

DESIGNING
RADIANT
COMFORT

Smart 365
Regulation

www.eurotherm.info

A woman with long dark hair, wearing a blue denim shirt, is shown in profile from the chest up, looking out a window. The background is a blurred modern interior with a black metal railing, a wooden table, and a copper pendant light. A white text box is overlaid on the top left of the image.

SMART 365 **REGULATION**

The evolution of technology, the guarantee of comfort





The intelligence of SmartComfort 365 controlling the radiant system.

A high-performance car needs an exceptional driver. Which is why Eurotherm radiant systems are controlled by management technology that is as advanced as it is simple to use. SmartComfort 365 and SmartOne 365 are cutting-edge solutions used for the all-round remote control of the heating and cooling of rooms using PID (Proportional Integral Derivative Strategy) control logic.

Both control the radiant floor, wall and ceiling systems through software that memorises usage habits and optimises on/off and adjustment operations with the aim of cutting costs without sacrificing comfort. System performance is always excellent!

At long last, the goal of climate comfort in any living and working environment can be achieved with hitherto unimagined speed and efficiency. We are not talking about standard comfort, i.e. standard heating and cooling systems, but comfort tailored to personal needs and the climatic characteristics of the area where the property is located. Thanks to SmartComfort technology, the radiant system communicates with the outdoor climate conditions, recalibrating in real time based on the weather.



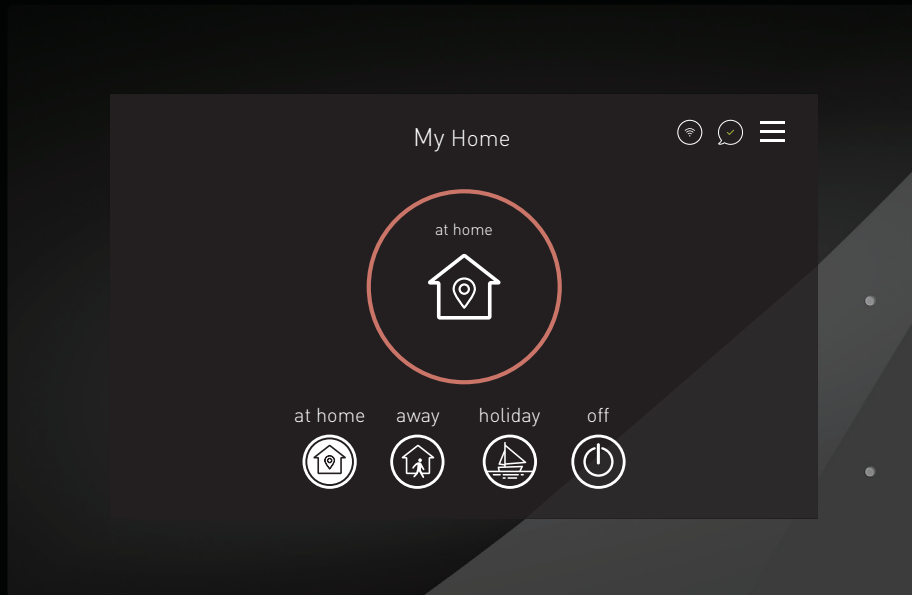
How the SmartComfort 365 system works

As in a perfect team game, the SmartComfort 365 display communicates with the SmartBase, a latest-generation electronic brain which, in turn, receives impulses and selective information from the SmartPoints, thermostats/humidistats in Bus connection located in each room. The perfect integration with Deuclima-VMC, in cooling mode, keeps the humidity threshold under control and guarantees air exchange.

Advanced air treatment control

Based on the characteristics of the system, advanced functions are available such as the selection of the air flow in renewal mode, auto-adaptation of the air flow according to the dehumidification and integration needs of the rooms, the setting of freecooling, the weekly-hourly programming of the renewal function.

SMART COMFORT 365



MULTITOUCH CAPACITIVE 5" TOUCHSCREEN DISPLAY.



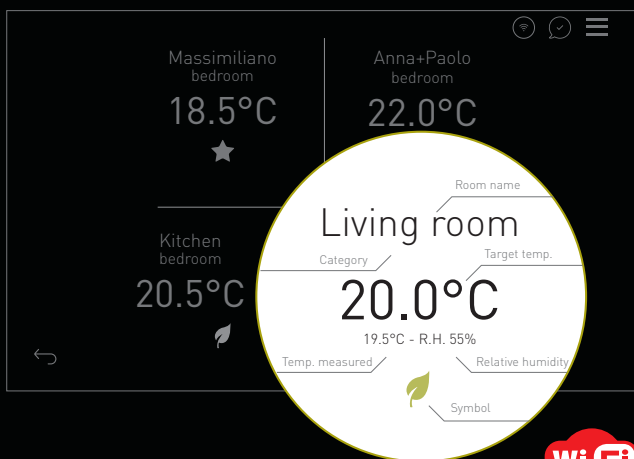
TEMPERATURE/HUMIDITY SENSORS IN EVERY ROOM, SENSORS, IAQ (WITH SMARTONE SENSORS ONLY)



THE SYSTEM OFFERS THE BEST OPERATING MODE FOR EACH ROOM.

Introducing **SmartComfort 365**, the evolution of the SmartComfort adjustment system. With a multitouch capacitive 5" display, SmartComfort 365 has renewed graphics, making it easier to use and more user-friendly, plus updated and implemented features. The latest-generation display connects to a **dedicated Cloud platform** via Wi-Fi and ethernet. Thanks to a **personal account**, it is possible to: fully monitor and manage the radiant system and ventilation, as well as request and receive support, and make use of personalised and dedicated services. The "on-board" intelligence of the device allows for **voice control of the system** through modern *smart home* apps such as Amazon Alexa. The

Away function automatically resets the temperature desired for energy saving when no-one is at home. With renewed graphics and "functionality", the **App** can **remotely** monitor and manage one or more systems also located in different buildings and locations. All the settings are synchronised with the main device (display) and the App will still function even if the device is temporarily disconnected. By using a latest-generation smartphone, you can also make use of the **NFC function** (Near Field Communication), technology built into the SmartPoint sensors (temperature or temperature/humidity). If you place the smartphone next to the sensor, you can directly access the room configuration.



- Comfort temperature
- Night temperature
- Eco temperature
- Manual
- Temporary manual
- Party (+2 h comfort temperature)
- Good morning (comfort temp. pre-setting)
- Good night (night temp. pre-setting)

Room name
You can personalise the room name.

Room category
Assign a category to the room for pre-set standard programming which you can easily modify and adapt to your specific requirements.

Target temperature
you can set three temperatures for each room to be programmed and controlled over one day in automatic mode.



Technical details, see page 250



Optimised for radiant
heating and cooling systems



Self-learning
with geo-positioning aimed
at energy saving



Secure remote connection,
automatic updates
with new functions



Innovative adjustment strategies
for energy saving



Integration and **advanced**
management of Eurotherm air
treatment machines



The **system learns**
how much time is required to
heat or cool each room



Voice control
with Amazon Alexa



Remote control
with iOS and Android App



Cloud platform
for monitoring the
system and statistics



User-friendly graphics,
tutorial and on-line support

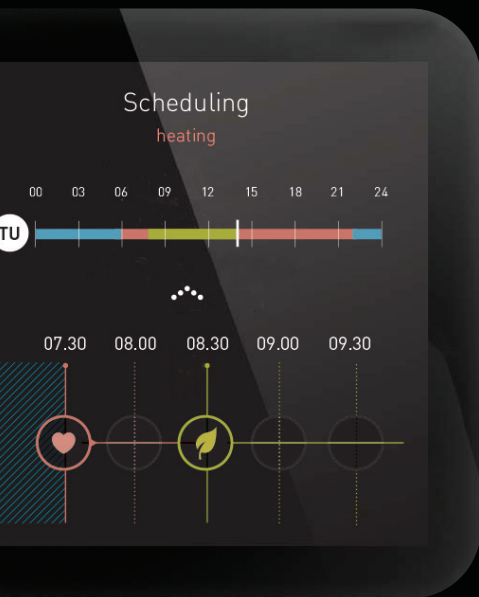


Weather **forecast**



NFC technology integrated
into the room sensor

SMART ONE 365



MULTITOUCH CAPACTIVE 4" TOUCHSCREEN DISPLAY.



2 RELAY OUTPUTS 1 ZONE CONTROL
HEATING / COOLING + DEHUMIDIFICATION.



TEMPERATURE, HUMIDITY, IAQ (INDOOR AIR QUALITY) SENSORS.



THE SYSTEM OFFERS THE BEST OPERATING MODE FOR EACH ROOM.

SmartOne 365 is Eurotherm's compact but high-performance smart display. A 4" full-glass multitouch screen with two relay outputs which control one heating/cooling zone and dehumidification consent. Temperature, humidity and IAQ (indoor air quality) sensors are built into the display.

Thanks to Wi-Fi connectivity, it is possible to connect SmartOne 365 directly to the Cloud platform and the APP or connect multiple devices so they appear in the same app. The display uses PID adjustment and Optimum start/stop to manage the radiant system. SmartOne 365 is compatible with the Amazon Alexa voice control app.



- Comfort temperature
- Night temperature
- Eco temperature
- Manual
- Temporary manual
- Party (+2 h comfort temperature)
- Good morning (comfort temp. pre-setting)
- Good night (night temp. pre-setting)

Room name
You can personalise the room name.

Room category
Assign a category to the room for pre-set standard programming which you can easily modify and adapt to your specific requirements.



Technical details, see page 251



Optimised for radiant
heating and cooling systems



Self-learning
with geo-positioning aimed
at energy saving



Secure remote connection,
automatic updates
with new functions



Innovative adjustment strategies
for energy saving



Humidity control.
Management of the
dehumidification units



The **system learns**
how much time is required
to heat or cool each room



Voice control
with Amazon Alexa



Remote control
with iOS and Android App



Cloud platform
for monitoring the
system and statistics



User-friendly graphics,
tutorial and on-line support



Weather **forecast**



VOC sensor to measure the air quality

SMART 365 REGULATION



ENERGY SAVING AND COMFORT LIVING MODE



energy saving



comfort living



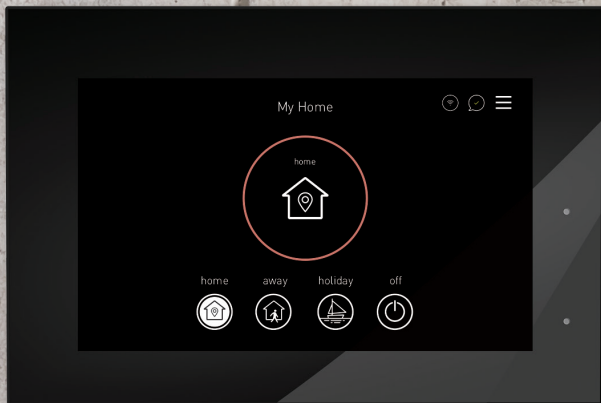
PID ALGORITHM CONTROL

Traditional on/off thermostats do not respond to every small change in ambient temperature and more precise control is essential with a radiant system. The operation of the SmartComfort 365 regulation system, on the other hand, uses the **PID algorithm** (Proportional Integral Derivative Strategy) which allows the system to remain "balanced" and thus transfer the correct radiant surface temperature, saving energy, increasing environmental comfort and providing a greater efficiency to the whole system.



OPTIMUM START & STOP

In traditional adjustment systems, the temperature and how the system stays on are set manually by the user. Different radiant systems and mixed room conditions allow for different set-up times. Thus, the use of a traditional adjustment system can cause loss of comfort and energy waste, because the rooms will not be able to reach the desired temperature from the beginning of the time slot. They will also be heated or cooled until the end of the time slot, when instead they could be inactive. The SmartComfort 365 adjustment system continuously calculates the inertia of each individual room, anticipating the start and stop of the system.



AUTOMATIC DETECTION OF UNDERSERVED ROOM

Common adjustments include a sensor in the main room, which has the primary function of controlling the mixing valve and acts as a reference for the flow temperature.

It is very difficult, if not impossible, to determine the most underserved room during installation, because it varies with the season and use of the rooms. The SmartComfort 365 system continuously monitors the energy request by the different rooms and determines the most suitable supply temperature to serve the most underserved room.



AUTOMATIC ADJUSTMENT OF THE CLIMATE CURVE

Setting the correct compensation according to the climate conditions is not an easy task for the installer. The system can automatically adjust the most suitable climate curve to the change in external conditions from 29 pre-settings. The installer can also set a customised curve. The climate compensation is also regulated based on the local weather forecast.

SMART 365 REGULATION



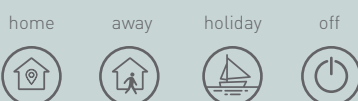
DOWNLOAD THE SMART365 APP

Focus your smartphone camera on the QR code to download the Smart365 app in the version of your choice



COMFORT IS JUST A TAP AWAY

The new app for Android or IOS allows you to directly access the Cloud platform and remotely manage multiple radiant systems located in different buildings. If the connection is cut off, the app automatically synchronises the data with the central system at a later date.



"AWAY" FUNCTION

With Geofencing enabled, if all the devices monitored exit the SmartComfort operating range, the following function is automatically enabled: "When I go out, when I come back".

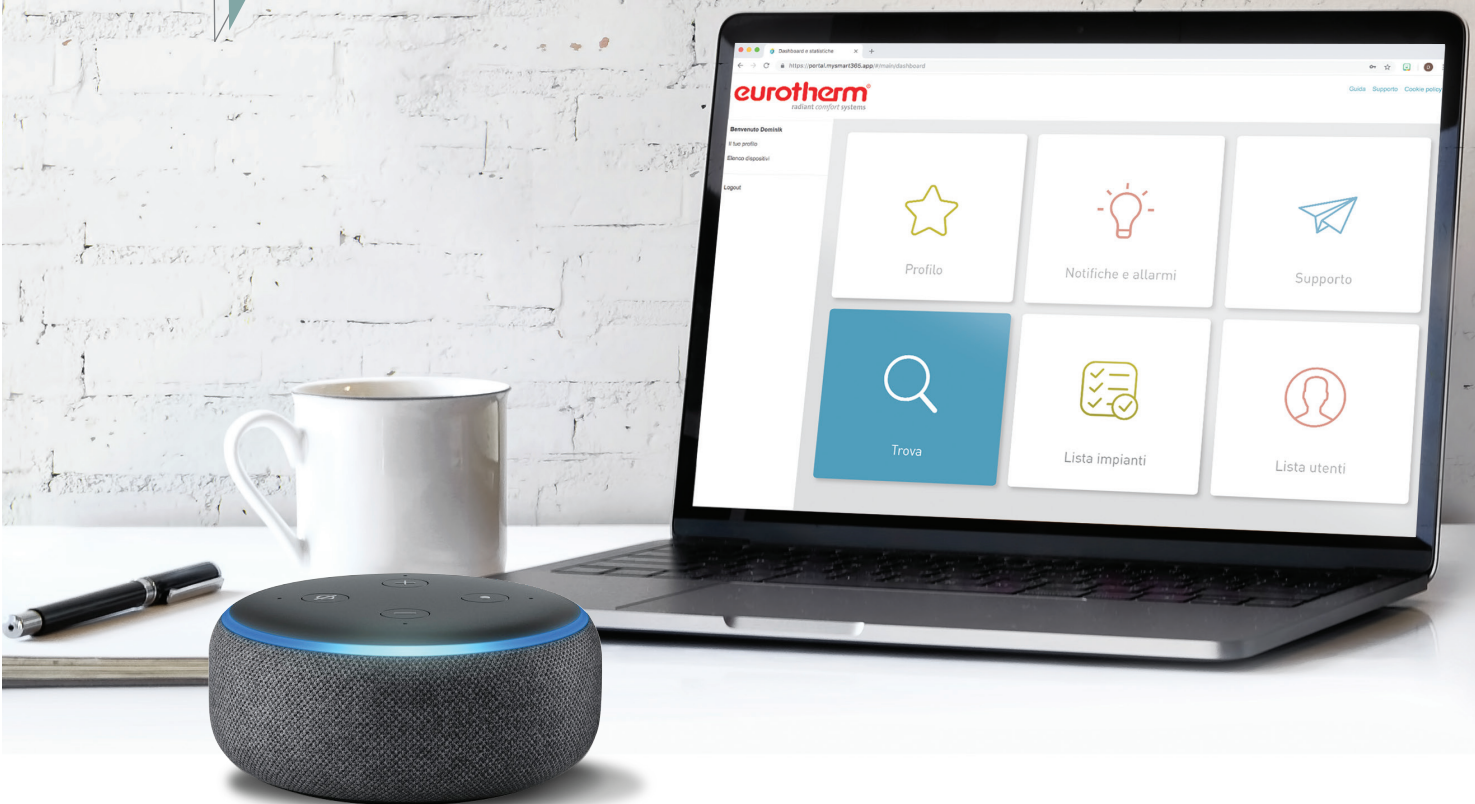
The user's position is not tracked.



Temperature +/- 3°C
Air control

The image on the right shows the NFC function from the APP.

SETS THE TEMPERATURE
IN THE LIVING ROOM TO
22°C



VOICE CONTROL

Home Automation gets SMART!
Using the most widely-used voice control systems, monitoring and controlling the radiant system will be instant and easy wherever you are.

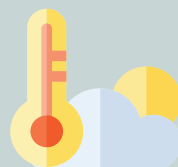


NFC FUNCTION

Immediate access to the configuration of a room from a smartphone with NFC technology, even without using a dedicated App (activation of a user account required).

REMOTE CONTROL

The Cloud platform allows you to access a dedicated website which manages the user account and displays graphs and data about the relevant radiant system, to download guides and manuals, request support and use customised services. The website can also be used by specialised staff (installer, support centre) to access the system's technical data directly and provide support. The account owner can invite family members.

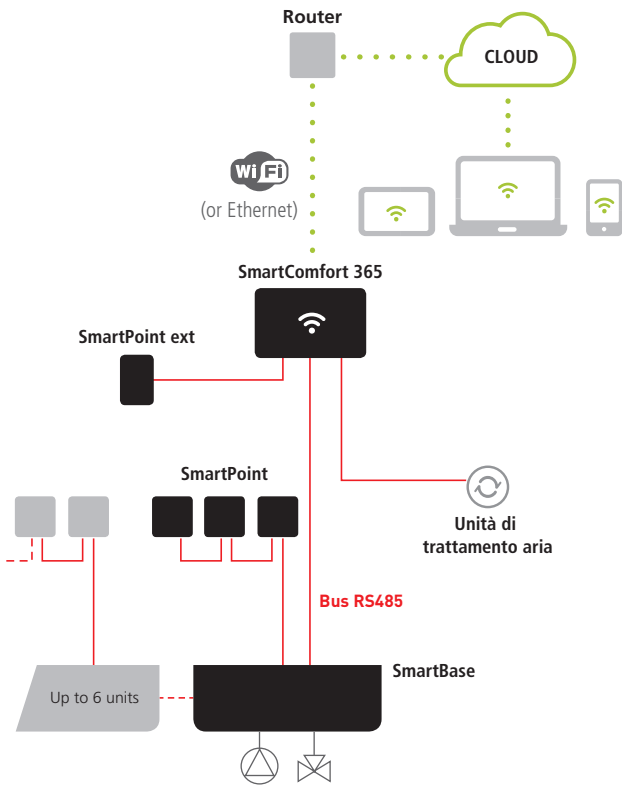


WEATHER CONDITIONS

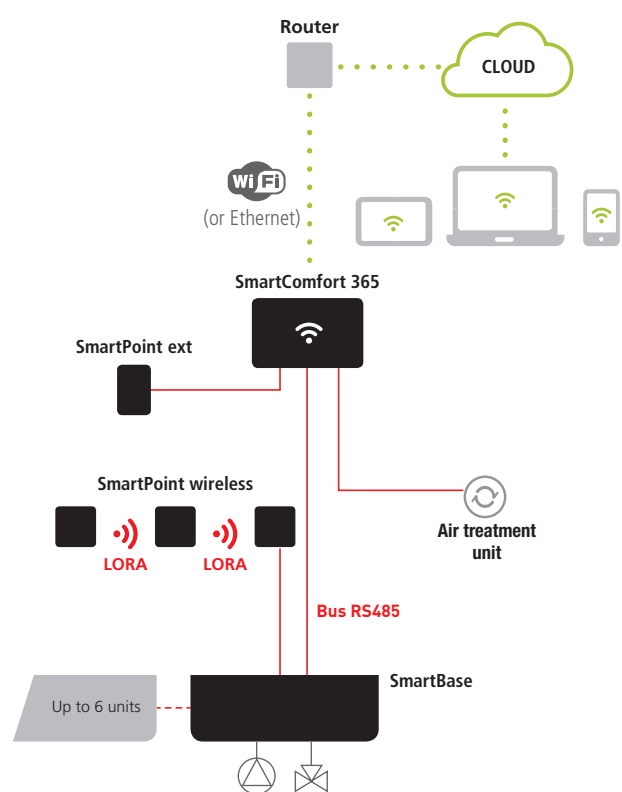
The geo-positioning system allows the APP to recognise details about the local weather forecast.

SMART 365 REGULATION

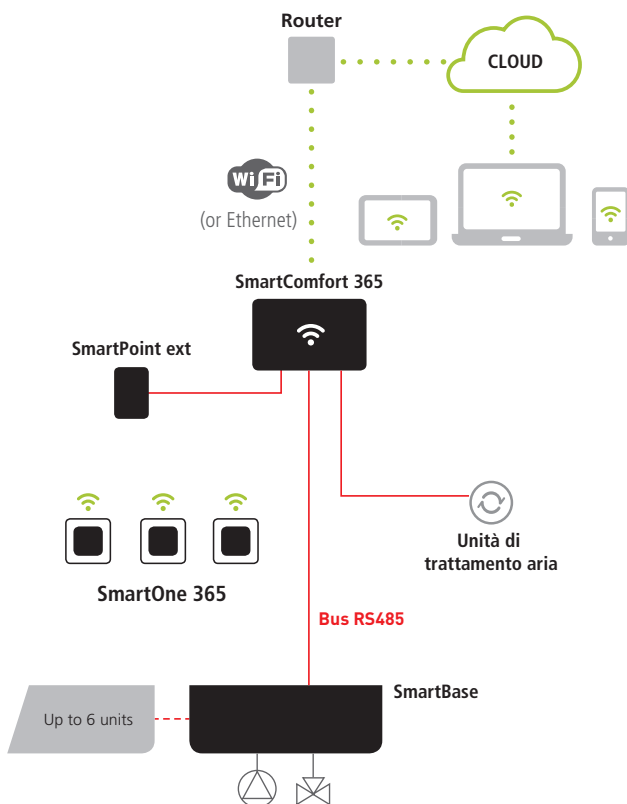
SMARTCOMFORT 365 SYSTEM SENSORS CONNECTED VIA CABLE



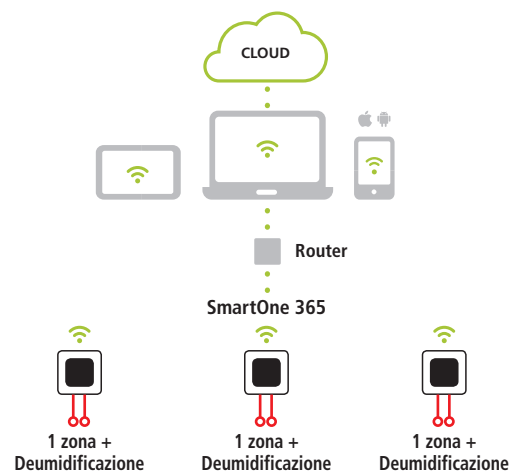
SMARTCOMFORT 365 SYSTEM WIRELESS SENSORS



SMARTCOMFORT 365 + SMARTONE 365 SYSTEM USED AS ROOM SENSORS



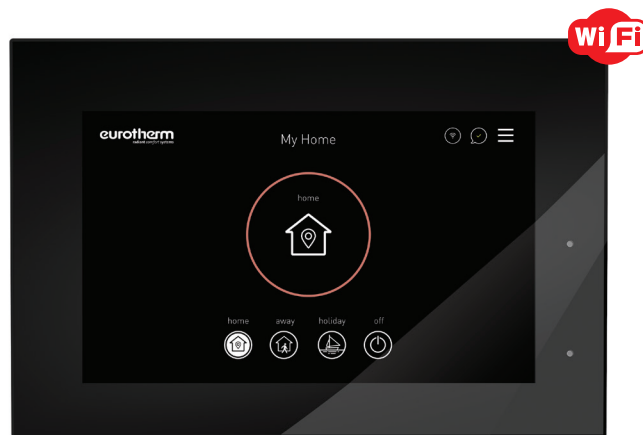
SMARTONE 365 SYSTEM IN HEATING AND COOLING



SMARTCOMFORT 365 REGULATION

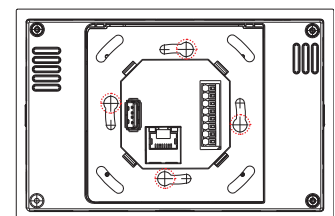
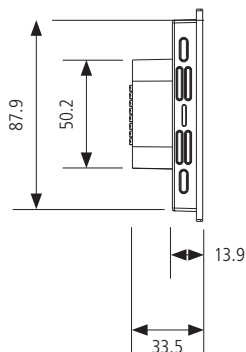
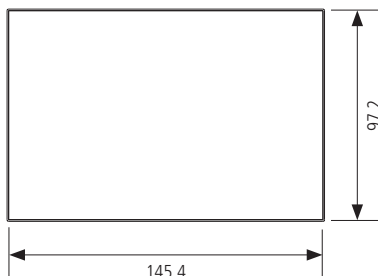
The SmartComfort 365 climate regulator is a management device for a radiant system (heating/cooling) and air treatment machine (dehumidification/cooling) via PID control logic. SmartComfort 365 is a modular system consists of the units described below.

SmartComfort **365**



Central display and control to manage climate regulation. It consists of a 5" full-glass capacitive multitouch display, a composite casing with terminal block on the back. The control unit has an indicator light on the frame to show the system operating mode: red for heating and blue for cooling.

The control unit includes a motion sensor, SD card slot, WiFi, Ethernet and 2 RS485 serial ports. SmartControl 365 supports the connection of up to 6 SmartBase modules, to control 48 rooms, as well as bathrooms, for a maximum of 160 circuits (for each SmartBase) and 8 SmartAir modules or 8 Deuclima-VMC air machines.



i Fixing hole points at a distance of 60 mm "circled" in red on the image.

 **SmartComfort 365 must be commissioned by authorised personnel.**

SMARTONE 365 REGULATION

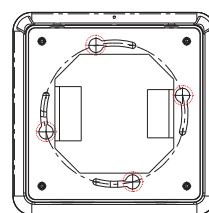
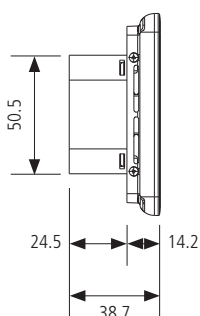
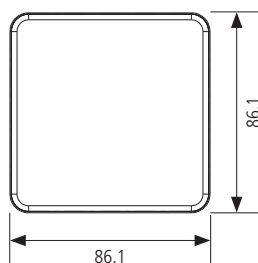
SmartOne **365**



Display and control unit to manage the climate regulation of 1 zone, in heating and cooling, with activation of summer dehumidification. It consists of a 4" full-glass capacitive multitouch display, a composite casing with terminal block on the back. The assembly is suitable for round box/502 box. The con-

trol unit includes a motion sensor, VOC and condensate sensor, WiFi, and 1 RS485 serial ports. SmartOne 365 can replace a SmartPoint TU sensor and allow settings to be input directly from the room where it is installed. It can control up to 20 circuits*.

* if more than 5, Eurotherm's approval will be required.

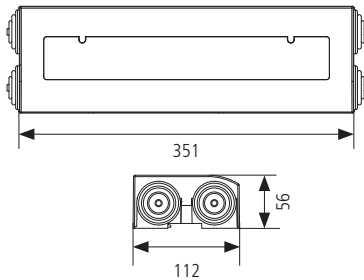


i Fixing hole points at a distance of 60 mm "circled" in red on the image.

i SmartOne 365 does not require any intervention by authorised personnel.

SMARTCOMFORT 365 REGULATION

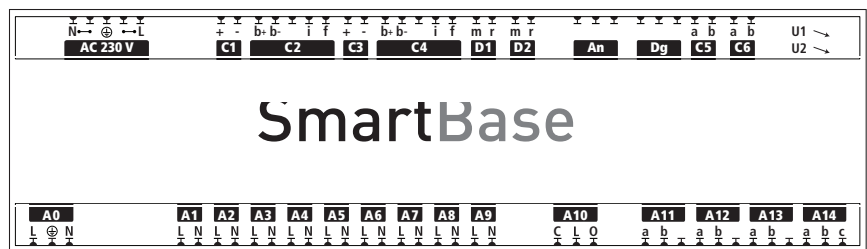
SmartBase



The actuator module of the hydraulic part of the radiant system can manage up to a maximum of 8 rooms, bathrooms excluded. The SmartBase opens/closes the electro-thermal actuators (heads) up to a maximum absorption from 2 A to 4 A (electronic protection intervention), opens/closes the mixing valve, switches the circulation pump on/off, activates a dehumidifier, has a mix-

ing valve limit switch output (e.g. to control the switching off of the primary pump when the radiant system mixer is closed), has a summer/winter output switch to the primary and has a summer/winter input to receive the relative switching from the primary. The 0-10V output can be set to control a 0-10V mixing valve. To be connected to the BUX C3-C4 line.

CONNECTIONS



Port	Description
AC 230 V	N Smartbase power supply neutral
	N Smartbase power supply neutral
	⊕ Earth
	L Smartbase power supply phase
C1	+ Smartpoint bus power supply positive
	- Smartpoint bus power supply negative
C2	b+ Smartpoint bus signal
	i f Electrical bridge to create if the Smartbase is an end of the bus line
C3	+ Bus power supply positive Smartcontrol/external sensor
	- Bus power supply negative Smartcontrol/Smartbase/Smartair/external sensor
	b+ Smartcontrol/Smartbase/ b- Smartair bus signal/external sensor
C4	i f Electrical bridge to create if the Smartbase is an end of the bus line
	m r Supply temperature sensor NTC 10K 25°C
D1	m r Connector not enabled
An	Control 0-10V (mixing valve)
Dg	Connectors not enable
C5	a b Connector not enabled
	a Summer/winter input free from potential Contact closed= Summer Contact open= Winter
U1	• Smartbase configuration
U2	• Smartpoint/electro-thermal actuator assignment (heads)

A0	L	Power supply phase for electro-thermal actuators (heads)
	⊕	Power supply grounding for electro-thermal actuators (heads)
	N	Power supply neutral for electro-thermal actuators (heads)
A1	L	Electro-thermal actuator (heads) phase
A2	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A3	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A4	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A5	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A6	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A7	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A8	N	Electro-thermal actuator (heads) neutral
	L	Electro-thermal actuator (heads) phase
A9	L	Electro-thermal actuator (heads) phase bathrooms
	N	Electro-thermal actuator (heads) neutral bathrooms
A10	C	Mixing valve closure phase output
	L	Actuator power supply phase input for mixing valve
	O	Mixing valve opening phase output
	a	Pump power supply phase output
A11	b	Pump power supply phase input
	a	Dehumidifier power supply phase output
A12	b	Dehumidifier power supply phase input
	a	Energy request - Volt free contact (dry) NO
b		
A14	a	Winter/summer output - Volt free changeover contact (dry); b-c NC= summer (LED off) ab= winter (LED on)
	b	
	c	

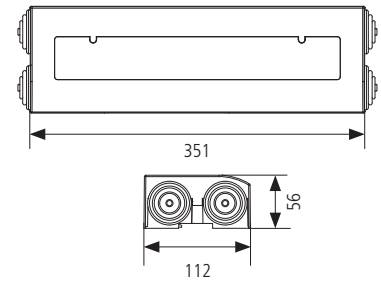
SMARTCOMFORT 365 REGULATION



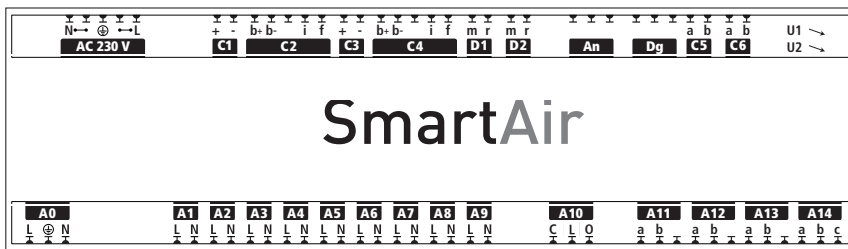
SmartAir

Actuator module capable of managing the Deuclima-VMC unit in dehumidification, cooling and air exchange, separately; alternatively, it can manage an air treatment machine in dehumidification and cooling. SmartAir opens/closes the dampers for 6 rooms, opens/closes the air exchange damper (extraction from outside), pro-

vides integration consent, switches the three fan speeds and controls the air exchange fan. Lastly, SmartAir can manage the zone speeds and relevant pump. It can also receive a signal from the carbon dioxide sensor to control the air exchange with the exterior. To be connected to the BUX C3-C4 line.



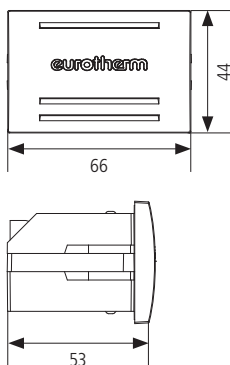
CONNECTIONS



Port	Description
AC 230 V	N Smartair power supply neutral
	N Smartair power supply neutral
	⊕ Earth
	L Smartair power supply phase
C1	+
	- Connector not enabled
C2	b+
	b- Connector not enabled
	i
	f
C3	+ Bus power supply positive Smartcontrol/external sensor
	- Bus power supply negative Smartcontrol/Smartbase/Smartair/external sensor
C4	b+ Smartcontrol/Smartbase/Smartair bus signal/external sensor
	b- Smartair bus signal/external sensor
D1	m
	r Supply air temperature sensor
D2	m
	r Supply air temperature sensor
An / Dg	Connector not enabled
C5	a Carbon dioxide alarm (CO ₂) input free from potential
	b
C6	Connector not enabled
U1	• Smartair configuration
U2	• Smartpoint/dampers assignment
A0	⊕ Actuators power supply phase from A1 to A9
	⊕ Earth actuators from A1 to A9
A1	N Actuators power supply neutral from A1 to A9
	L Damper actuator phase
A2	L Damper actuator phase
	N Damper actuator neutral
A3	L Damper actuator phase
	N Damper actuator neutral
A4	L Damper actuator phase
	N Damper actuator neutral
A5	L Damper actuator phase
	N Damper actuator neutral
A6	L Damper actuator phase
	N Damper actuator neutral
A7	L External damper actuator phase
	N External damper actuator neutral
A8	L Cooling valve actuator phase
	N Cooling valve actuator neutral
A9	L Air exchange actuator phase
	N Air exchange actuator neutral
A10	C
	L
A11	a Pump or zone valve power supply phase output
	b Pump or zone valve power supply phase input
A12	a Main fan speed 1 power supply phase output
	b Main fan speed 1 power supply phase input
A13	a Main fan speed 2 power supply phase output
	b Main fan speed 2 power supply phase input
A14	a Main fan speed 3 power supply phase output
	b Main fan speed 3 power supply phase input

SMARTCOMFORT 365 REGULATION

SmartPoint

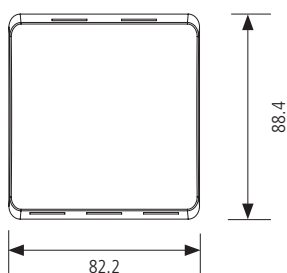


Blind room temperature/humidity or temperature only sensor to be placed in each room covered by the radiant system and connected via bus to the SmartBase. The SmartPoint is supplied with two coloured covers: white or black.

Temperature/humidity sensors to connect to the Smart C1-C2 bus line.

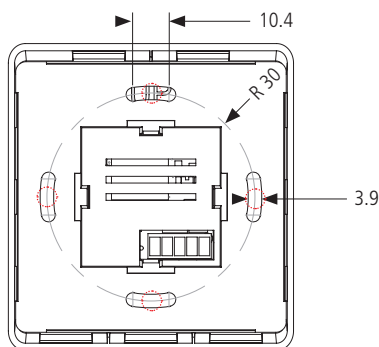
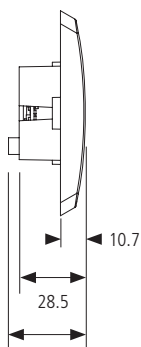
None of the temperature only sensors allow cooling of connected room.

SmartPoint
ROUND BOX



The dry construction system, such as the one that has plasterboard as its main material, is increasingly used as a simple, economical, fast and clean way of dividing a room into several functional areas. In addition, thanks to the gap, the installation of the water/electrical system becomes quick and easy, including any maintenance or repairs.

Consequently, Eurotherm has developed this product which allows you to insert the smartpoint in the electrical socket boxes (round) for walls and plasterboard structures. None of the temperature only sensors allow cooling of connected room. To be connected to the BUX C1-C2 line.



i Fixing hole points at a distance of 60mm "circled" in red on the image.

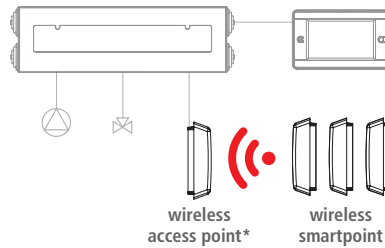
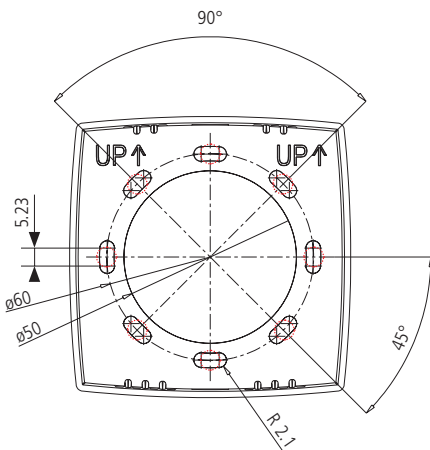
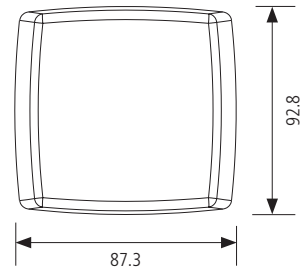
SMARTCOMFORT 365 REGULATION



SmartPoint WIRELESS

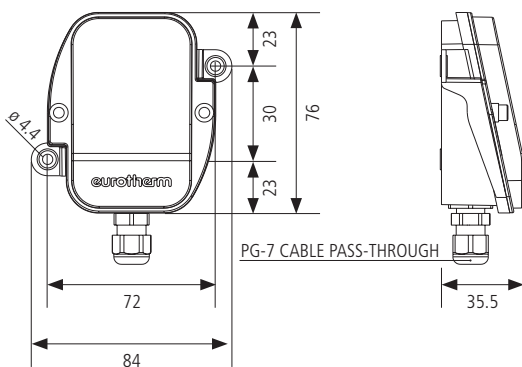
Wireless room sensor for measuring temperature/humidity or temperature only, to be placed in every room covered by the radiant system and communicating with the SmartBase through the innovative technical solution based on the "LoRa" protocol, which can significantly increase the flow rate and minimise interference. In a free field, the minimum distance reached by the signal is a few kilometres. SmartPoint wireless sensors send data to the system only when they detect significant variations in the quantities measured

by them, minimising the number of transmissions and consequently extending the life of the battery. A high reliability of the transmitted signal is, therefore, combined with high energy saving. The SmartPoint wireless sensors data are received directly from the "concentrator" device, which also includes the functions for measuring temperature/humidity and, in turn, transfers them, via bus, to the SmartBase. None of the temperature only sensors allow cooling of connected room. To be connected to the BUS C1-C2 line



- 1 T/U access point + 7 T or T/U smartpoints
 - 1 BRIDGE access point + 8 T or T/U smartpoints
- * can be configured as a T/U or BRIDGE sensor

i Fixing hole points at a distance of 60mm "circled" in red on the image.



SmartPoint ext EXTERNAL SENSOR

External temperature sensor. The external sensor must always be positioned on the NORTH side of the building, thus, protected from direct sunlight; it must be secured to the external wall of the building using masonry bolts through the

eyelets that form a single body with the back of the sensor. The external sensor is essential for the correct operation of the SmartComfort 365 climate regulator. To be connected to the BUS C3-C4 line

COMFORT VMC STAND-ALONE REGULATION

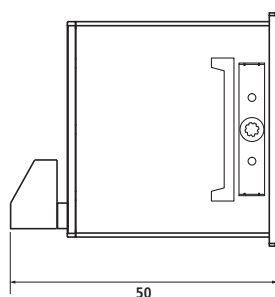
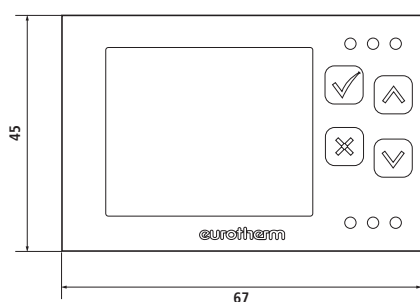


Compact recessed digital controller in box size 503 with graphic display 160x128 points and temperature/humidity sensor (TH).

The regulator can perform complex control functions and regulation of HVAC systems. The adaptors provided allow you to use the board with the main civil series on the market.

Dimensions 67 x 45 x 50 mm.

- i** Compatible with recessed box model 503.
Compatible with the most common Bticino, Vimar, Gewiss and ABB plates.



In the absence of SmartComfort 365 regulation Art. **5141010102**

Eurotherm mechanical ventilation and air treatment unit regulator in stand-alone mode with integrated humidistat which allows the following functions:

- Option of AUTOMATIC/MANUAL control of the renewal air flow rate and AUTOMATIC/MANUAL temperature control.
- Humidity control and "dehumidifier" switch-on mode in summer and winter.
- Room temperature control and "integration" switch-on mode.
- 3-level setting of RENEWAL flow rate based on weekly programming schedule.
- 3-level manual mode setting for RENEWAL flow rate.
- three level temperature set point setting for integration according to the weekly programming schedule and setting of 3 set point temperatures.
- Manual mode setting of the desired room temperature.
- Automatic freecooling and freeheating.
- Machine status display through simple icons and/or side indicator lights.
- Alarms display.
- Filter replacement alert.

- i** Adjustment compatible with:
 - Deudlima-VMC 300 V / 500 V / 300 S / 500 S
 - DCR 1000 / 2000.

- i** **Including:**
Transformer / power pack.

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