

Multifunction Controller

SC-AR-01

User Manual

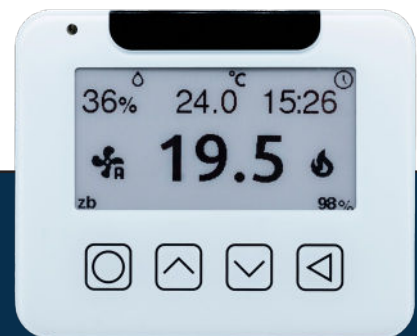


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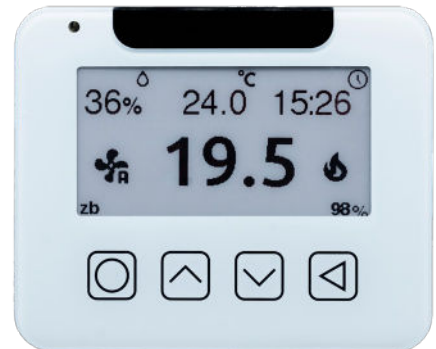
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1. Presentation

The multifunction controller by Smart & Connective is the only one of its kind, with a dual function of Room Controller and Informative Display.

It is also extremely flexible.

Thanks to its different communication protocols, it is able to communicate with CEOS and ensure the following functionalities:



Room controller

Take control of any type of HVAC including infrared controllable units.

Informative Display

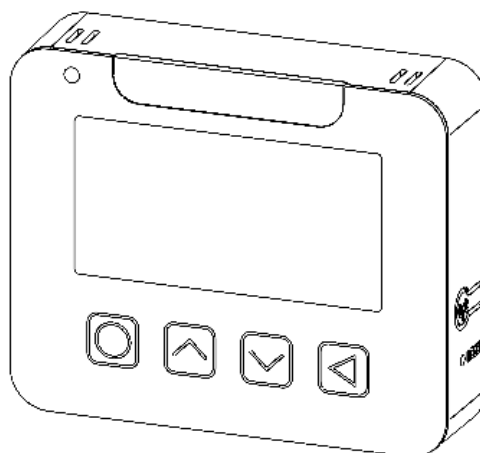
Displays dynamic information that is fully configurable and controllable.

Audible warning

Allow the user to be alerted on functions of his choice.

Multi-zone controls

You can control all your lights, blinds and every IoT on our catalog (dry contact, switch...)



2. Specifications

- Temperature, Humidity and Brightness sensor
- Infrared control (to be used as infrared remote)
- General light/curtains ON/OFF
- 4 navigation buttons
- Dynamic information or alert messages
- Fast infrared code learning

Dimensions	85mm x 85 mm x 20 mm (l*L*H)
Housing	ABS Plastic
Manufacturing site	France
Screen technology	E-paper
Screen size	2.5 inches
Installation	Wall mounted
Power	AA battery 3.6V 2600mA
Battery lifetime	Up to 2 years
Power consumption	0.6mW
Operating temperature	0 to 55°C
Radio frequency band	Zigbee (2400-2483MHz)
Max. transmitting power	Zigbee: +10dBm
Temperature measurement range	-40°C to 120°C
Brightness sensor	0 to 64000 lux
Warranty	Standard -2 years
Regulatory compliance	Security : UL EMC : CE RoHs

3. Process of inclusion, exclusion and restoring factory settings

Before to begin, check that you are connected to the correct Automation whose access point name is "scap| Number_ID"

The 4 red leds must be visible on the front side.



Inclusion

Open the Multifunction Controller battery cover.

If the product is new, please remove the tab and go directly to step 2.

If the tab has already been removed, please go to Step 1.

Step 1

Insert a pin for **10s** into the hole and check that the "**zb**" index in the lower left corner of the screen is not present.

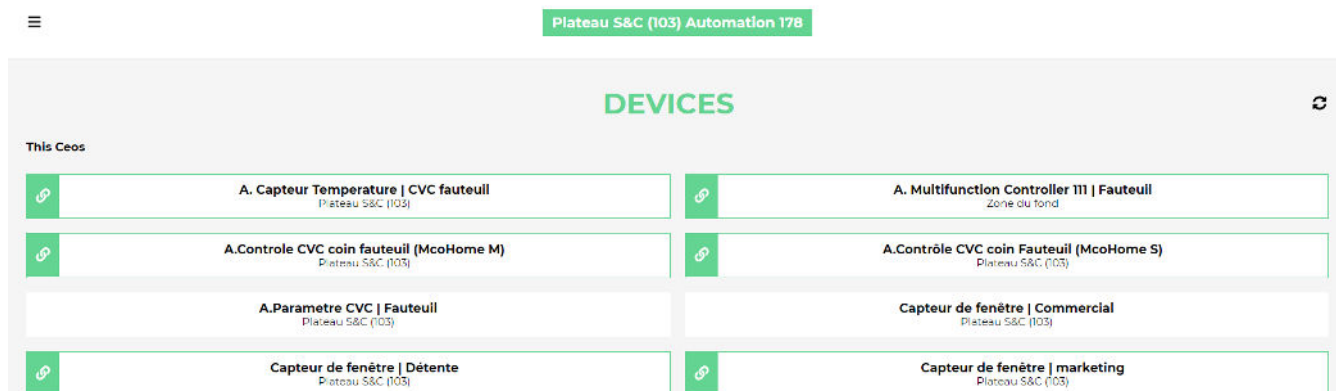
Step 2

Remove the battery



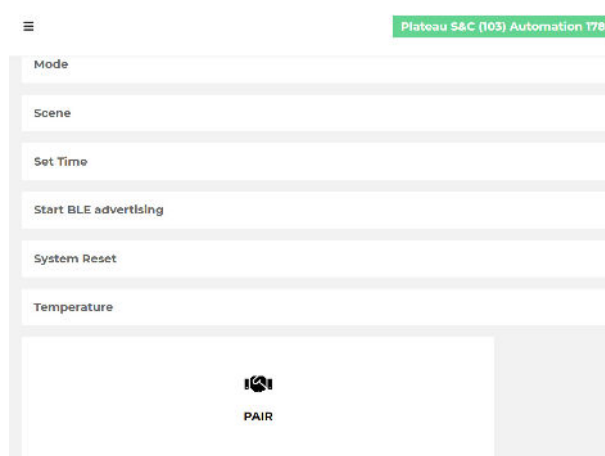
Step 3

Go to **CEOS MANAGER** et choose the multifunction controller to include.



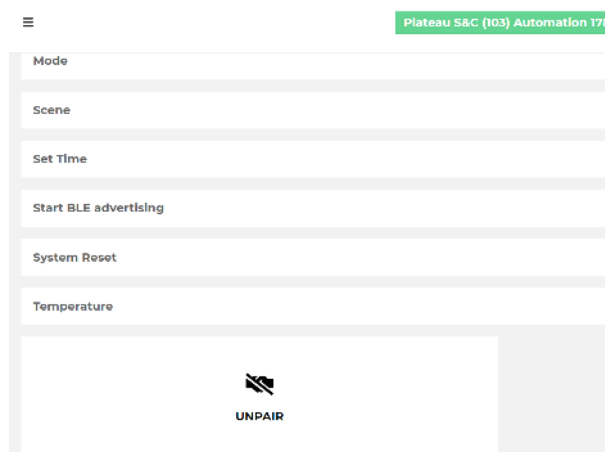
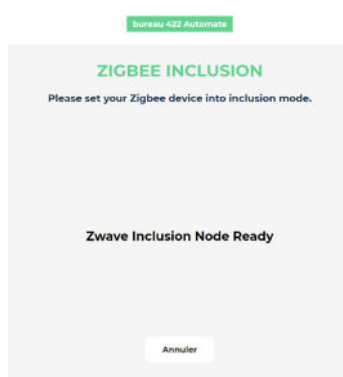
Step 4

Click on the **“Pair”** button to set the automation into inclusion mode.



Step 5

Put the battery back.
After 5s, the message Zigbee inclusion appears.
Then wait a few seconds until the “Pair” button changes into “Unpair”.



Tips: The indication **«zb»**, which appears in the lower left corner of the multifunction controller screen, indicates that it has successfully been paired with the CEOS.

Exclusion

There are two ways to exclude this device.

Hardware Exclusion

Step 1

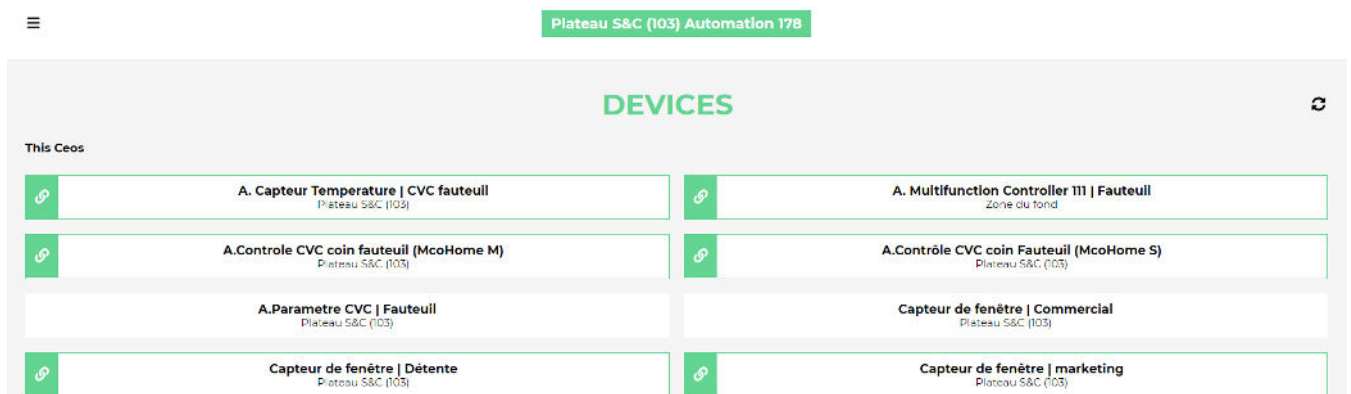
Insert a pin for **10s** into the hole and check that the “zb” index in the **lower left corner** of the screen disappears.



Software Exclusion

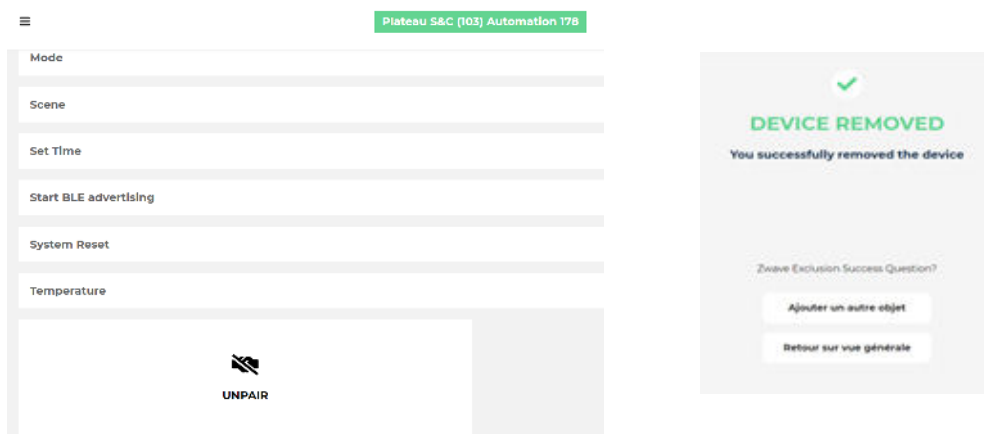
Step 1

Go to **CEOS MANAGER** et choose the multifunction controller to exclude.



Step 2

Click on the “**Unpair**” button.
Then wait a few seconds until you see the “**Device Removed**” success screen.



Restoring factory settings

The restoring factory settings allow to empty the memory

Process

Insert a pin for **3s** into the hole and check that the “**zb**” index in the lower left corner of the screen is not present.



4. Installation

Before to begin the installation

Before to begin the process of inclusion, we advise you to configure the **CEOS With Zigbee technology**. It is important to include the sensors closest to the automation at first, then the furthest in a second time. If a sensor seems to be too far from the automation, you can use a repeater. You should know that every cable-powered product using the Zigbee radio protocol is considered as repeater.

As a first step, we recommend that you use light adhesive tape to determine the right position and then permanently fix it with double-sided adhesive tape.

Positioning and setting

The setting of the multifunction controller will depend on the HVAC system



Infrared controllable units

The multifunction controller must be directed to the receiver of the air conditioning/heating unit. Be careful of obstacles that can hinder the transmission of infrared.

The only necessary setting is to learn the infrared codes so that it is autonomous afterwards. The necessary steps are:

Step 1

Take the multifunction controller in your hands and with the 4 digital keys, put it manually in the configuration / mode you want to learn (For example, to learn the OFF mode, put it in OFF mode. If you want to learn the ventilation speed (2=Medium), you go into Medium speed).

Step 2

Press and hold the main button on the panel for **3 secs** (First digital button). The «ir» index then appears.

At that time, the thermostat picks up all infrared signals.



Step 3

Put the infrared transmitter (remote control for example) in front of the infrared receiver of the thermostat (black part on the top of the front panel).

Execute the desired infrared command. For example, press the AC off button on the remote control. As soon as it is learned, the «IR» index disappears.

Repeat the 3 previous steps for all operating modes and set point to learn.

Alternative

There are many possibilities to control the HVAC with the multifunction controller. Indeed, once integrated into a global S&C solution, we may be able to take control of heated floor, electrical heaters, hot water heaters ...

To do this, simply add the adequate IoT in the S&C solution.

Explication

To control different HVAC systems, non-controllable in infrared, we can implement IOTs, such as connected valves, connected relays that will be integrated into the S&C solution.

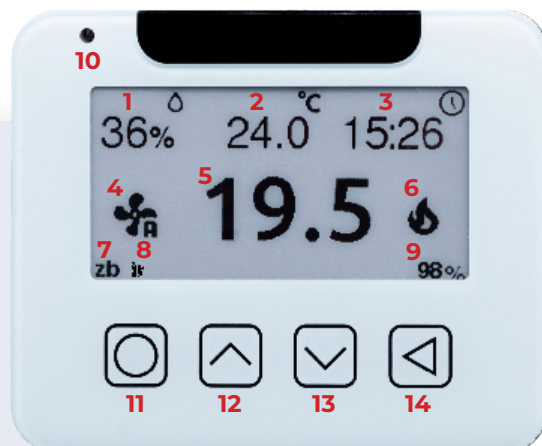
The multifunction controller will send request to the CEOS (the brain of the system) who will control the appropriate IOT.

For more information, do not hesitate to contact Smart & Connective technical support via email **support@smartandconnective.com**.

5. User guide

Property

- 1 Ambient humidity
- 2 Ambient temperature
- 3 Current time
[Time zone of the site associated]
- 4 Fan speed
[A = auto, 1=Low, 2=Medium, 3=High]
- 5 Setpoint Temperature
- 6 HVAC Mode
[Cooling, Heating, OFF, Ventilating]
- 7 Including return index
[« Zb » = correctly paired to a CEOS]
- 8 Infrared code learning mode
index « Ir » = actif
- 9 Battery indicator
- 10 Brightness sensor



11 - First Button

Pressing the first button changes the selection of the setting.

- Fan speed (Active selection identifiable by 2 small arrows at the turbine symbol 4)
- Setpoint Temperature (selected by default symbol 5)
- HVAC Mode (Active selection identifiable by 2 small arrows at the HVAC mode symbol 6)

By default, the modification of the setpoint temperature is active.

Press and hold the main button on the panel for **3 secs** to active learning infrared codes (The «ir» index then appears symbol 8)

12 - UP Arrow

Depending on the selected parameter (fan speed, setpoint temperature, working mode), it will allow you to:

- Increase the setpoint temperature
- Change the fan speed (A = auto, 1=Low, 2=Medium, 3=High)
- Change the operating/HVAC mode (OFF, Cooling, Heating, Ventilating)

12 - DOWN Arrow

Depending on the selected parameter (fan speed, setpoint temperature, working mode), it will allow you to:

- Lower the setpoint temperature
- Change the fan speed (A = auto, 1=Low, 2=Medium, 3=High)
- Change the operating mode (OFF, Cooling, Heating, Ventilating)

13 - LEFT Arrow

Press and hold the last button on the panel for 3 secs allow to switch between room controller mode or Informative Display depending on the current mode.

Additional information

Sc On

In room controller mode, when you press and hold the second button (top arrow) on the panel for **3s**, we make «scene on» which allows you to have a status feedback in the Smart & Connective portal. With this state feedback, we can perform all the tasks we want. For example, turn on the lights and the HVAC system (the «Scene» parameter in the properties changes to On)

Sc Off

In room controller mode, when you press and hold the third button (down arrow) on the panel for **3s**, we make « scene OFF » which allows you to have a status feedback in the Smart & Connective portal. With this state feedback, we can perform all the tasks we want. For example turn off lights, projectors, HVAC system (the «Scene» parameter in the properties changes to Off)

Buzzer

Depending on the importance of a message, we have the possibility to start a buzzer for a few seconds.

(To do this, in the «**Display sentence**» parameter, add a «\s» to the beginning of the message to write)



Smart & Connective Portal

It is with the Smart & Connective Portal that we can configure and control all aspects of multifunction controller behavior. We will also be able to create automatic rules both to control our building and be able to save energy.

Here are all the settings:

Name	Function	Working mode	Controllable / Status feedback
Temperature	Ambient Temperature	Thermostat	Status feedback
Humidity	Ambient Humidity	Thermostat	Status feedback
HVAC Cooling Setpoint	Set the setpoint temperature in Cooling Mode	Thermostat	Controllable and Status feedback
HVAC Heating Setpoint	Set the setpoint temperature in Heating Mode	Thermostat	Controllable and Status feedback
Fan Speed	Set the ventilation speed (A = auto, 1=Low, 2=Medium, 3=High)	Thermostat	Controllable and Status feedback
System Reset	It's a software reset	All	Controllable
Erase Settings	Reset settings	All	Controllable
Set Time	Puts it in the same time zone as the associated site 1 => reset 0 => Set on time	All	Controllable

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Name	Function	Working mode	Controllable / Status feedback
Set Time	Puts it in the same time zone as the associated site 1 => reset 0 => Set on time	All	Controllable
Battery Percentage	Indicates the percentage of battery	All	Status feedback
Working Mode	Allow to switch between room controller mode or Informative Display	All	Controllable and Status feedback
Button Enter	Allows you to switch the enter button (first button) into ON or OFF (toggle mode)	Display	Controllable and Status feedback
Button Back	Allows you to switch button return (last button) into ON or OFF (toggle mode)	Display	Controllable and Status feedback
Display Sentence	Displays text on the screen	Display	Controllable
Start BLE advertising	Enables Bluetooth	All	Controllable
Clear display	Deletes messages displayed on the multifunction controller	Display	Controllable
Brightness	Ambient brightness	All	Controllable
Scene	Allows you to have a status feedback	All	Controllable

2/3

Name	Function	Working mode	Controllable / Status feedback
Button Down	Status feedback of the down arrow button (Third button) active only in display mode.	Display	Controllable and Status feedback
Button Up	Status feedback of the top arrow button (Second button) active only in display mode	Display	Controllable and Status feedback

In order to be able to configure and control the previous settings, simply follow these steps:

Go to [Smart & Connective Portal](#) and select the site you are looking for.

Step 2

- Go to the «Devices» tab and select the right sensor you are looking for
- Click on the «eyes» icon

The screenshot shows the 'Gestion des équipements' interface. On the left, a sidebar lists devices under 'Plaque S&C (103) Automation 178'. The main area displays a grid of device status cards for 'Zone du fond > A. Multifunction Controller 111 | Fauteuil'. The cards show various parameters like temperature (26.7°C), humidity (47%), and control states (Off, On). A red box highlights the 'Low' status indicator for the Multifunction Controller 111.

6. Summary

Function	Action / Description	Indication
Inclusion	<ul style="list-style-type: none"> - Insert a pin for 10s into the hole - Remove the battery - Set your CEOS in inclusion mode via CEOS MANAGER - Put the battery back 	
Inclusion (If does not belong to any network)	<ul style="list-style-type: none"> -Set your CEOS in inclusion mode via CEOS MANAGER -Press and hold the button for 3s 	
Exclusion	<ul style="list-style-type: none"> - Insert a pin for 10s into the hole, OR - Set your CEOS in exclusion mode via CEOS MANAGER. 	
Reboot	<ul style="list-style-type: none"> - Insert a pin for 1s into the hole. 	
Reset	<ul style="list-style-type: none"> - Insert a pin for 3s into the hole. 	
Turn on Bluetooth	<ul style="list-style-type: none"> - Press and hold the button for 1s. 	

Function	Action / Description	Indication
Working Mode	Configurable via WORKING MODE - Thermostat (Room controller) 4 possible modes (Cooling, Heating, OFF, ventilating) - Display (Informative display mode)	
S&C portal	https://my.smartandconnective.net/#/login/form	Allows you to configure everything
CEOS Manager	http://10.0.0.1:5000/#/manager/devices	Allows you to include/exclude devices
Pocket assistant	https://play.google.com/store/apps/details?id=com.pocketassistant&hl=en&gl=US	App for users
Site S&C	https://smartandconnective.com/se-connecter/	Integrator access on the main site of S&C
Account creation	https://my.smartandconnective.net/#/signup/form	Allows you to create an integrator or user account