency	868 MHz, <10mW.
Software version	Showed in parameter menu. **Vers XXX**
Compatible receivers	Flush type Wall type Plug type
CE Directives Your product has been designed in conformity with the European Directives.	 R&TTE 1999/5/EC EMC 2004/108/EC RoHS 2011/65/EU

7. Troubleshooting & Solution

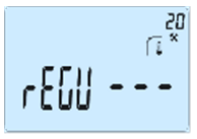
My **Thermostat** doesn't start	
Batteries Problem	- Check if the protection sticker on the batteries is removed. - Check the batteries orientation. - Check the capacity of the batteries
My **Thermostat** Led, blinks in Red	
Problem on sensors	The logo blinks (ambient sensor) - Contact your installer or seller. The logo blinks (Floor sensor) - Check the connection of the sensor on the receiver. - Disconnect the sensor, and check it with an ohmmeter (the value must be around 10kohms)
Batteries level is too less	The logo blinks (Batteries) - Replace the batteries.
My **thermostat** seems to work correctly but the heating doesn't work correctly	
Output	On the receiver: - check the good reception of RF signal. - Check the connections. - Check the power supply of the heating element. - Contact your installer.
RF communication	- Check the following points : - The receiver must be put at a minimum distance of 50cm of all others electrical or wireless materials (GSM, Wi-Fi..) - The receiver shouldn't be fixed on a metallic part or too close of hydraulic pipes… (Copper…)
My **thermostat** seems to work correctly but the temperature in the room was never in accordance with the program.	
Program	- Check the Clock. -The difference between Comfort & Reduced temperature is too high? - The step in the program is too short? - Your installation use an energy saver, check the correct working. - Contact your installer, to check & adjust the regulation parameters with your heating system.

3. Advanced installer's parameters menu

How to accede it on the "BT-DPRF-02" version



In order to enter in the menu, press on the escape key **( )** during 10 seconds, the following display with the first parameter appears:



- Once you entered in the menu, go to the parameter you want to change by using the keys **(◄)** or **(►)**.

- Use the keys **(+)** or **(-)** to edit and modify and confirm by pushing the **(OK)** key.

- To leave the parameter menu, go to the parameter "**End**" and press the **(OK)** key.

Parameters		Installer's Advanced Menu		
N°	**names**	**Description of the parameter**	**Factory value**	**Other possibility**
20	**REGU ---**	Selection of the sensor used for the regulation.	**"AIR"** Internal ambient sensor	**"amb"** External ambient sensor The following option are only available with receiver **"FLR"** Floor sensor regulation **"FL.L"** Air regulation with floor limitation possibilities (see parameters 25&26)
21	**Cld ---**	Use this option if you want to allow the zone to work in cooling mode	**"yes"** Function activated	**"no"** Function deactivated
22	**AirS ---**	View of the measured values of the internal sensor.	**"—.–"**	
23	**AmbS ---**	View of the measured values of the external (Ambient) sensor.	**"—.–"**	
24	**RecS ---**	View of the measured values of the floor sensor connected to the receiver.	**"—.–"**	
25	**FL.Lo ---**	Lower limit of the floor temperature.	**"no"** The lower limitation is not used	From 5°C to **"FL.Hi"**
26	**FL.Hi ---**	Upper limit of the floor temperature.	**"no"** The upper limitation is not used	From **"FL.Lo"** to 40°C
27	**reg ---**	Selection of regulation type.	**"bp"** Proportional band (PWM)	**"hys"** Hysteresis (On/Off)
28	**Bp1 ---**	Concrete choice.	**"uf1"** For liquid concrete with low thickness < 6cm	**"uf2"** For traditional concrete with thickness > 6cm
29	**Bp2 ---**	Floor covering choice.	**"Fl1"** For tiling	**"Fl2"** For wood parquet (floating or not)
30	**wir**	Pilot wire function for French Market application: Use this option if your installation has the pilot wire installed in combination with an energy saver.	**"yes"** Function activated	**"no"** Function deactivated
31	**min**	Minimal value of the setting range.	**"5.0°C"**	**"15.0°C"**
32	**max**	Maximal value of the setting range.	**"20.0°C"**	**"37.0°C"**
33	**Win**	Automatic open window detection. (See user guide for more explanation)	**"yes"** Function activated	**"no"** Function deactivated
34	**Clr EEp**	All parameters will be reloaded with the factory value.	Press on the **(OK)** key during few seconds.	
35	**End**	To exit the installer's menu	Press on the **(OK)** to exit.	