

COMPLETE INSTRUCTION MANUAL








hygge home



Wireless programmable thermostat kit

INDEX

hygge home SYSTEM COMPOSITION	5
SYSTEM RELIABILITY	5
hygge home BLOCK DIAGRAM	5
hygge radio RECEIVER CONNECTION DIAGRAMS	6
hygge way CONNECTION TO THE WI-FI NETWORK WITH SEITRON SMART APP	7
PAIRING OF ADDITIONAL DEVICES (PAIRING)	9
ADDING A SECOND PROGRAMMABLE THERMOSTAT hygge TO THE hygge home KIT	9
hygge Programmable thermostat < > hygge radio receiver PAIRING	11
ERASING DEVICE	13
ERASING all the pairings from the hygge way Gateway	13
ERASING of all di all pairings from the hygge radio receiver	13
ERASING the individual pairings from the hygge programmable thermostat	13
OPERATION hygge	14
INSTALLATION	14
USING THE PROGRAMMABLE THERMOSTAT WITH THE TABLE STAND	14
INSTALLING THE PROGRAMMABLE THERMOSTAT ON THE WALL MOUNT	14
DISPLAY VISUALIZATION	14
STARTUP	14
OPERATION LOGIC	15
SETTING HEATING/COOLING MODE	15
AMBIENT TEMPERATURE REGULATION MODE	15
Program	15
Temporary manual mode 	15
Manual mode 	15
OFF	15
Antifreeze 	16
SETPOINT TEMPERATURE SETTING FOR MANUAL MODES	16
BOOST	16
ADVANCED CONFIGURATION	16
P04: ANTI FROST (Antifreeze)	16
P05: UPD RATE (Re-transmission Interval)	16
P06 ROOM T OFFSET (Room temperature Offset)	16
P11: OUT CONFIG (Output regulation configuration)	17
P12: ON OFF HYST (hysteresis setting)	17
P13: PROP BAND (Proportional band)	17
P14: INTEGR TIME (Integrative time)	17
hygge TECHNICAL FEATURES	18
CLASSIFICATION UNDER REG. 2013.811.CE	18
OPERATION hygge radio	19
FUNCTIONING LOGIC	19
MECHANICAL DESCRIPTION	19
LED	19
SELF-LEARNING KEY	20
ERASE KEY	20
CHECK SIGNAL STRENGTH	20
SYSTEM CONFIGURATION	20
OUTPUT REGULATION MODE	20
hygge radio TECHNICAL FEATURES	21
SIZE	21
TROUBLE SHOOTING	22
OPERATION hygge way	23
FUNCTIONING LOGIC	23
MECHANICAL DESCRIPTION	23
LED	23
BUTTONS  and 	24
SYSTEM CONFIGURATION	24
hygge way TECHNICAL FEATURES	24
SIZE	24
WARRANTY	25

hygge home SYSTEM COMPOSITION

The Hygge home domestic thermoregulation system consists of the following components:

- Gateway hygge way
- Battery powered programmable thermostat hygge
- Hygge radio receiver
- APP Seitron Smart for mobile devices

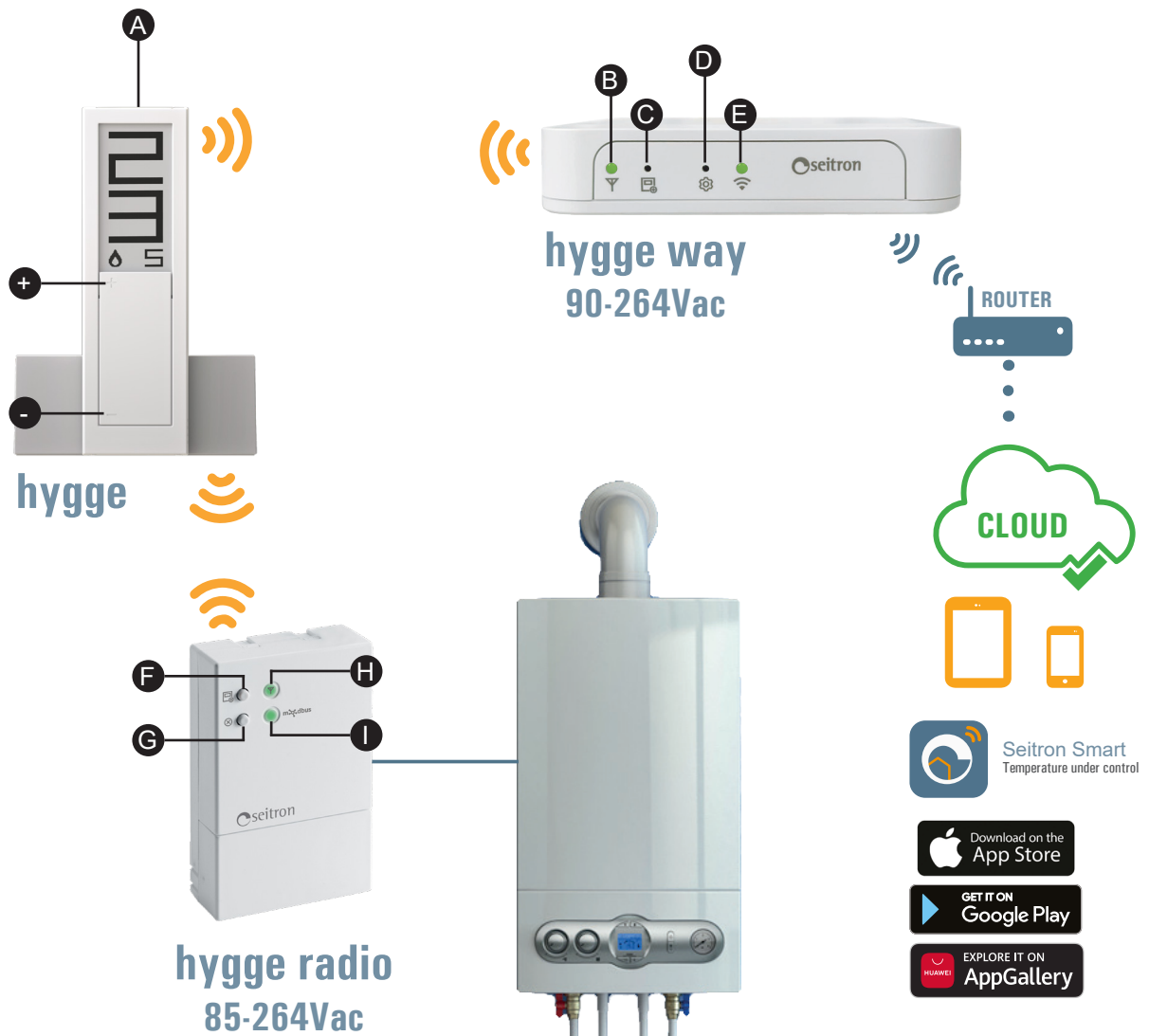
SYSTEM RELIABILITY

Hygge home kit has been designed with special care for the system reliability.

Especially, the **hygge** programmable thermostat is able to grant the correct thermoregulation of the environment even if the internet connection is not available and/or the **hygge way gateway** is malfunctioning.

The basic functions available on the **hygge** programmable thermostat, allows to control the thermoregulation of the environment even if one of the device in the group is faulty: mobile device – server – connectivity – Internet – router Wi-Fi – Gateway.

hygge home BLOCK DIAGRAM



WARNING

THE DEVICES IN THIS KIT ARE FACTORY PRE-MATCHED: ONCE THE MECHANICAL INSTALLATION IS DONE, THEY ARE READY TO USE.

EACH hygge way GATEWAY CAN MANAGE UP TO A MAXIMUM OF 12 hygge PROGRAMMABLE THERMOSTATS.

EACH hygge PROGRAMMABLE THERMOSTAT CAN MANAGE UP TO A MAXIMUM OF 6 DEVICES (hygge radio AND hygge way).

EACH hygge radio RECEIVER CAN BE MANAGED BY UP TO A MAXIMUM OF 50 hygge PROGRAMMABLE THERMOSTATS.

hygge radio RECEIVER CONNECTION DIAGRAMS

The only electrical connections to be made are those related to the receiver **hygge radio**.

The receiver can be powered at 85..264V~ 47..63Hz. The **L** and **N** terminals power the receiver at 85..264V~ and are to be connected to the mains voltage with the neutral on the terminal **N**.

Terminals 3, 4 and 5 are the contacts, voltage free, type SPDT of the output relay.

Figure 1 illustrate how to connect the receiver to a boiler. The boiler will be turned on when the programmable thermostat associated with output asks for heat (heating mode).

On Figure 2 it is shown how to connect a load (for example a pump) which is powered when the output is active and that is when the programmable thermostat requires heat (heating) using the NA relay terminal.

To the **hygge radio** receiver it is possible to pair up to 50 **hygge** programmable thermostats, each **hygge** drives the relay output of the **hygge radio receiver**, so that the boiler is turned on when at least one of the **hygge** programmable thermostats requires heat.

Follow the Fig. 1 or 2 connection diagram.

The device can be connected to a home automation control unit with which it will communicate via RS485 bus with MODBUS® RTU protocol. The RS485 bus is available at terminals 7 (A) and 8 (B). The ground of the RS485 bus is available at terminal 6 if it is necessary to connect the shielded cable (optional).

The signals relating to the RS485 port are insulated with double insulation in relation to the power supply terminals L and N and the output relay terminals 3, 4 and 5, as shown in the diagrams of Fig. 1 and 2.

It is necessary to tie together the cable groups with cable ties separating the power and load wires from those of the bus to avoid that if a wire is accidentally disconnected, this does not reduce the electrical insulation.

For more information on the operating mode and the communication protocol, it is necessary to contact the local dealer.

WARNING

- Before performing the installation of the hygge radio receiver make sure that the radio signals transmitted by the hygge programmable thermostats are correctly received by the receiver.
- If the load driven by the hygge radio receiver works with mains grid power, it is necessary that the connection is performed using an omnipolar switch complying with the current standards and with a contact opening distance of at least 3 mm in each pole.
- The installation and electrical connections of the device must be carried out by qualified personnel and in compliance with current standards.
- Before making any connections, make sure that the power supply is disconnected.

Make the electrical connections following the appropriate diagram.

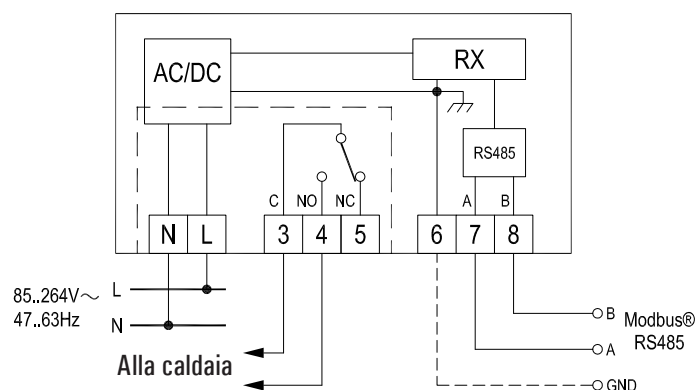


Fig. 1

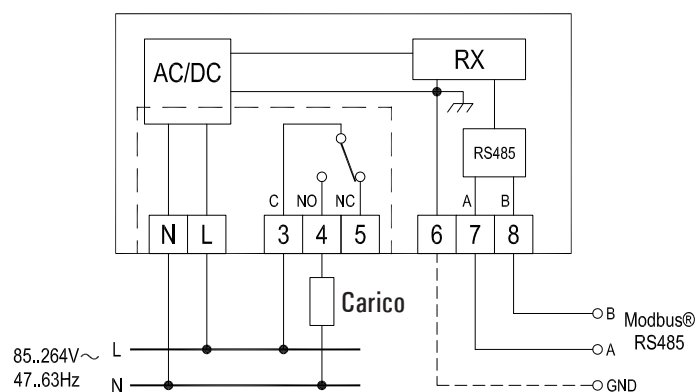


Fig. 2

ISOLAMENTO RINFORZATO

hygge way CONNECTION TO THE WI-FI NETWORK WITH SEITRON SMART APP

All components of **hygge home kit** are already **factory pre-matched**, thus ready to operate. **The only operation the user has to perform is pairing hygge way Gateway to the Wi-Fi network using the Seitron Smart App.**

This operation is very simple to perform, just follow all the directions from the App itself.

After completing the steps described in the chapter 'INSTALLATION' of the quick guide, it is possible to proceed with the connection of **hygge way** to the Wi-Fi network.

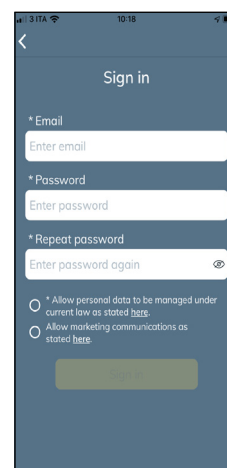
WARNING

Before proceeding with the association of hygge way to the Wi-Fi network, described below, is advised to power on all the devices hygge, hygge radio and hygge way; this sequence buys time for the system to synchronize all components.

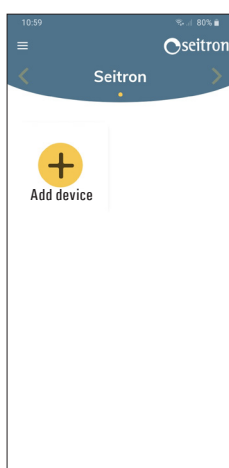
1 Download and start the Seitron Smart App on your mobile device (Smartphone and/or tablet).

2 If you already have a registered Email and Password, fill out the indicated fields.

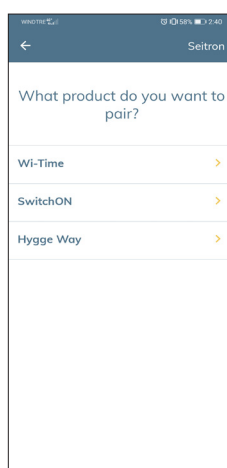
If you are not registered, push the button 'Sign in'.



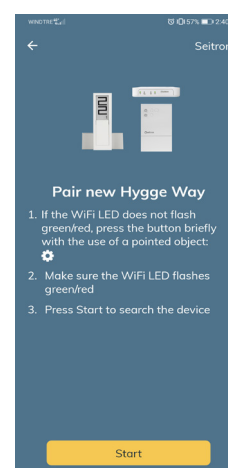
3 Pair a new device with the dedicated App.



Press
' + '



Select
' Hygge Way '



Follow the instructions and press
' Start '

WARNING!

In this phase, make sure that the gateway **hygge way** is on Wi-Fi configuration mode, so the Led "📶" is blinking green and red. If the **hygge way** is not on Wi-Fi configuration mode, press briefly with a sharp instrument the Wi-Fi configuration button "⚙️".

4 When the device has been detected, the MAC address will appear on the screen shown below.

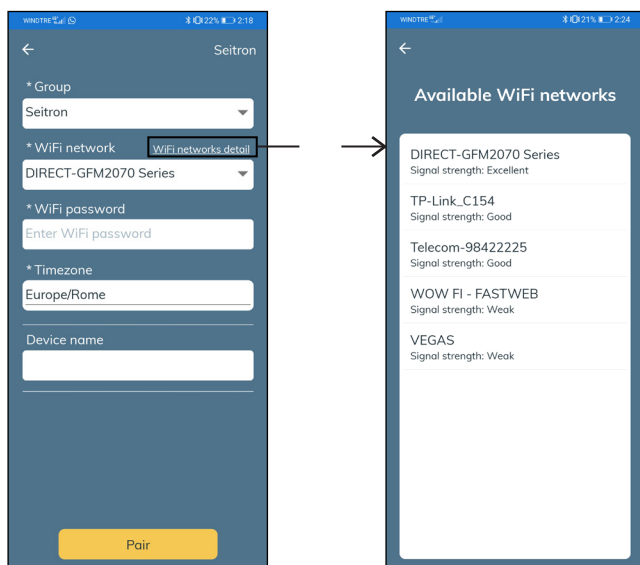


Choose the **MAC address** corresponding to the **hygge way** you want to pair to the App. The **MAC address** is visible on the back of the **hygge way**.

WARNING

- Multiple hygge way kits may appear in the “device searching” screen, if there are more than one hygge way turned on and in Wi-Fi configuration mode inside the same area.
- It is possible to pair more than one hygge way to the mobile app; in such case it is necessary to repeat the procedure for each hygge way.

5 Fill in all fields as suggested within the sample boxes. Select your Wi-Fi network from the list of available ones and enter the corresponding password. The field “Group” allows to give a name to the App Management screen, which may coincide with the name of the house or area. The field “Device name” allows to give a name to the **hygge way** gateway.



Press the button ‘Pair’.
The **hygge way** gateway finishes the configuration and it connects to the Wi-Fi network.

WARNING

Check the correct connection to the Wi-Fi network:

- the ' ' LED on the hygge way front cover says lit with green color in order to signal that the device is connected to the Wi-Fi network.

After a few moments the programmable thermostat(s) **hygge** appears on the App home screen. It can be necessary to wait for a few minutes for the programmable thermostat(s) to appear.

PAIRING OF ADDITIONAL DEVICES (PAIRING)

Devices included the **hygge home** kit are already pre paired by factory default, thus ready to operate.

In case it is necessary to add or change a device on the base system **hygge home**, it is necessary to pair all the different devices one to the other so that all the devices are recognized on the same system.

More specifically, the pairings that need to be performed are the following:

- **Pairing Gateway hygge way < > Programmable thermostat hygge**
- **Pairing Programmable thermostat hygge < > Hygge relay radio receiver**

The **hygge way** gateway and the **hygge radio** receiver are designed to work in systems where more than one programmable thermostat is installed and therefore when a new **hygge** is coupled, this is added in memory together with the others possibly already coupled. It is important to make sure that the **hygge** programmable thermostats are paired with their own gateway **hygge way** and the designated **hygge radio** receiver.

In order to perform the test and to activate the "Test" mode of the **hygge** programmable thermostat, press at the same time for 5 seconds the keys "A" and "+" until the Test screen is displayed (TEST EXISTING DEVICE 1).

If the **hygge way** gateway is paired correctly, the LED "Y" of the gateway blinks green every two seconds and on the programmable thermostat Test screen, the symbol "Y" blinks every 2 seconds.

To verify the **hygge radio** receiver, press the key "+" until the device 2 screen Test appears (TEST EXISTING DEVICE 2).

If **hygge radio** is correctly paired, the output relay of the receiver will switch on and off every 2 seconds and the "Y" LED is bright green lit (relay ON) and faint green lit (relay OFF) every 2 seconds and on the Test screen of the programmable thermostat the antenna symbol flashes every 2 seconds.

In order to exit from the Test screen, press "A" on the **hygge** programmable thermostat.

In some cases it can be important to erase a pairing with the gateway or a receiver; in order to proceed with the deletion, from the Test mode, keep pressed the "A" key on the **hygge** programmable thermostat until the screen shows TEST NEW DEVICE.

When deleting a pairing, it is important that the gateway and receivers are turned on for the operation to take place correctly.

If some pairing errors have occurred, it is advised to perform the deletion all the possible pairings in memory on the **hygge way** gateway and on the **hygge radio** receiver and then proceed to pair again all the devices needed.

If you have two or more **hygge** programmable thermostats to pair, it is recommended to switch on only one **hygge** in Test mode at a time.

ADDING A SECOND PROGRAMMABLE THERMOSTAT hygge TO THE hygge home KIT

To associate a second **hygge** programmable thermostat to the **hygge home** kit, proceed as follows:

- Perform the procedure "**hygge way** gateway < > Programmable thermostat **hygge** pairing"
- Perform the procedure "**hygge** Programmable thermostat < > **hygge radio** receiver pairing"

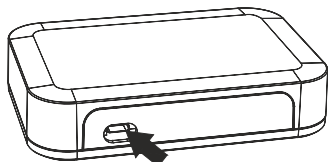
Gateway hygge way < > Programmable thermostat hygge PAIRING



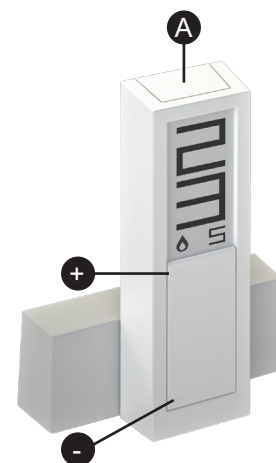
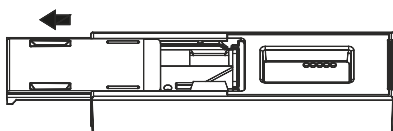
WARNING

A SINGLE hygge PROGRAMMABLE THERMOSTAT, CAN BE PAIRED TO ONLY ONE hygge way GATEWAY.

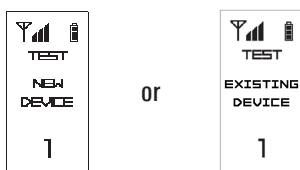
- 1 Power on the **hygge way** Gateway using the power plug adapter (insert the connector well to the bottom until you feel the click).



- 2 Insert the batteries into the **hygge** programmable thermostat.



- 3 The **hygge** programmable thermostat will alternate the black and white screen several times.
- 4 Start the "Test" mode on the **hygge** programmable thermostat holding down simultaneously for 5 seconds the keys 'A' and '+'; on the programmable thermostat screen the following appears:



The number that appears on the lower corner of the display, identifies the number of the device paired to the **hygge** programmable thermostat. Pressing the keys "+" or "-" you can switch to the next device numbers (from 1 to 6). The device number, identified by the writing "NEW DEVICE" means that the number of that device is free (it is not paired to any other device). On the contrary, if the writing "EXISTING DEVICE" appears, the device number is busy (already paired with to another device, such as the **hygge way** gateway).

WARNING!

If a device with the writing "EXISTING DEVICE" is selected and you carry on with the pairing of some other device, the **hygge** programmable thermostat overwrites the data, losing the pairing with the previous paired device.

- 5 From this moment the **hygge** programmable thermostat starts to transmit radio signals every 2 seconds. With a sharp object, on the **hygge way**, push briefly (<3 seconds) the button "⌂" in order to start the pairing between the gateway and the programmable thermostat.
- 6 Once the pairing is started, the led "Y" of the **hygge way** performs some yellow blinks and then it remains yellow with still light for 7 seconds. Next, it performs a red-green-red-green sequence indicating that it has learned the address of the programmable thermostat **hygge**.
- 7 On the **hygge**, the writing LEARNED DEVICE appears and after a few moments becomes EXISTING DEVICE. Check that the icon "Y" turns on and off every 2 seconds, this indicates that the **hygge** is receiving response from the gateway **hygge way**.
- 8 Check on the **hygge way** gateway that the LED "Y" flash green every 2 seconds, this indicates that **hygge way** is receiving the **hygge** programmable thermostat commands.
- 9 On the **hygge** programmable thermostat, push the button "A"; the display goes back to the main screen. The **hygge** < > **hygge way** pairing is over.

hygge Programmable thermostat < > hygge radio receiver PAIRING

It is possible to pair to the **hygge radio** receiver up to 50 **hygge** programmable thermostats.

The **hygge home** kit has the **hygge radio** receiver paired by default to the **hygge** programmable thermostat.

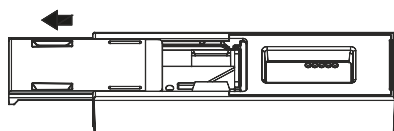
As a general rule, if the “**Y**” LED is lit (of any color) it means that the **hygge radio** receiver has been paired to at least one **hygge** programmable thermostat.

On the contrary, if the LED is off, it means that the receiver has not been paired with any **hygge** programmable thermostat.

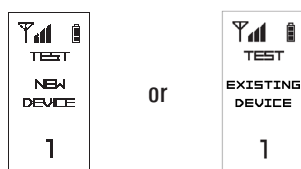


The following describes how to associate a **hygge** programmable thermostat to the **hygge radio** receiver.

- 1 Powering the relay **hygge radio** receiver.
- 2 Insert the batteries into the **hygge** programmable thermostat.



- 3 The **hygge** programmable thermostat will alternate the black and white screen several times.
- 4 Start the “Test” mode on the **hygge** programmable thermostat holding down simultaneously for 5 seconds the keys ‘A’ and ‘+’; the following screen appears:



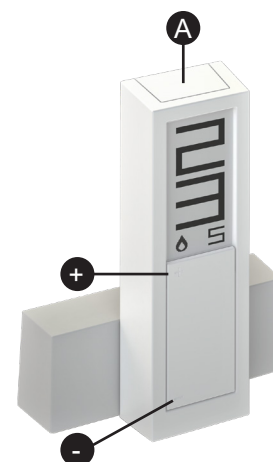
The number that appears on the bottom display identifies the **hygge** pairing channel. Press the keys “+” or “-” to switch channel.

The device number showing the writing “NEW DEVICE” it means that it is a free device number (not paired with any device). On the contrary, the device number is busy (already paired to another device such as the gateway **hygge way**) if the “EXISTING DEVICE” message appears.

ATTENTION!

If a device number with the “EXISTING DEVICE” message is selected and you proceed with the pairing of another device, the **hygge** programmable thermostat overwrites the data, losing the pairing with the previous paired device.

- 5 Select with the “+” or “-” buttons of the **hygge** programmable thermostat the first available device number (showing the message “NEW DEVICE” - for example the number 3).



6 On the receiver, press for one second the key related to the channel on which pair the **hygge** programmable thermostat: the “F” key, related to relay 1 or the “G” key, related to relay 2. **Press the button related to the free relay (according to the the off LED).**

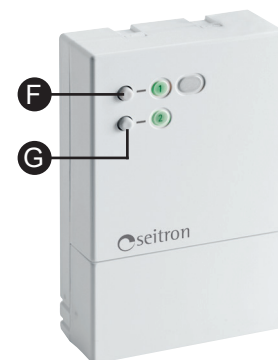
7 The “Y” LED, makes some yellow blinkings and then stays still yellow for 7 seconds. Next, it performs a red-green-red-green sequence indicating that the **hygge radio** learned the programmable thermostat address.

8 On the **hygge** programmable thermostat, the writing LEARNED DEVICE appears and after a few moments becomes EXISTING DEVICE. Check that the icon “Y” turns on and off every 2 seconds, this indicates that the **hygge** programmable thermostat is receiving response from the **hygge radio** receiver.

9 At this point the receiver relay will start turning on and off every 2 seconds and the “Y” LED will turn on from intense green to weak greens. This sequence indicates that the **hygge radio** receiver is receiving “Test” mode commands from the **hygge** programmable thermostat and that the pairing was successful.

WARNING: In case the LED flashes red during this step, it means that pairing has failed; we recommend repeating the procedure from step 6.

10 On the **hygge** programmable thermostat, push the button “A”; the display goes back to the main screen. The **hygge <> hygge radio** pairing phase is over. It is possible to repeat the pairing procedure several times, the new address will overwrite the one previously stored.




ERASING DEVICE

ERASING all the pairings from the hygge way Gateway

In case of pairing errors, it is recommended to delete all possible pairings on the **hygge way** gateway memory and then proceed to repeat the necessary pairings.

- 1 With a sharp tool, press and hold the “” button for more than 10 seconds on the **hygge way**.





- 2 Once the memory is erased, the “” LED quickly blinks yellow.

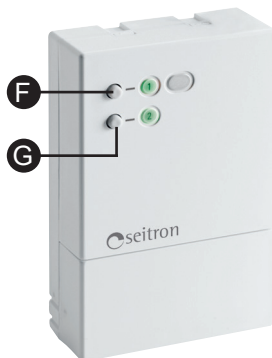
WARNING



Once all the pairings with the **hygge** programmable thermostats are cancelled from the memory, it will not be possible to control them via APP. It will therefore be necessary to re-pair all the **hygge** programmable thermostats on the **hygge way** gateway.

ERASING of all di all pairings from the hygge radio receiver

If you want to delete from the **hygge radio** receiver memory all the paired **hygge** programmable thermostats, proceed as follows:

- 1 Press and hold the “”(F) and “”(G) keys simultaneously.

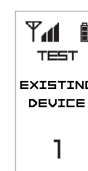


- 2 The “” LED blinks yellow fast.
- 3 Let the keys go. The “” LED turns off signaling the complete memory erasing.

ERASING the individual pairings from the hygge programmable thermostat



To erase from the **hygge** programmable thermostat memory a device previously paired, proceed as follows:

- 1 On the **hygge** programmable thermostat press at the same time for 5 seconds the keys “A” and “+” until the TEST screen appears:

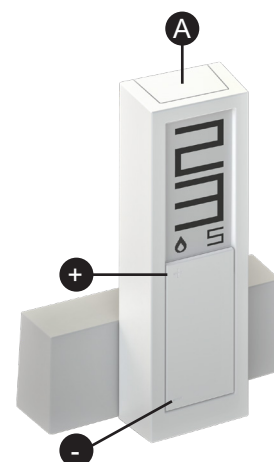


- 2 Using the “+” and “-” keys, select the device to be deleted from the programmable thermostat memory.

The LED of the selected device will flash:

- **hygge radio**: the “” LED will flash and the relay will turn on the on / off cycles.
- **hygge way**: The “” LED flashes.

- 3 Hold down the ‘A’ button for a few moments; the selected device is erased from the memory of the **hygge** programmable thermostat and the display shows the “NEW DEVICE” screen. At this point you will no longer be able to use the connected functions (e.g., if the **hygge radio** is cancelled the receiver will not be controlled anymore).



OPERATION hygge

INSTALLATION

The **hygge** programmable thermostat does not need any electrical connection and it can be placed on any flat horizontal surface or on a wall with the special hook.

USING THE PROGRAMMABLE THERMOSTAT WITH THE TABLE STAND

The **hygge** programmable thermostat can be placed on any horizontal surface thanks to the special magnetic table support. For this purpose it is sufficient to bring the support closer to the lower back of the **hygge** programmable thermostat taking care that the orientation guides coincide and that the batteries are inserted (See the quick guide on the paragraph 'INSTALLATION').

INSTALLING THE PROGRAMMABLE THERMOSTAT ON THE WALL MOUNT

The **hygge** programmable thermostat can also be placed on the wall attaching it to the appropriate accessory provided with the package. This tool can be easily mounted to the wall using a pair of screws (See the quick guide on the paragraph 'INSTALLATION').

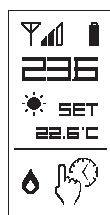
DISPLAY VISUALIZATION

Hygge has two display modes:

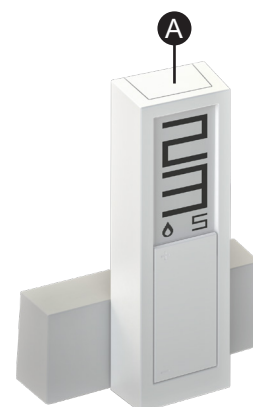


MINIMAL

or



COMPLETE



To switch from one display mode to the other, simply hold down the 'A' key (for 8 seconds) until the new display screen appears.

MINIMAL VISUALIZATION

The screen 'basic visualization mode' of **hygge** shows the following parameters:

- Detected ambient temperatures.
- The symbols "💧" or "❄️" when the **hygge** asks for heat or cooling to the **hygge radio** relay.
- The symbol "📶" in case there is no radio communication with its receiver or gateway.
- The low battery level symbol, "🔋" or "🔌", if the batteries are to be replaced.

By pressing one time the 'A' button it is possible to visualize the current operating mode of the programmable thermostat; if you wait 3 seconds, the programmable thermostat goes back to visualize the detected environment temperature.

COMPLETE VISUALIZATION


The screen 'complete visualization mode' of the **hygge** shows the following parameters:


- Intensity of radio field "📶".
- Battery level "🔋".
- Ambient temperature detected.
- Set setpoint temperature (SET).
- The symbols "💧" or "❄️" when the **hygge** asks for heat or cooling to the **hygge radio** relay.
- Operating mode: Manual permanent "🔌", Manual temporary "🕒", OFF or Antifreeze "🛡️" and Program "📅".

STARTUP

- If the **hygge** programmable thermostat has not been paired with other devices of the system, proceed with the pairing of the **hygge** programmable thermostat to the **hygge radio** receiver and to the gateway **hygge way**, as described on the chapter "PAIRING OF ADDITIONAL DEVICES".
- Set the operation mode of the programmable thermostat on Heating (factory set) or Cooling.

OPERATION LOGIC

On 'Heating' mode, when the ambient temperature detected through the internal sensor is lower to the set one (manually or by program), the **hygge** programmable thermostat sends out a request of activation of the **hygge radio** receiver (which shall be connected to a heating boiler) and the display will show the icon .

On 'Cooling' mode, when the ambient temperature detected through the internal sensor is higher to the set one (manually or by program), the **hygge** programmable thermostat sends out a request of activation of the **hygge radio** receiver (which must be connected to a cooling system such as an air conditioner) and the display will show the icon .

SETTING HEATING/COOLING MODE

To change the regulation mode from heating to cooling and vice versa, proceed as follows:

1. From the main screen, hold down the buttons '+' and '-' at the same time until on the display appears the writing 'COOL' or 'HEAT'.
2. At this point release the keys; the programmable thermostat sets the mode of operation in accordance with the text appearing on the display (COOL = Cooling, HEAT = Heating).




AMBIENT TEMPERATURE REGULATION MODE

Press the 'A' button once, the **hygge** programmable thermostat shows the current operation mode active on that moment (this function is only available on the "minimal" display mode).

By pressing the 'A' button further, it is possible to modify the operation mode of the **hygge** programmable thermostat choosing among the 4 different modes:

=>  (Manual Temporary) =>  (Manual Permanent) => OFF or  (Antifreeze) =>  (Program) =>

Selected one of the modes, after a wait of 3 seconds, the **hygge** programmable thermostat takes the new operation mode and returns to the main screen.

Only in case the OFF or  mode has been selected, after waiting for 3 seconds the programmable thermostat does not go back to the main screen, instead shows the off (OFF) or antifreeze () screen with the related set antifreeze temperature. The Antifreeze mode  is available only if the programmable thermostat has been set on heating mode; on the contrary the display shows the OFF writing.

Program

The **hygge** programmable thermostat regulates the room temperature according to the weekly program set exclusively through the Seitron Smart APP.

Detail:

- The programmable thermostat regulates the room temperature according to the set hourly program. The possible regulation modes are the following:
On heating mode: Off/Antifreeze, Comfort or Economy (reduction).
On cooling mode: Off, Comfort or Economy (reduction).
- Normally on 'Heating' mode, to have a night set-back, the economy temperature shall be lower than the comfort temperature. On the contrary, in 'Cooling' mode, the economy temperature must have a higher value than that of comfort.

Temporary manual mode

The **hygge** programmable thermostat regulates the room temperature according with the manually set temperature setpoint, until midnight of the current day, and then go back to the 'Program' mode.

The setpoint temperature can be changed by acting on the '+' and '-' keys of the **hygge** programmable thermostat as well as on the Seitron Smart APP.

Manual mode

The **hygge** programmable thermostat regulates the room temperature according with the manually set temperature setpoint, permanently or until you change the adjustment mode directly on the **hygge** programmable thermostat or using the Seitron Smart APP. The setpoint temperature can be changed by acting on the '+' and '-' keys of the **hygge** programmable thermostat as well as on the Seitron Smart APP.

OFF

The display show the writing ' OFF '. The **hygge** programmable thermostat is off.

Antifreeze “❄️”

The **hygge** programmable thermostat regulates the room temperature according with the antifreeze temperature, set on the advanced parameters of the **hygge** programmable thermostat on menu “P04: ANTI FROST”. The antifreeze function is selectable if the **hygge** programmable thermostat is set in heating mode and if the set antifreeze temperature is greater than zero degrees.

SETPOINT TEMPERATURE SETTING FOR MANUAL MODES

From the main screen, pressing the “+” and “-” keys the **hygge** programmable thermostat switches to temporary manual mode setpoint temperature set for manual modes (Manual Permanent “👤”) and Manual Temporary “👤”). Pressing the “+” and “-” keys again will set the setpoint temperature for manual mode only.

BOOST

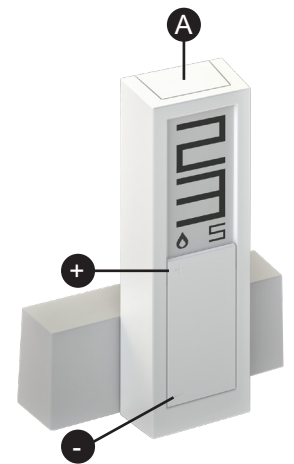
This mode is only activable using the Seitron Smart APP.

By activating this mode, the **hygge** programmable thermostat forces the cooling or heating system ON (depending on the active setting) for a time selectable between 30, 60 or 90 minutes regardless of the setpoint temperature. This function is useful if you have to heat or cool a particularly cold or hot environment.

ADVANCED CONFIGURATION

To enter the advanced user parameter configuration of the **hygge** programmable thermostat, proceed as follows:

1. Hold down at the same time for 5 seconds the keys ‘A’ and ‘-’; the display shows the symbol “🔧” and the first available parameter.
2. Repeatedly press the key ‘A’ for scroll the user parameters:
 - P04 ANTI FROST
 - P05 UPD RATE
 - P06 ROOM T OFFSET
 - P11 OUT/CONFIG
 - P12 ON OFF/HYST
 - P13 PROP/BAND
 - P14 INTEGR/TIME
3. Found the parameter to edit, using the keys ‘+’ and ‘-’ you can change its value.
4. Set the data related to each single parameter, as shown below.
5. To exit the programming of the user parameters wait 15 seconds without pressing any key.



P04: ANTI FROST (Antifreeze)

The Antifreeze function allows to set a minimum temperature which is maintained when the **hygge** is set on heating mode and on the current time slot no comfort or reduction temperature is specified or on the programmable thermostat the antifreeze mode has been activated (“❄️”); this function allows to preserve the environment and the system if the temperature drops below the set limit.

The device exits the factory with the antifreeze set to 6.0 C.

The antifreeze temperature can be set between 0.5°C and 25.0 °C. Below 0.5°C the antifreeze is deactivated and the **hygge** programmable thermostat, when this mode is selected, will be completely off (OFF).

P05: UPD RATE (Re-transmission Interval)

This parameter defines every how many seconds the **hygge** programmable thermostat communicate via radio with the **hygge way**. The parameter can be set in the range 10 seconds .. 10 minutes. A shorter time ensures greater reactivity of the programmable thermostat, but causes a reduction in battery life, while a higher time maximizes battery life but makes the programmable thermostat less responsive to variations coming from the Seitron Smart APP.

Indicatively with a retransmission rate of 30 seconds the battery life is 2 years.

The device is set to 10 seconds for default.

WARNING: the indicated battery life depends on the capacity of the batteries themselves.

P06 ROOM T OFFSET (Room temperature Offset)

Using this parameter it is possible to correct the temperature detected by the internal temperature sensor inside the

hygge programmable thermostat, from -10.0°C to +10.0°C in order to correct any systematic reading errors due to positioning of the **hygge** programmable thermostat in areas not suitable to detect the room temperature.
The device leaves the factory with the Offset set to 0.0 C.

P11: OUT CONFIG (Output regulation configuration)

Allows you to choose whether the hygge radio receiver output must be driven on ON/OFF mode or in Modulating mode. With ON/OFF regulation (parameter set on ON-OFF) you have a regulation with custom hysteresis which can be set on the "HYSt" parameter, while with Modulating regulation (parameter set on **MODUL**) there will be a proportional regulation that can be adapted to the various environments with parameters **P13 "PROP BAND"** (proportional band) and **P14 "INTEGR TIME"** (integrative time).

The device leaves the factory with the parameter set to ON-OFF.

P12: ON OFF HYST (hysteresis setting)

Setting this parameter allows to define the hysteresis (differential) in °C, which is used by the programmable thermostat for ON/OFF regulation.

This parameter is settable within the range 0,1°C .. 5,0 °C. The device is by default with the hysteresis set on 0,2°C.

WARNING!

The modification of this parameter must be carried out by qualified personnel, as an inappropriate value can cause malfunctions.

The following parameters will be visible only if parameter "P11" has been set on **Modulating**.

P13: PROP BAND (Proportional band)

This parameter allows you to choose the proportional band in the range 1.0 °C .. 8.0 °C which will be used for the proportional regulation if it has been chosen to have a modulating regulation.

The device, by default, has this parameter set at 2 °C.

P14: INTEGR TIME (Integrative time)

This parameter allows you to choose the integrative time in the range 0 .. 180 minutes that will be used for the proportional regulation if it has been chosen to have a modulating regulation.

If set to 0, there will be no supplementary action and there will be a P type regulation, otherwise there will be a P + I type regulation.

The device, by default, has this parameter set at 60 min.

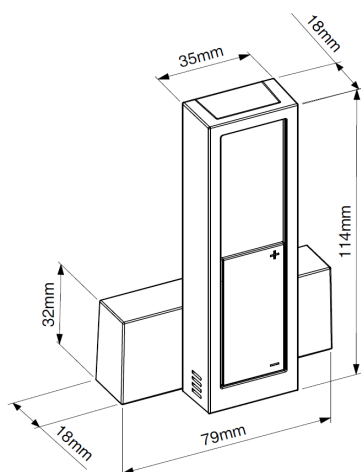
hygge TECHNICAL FEATURES

Power Supply:	Batteries 2x1.5V --- size AAA
Frequency:	868,450 MHz
Modulation:	GFSK
Max. RF power transmitted:	1 mW
Antenna type:	Internal
Max. distance from the receiver:	>300 m in free field >50 m inside buildings (depending on the building and the environment)
Temp. regulation range:	5,0 .. 35,0°C
Internal sensor type:	NTC 10kohm ±1% @ 25°C B(25/85)=3977
Resolution:	0,1°C
Range:	0,0°C .. +50,0°C
Precision:	±1,0°C
Hysteresis	0,2°C
Antifreeze:	settable OFF 0.5 .. 25.0°C - (Default 6.0°C)
Offset:	± 10.0°C. (Default 0.0°C)
Protection grade:	IP30
Type of action:	1
Oversvoltage category:	II
Pollution degree:	2
Tracking Index (PTI):	175
Class of protection against electric shock:	III
Rated impulse voltage:	2500V
Number of manual cycles:	50000
Number of automatic cycles:	no limit
Software class:	A
EMC test voltage:	3V
EMC test current:	35mA
Distances tolerances fault mode 'short' exclusion:	±0,15mm
Ball pressure test temperature:	75° C
Operating temperature:	0°C .. +40°C
Storage temperature:	-10°C .. +50°C
Humidity limits:	20% .. 80% RH non condensing
Case:	Material: ABS+PC V0 self-extinguishing
	Color: Signal white (RAL 9003)

CLASSIFICATION UNDER REG. 2013.811.CE

Class:	I
Contribution to energy efficiency:	1%

SIZE



OPERATION hygge radio

Hygge radio (DRR30X) is a receiver device designed for activating boilers, heat pumps or circulation pumps in radio controlled heating/cooling systems for houses or offices.

To the **hygge radio** receiver it is possible to pair up to 50 different **hygge** programmable thermostats.

Hygge radio (DRR30X) it is suitable when it is required to control a single boiler from several **hygge** programmable thermostats, for example a house with two zones, day floor and night floor: with this receiver, the boiler will be switched on when at least one of the programmable thermostats asks for "heat".

This system offers an optimal solution in buildings where it is not possible to lay wires between the programmable thermostat and the rooms to be controlled. By operating on the 868.450 MHz frequency (LPD), it provides the user with all the advantages of this band such as greater freedom from interference and greater efficiency in signal propagation.

FUNCTIONING LOGIC

Each hygge transmitter programmable thermostat sends certain radio commands to the receiving unit (hygge radio) depending on the need for heating or cooling of the room where it is located. These radio commands are then received and decoded by the receiving unit, which is normally installed in the same room where the boiler or heat pump is located. On the receiving unit, the output relay, associated with the hygge programmable thermostat turns on or off, according to the needs.

If several hygge programmable thermostats are paired to the receiver, the output will be turned on when at least one programmable thermostat requests heat, and will be turned off when all programmable thermostats stop requesting heating.

If it is necessary to control zone valves, it is recommended to use 2 channels hygge radio (DRR32M).

The device can be connected to a home automation control unit with which it will communicate via RS485 bus, with MODBUS® RTU protocol. So, this way, it is possible to read the status of the hygge radio receiver output, both of the relay output and the proportional status if the programmable thermostats are set to perform a proportional (modulating) regulation.

For further information on the operating mode and the communication protocol, it is necessary to contact the local dealer.

For further information on the operating mode and the MODBUS® communication protocol, it is necessary to contact the local dealer.

The receiver continuously checks the communication status with the programmable thermostats in order to get any malfunctions and signals this on the "Y" LED.

MECHANICAL DESCRIPTION

LED (H and I)

On the front panel of the device there are two multicolored Leds (1 and 2) which gives information about the correct power supply, the status of the output relays and the signal strength:

Power supply

When the receiver **hygge radio** is powered on, the Leds they light up and run a sequence of "green-red-green-green-red" flashes to signal the correct operation of the device.

Then the Leds become active according to their normal function and the receiver begins to perform its normal activity by decoding the signals emitted by the associated **hygge** programmable thermostats.

Boiler output status (LED H)

During normal operation each of the two Leds can light green, yellow or red.

The Led provides several information about the output and on the **hygge** programmable thermostat.

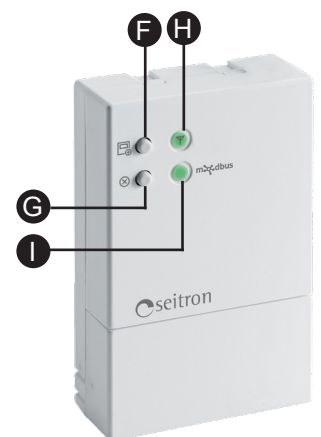
In general, the following rule should be minded:

- The lit LED, whatever the color, indicates that the boiler output is active.
- The off or faintly lit LED indicates that the boiler output is switched off.
- The color of the Led gives information about the quality of radio communication. See paragraph "Check signal strength".
- The continuously flashing Led indicates the presence of a system anomaly that requires user intervention.

Communication status MODBUS® (LED I)

During normal operation, the LED may light up green or red.

The LED provides various information on the status of the MODBUS® communication.





As a general rule, the following is to be considered:

- The green LED lit indicates that a correct MODBUS® communication has been performed.
- The red LED lit indicates that an error has occurred in the MODBUS® communication.
- The LED off indicates that there has never been any MODBUS® communication.

SELF-LEARNING KEY (F)


The key “”, is used to perform the self-learning procedure with the **hygge** programmable thermostat. See chapter “**hygge Programmable thermostat < > hygge radio receiver PAIRING**”.

ERASE KEY (G)

The key “”, it has no functionality of its own, but holding it down simultaneously with the key “” erases all the **hygge** programmable thermostats paired with the receiver. See chapter “**ERASING of all di all pairings from the hygge radio receiver**”.

CHECK SIGNAL STRENGTH

The device continuously displays the intensity of the radio signal received by the paired **hygge** programmable thermostat. This simplifies the installation and setup of the entire system and also allows you to make an instant check of the quality of the radio communications of each paired device.


The signal strength indication is displayed by the LED “”, which can light up green, yellow or red depending on the quality of the radio signal received:

Green: The received signal is good or excellent: reliable radio communication.

Yellow: The received signal is sufficient.

Red: The received signal is weak: unreliable communication.

When the actuator status is off, it is shown by the corresponding Led dimly lit instead of completely off. So it is always possible to check the radio signal strength.

Normally the Led shows the “long term” signal quality analysis, which is an assessment of the amount of correct commands received within the last 30 minutes of operation. In the event that no command has been received from the **hygge** programmable thermostat during the last half hour, the LED will stop indicating the analysis “long term” and display the anomaly “radio communication absent” by flashing red. If the signal strength is not acceptable try to change the position of the **hygge radio** receiver or of the **hygge** programmable thermostat. Remember that both the **hygge** programmable thermostat and the **hygge radio** receiver must be installed far away from metallic objects or metal reinforced walls which might weaken the radio signals. The quality of the radio signal that is communicated via the LED “” is the worst detected among all the **hygge** programmable thermostats paired to the receiver **hygge radio**. In order to detect the **hygge** programmable thermostat that does not communicate correctly with the receiver, check the quality of the signal detected on the **hygge** programmable thermostat display.

SYSTEM CONFIGURATION

In order to install multiple **hygge** programmable thermostats in the same area and to use different multi-channel systems, every **hygge** programmable thermostat is provided with a unique “address” of its own. Different **hygge** programmable thermostats with different addresses can operate at the same time without intergering and so controlling different areas. In order to store the **hygge** programmable thermostat address which signals you want to receive and transmit, you need to carry out the self-learning procedure described in the chapter “**hygge Programmable thermostat < > hygge radio receiver PAIRING**”.

OUTPUT REGULATION MODE

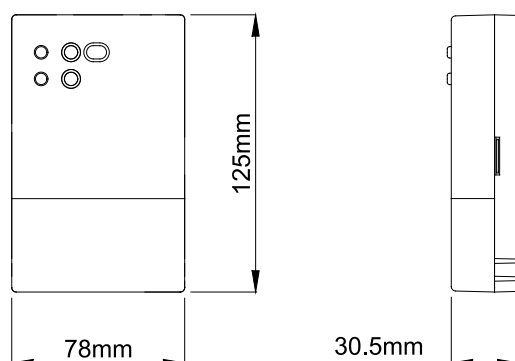
The **hygge radio** receiver can be set to regulate the output in ON/OFF mode or Modulation mode.

The configuration of the receiver output depends on the configuration of the **hygge** programmable thermostat, as the regulation actually takes place inside the programmable thermostat and its result is transmitted to the receiving unit. With ON/OFF regulation (default) you will have a regulation with customizable hysteresis, while with the Modulating regulation you will have a proportional regulation of the P + I type that can be adapted to the various environments by acting on the proportional band and integrative time parameters. The output must then be configured by acting on the configuration parameters of the **hygge** programmable thermostat or thermostats paired with the receiver. With ON/OFF regulation, the output relay will activate the boiler or heat pump, while with proportional regulation it will be necessary to read the special registers with MODBUS® protocol to access the proportional output. Even with the **hygge radio** receiver set to perform a proportional regulation, the relay output will be available, which can be used, for example, to give consent to a circulation pump when the proportional output is greater than 0%. The status of the output relay is also available via the MODBUS® register.

hygge radio TECHNICAL FEATURES

Power Supply:	230V~ 50Hz or 24V~
Absorption:	11VA
Relay contact ratings:	2x6(4)A 250V~ (voltage free)
Frequency:	868,450 MHz
Sensitivity:	-105 dBm
Modulation:	GFSK
Band width (-3 dB):	100 KHz
Antenna type:	Internal stylus
Max. distance from the receiver:	>300 m in free field >50 m inside buildings (depending on the building and the environment)
Protection grade:	IP 3X
Type of action:	1.C
Overvoltage category:	II
Pollution degree:	2
Tracking Index (PTI):	175
Class of protection against electric shocks:	II
Rated impulse voltage:	2500V
Number of manual cycles:	100000 (diagrams Fig. 1, 2, 3, 4 page 6)
Software class:	A
EMC test voltage:	230V~ 50Hz
EMC test current:	45 mA
Distances tolerances fault mode 'short' exclusion:	±0,15 mm
Ball pressure test temperature:	75 °C
Operating temperature:	0°C .. 40 °C
Storage temperature:	-10°C .. +50 °C
Humidity limits:	20% .. 80 % RH non condensing
Case:	Material: ABS V0 self-extinguishing
	Color: Signal white (RAL 9003)
Installation:	Wall mounted

SIZE



TROUBLE SHOOTING

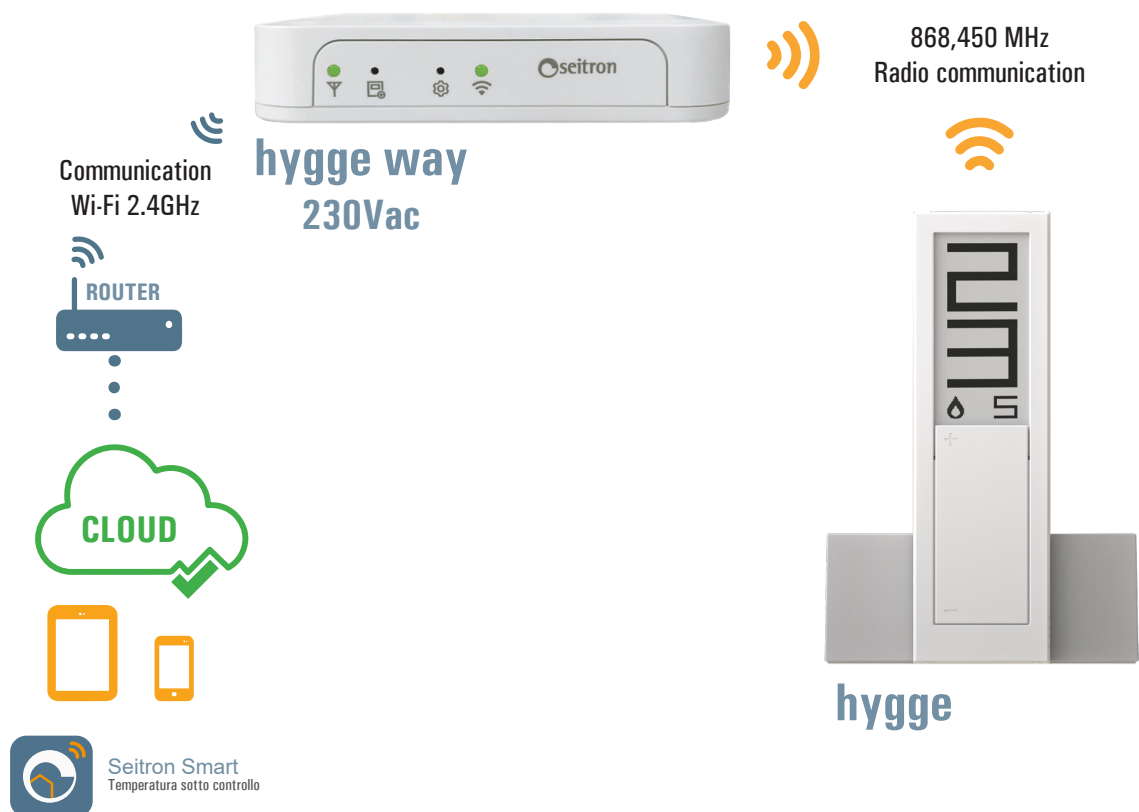
- SYMPTOM:** The receiver shows no signs of life.
PROBABLE CAUSE: There is no supply voltage.
REMEDY: Check the connection to the mains voltage. Normally Leds can stay off, but when the device is switched on, they perform a sequence of flashes "green-red-green-green-red" to signal the good operation.
- SYMPTOM:** The receiver LED "▼" flashes red continuously.
PROBABLE CAUSE: There is no radio communication.
REMEDY: Recheck radio communication with "test" function on the **hygge** programmable thermostat. Evaluate the possibility of moving devices away from metal screens.
- SYMPTOM:** When the **hygge** programmable thermostat is operating in "Test" mode, the receiver does not turn on the relay.
PROBABLE CAUSE: The transmitter address does not match the address stored in the receiver.
REMEDY: Run the self-learning as explained in the section "**hygge** programmable thermostat < > **hygge radio** receiver PAIRING".
- SYMPTOM:** By starting the pairing procedure, the **hygge radio** receiver do not switch on the flashing yellow Led.
PROBABLE CAUSE: The button has been pushed too quickly.
REMEDY: Start the pairing procedure by holding down the appropriate button for one second.
- SYMPTOM:** The **hygge** programmable thermostat is on "test" mode but the **hygge radio** receiver does not activate any relay, the Leds do not indicate any radio command reception.
PROBABLE CAUSE: The received signals are too weak for proper decoding of commands.
REMEDY: Consider moving devices away from metal screens, or approaching them.
- SYMPTOM:** The reciver LED "▼" is still red lit despite the communication with the **hygge** programmable thermostat has been restored.
PROBABLE CAUSE: The long-term signal quality indication recalls the history of the last half hour of operation.
REMEDY: Check with the "test" mode that the commands are correctly received and wait up to 30 minutes for the long-term signal to turn green.

OPERATION *hygge way*

The **hygge way** gateway is a centralizer and IOT gateway, which is the heart of the home thermoregulation system based on the **hygge** programmable thermostat.

Its function is to collect the bidirectional data stream from the **hygge** programmable thermostat, via 868,450 Mhz wireless communication and to convey this information to the Seitron Wi-Fi 2.4GHz Cloud, to allow remote control of the **hygge** programmable thermostat through Seitron Smart App.

FUNCTIONING LOGIC



MECHANICAL DESCRIPTION

LED (**B** and **E**)

On the front panel of the device there are two multicolored Leds (“**WiFi**” and “**Y**”) that give information about the intensity of the radio signal and Wi-Fi:

868,450MHz Radio communication “**Y**”

The Led provides information about the radio communication quality between the paired **hygge** programmable thermostats:

Fixed Green: Excellent signal quality

Fixed Yellow: Medium Signal Quality

Fixed Red: Poor signal quality

Red Flashing: Radio communication absent with one or more **hygge** programmable thermostats.

WARNING

The quality of the radio signal that is shown via the Led “**Y**” is the worst detected of all the **hygge** programmable thermostat paired to the **hygge way** gateway.

To locate the **hygge** programmable thermostat that does not communicate correctly with the **hygge way** gateway, check on the display of the **hygge** programmable thermostat the detected signal quality.

Wi-Fi “**WiFi**”

The LED provides information about Wi-Fi connection and communication



Fixed Red:	Wi-Fi router connection problems
Blinking red:	Problems connecting to server
Fixed Green:	Wi-Fi working
Alternating Green/Red:	Wi-Fi configuration mode

BUTTONS “” and “” (**C** and **D**)

On the front panel of the device there are two buttons:

Button “”

Short press	(< 3 sec.)	Start the association procedure (Pairing) with the hygge programmable thermostat
Long press	(> 10 sec.)	Erasing of all the hygge programmable thermostats kept in memory

Button “”

Short press	(< 3 sec.)	Wi-Fi network reconfiguration
Long press	(> 10 sec.)	Automatic updates monitoring



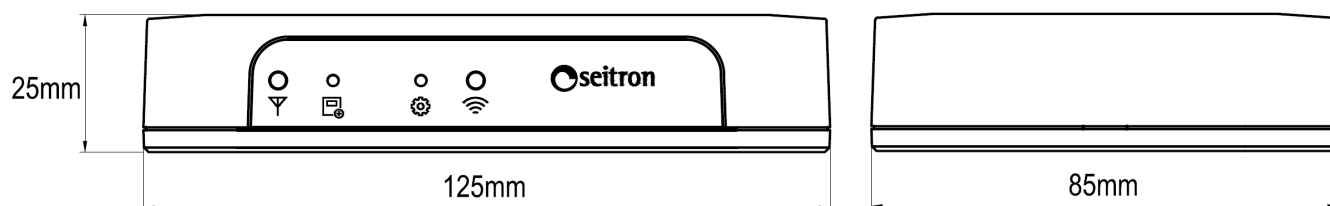
SYSTEM CONFIGURATION

To the **hygge way** gateway it is possible to pair up to a maximum of 12 **hygge** programmable thermostats. Each **hygge** programmable thermostat has its own “address” code. The different **hygge** programmable thermostats with different addresses can work simultaneously without interfering and thus control different areas. For the purpose of storing the address of the **hygge** programmable thermostat of which you want to receive and transmit the signals, it is necessary to perform the mating procedure described in chapter “**hygge way** Gateway < > **hygge** programmable thermostat Pairing”.

hygge way TECHNICAL FEATURES

Power Supply:	5V _{DC} via network adapter
Frequency:	2.4 .. 2.5 GHz
Modulation:	DSSS / OFDM / MIMO-OFDM
Max. RF power transmitted:	< 100 mW
Antenna type:	Internal
Software class:	A

SIZE



WARRANTY

In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice.

The consumer is guaranteed against any lack of conformity according to the European Directive 1999/44/EC as well as to the manufacturer's document about the warranty policy.

The full text of warranty is available on request from the seller.

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