SPC Modulo v1

Installation, Operation & Maintenance Manual

IOM 81 Issue 4

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1. Safety instructions

1.1 EC-Conformity

By affixing the CE mark to the unit the manufacturer declares that SPC Modulo Thermostat conforms to the following relevant safety regulations:

- EU low voltage directive 2014/35/EU
- EU electromagnetic compatibility directive 2014/30/EU

Conformity has been verified and the corresponding documentation and the EU declaration of conformity are kept on file by the manufacturer.

1.2 General Instructions

Please read carefully!

These installation and operating instructions contain basic instructions and important information regarding safety, installation, commissioning, maintenance and the optimal use of the unit. Therefore these instructions must be read and understood completely by the installation technician/specialist and by the system user before installation, commissioning and operation of the unit.

This unit is an automatic, electronic room thermostat. Install the device only in dry rooms and under environmental conditions as described under "Technical Data".

In addition, observe the applicable accident prevention regulations, the regulations of the Institute of Electrical Engineering, the local power supply utility, the applicable BS-EN standards and the installation and operating instructions for the additional system components. Installation, electrical connection, commissioning and maintenance of the unit may only be carried out by specialists who possess the appropriate training.

Users: Make sure that the specialist gives you detailed information on the function and operation of the unit. Always keep these instructions in the vicinity of the unit.

The manufacturer does not take over any liability for damage caused through improper usage or non-compliance of this manual!

1.3 Changes to the Unit

- Changes, additions to or conversion of the unit are not permitted without written permission from the manufacturer.
- It is likewise forbidden to install additional components that have not been tested together with the unit.
- If it becomes clear that safe operation of the unit is no longer possible, for example because of damage to the housing, turn the unit off immediately.
- Any parts of the unit or accessories that are not in perfect condition must be exchanged immediately.
- Use only original spare parts and accessories from the manufacturer.
- Markings made on the unit at the factory must not be altered, removed or made illegible.
- Only the settings described in these instructions may be set using the Unit.

Changes to the unit can compromise the safety and function of the unit or the entire system.

1.4 Warranty and Liability

The Unit has been manufactured and tested with regard to high quality and safety requirements. The warranty and liability shall not include, however, any injury to persons or material damage that is attributable to one or more of the following causes:

- Failure to observe these installation and operating instructions.
- Improper installation, commissioning, maintenance and operation.
- Improperly executed repairs.
- Unauthorised structural changes to the unit.
- Use of the device for other than its intended purpose.
- Operation above or below the limit values listed in the ‚Specifi cations' section.
- Force majeure.

1.5 Disposal and Pollutants

The unit conforms to the European RoHS 2011/65/EU for 2011/65/EUthe restriction of the use of certain hazardous substances in electrical and electronic equipment.

Under no circumstances may the device be disposed of with the normal household waste. Dispose of the unit only at appropriate collection points or ship it back to the seller or manufacturer system.

2. Description SPC Modulo Thermostat

2.1 Specifications

Housing

2-part, ABS plastic

75 mm x 95 mm x 30 mm

Glass front

Display

Capacitive touch panel

Colour display with 240x320 dots

2.8 inches (7 cm) diagonal

Operation

Intuitive user guidance

Electrical specifications:

Power supply	24VAC or 24VDC +/- 10% SELV
Power consumption	max. 2,5 W
Degree of protection	IP20
Protection class	III

Max. cable length

0-10V Signal	< 30m

Permissible Ambient Conditions

during operation	0 °C - 50 °C, no moisture condensation permitted
for transport/storage	0 °C - 60 °C, no moisture condensation permitted

Measuring range

Outside the measuring ranges there are larger deviations

Internal temperature sensor	0 °C - 60 °C Accuracy +/- 1 °C
Resolution	0,1 °C
Internal sensor for rel. humidity	0 % - 100 % Accuracy +/- 6 %
Resolution	0,1 %

Other Specifications

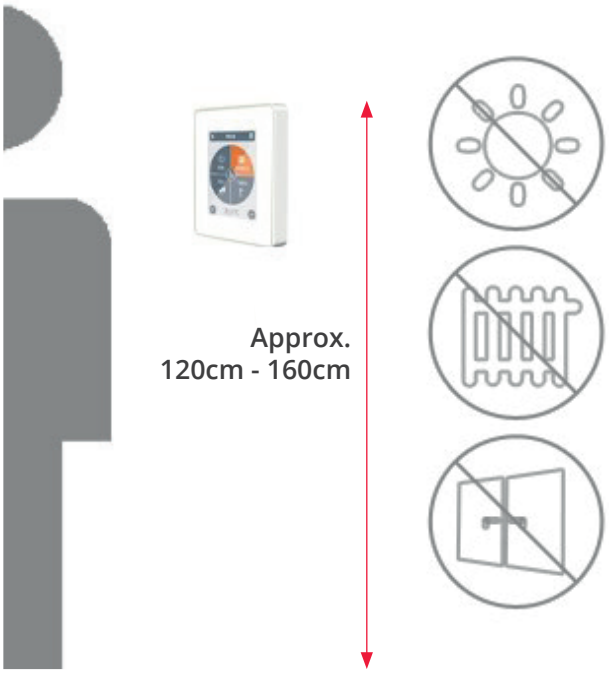
Installation methods	Wall installation, with/without wall socket
Real Time Clock	RTC with 24 hour power reserve

2.2 Scope of Supply

- SPC Modulo room thermostat
- 2 screws 3,5 x 35 mm and 2 plugs 6 mm for wall installation
- SPC Modulo installation guide

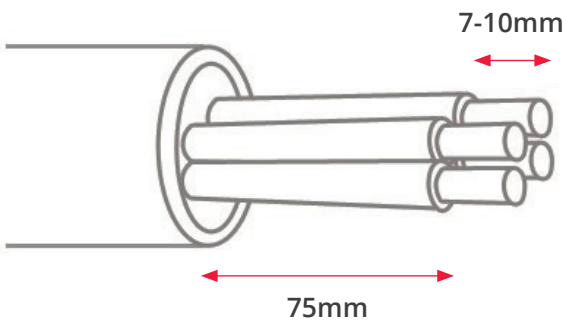
3. Installation

3.1 SPC Modulo Installation



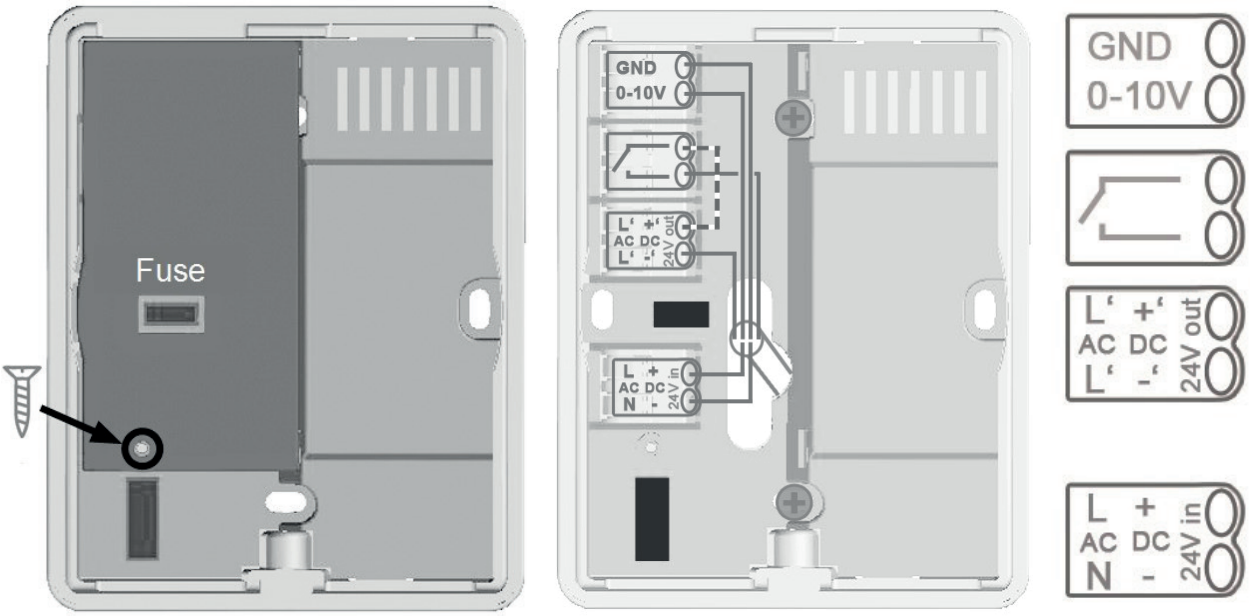
Mount the unit at a suitable location.

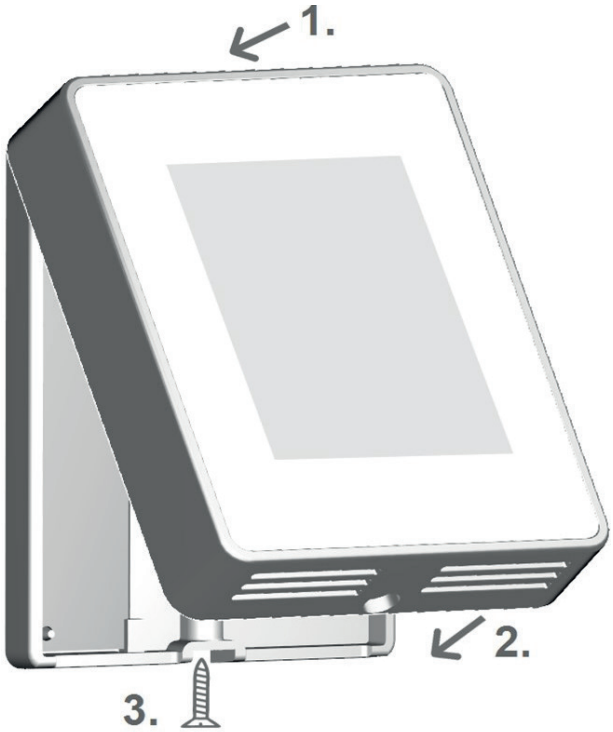
Pay attention to suitable environmental conditions. Direct sunlight, sources of heat and cold, e.g. radiators and windows must be avoided.



**Strip cables by 75 mm max.
and strip the last 7-10 mm of the wires.**

Unscrew the screw, remove the cable cover and connect the electric as described.

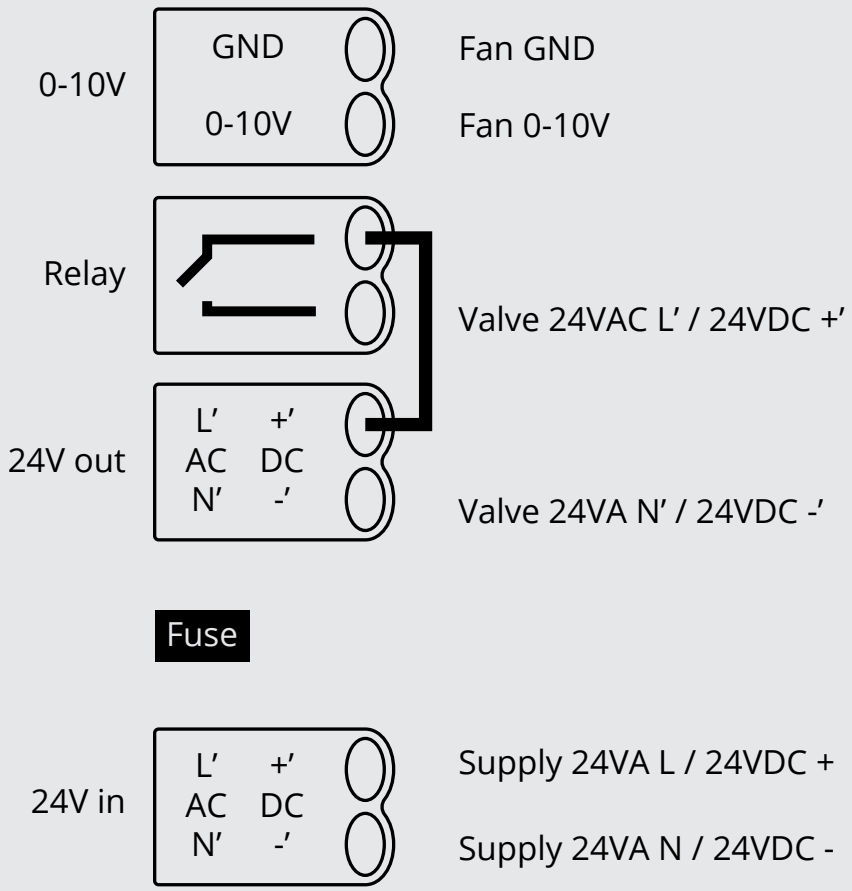




Refit the base and fasten with screw. Switch on mains voltage and place SPC Modulo in operation.

Never remove front cover while Modulo is connected to power. This will result in damage to the thermostat.

3.2 Sample Wiring



4. Setup

4.1 Setup Procedure

Install device

Install the device as described (See “Sample wiring”).

A wiring diagram will be supplied with the heating unit that the Modulo is intended to control. This shows the wiring required between the Modulo and the heater.

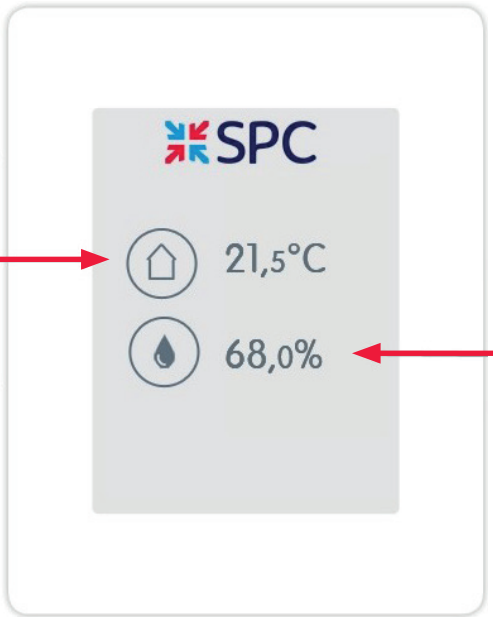
Set Functions

Assign a switching output to the respective function via the “Expert” menu in the “Settings” menu item under “Functions” and parameterize it (See “Settings Functions”).

5. Operation

5.1 Overview of Temperatures & Humidity

It displays room temperature and humidity, If there is no activity for 60 sec, the device is automatically switched to the overview.



Room Icon

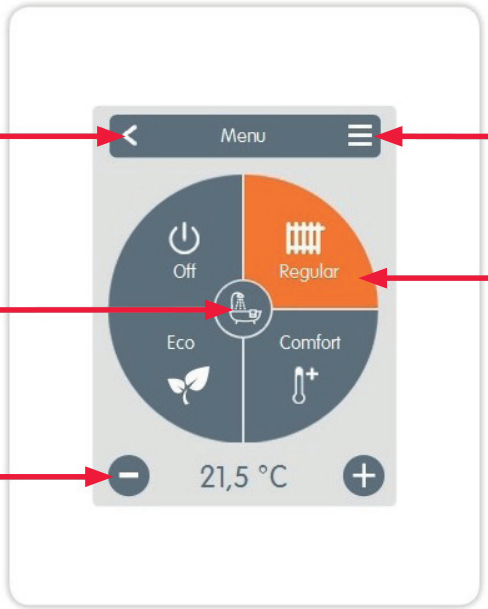
By selecting the room icon you will be directed to the room temperature settings.

Room Humidity

Relative humidity.

5.2 Operating Mode

Overview > Operating Mode



Menu

Navigation to the main menu.

Back / Forward

Navigation back to the overview.

Operating Modes

The operating mode shown in colour is currently active and can be changed by selecting a different mode. Manually selected modes remain active until the next change of mode by the timer program. A background frost protection function remains active in the "off" mode.

Room

Display of the selected room.

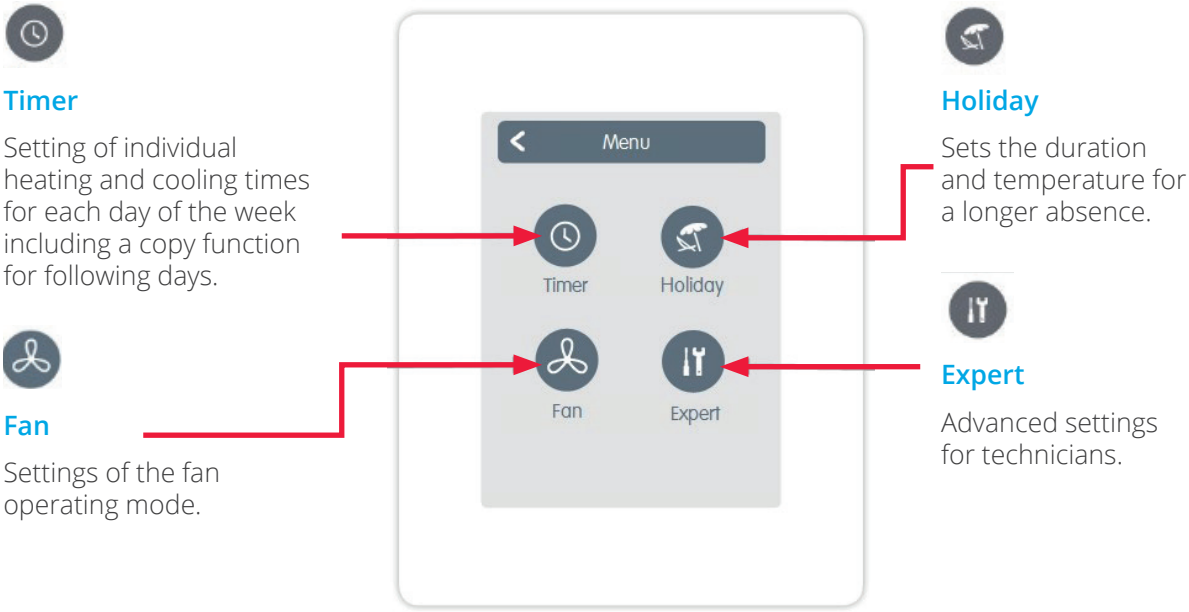
21,5 °C

Reference Temperature

Setting the reference temperature for the active operating mode in the displayed room.

5.3 Menu

Overview > Operating Mode > Menu



Timer

Setting of individual heating and cooling times for each day of the week including a copy function for following days.

Holiday

Sets the duration and temperature for a longer absence.

Fan

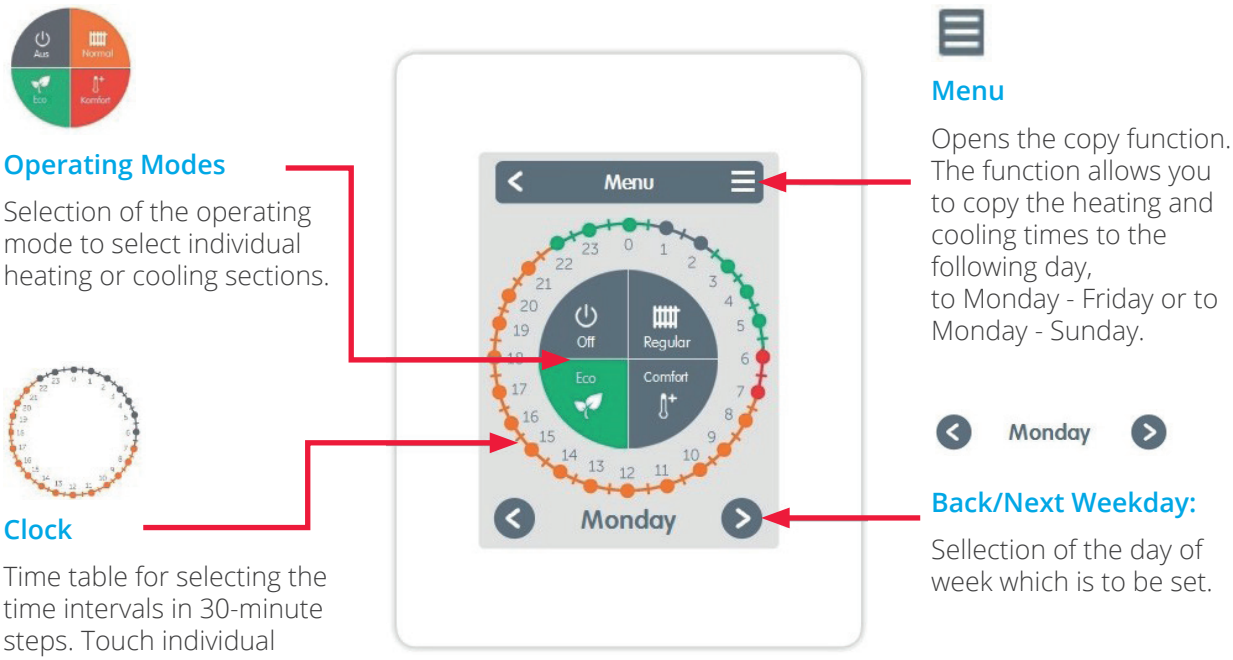
Settings of the fan operating mode.

Expert

Advanced settings for technicians.

5.4 Set Operation Hours

Overview > Operating Mode > Main Menu > Timer



Operating Modes

Selection of the operating mode to select individual heating or cooling sections.

Menu

Opens the copy function. The function allows you to copy the heating and cooling times to the following day, to Monday - Friday or to Monday - Sunday.

Clock

Time table for selecting the time intervals in 30-minute steps. Touch individual segments, or drag your finger over complete time intervals to colour them according to the selected operation mode.

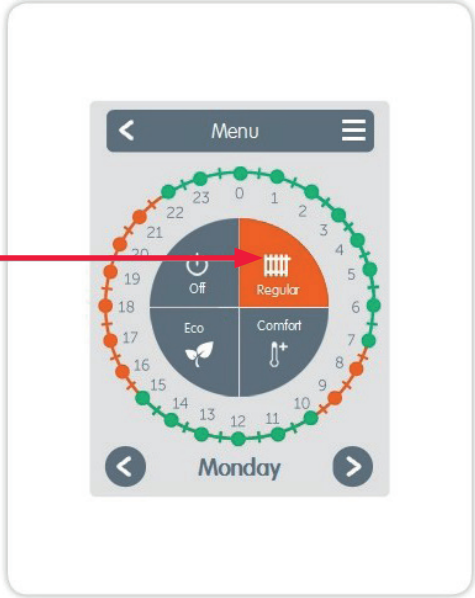
Monday

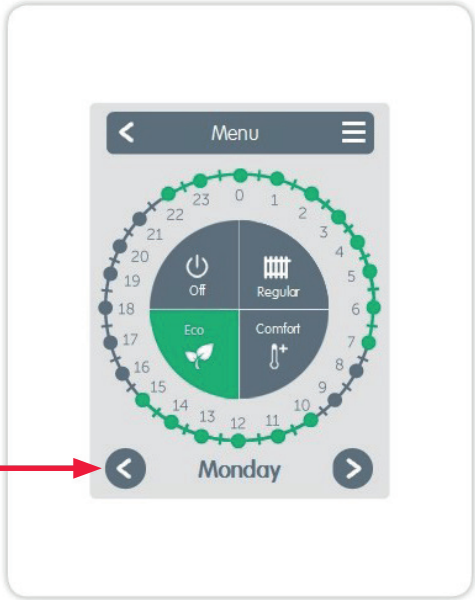
Back/Next Weekday:

Sellection of the day of week which is to be set.

Step 1

Use the arrow keys to select the desired day.



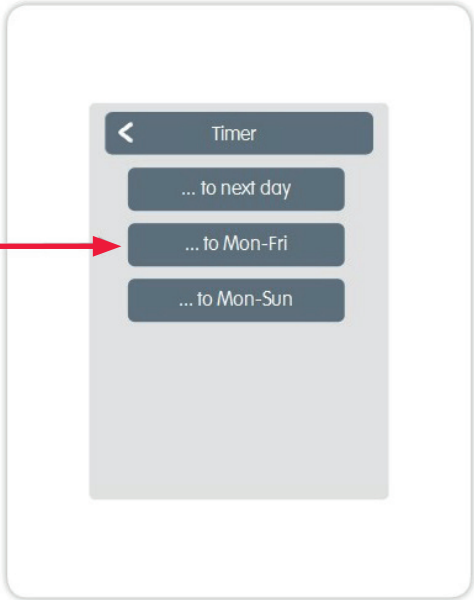


Step 2

Select the first heating mode (normal) - move the index finger over the desired length of time. The selected period will be coloured after selecting the colour of the operating mode (normal = orange). Set the times of the other operating modes in the same way.

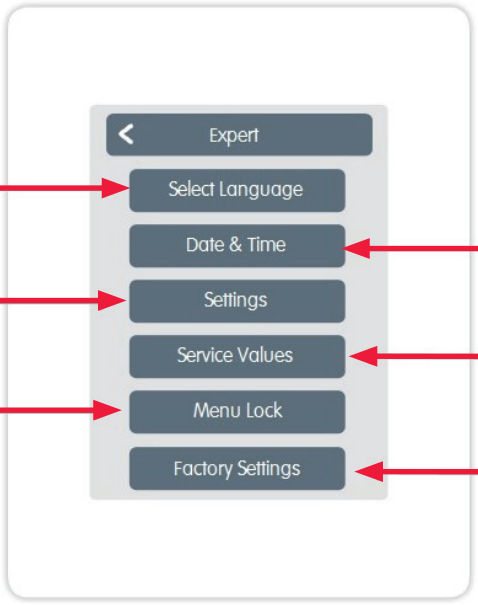
Step 3

After completing the setting of the individual heating and cooling times, you have the option of copying the times via the main menu to the following day, to Monday - Friday or to Monday-Sunday or individually for each weekday.



5.5 Expert Menu

Overview > Operating Mode > Main Menu > Expert



Select Language

Sets the device language.

Settings

Parameterisation of the heating / cooling system.

Menu Lock

Activate menu lock to protect settings with a password.

Date & Time

Sets time and date and automatic changeover to local standard time (summer/winter).

Service Values

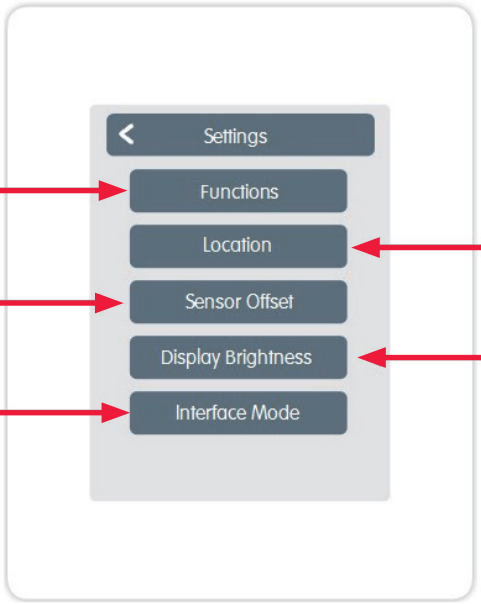
Information about the system.

Factory Settings

Resets the device to factory settings.

5.6 Expert Menu Settings

Overview > Operating Mode > Main Menu > Expert > Settings



Functions

Management of local control functions - thermostat and dehumidifier.

Sensor calibration

Used to adapt the temperature and humidity of the said local sensor for the selected area.

Interface Mode

Switches between full and restricted menu. Only the reference temperature can be set in the mode "Hide menu" To return to "full" mode, press and hold the upper-right comer of the display for 5 seconds.

Location

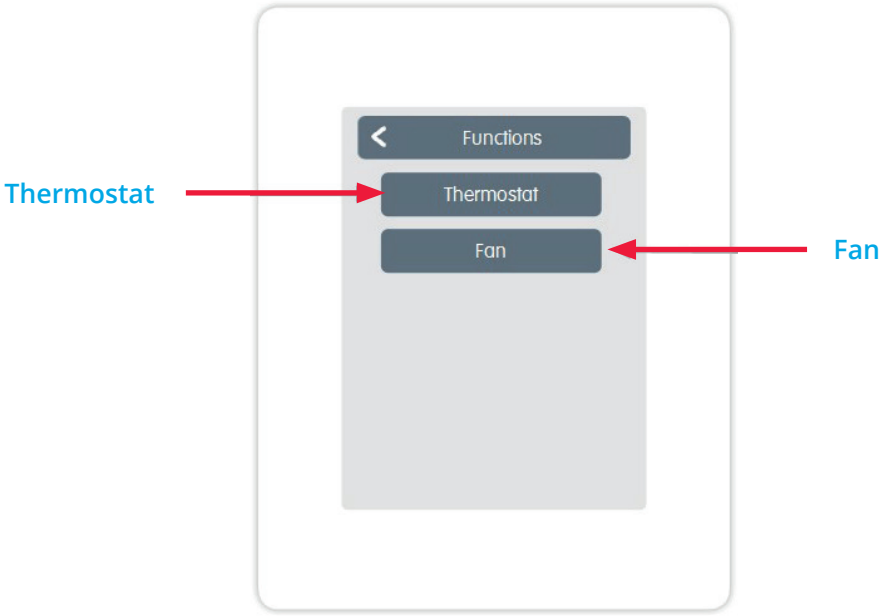
Set where the device is installed (selection of the room icon).

Display Brightness

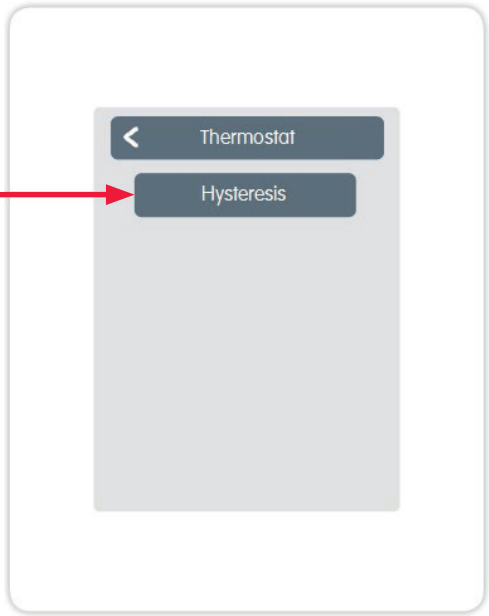
Adjustment of display brightness.

5.7 Settings Functions

Overview > Operating Mode > Main Menu > Expert > Settings > Functions



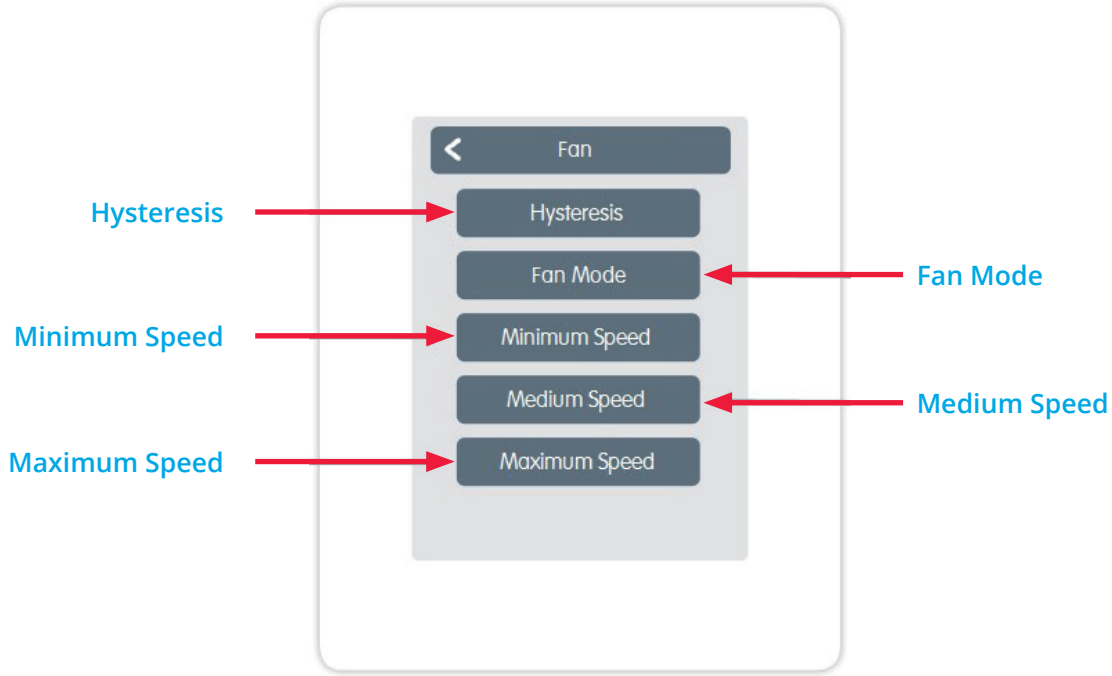
Overview > Operating mode > Menu > Expert > Settings > Functions > Thermostat



Hysteresis

Heating hysteresis of the thermostat function in relation to the actual set room temperature _

Overview > Operating mode > Main menu > Expert > Settings > Functions > Fan



6. Fault Finding

Under certain circumstances the thermostat may need to be reset. This may be as a result of external issues with equipment that the thermostat is connected to.

6.1 Factory Reset

If the screen remains illuminated but is displaying odd or unexpected data this can be resolved by performing a factory reset. Enter expert mode and select 'Factory Settings' as described earlier.

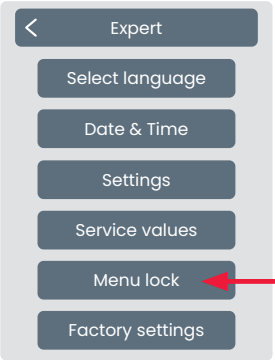
6.2 Hard Reset

If the thermostat screen is blank and will not illuminate then a hard reset may resolve the issue. Firstly, isolate the thermostat by isolating the heating unit which is powering it. Reconnect the power and check if the thermostat is still blank, if it is proceed as below. Isolate the power again and then remove the front from the Modulo thermostat, replace the front and then reconnect the power.

Under no circumstances remove the front cover while the thermostat is powered - this may cause irrecoverable damage.

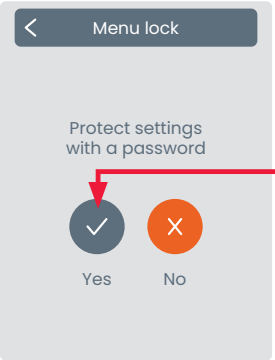
7. Appendix 1

7.1 Setting Up Menu Lock



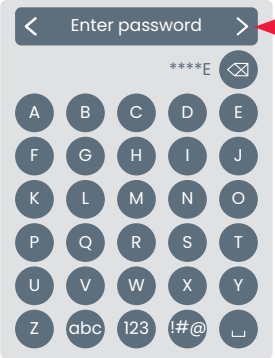
Step 1

To set up the menu lock, go into the expert section. Click on the 'menu lock'.



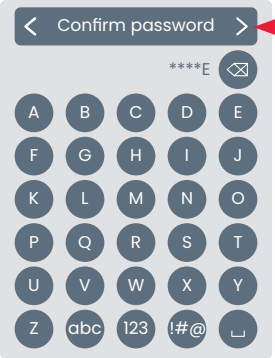
Step 2

Click on the 'yes' icon.



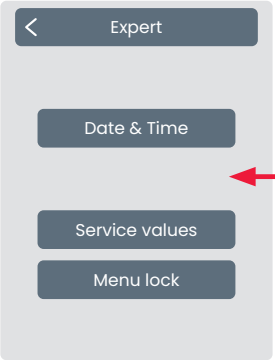
Step 3

Enter password.
Then click on the arrow.



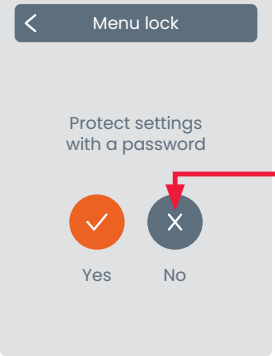
Step 4

Re-enter password to confirm. Then click on the arrow.



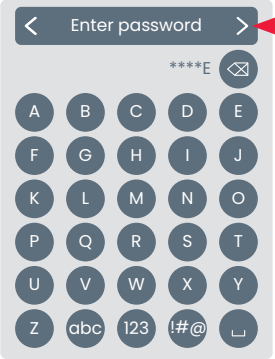
Step 5

After the password has been set via menu lock. All options for settings will be removed/locked besides these three options.



Step 6

To edit the settings or remove the menu lock. Go into 'menu lock', click on the 'no' icon.

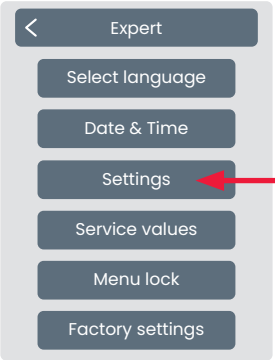


Step 7

Enter the password to remove menu lock, click on the arrow.

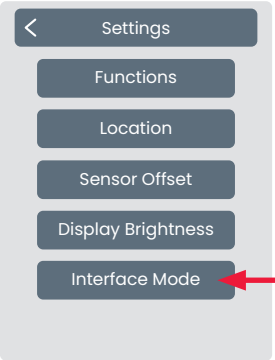
The password can be reset via use of the master password: **[CALEON]**
(square brackets and capitals required).

7.2 Setting Up Interface Lock



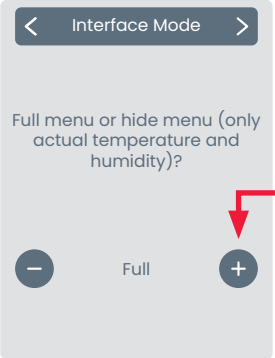
Step 1

To set up the interface lock, go into the expert section. Click on 'settings'.



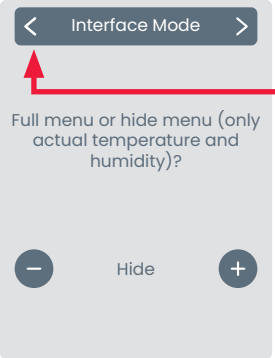
Step 2

Click on 'interface mode'.



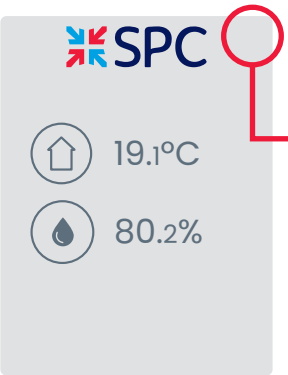
Step 3

Default setting is on full menu. Click on either the 'positive' or 'negative' icon to change mode.



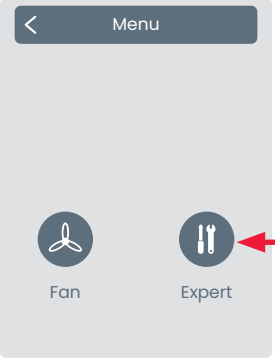
Step 4

Once in hide mode. Click on the arrow to activate.



Step 5

To deactivate 'hide mode', hold the upper-right corner of the display for around 5 seconds.



Step 6

To return to 'full mode', click on expert mode, go back to interface mode and select 'full' menu.

Final Declaration

Although these instruction have been created with the greatest possible care, the possibility of incorrect or incomplete information cannot be excluded. Subject as a basic principle to errors and technical changes.

Date and time of installation:

Name of installation company:

Space for notes:

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