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MyHOME

Thermostat with display

Installer manual

Thermostat with display

Installer manual

MyHOME

legrand®

bticino

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1.1 Warnings and recommendations

Before proceeding with the installation it is important to read this manual very carefully.
The guarantee is automatically void in case of negligence, improper use, tampering by unauthorised personnel.
The thermostat is only suitable for indoor installation.

2 Description

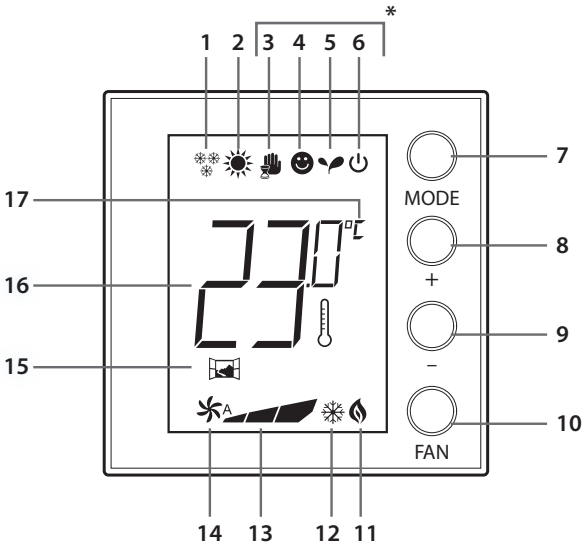
2.1 General features

The thermostat with display can be used in both heating and air-conditioning systems and can adjust the temperature with five modes: Comfort, Eco, Antifreeze / Thermal protection, Automatic and Manual.
Depending on the use, the backlit display shows the following information: its function and mode (heating, cooling or automatic function; Comfort, Eco, Antifreeze/Thermal protection, Automatic, Temporary manual or Off), the room temperature measured, the temperature set point set, the fan-coil fan speed, the local contact status and the zone status.
The thermostat can be used in MyHOME temperature control systems (MyHOME probe with central unit), hotel room systems, or residential systems (individual system). The configuration can be done by connecting the configurators to the corresponding sockets in the back of the thermostat, or using the MyHOME_Suite software.
Programming is simple and intuitive: to switch from one mode to the other press **MODE**, **+** or **–** .

Factory settings

	Heating	Cooling
Adjustment interval	3 – 40 °C	3 – 40 °C
Comfort	21 °C	25 °C
Eco	18 °C	28 °C
Antifreeze	7 °C	
Thermal protection		35 °C

2.2 Front view



(*) Auto Mode

The remote setting (control unit or supervision software) follows.

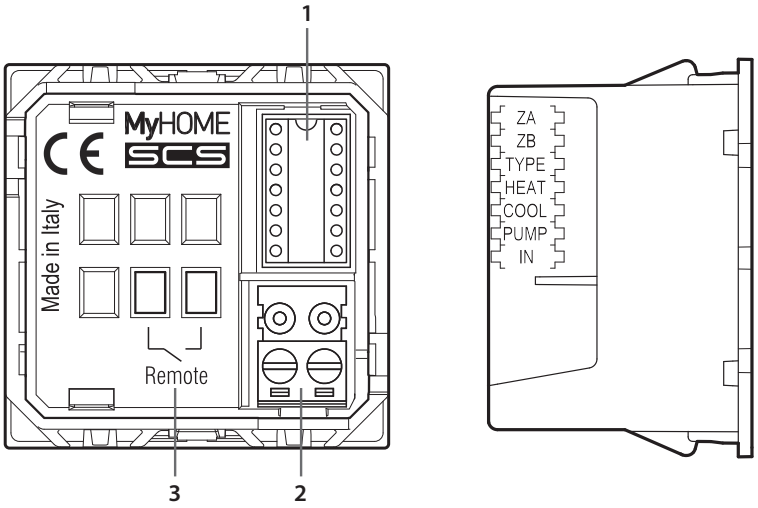
In the case of MyHome systems, the icons shown with asterisks do not appear on the display when the corresponding modes are set remotely.

NOTE: Some local functions, such as switching the heating/cooling, setting the comfort, eco and antifreeze/heat protection modes and automatic adjustment of the fan-coil fan can be disabled when configuring.

Pressing the pushbutton to activate one of the deactivated functions will have no effect.

1 - Heating function.
2 - Cooling function.
3 - Manual mode icon.
4 - Comfort mode icon.
5 - Eco mode Icon.
6 - Antifreeze / Thermal protection / OFF mode.
7 - MODE key: a short pressure changes the mode of operation of the device; an extended pressure (unless used as MyHOME probe) changes the function.
8 - **+** key: increase the set value.
9 - **–** key: decrease the set value.
10 - FAN key: set the fan-coil speed on 3 levels + automatic.
11 - Heating On indicator.
12 - Cooling On indicator.
13 - Fan-coil speed indicator, 3 levels.
14 - Fan-coil in automatic mode indicator.
15 - Window indicator: active local contact according to the programming.
16 - Measured (thermometer symbol On) / set (thermometer symbol Off) temperature indicator.
17 - Unit of measure: °C or °F.

2.3 Rear and side view



1 - Configurator socket.
2 - Connection to the BUS.
3 - Local contact.

ZA / ZB	= zone address,
TYPE	= Thermostat operating mode (MyHOME probe, hotel thermostat, or individual residential system);
HEAT	= definition of the type of heating load (valves, fan-coil, etc.);
COOL	= definition of the type of cooling load (valves, fan-coil, etc.);
PUMP	= selection of the pumps to control;
IN	= definition of the function performed by the contact connected to the thermostat.

For the configuration and setup of the local contact see the technical sheet.

3.1 Installation

Installation in a MyHOME temperature control system

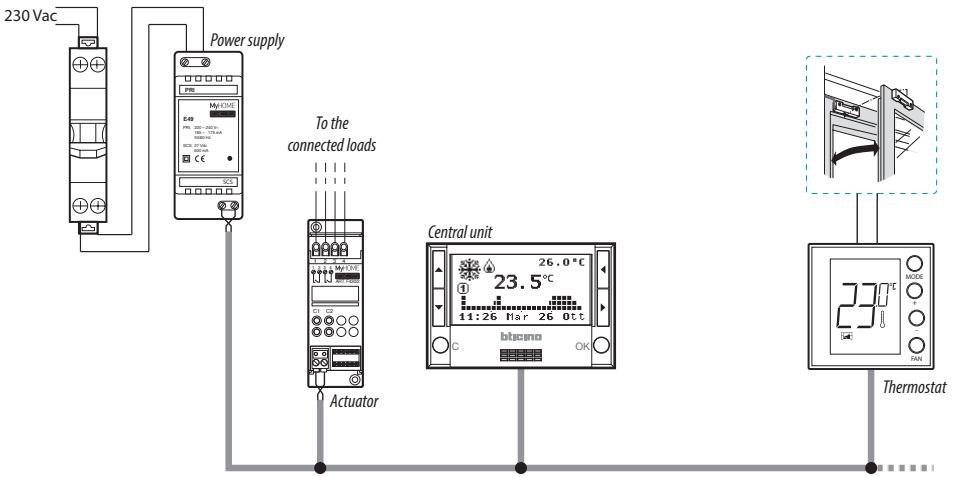
Thanks to the internal sensor, the thermostat can operate as master probe of a MyHOME system. In this case it will obtain the settings from the central unit managing the system.

Using the + and − keys, it is possible to enter settings different from those of the central unit; the new settings are temporary, and will only be applied until the next central unit set-point change.

In comfort, eco and antifreeze/heat protection operation the control unit or other control device cannot change the mode.

To return to the control unit settings, set the mode on automatic (always using the sensor MODE key).

Example of MyHOME system



The systems consists of:

- Power supply;
- Actuators and pumps;
- Temperature control central unit;
- Thermostat with local contact for the detection of open windows.

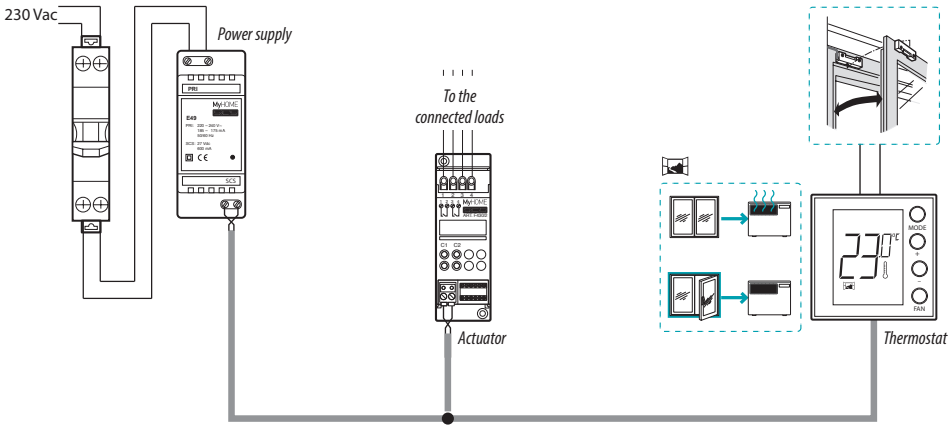
Hotel thermostat

The operation in the hotel room configuration gives the customer the possibility of easily setting the temperature to the desired level of comfort. The hotel manager can integrate the individual thermostat installed in the room as part of a system that can be managed using a software for the monitoring of consumptions, therefore avoiding unwanted energy waste.

Home thermostat

The third type of use, as room thermostat, manages the temperature control of an individual system, without the need for additional control devices.

Example of hotel room or individual residential system



The systems consists of:

- Power supply;
- Actuators and pumps;
- Thermostat with local contact for the detection of open windows.

3.2 Function comparison table

In the table below the first three columns show the functions which can be activated depending on the type of system in use, while the last column defines which functions can be controlled locally by the keys on board the sensor. The functions are set in the programming phase using the MHsuite software.
As an example in hotel systems one can set that the user cannot manage the temperature adjustment but must call reception so that it is adjusted remotely. Or one can define that all the local keys are locked to avoid the child in his bedroom using the sensor controls incorrectly.

	TYPE OF SYSTEM			CAN BE ACTIVATED/ DEACTIVATED BY MYHOMESUITE
DESCRIPTION	**MyHOME SYSTEM** MyHome Probe	**HOTEL SYSTEM** Hotel thermostat	**INDIVIDUAL SYSTEM** Home thermostat	MyHOME_Suite FUNCTIONS
Heating or cooling function setup	• From central unit	• From keypad (blockable) • From local contact • From software	• From keypad (lockable) • From local contact	–
Automatic changeover function	–	●	●	●
Manual Mode	–	●	●	–
Temporary manual mode	●	–	–	–
Comfort mode	●	●	●	●
Eco mode	●	●	●	●
Antifreeze and Thermal Protection mode	●	●	●	●
OFF Mode	●	●	●	–
Fan-coil speed	• From keypad • From remote	• From keypad • From remote	• From keypad	–

4 Configuration

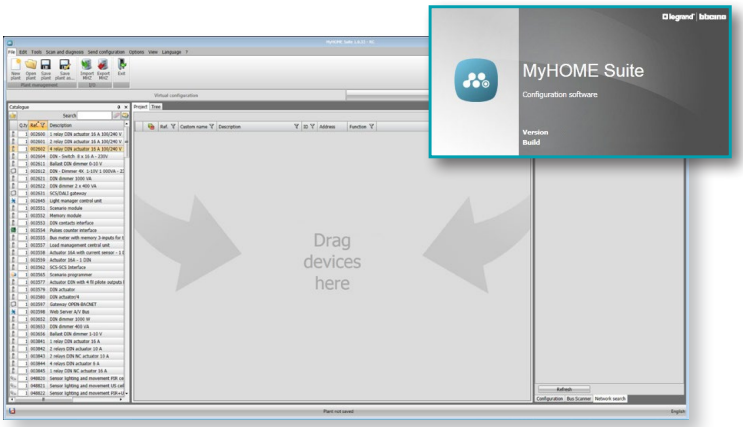
4.1 Physical or advanced configuration

Depending on personal requirements and the type of system to install, the thermostat may be configured in two ways: physical or advanced configuration.

The physical configuration is completed by connecting the configurators to the appropriate sockets on the back of the thermostat.

If no physical configurators are connected, the device can be configured virtually by connecting it to a PC and using the dedicated MyHOME_Suite software.
In this way it is possible to simplify the configuration operations in large systems, without the need to manually intervene on each device.
The advanced configuration offers more functions, including being able to control several actuators with just one thermostat and being able to configure the automatic switching mode (heating/cooling).

For the configuration see the product technical sheet.



5.1 Heating and cooling function

The thermostat can be set for the management of four different functions, depending on the type of system to install:

- heating function (only the heating is active);
- cooling function (only the cooling is active);
- cooling function in summer / heating function in winter;
- automatic changeover between cooling and heating (not available in MyHOME systems).

The setting of the function (with the exclusion of the use as MyHOME probe) can be modified with an extended pressure of the **MODE** (> 7 seconds). The Mode key can disable the function change (with the configuration by MyHOME_Suite software).

Heating function

If the measured temperature is lower than the reference value, the heating system is activated and the corresponding symbol appears on the display .

When the temperature is reached, the thermostat switches the zone off and the icon disappears.

Note: The heating icon is always displayed .

Cooling function

If the measured temperature is higher than the reference value, the cooling system is activated and the corresponding symbol appears on the display .

When the temperature is reached, the thermostat switches the zone off and the icon disappears.

Note: the cooling icon is always displayed .

Summer / winter function

By configuring the thermostat both for the winter (HEAT) and the summer (COOL) functions, it is possible to use it with the heating system in winter, and the cooling system in summer.

The icons shown on the display will be the same as the ones previously described for the heating and cooling functions.

5.2 Automatic changeover function (available starting from version 1.3 of MyHOME_Suite)

(Not available in MyHOME systems).

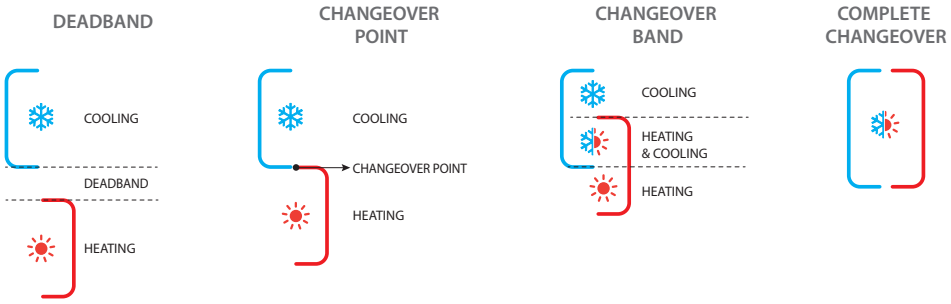
The thermostat can be programmed for automatic changeover between the heating and the cooling functions. When programmed in this way, the (❄ / ☀) icons are not displayed.

Depending on the temperature measured, the heating or cooling system in operation symbols (🔥 / ❄) will appear, to indicate that the corresponding function is active.

Note: Automatic changeover mode cannot be configured physically, but must be enabled during the advanced configuration (using the MyHOME_Suite software).

This function can be used when it is necessary for the thermostat to automatically manage the changeover between heating and cooling, and is for example useful in case of 4 tube fan-coils.

Using the MyHOME_Suite software, it is possible to set the range of temperature at different levels, for the activation of the heating and the cooling systems, depending of the thermal inertia of one's own system, and specific requirements.

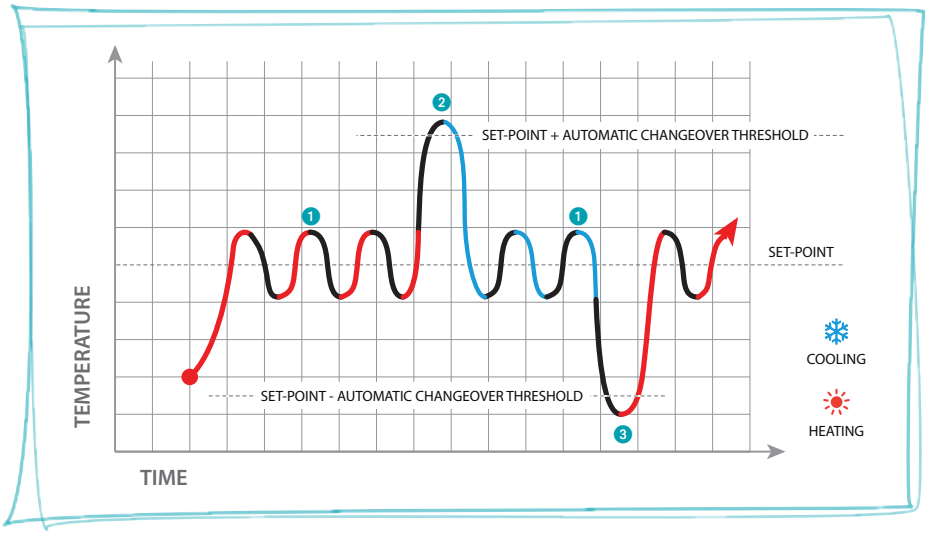


5.2.1 Automatic changeover in automatic or manual mode (fixed set-point)

The switching from the heating to the cooling function, and vice versa, depends on the rules listed in the following table (T° represents the measured temperature).

Measured temperature	Action
T° between (set-point + automatic changeover threshold) and (set-point – automatic changeover threshold).	It maintains the current function. 1
T° > (set-point + automatic changeover threshold).	It switches to the cooling function. 2
T° < (set-point – automatic changeover function).	It switches to the heating function. 3

NOTE: the automatic changeover threshold has been set to 2°C.



Example chart

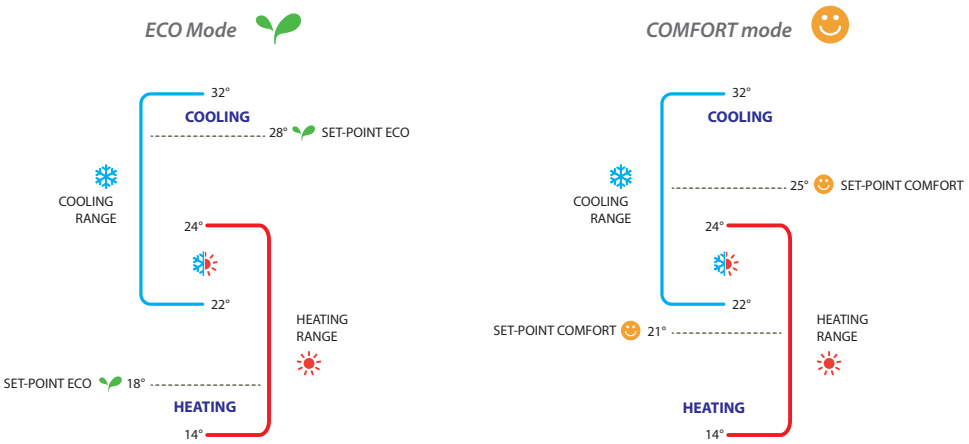
5.2.2 Automatic switching in Comfort, Eco and Protection mode

Automatic changeover depends on the operating mode selected: comfort, eco, or protection.

In this case, the heating and cooling ranges must have been previously set in the corresponding modes (see paragraph 6.5).

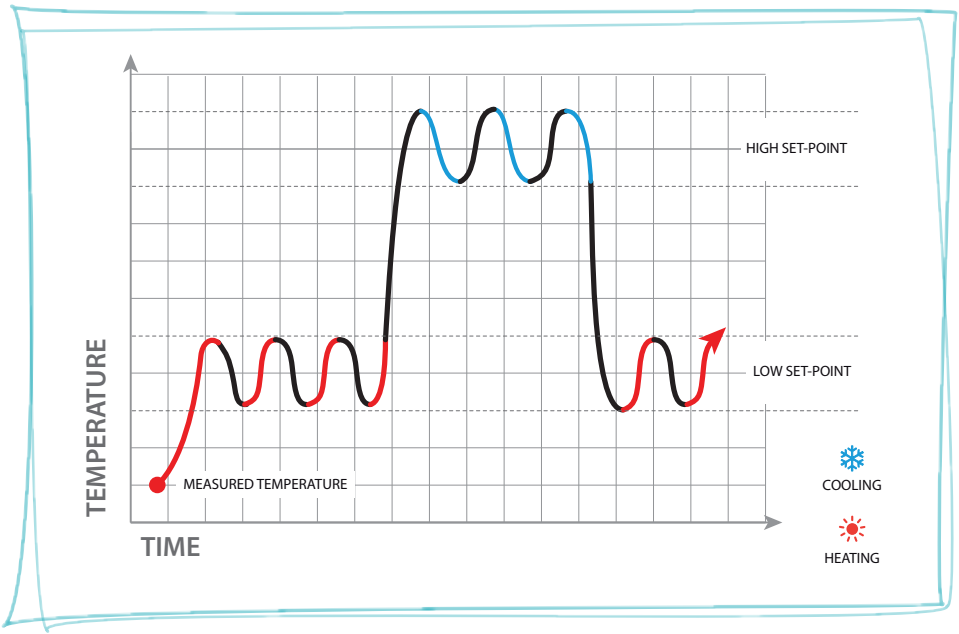
You thus need to set two parameters for each mode: a high set point to be set in the cooling function and a low set point to be set in the heating function.

Example of temperature range settings



The above example indicates the temperature set-point pairs for Eco mode and Comfort mode. The cooling system will activate when the temperature exceeds the upper set-point, while the heating system will activate when the temperature falls below the lower set-point.

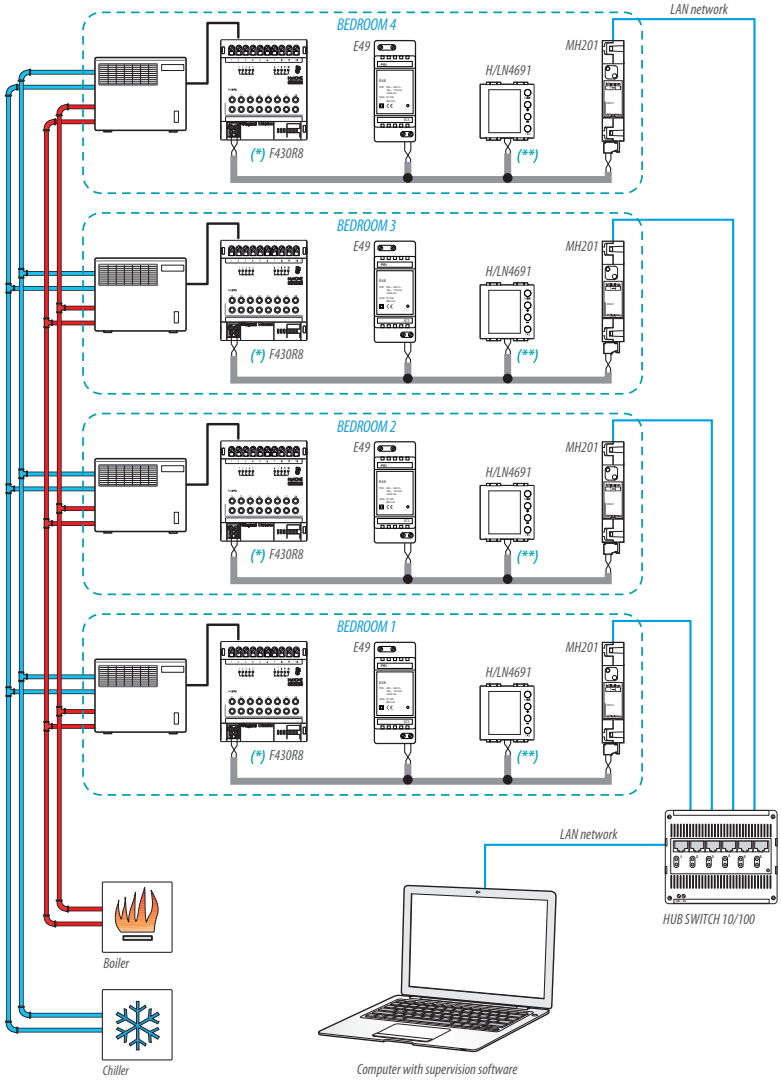
The thermostat operates on two different set-points: high set-point, and low set-point.



Example chart

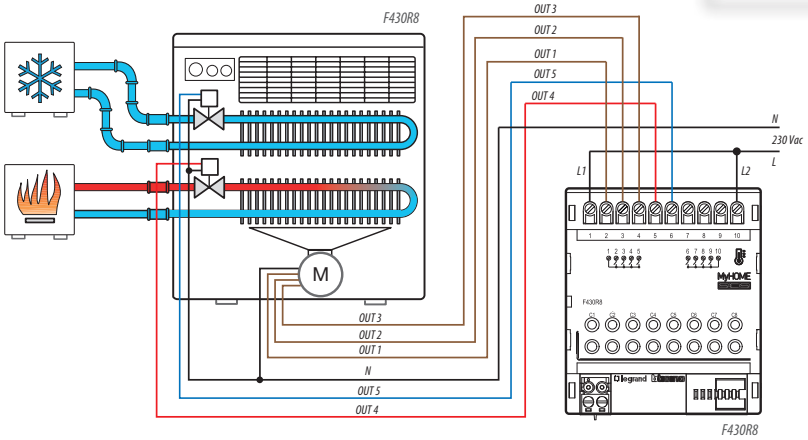
5.3 Example of installation diagram

4 zone system with 4 tube fan-coil for heating and cooling systems.



(*) Connection and configuration detail F430R8

OUT 1 = minimum fan speed
OUT 2 = medium fan speed
OUT 3 = maximum fan speed
OUT 4 = heating solenoid valve
OUT 5 = cooling solenoid valve



BEDROOM 1 ACTUATOR			
[ZA]	[ZB]	[N]	[TYPE]
0	1	1	

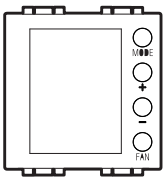
BEDROOM 2 ACTUATOR			
[ZA]	[ZB]	[N]	[TYPE]
0	2	1	

BEDROOM 3 ACTUATOR			
[ZA]	[ZB]	[N]	[TYPE]
0	3	1	

BEDROOM 4 ACTUATOR			
[ZA]	[ZB]	[N]	[TYPE]
0	4	1	

(**) Thermostat configuration detail

H/LN4691



BEDROOM 1 THERMOSTAT

[ZA]	[ZB]	[TYPE]	[HEAT]	[COOL]	[PUMP]	[IN]
-	1	1	7	CEN	-	-

BEDROOM 2 THERMOSTAT

[ZA]	[ZB]	[TYPE]	[HEAT]	[COOL]	[PUMP]	[IN]
-	2	1	7	CEN	-	-

BEDROOM 3 THERMOSTAT

[ZA]	[ZB]	[TYPE]	[HEAT]	[COOL]	[PUMP]	[IN]
-	3	1	7	CEN	-	-

BEDROOM 4 THERMOSTAT

[ZA]	[ZB]	[TYPE]	[HEAT]	[COOL]	[PUMP]	[IN]
-	4	1	7	CEN	-	-

5.4 Operating modes

The thermostat can operate in the following modes:

Manual / Automatic.

Temporary manual.

Comfort; 2 customisable set-points: ideal heating and cooling temperatures (default 21 – 25°C).

Eco; 2 customisable set-points: saving heating and cooling temperatures (default 18 – 25°C).

Antifreeze: Minimum safety temperature (default 7°C).

Thermal protection: maximum safety temperature (default 35°C).

Off: zone off (can only be set remotely, or by contact).

With a short pressure (3 seconds maximum) of the **MODE** key, the system toggles between modes.

5.5 Fan-coil speed

If the thermostat is configured for the management of a fan-coil type load, by pressing the **FAN** key it is possible to scroll through the fan speeds available, selecting one of the following values. With MyHome suite you can disable the automatic speed setting by local key.

Press **FAN** to set the fan speed at the desired level.

	Speed 1
	Speed 2
	Speed 3
A	Automatic operation

Note: during the adjustment the fan symbol and the segment for the speed selected flash.

6 Programming

6.1 Display items

Set point

The thermometer icon is not shown, and the unit of measure of the temperature is in °C.

If the mode is set on OFF, no temperature will appear on the display but the "- -" symbol will be displayed.

Note: you can change from °C to °F using the MyHOME_ Suite software or the user menu.

Temperature calibration (see paragraph 6.4).
The thermometer icon flashes quickly to indicate that calibration is being performed.
The temperature unit is set on °C or °F depending on the selection.
This function can be disabled using the software.

Configuration from central unit

The "CU" symbol indicates that a session with a central unit or with a supervision software is running.

Configuration / test being completed

The "[ ]" symbol flashes slowly to indicate that a remote configuration / test is being completed.

No configuration

The "[ ]" symbol flashes slowly to indicate that the thermostat is not configured.

Wrong configuration

The "- -" symbol flashes quickly to indicate that the physical configuration of the thermostat is wrong.

Error condition
The display shows the "Er" symbol followed by a number (1 to 5), to indicate an error condition. For more information see paragraph 7.3.

6.2 Brightness adjustment

The display brightness can be adjusted on 10 levels.

Press the FAN key for at least 7 seconds.

The current brightness level appears on the display.

Use the + and – keys to increase or decrease the brightness.

Press the **FAN** key twice to confirm and quit the function.

NOTE: the user setting procedure can be disabled using the software.

6.3 Setting the temperature measurement unit

You can select setting the device on the temperature scale expressed in degrees °C or °F.

Press the **FAN** key for at least 7 seconds.

Press the **FAN** key again.

The current measurement unit appears on the display.

Use the **+** and **–** keys to change from one measurement unit to the other.

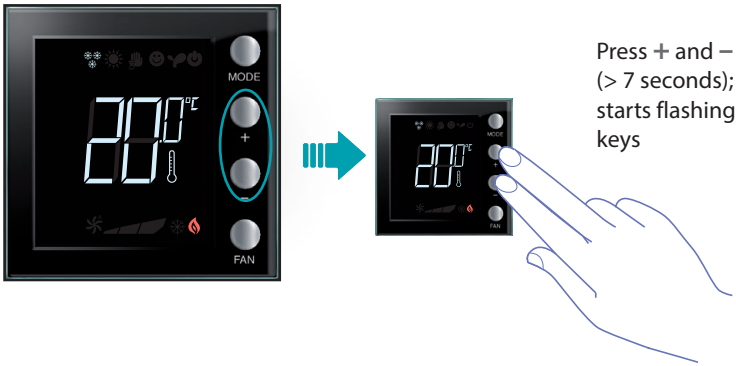
Press the **FAN** key to confirm and quit the function.

NOTE: the user setting procedure can be disabled using the software.

6.4 Temperature calibration detected

By pressing + and − at the same time it is possible to calibrate the measured temperature. This function can be disabled using the software.

NOTE: after the first installation, wait for at least 5 hours before calibrating.



Press + and − at the same time (> 7 seconds); the thermometer icon starts flashing quickly. Release the keys

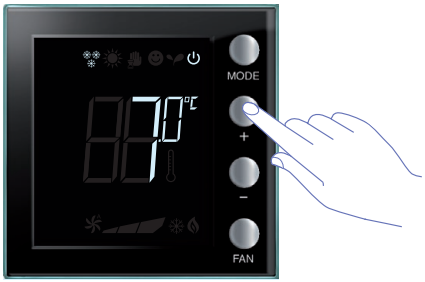
After releasing the keys, it is possible to increase or decrease the temperature detected using + and − .
Wait a few seconds, or press **MODE** or **FAN** to terminate the procedure.

NOTE: to reset the factory calibration settings press + and − (> 7 seconds) at the same time; the thermometer icon starts flashing quickly.
Keep pressing the keys; after a further 7 seconds the thermometer icon stops flashing, and the manual calibration is deleted.
The thermometer returns to the factory calibration settings.

6.5 Modification of the set-point using the keypad

Below is a description of how to manually change the temperature set-points.

Press **MODE** to select the mode for which the set-point must be changed.



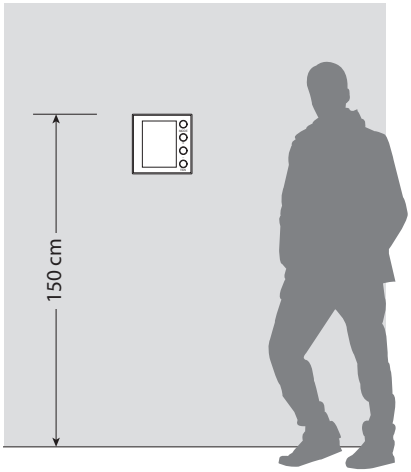
The current set-point flashes for a few seconds. During this time press **+** or **–** to change the temperature.
The display flashes for 4 seconds, showing the new set-point.

Once the display stops flashing, the new set-point is saved (the set-point stops flashing and remains on the display). After this, the display returns to showing the temperature detected.

The Comfort and Eco set-points can only be modified if the loads have been assigned to the device, otherwise they are blocked.

7.1 Installation height

The thermostat must be installed on a wall at an average height of 150 cm from the floor, unless otherwise required by current laws.



7.2 Technical data

Power supply from BUS	18 – 27 Vdc
AAbsorption	30 mA (maximum backlighting while the keys are being pressed)
	16 mA (backlighting during stand-by)
	13 mA (backlighting off)
Unit of measure	°C or °F
Operating temperature	0 – 40 °C
Dimensional data	2 flush mounted modules

CE certification.
Standards: IEC 60669-2-5 / EN 50491-5-2

7.3 In case of error

When the display shows the "Er" symbol followed by a number, the thermostat is indicating an error condition.
Below is a list of possible errors:

Er1	No response from pump.
Er2	No response from actuator.
Er3	No response from slave probe.
Er4	Temperature sensor fault.
Er5	Internal error device.

With errors "Er1", "Er2", and "Er3" the thermostat keeps the current mode and the displayed error condition can be reset (by pressing any key). If the error condition persists, after 15 minutes the error screen will reappear.

With errors "Er4", and "Er5" the thermostat switches OFF, and all the actions that can normally be performed by the user, like the pressure of the keys, are disabled.

Below is an example of an error screen (*).

(*) **NOTE:** if ER4 or a temperature very different from the one felt are displayed, or after the first installation, wait at least 5 hours before checking the operation again, or carrying out the calibration procedure.

Some of the functions described in this manual and which can be configured by the MyHomeSuite software are available with the new Thermostat version, from week 20 of 2016;
the details are below:

- colour icons;
- local contact status icon;
- the fan-coil ventilation can be set to always active;
- fan-coil icon flashing during speed adjustment;
- possibility of disabling change mode, local settings, calibration procedure and automatic fan-coil speed;
- proportional adjustment of the loads (valves or fan-coil speed);
- key lock on the basis of the contact status and contact number management for advanced functions.
- display backlighting adjustment;
- Setting the temperature measurement unit by local keys.

TECHNICAL AFTER-SALES SERVICE

Legrand SNC only accepts responsibility for perfect device operation if it is installed to the state of the art respecting the indications of the product installation manual.

www.legrand.com

Legrand SNC
128, av. du Maréchal-de-Lattre-de-Tassigny
87045 Limoges Cedex - France
www.legrand.com

BTicino SpA
Viale Borri, 231
21100 Varese - Italy
www.bticino.com

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