Centrometal
HEATING TECHNIQUE

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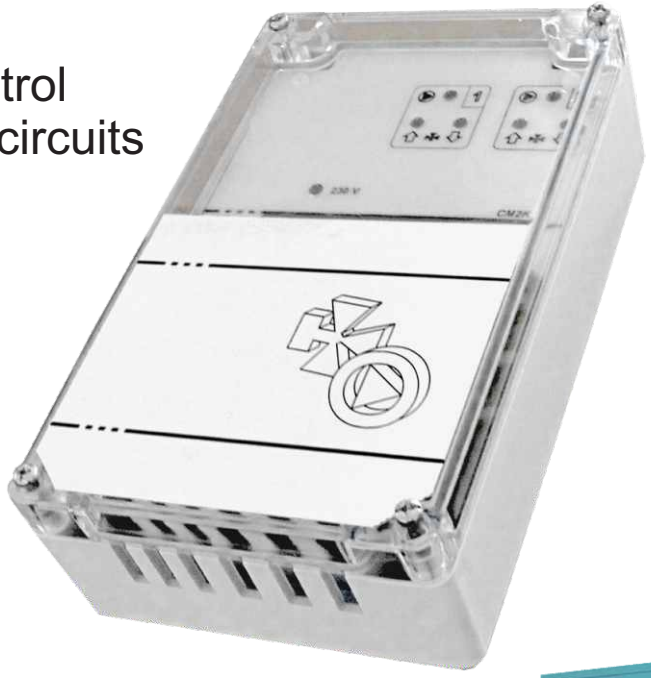
CE

Technical instructions

for connecting and use of additional equipment

Module for control
of two heating circuits



(for boilers PelTec / PelTec-lambda)

CM2K-P (boiler PelTec, PelTec-lambda)

TUPLT-02-2015_ver 2.65-ENG

PART 1

INSTALLATION INSTRUCTIONS

Only authorized persons are permitted for installation of this product

DELIVERY CONTENT CM2K-P

CM2K-P

1X

UTP cable L=5m

1X

Main flow sensor

2X

Outside temperature sensor

1X

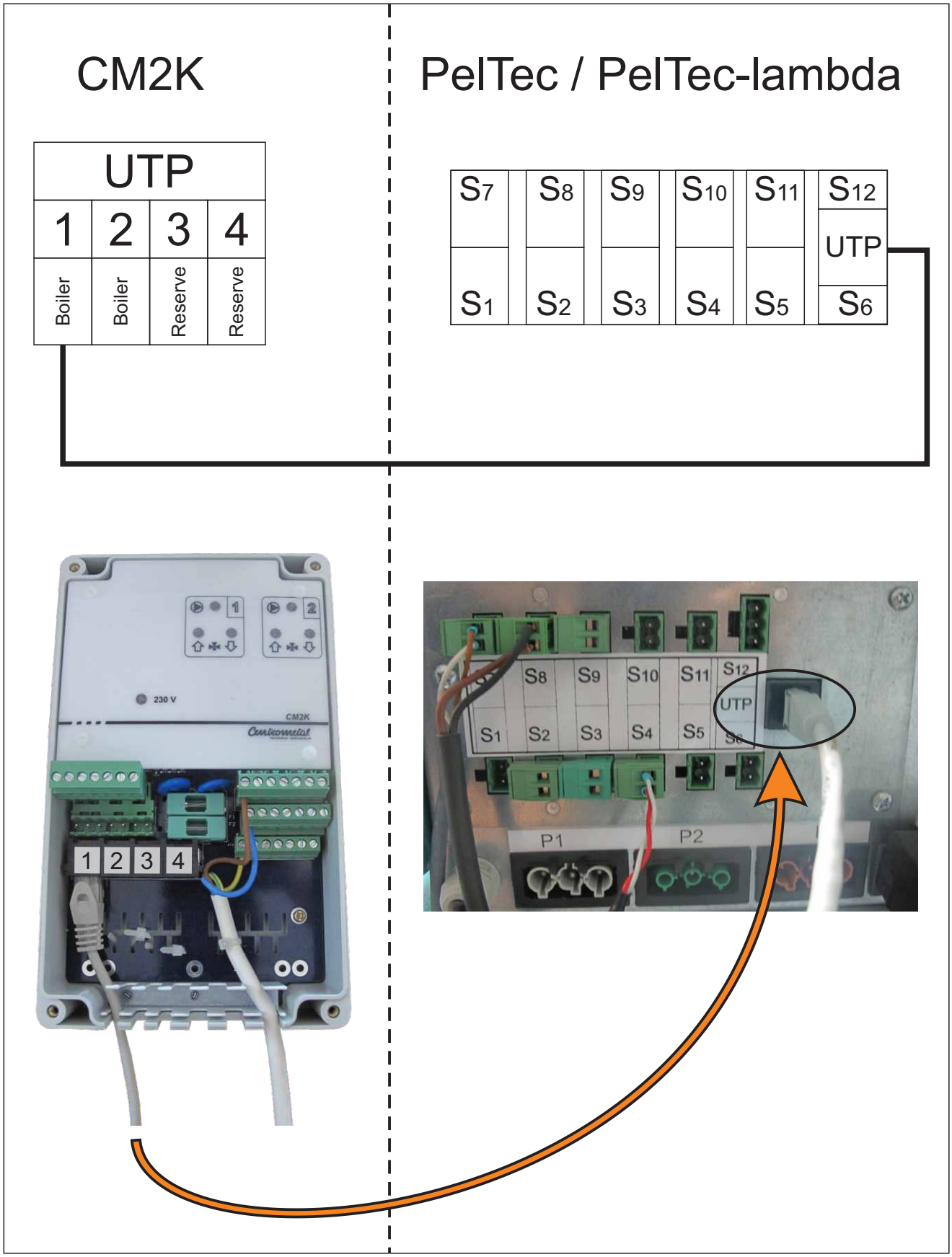
ADDITIONAL EQUIPMENT (for module CM2K-P)

Room corrector „CSK“

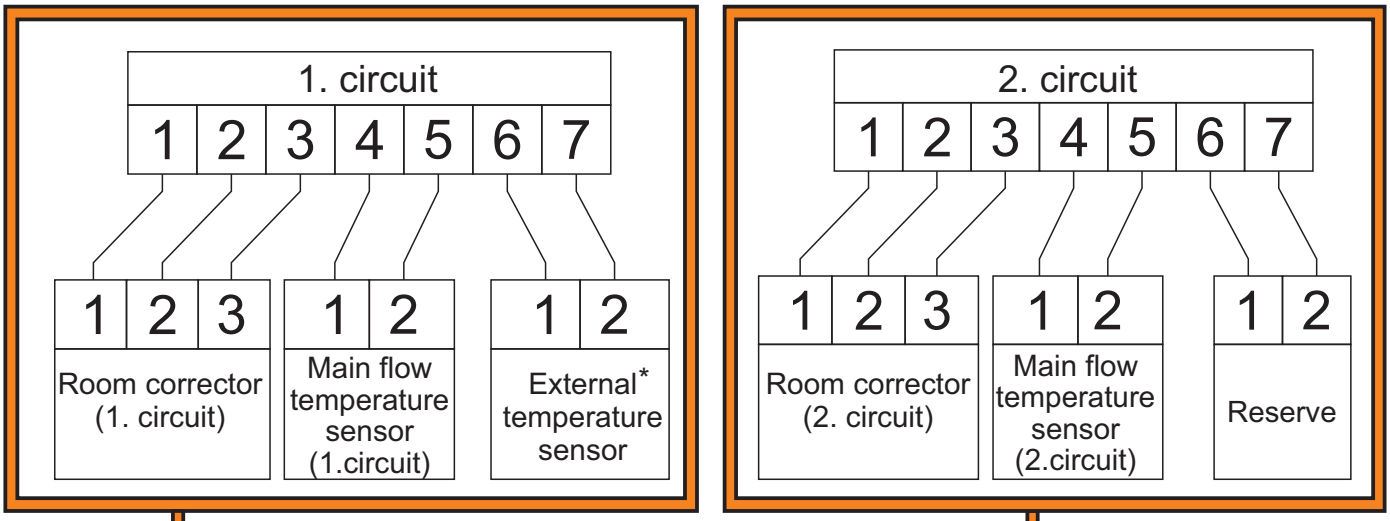
Note:
On module for control two heating circuits CM2K-P can be connected only room corrector „CSK“ maded by Centrometal d.o.o. factory. On CM2K-P can be connected two room correctors „CSK“, one per each heating circuit.

1.0 CONNECTING CM2K MODUL TO THE BOILER

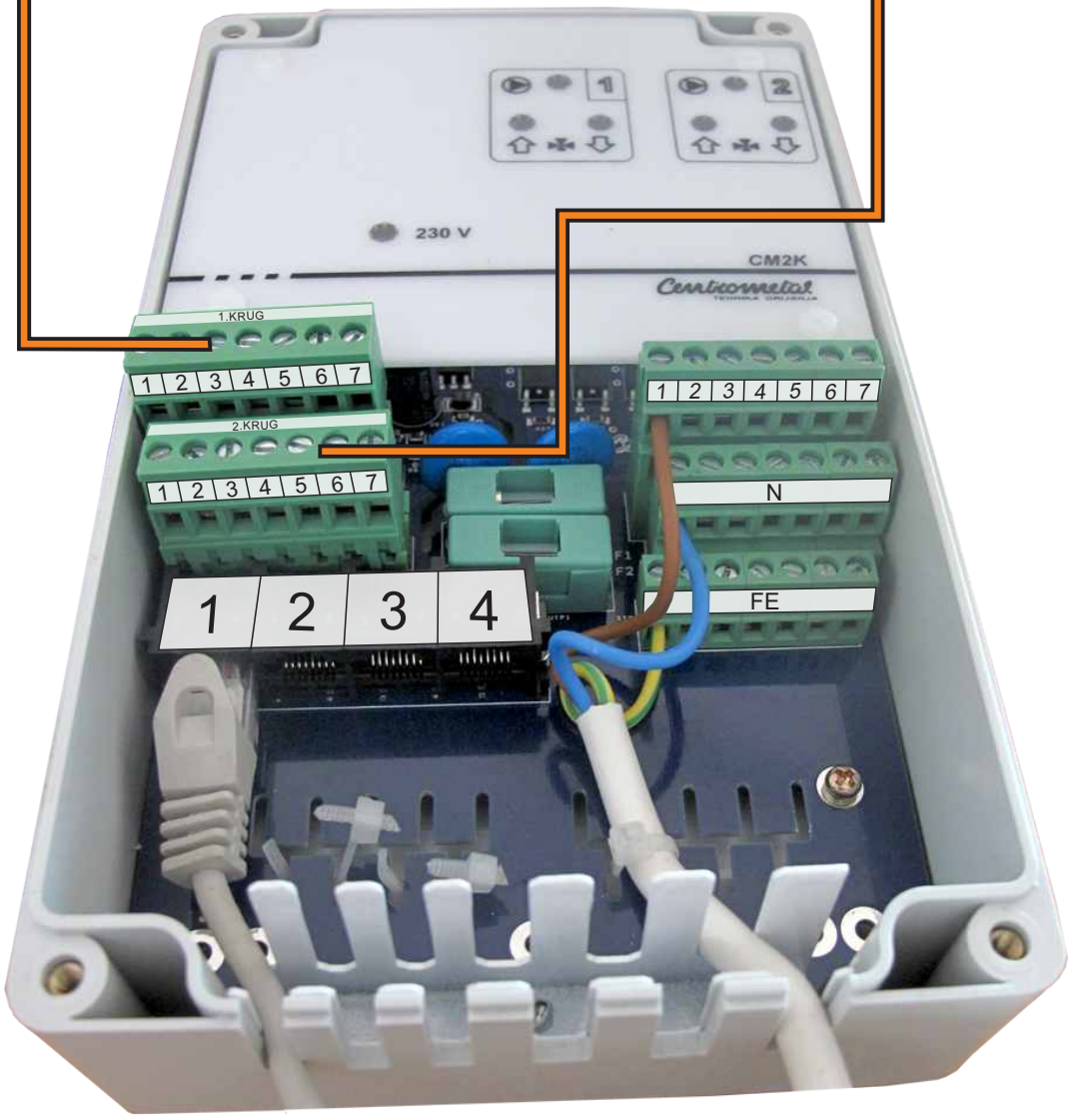
Connecting CM2K module with boiler PelTec / PelTec-lambda is done by using UTP cable.



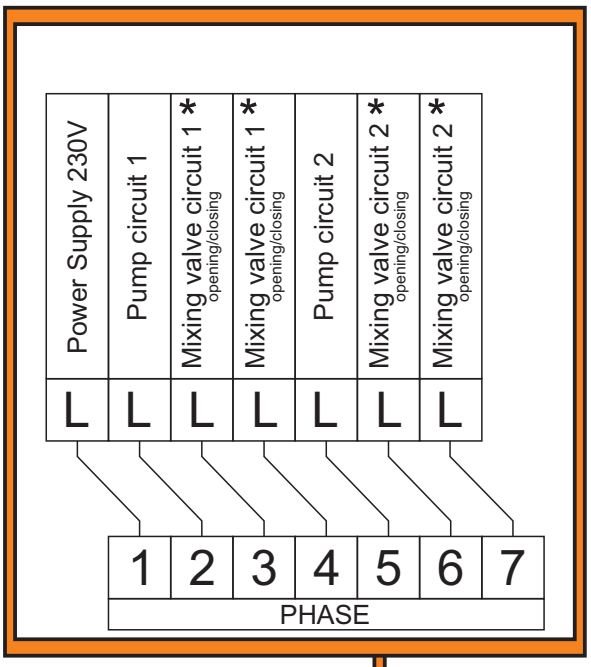
2.0 CONNECTING THE COMPONENTS ON CM2K-P MODUL



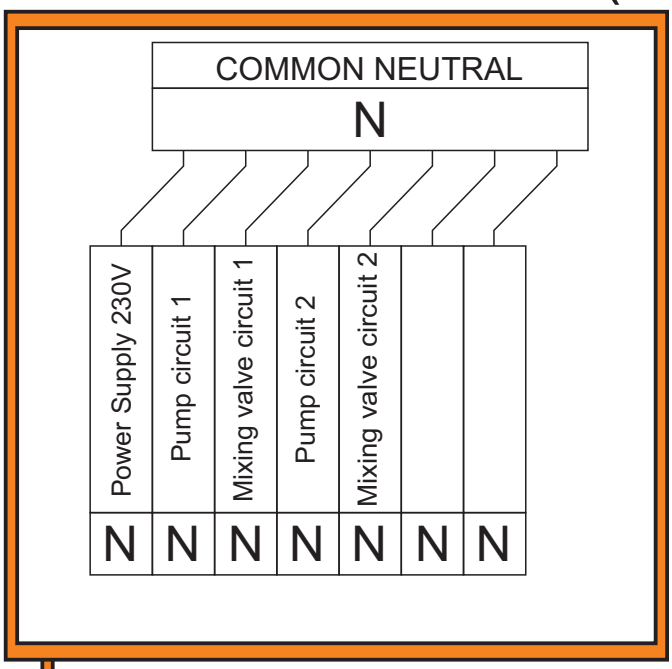
*External sensor can be connected on the module CM2K-P or on the boiler PelTec / PelTec-lambda



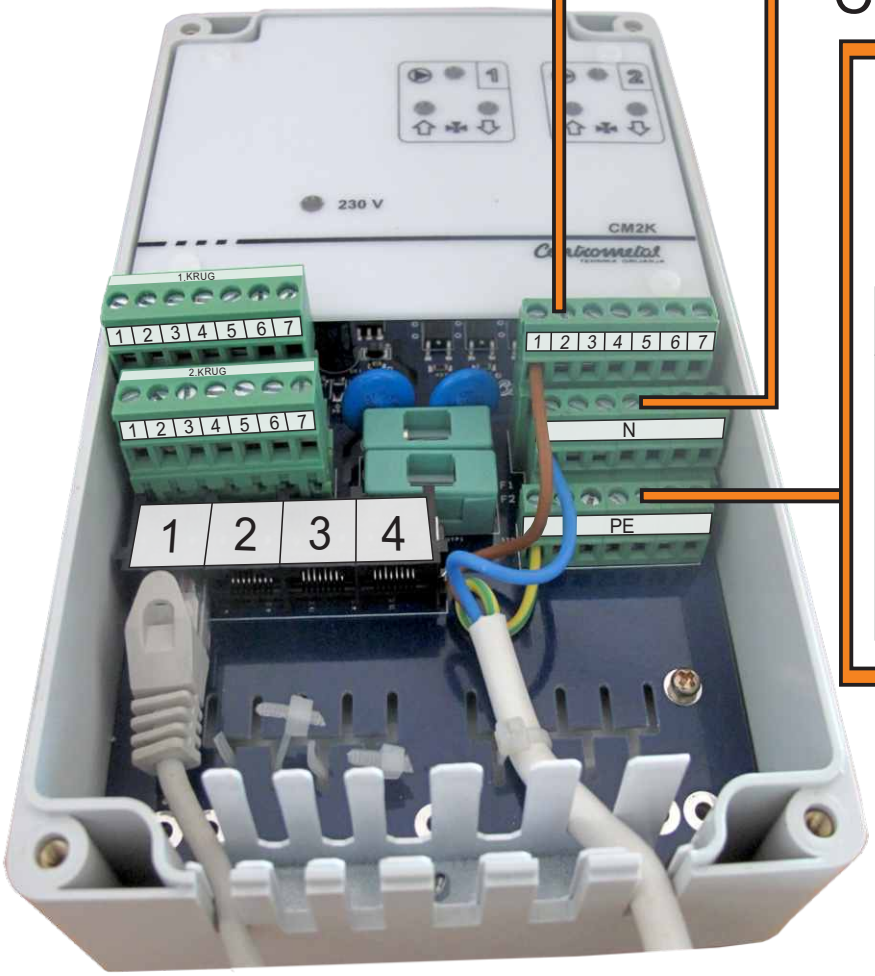
PHASES (L)



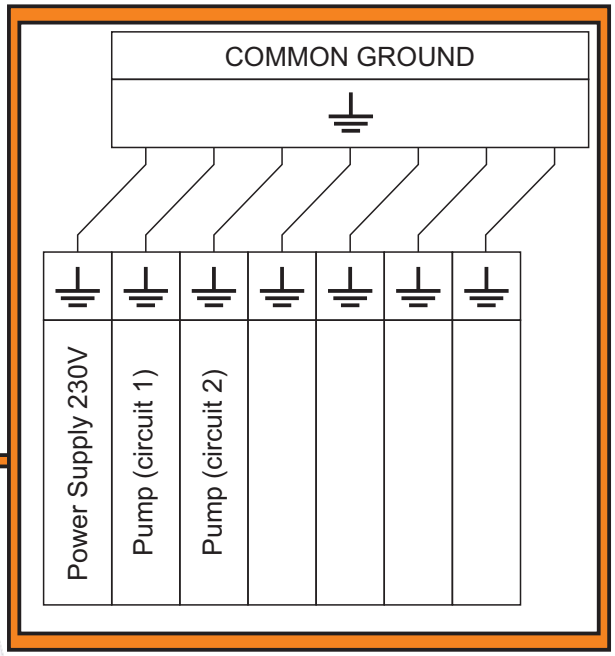
COMMON NEUTRAL (N)



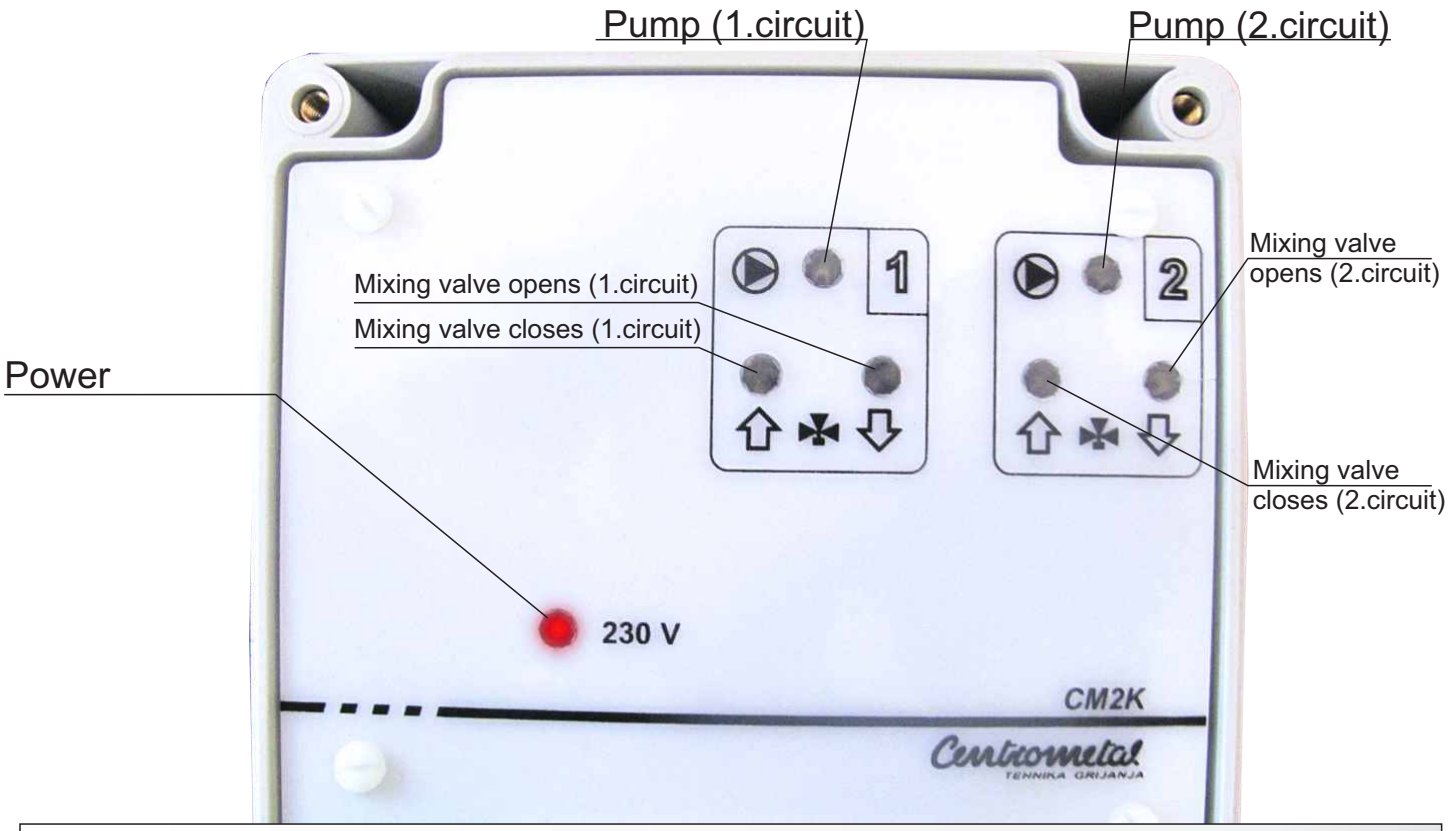
* Connecting the phases for opening or closing mixing valve depends on the method of mixing valve installation



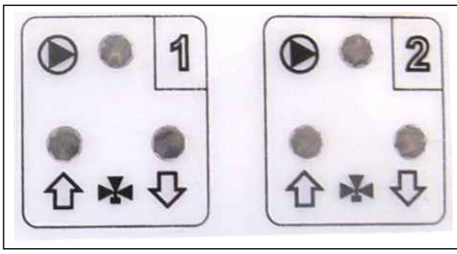
COMMON GROUND (⏚)



3.0 LED INDICATORS

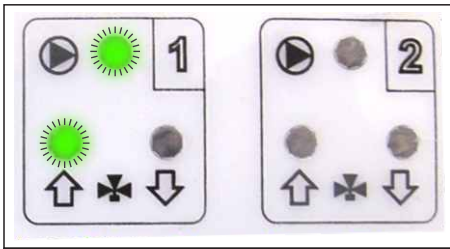


3.1 EXAMPLES



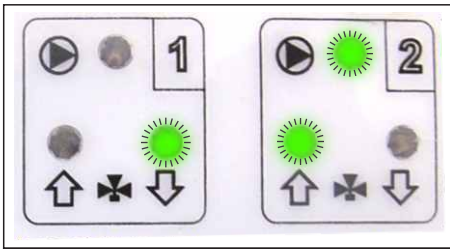
1.Circuit
Idle

2.Circuit
Idle



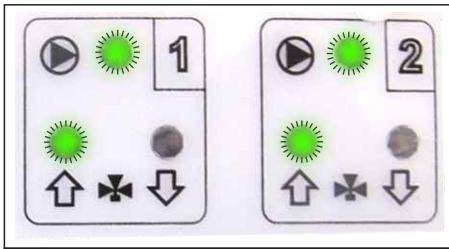
1.Circuit
Pump is working
Mixing valve closes

2.Circuit
Idle



1.Circuit
Mixing valve opens

2.Circuit
Pump is working
Mixing valve closes



1.Circuit
Pump is working
Mixing valve closes

2.Circuit
Pump is working
Mixing valve closes

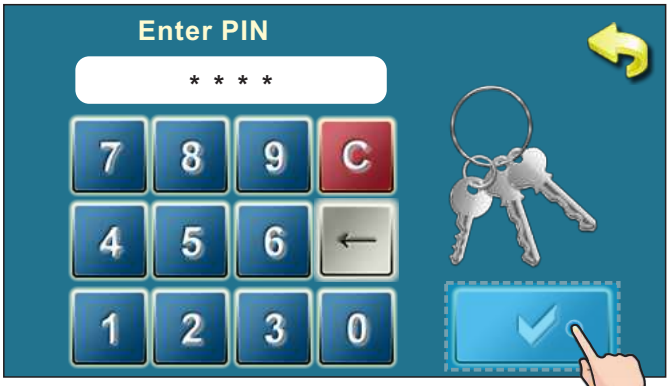
4.0 CONFIGURATION (Only authorized person can access the configuration)

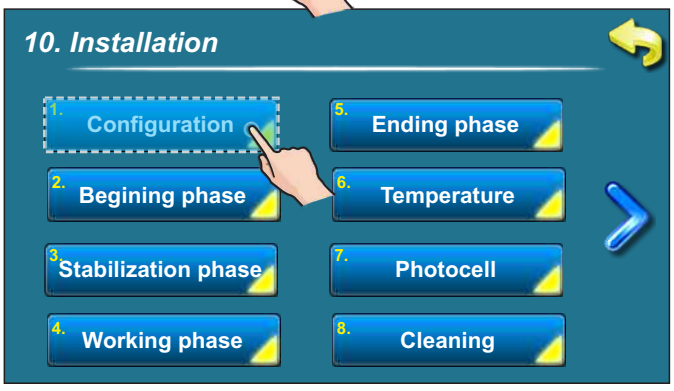
Two heating circuits module can be used only in configurations that include accumulation tank or hidraulic crossover

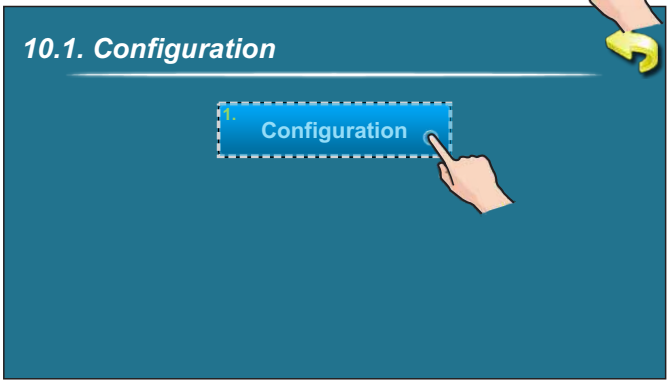
Configuration in which is possible to use two heating circuits module CM2K

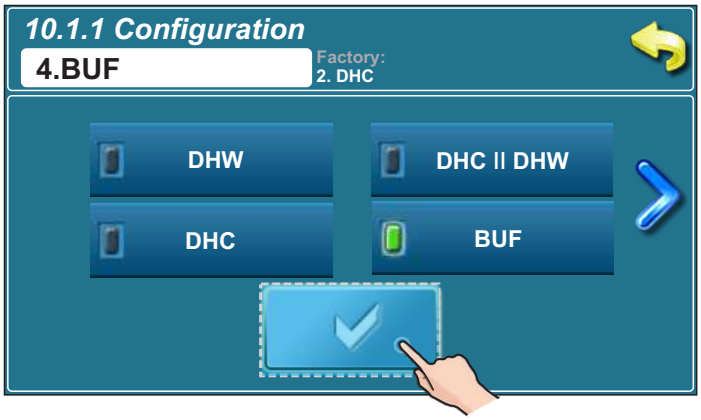
- configuration BUF (accumulation tank)
- configuration DHW II BUF (domestic hot water II accumulation tank)
- configuration BUF--IKG (accumulation tank -- indirect heating circuit)
- configuration DHW II BUF -- IHC (DHW II accumulation tank -- indirect heating circuit
- configuration BUF--DHW (accumulation tank--domestic hot water)
- configuration BUF--IHC II DHW (accumulation tank -- indirect heating circuit II DHW
- configuration CRO (Hidraulic crossover)
- configuration CRO/BUF (hidraulic crossover or accumulation tank)
- configuration BUF--IHCx2 (accumulation tank -- 2 indirect heating circuits

Configuration schemes and display you can find in technical instructions for using of regulation PelTec / PelTec -lambda



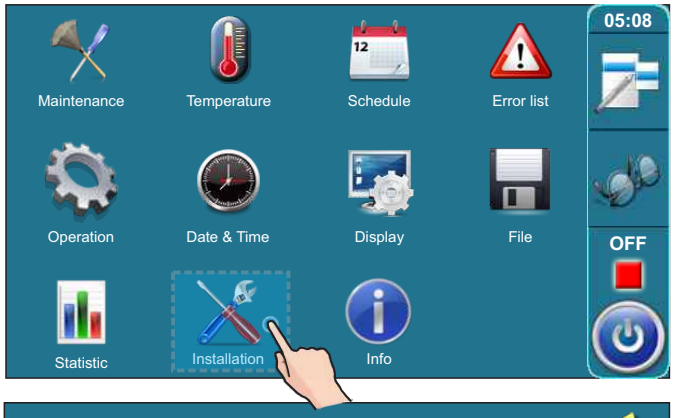


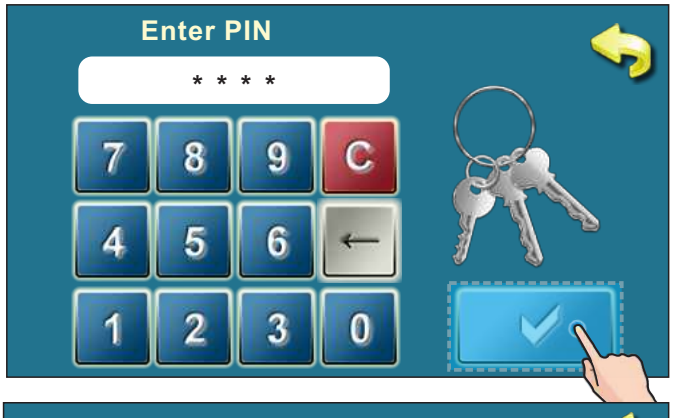


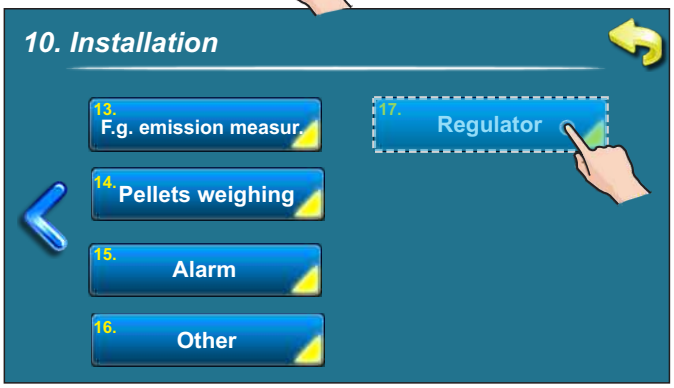


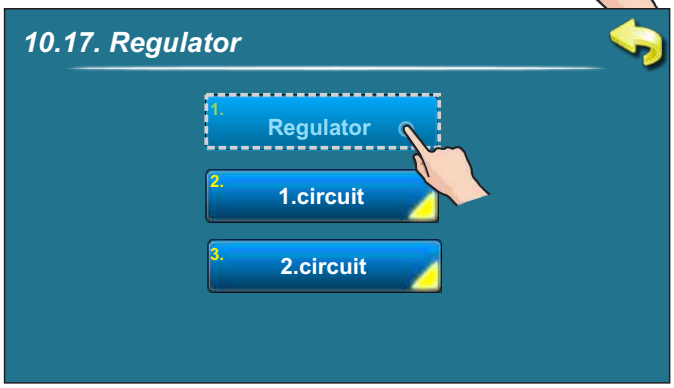
ACTIVATING THE MODULE

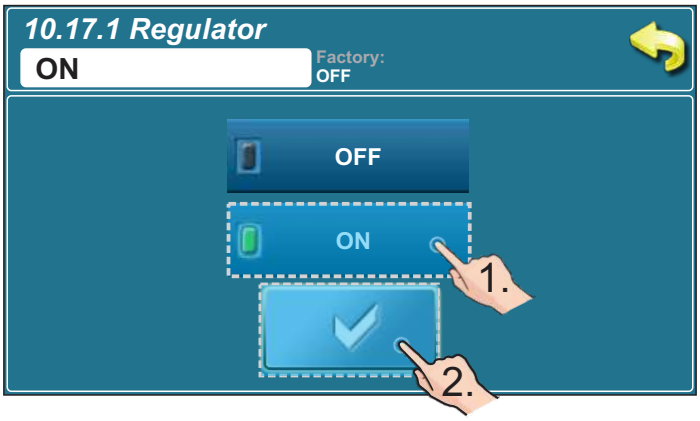
Only authorized persons can activate CM2K module over button "installation" by entering a PIN.



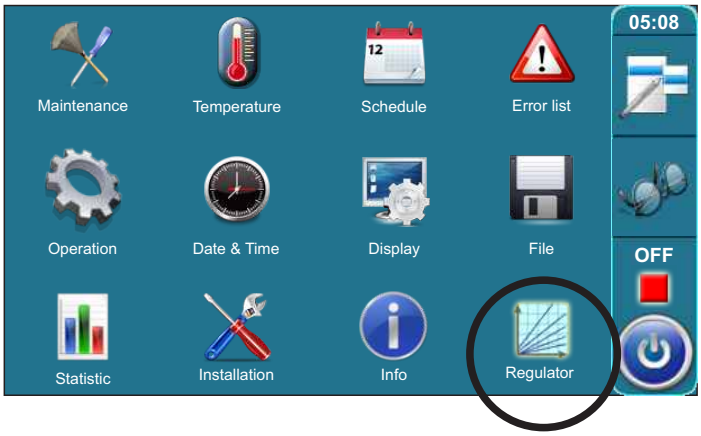




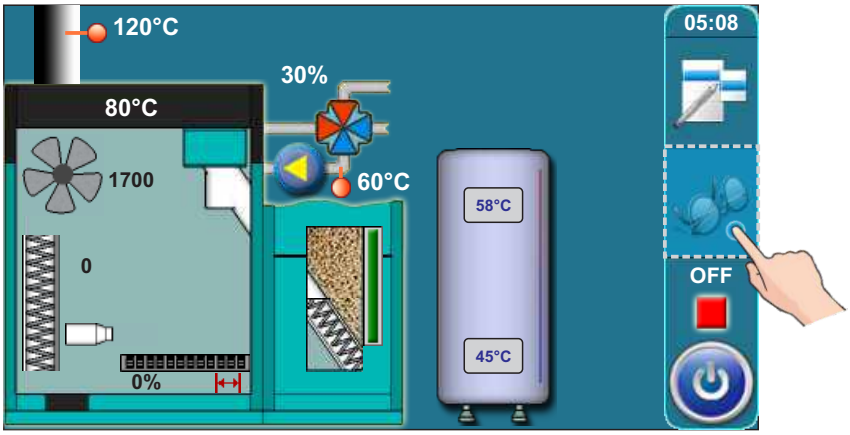


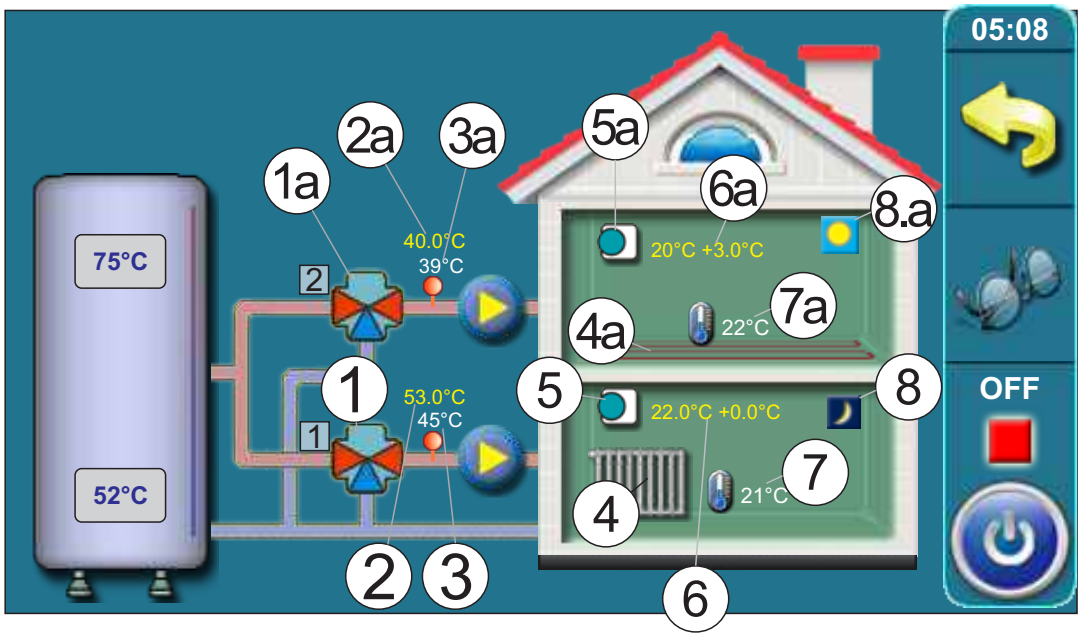


When is CM2K regulator turned ON, icon of regulator will appear on the main display. By that icon user will be able to review and change some settings.



It is possible to graphically monitor the operation of both heating circuits.
To open the graphical window of 2 heating circuits, it is necessary to press the .



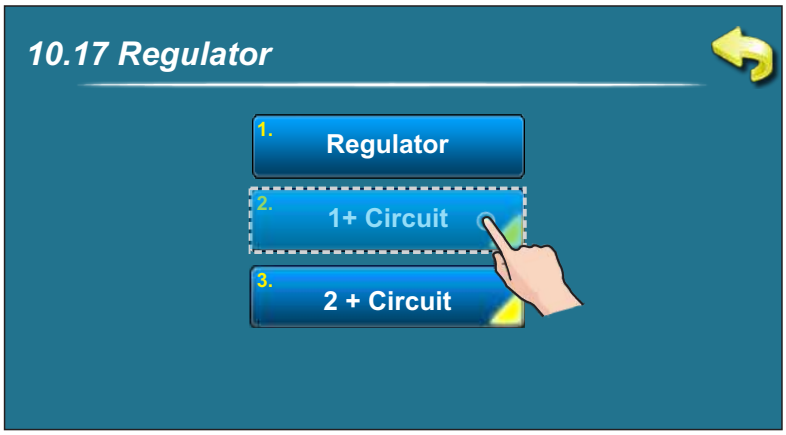


For each heating circuit can be specifically select items.
For example, you can Include / exclude heating circuits, turn on/off room corrector, choose heating type in each circuit (radiators / floor), choose the mode (day / night).

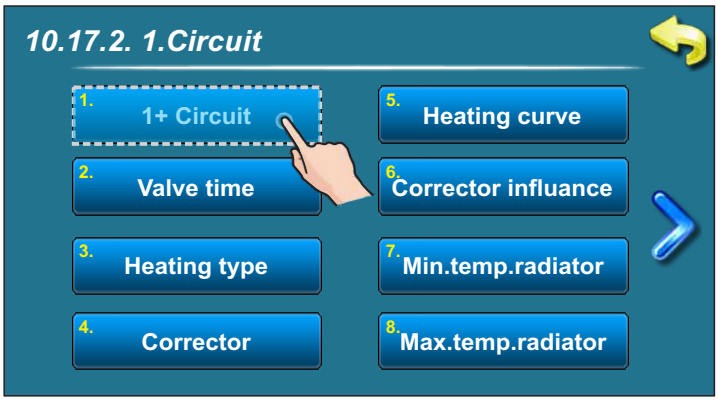
1. Mixing valve (1.circuit)
2. The calculated flow temperature to achieve the the required room temperature (1.circuit)
3. Current measured flow temperature (1.circuit)
4. Heating type on 1. circuit (radiators or floor heating)
5. Room corrector „CSK“ on 1. circuit (if turned off, icon disappears)
6. The desired temperature + deviation by room corrector (1.circuit)
7. Current measured room temperature (shown only if the room corrector is turned on) in 1.circuit
8. Mode (1.circuit) (day / night)

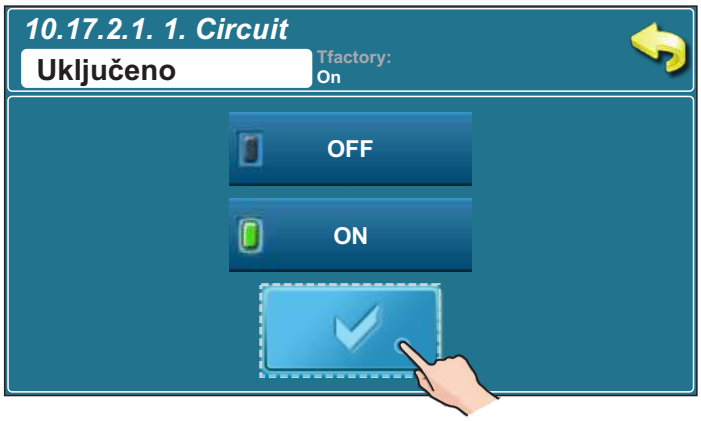
Items 1a - 8a have the same meaning as items 1-8 (described above) which only relate to 2. heating circuit.

SETTING PARAMETERS FOR EACH HEATING CIRCUIT



1. CIRCUIT

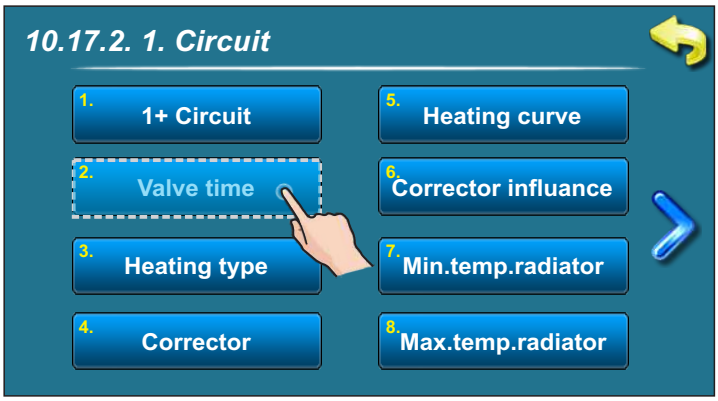




Possible selection: - factory: **ON**
-OFF, ON

By using this option 1.circuit can be turned off/on.

VALVE TIME

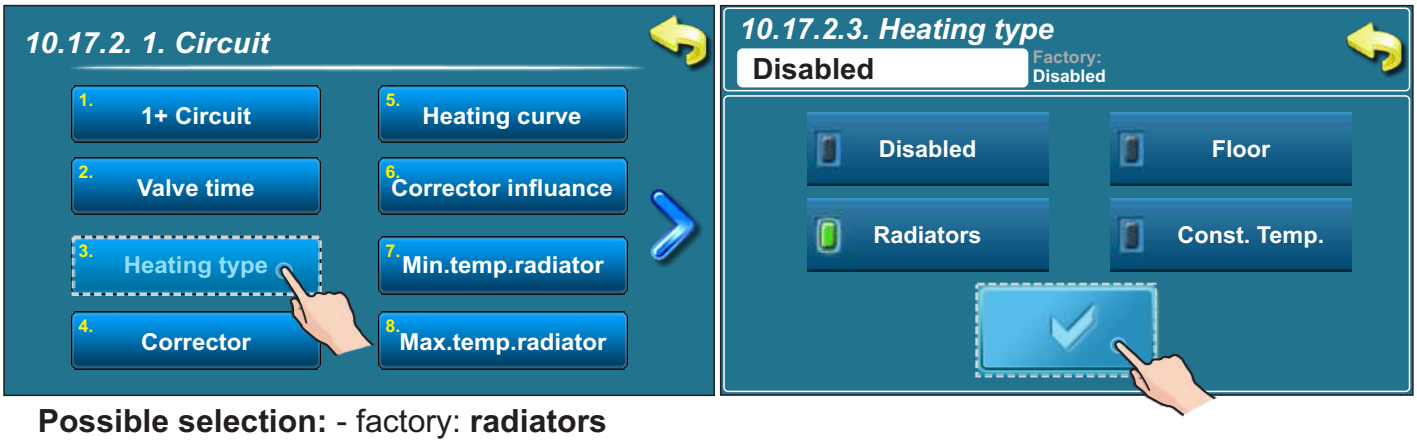


Possible selection: - factory: **120 sec**
- Minimum: 10 sec
- Maxsimum: 300 sec

This parameter defines how many seconds is required for mixing valve opening / closing.

THIS NUMBER MUST CORRESPOND EXACTLY TO THE TIME IT TAKES THE ACTUATOR TO OPEN THE VALVE (DEPENDS ON THE TYPE OF ACTUATOR)

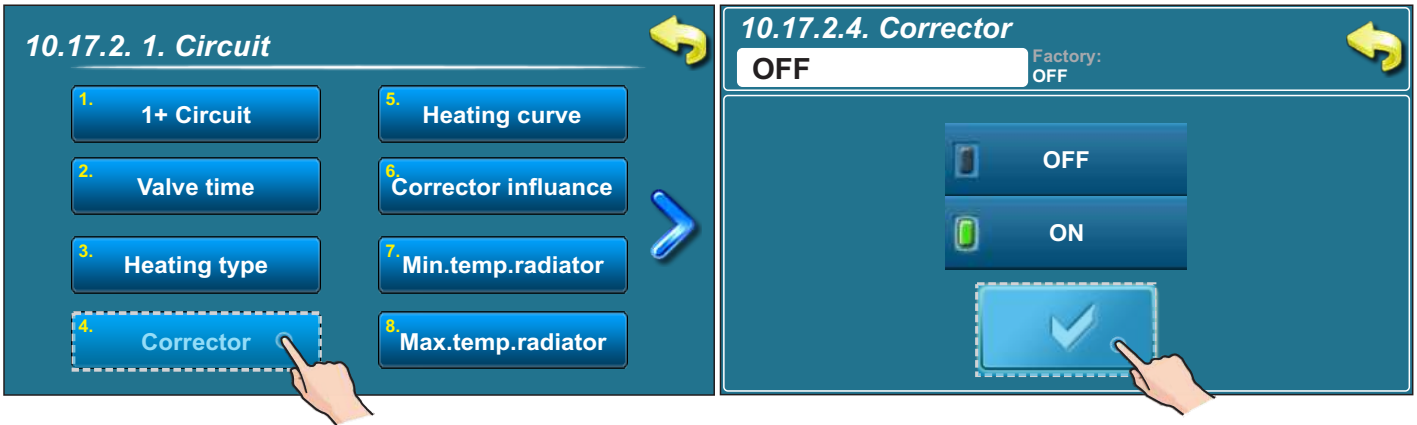
HEATING TYPE



Possible selection: - factory: **radiators**
Disabled, Radiators, Floor, Const. Temp.

This option allows setting the heating type that will be displayed on screen (1. circuit).

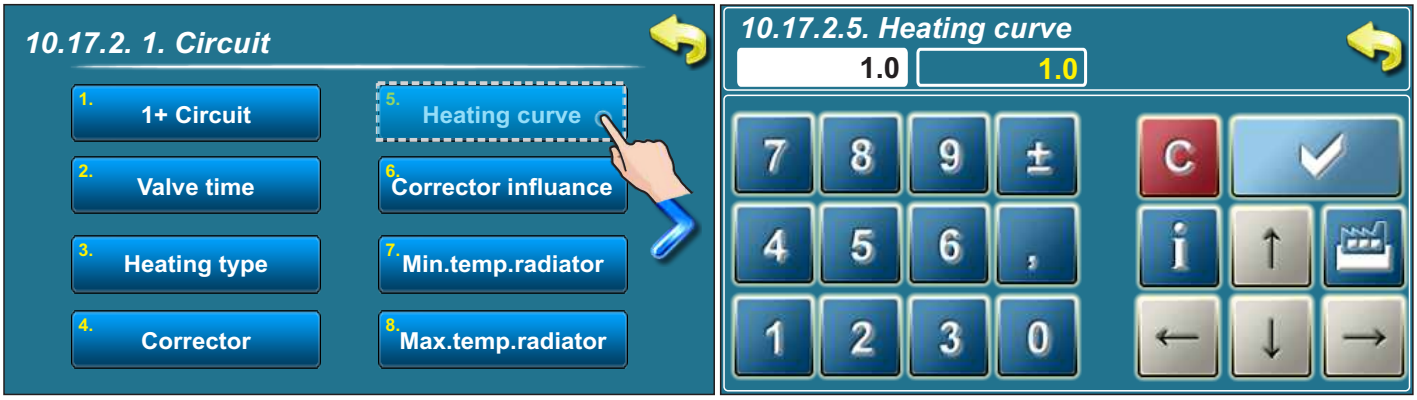
CORRECTOR



Possible selection: - factory: **Off**
OFF, ON

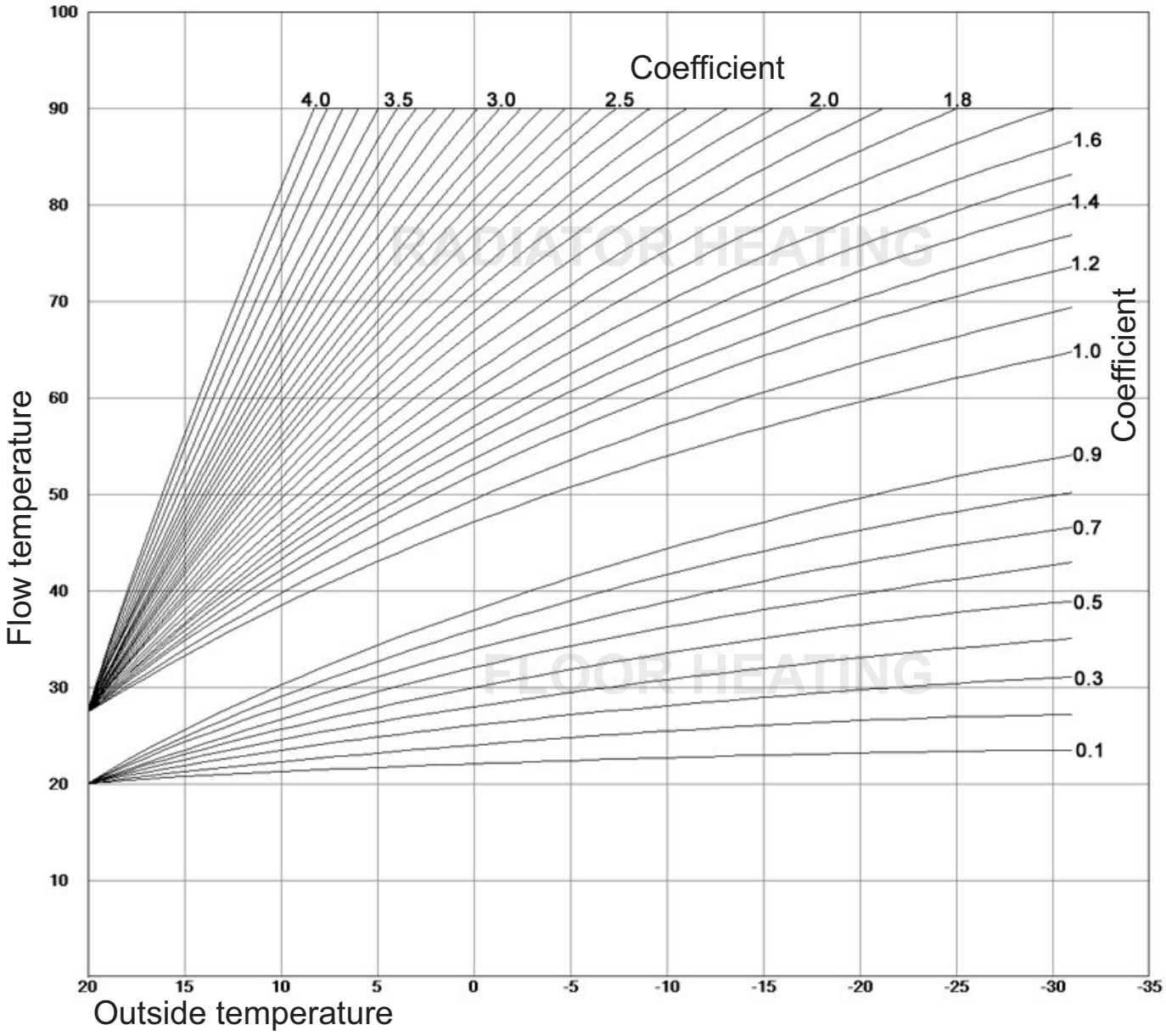
With this option room corrector can be turned on/off.

HEATING CURVE

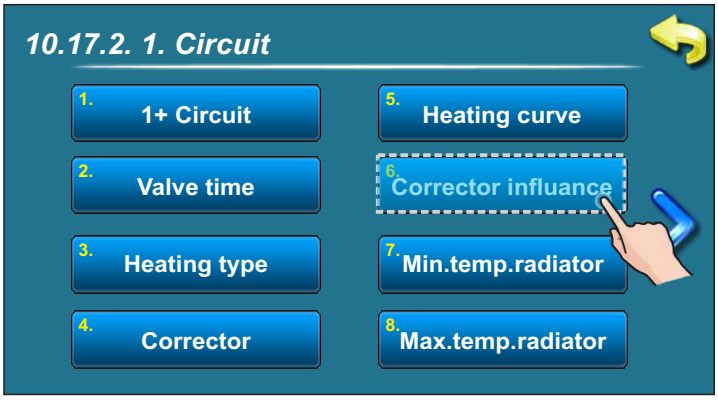


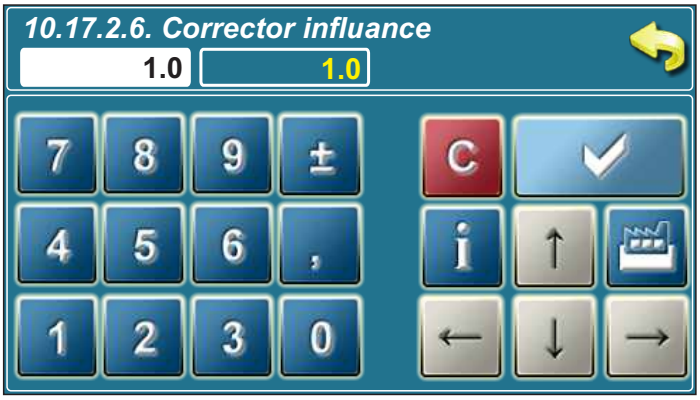
Possible selection - Factory: **1**
- Minimum: 0,1
- Maximum: 4,0

This parameter determine the coefficient of the heating curve. The regulation calculate required flow temperature according to the heating curve and outside temperature to achieve the desired rroom tempearatura



CORRECTOR INFLUANCE

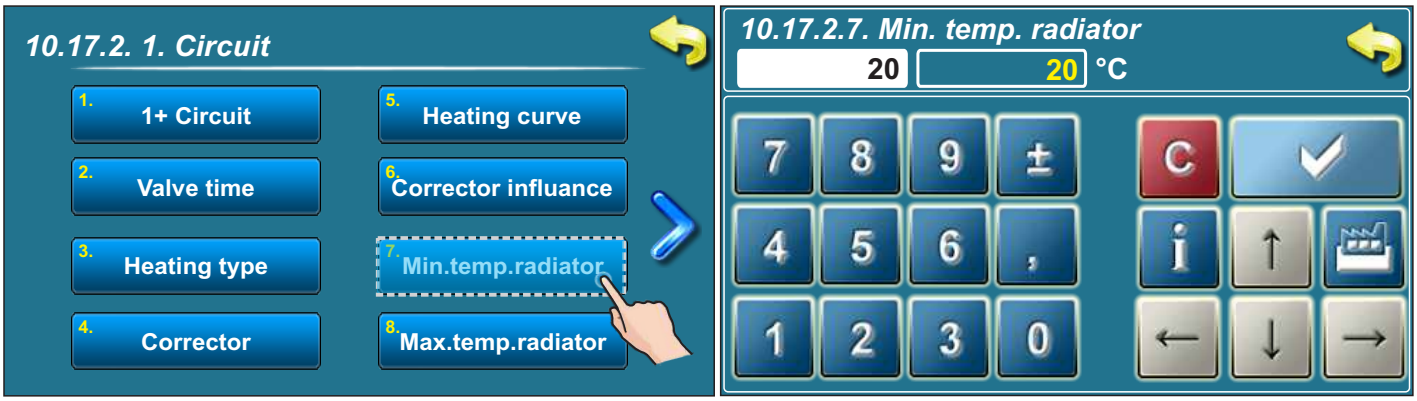




Possible selection: - Factory: **1**
- Minimum: 0,1
- Maximum: 5,0

This parameter determines coefficient of room corrector influence.

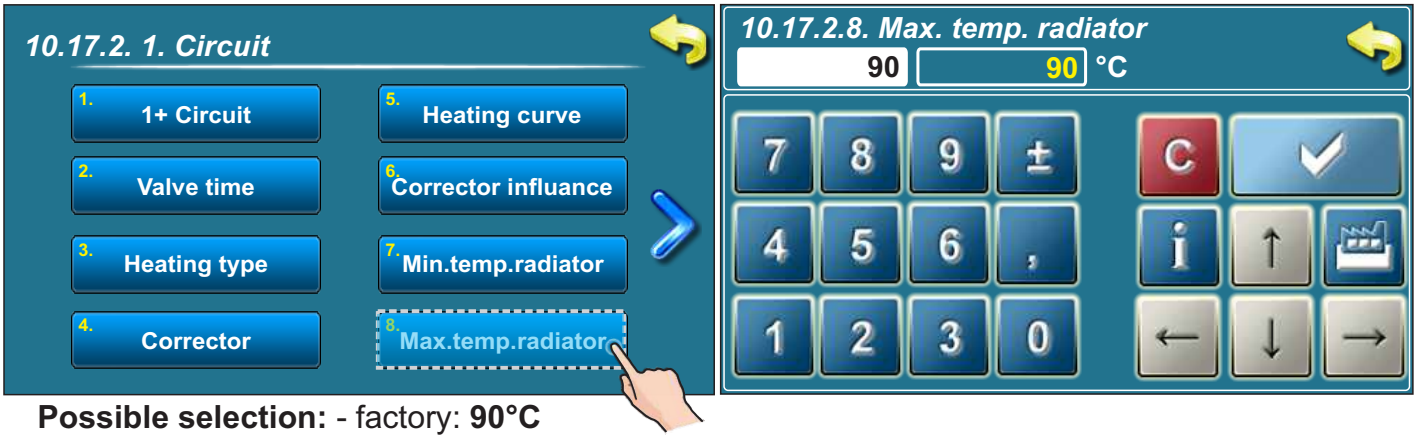
MINIMUM RADIATOR TEMPERATURE



Possible selection: - factory: **20°C**
- Minimum: 20°C
- Maksimum: 90°C

This parameter determines the minimal possible flow temperature for radiator heating.
Required flow temperature to satisfy room temperature can **not** be lower then this parameter.

MAKSIMUM RADIATOR TEMPERATURE



Possible selection: - factory: **90°C**
- Minimum: 20°C
- Maximum: 90°C

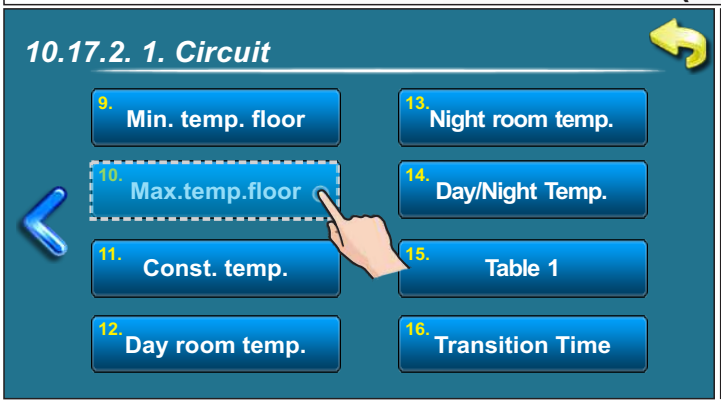
This parameter determines the maximum possible flow temperature for radiator heating.
Required flow temperature to satisfy room temperature can **not** be higher then this parameter.

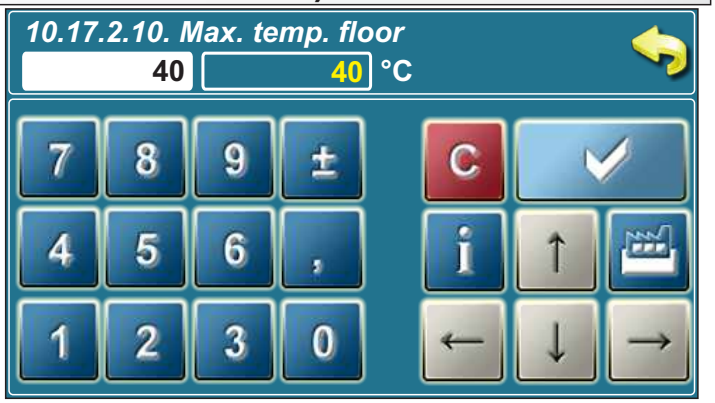
MINIMUM FLOW TEMPERATURE (FLOOR HEATING)

Possible selection: - factory: **20°C**
- Minimum: 20°C
- Maximum: 40°C

This parameter determines the minimum possible flow temperature for floor heating.
Required flow temperature to satisfy room temperature can **not** be lower then this parameter.

MAXIMUM FLOW TEMPERATURE (FLOOR HEATING)

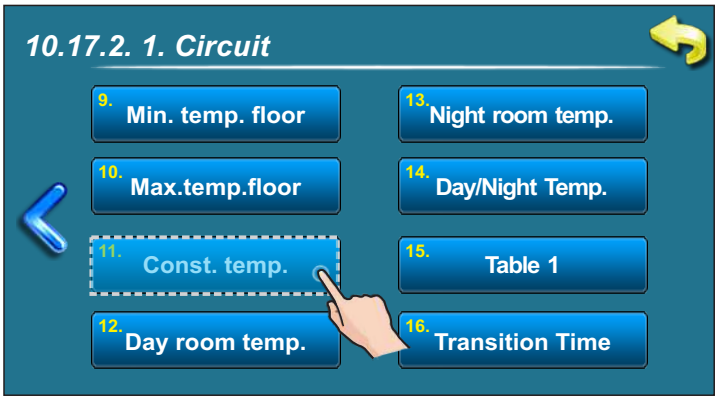


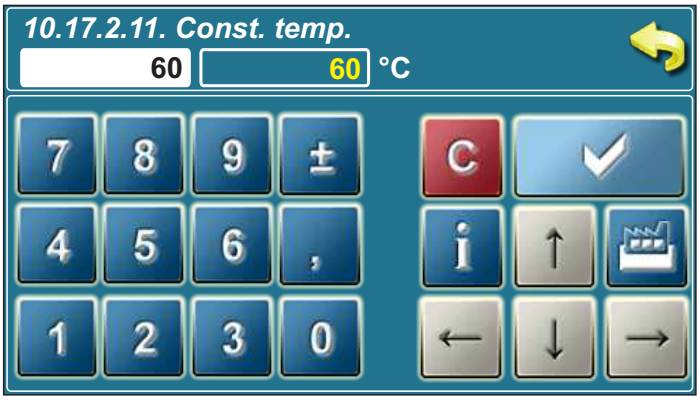


Possible selection: - factory: **40°C**
- Minimum: 20°C
- Maximum: 40°C

This parameter determines the maximum possible flow temperature for floor heating.
Required flow temperature to satisfy room temperature can **not** be higher then this parameter.

CONSTANT TEMPERATURE

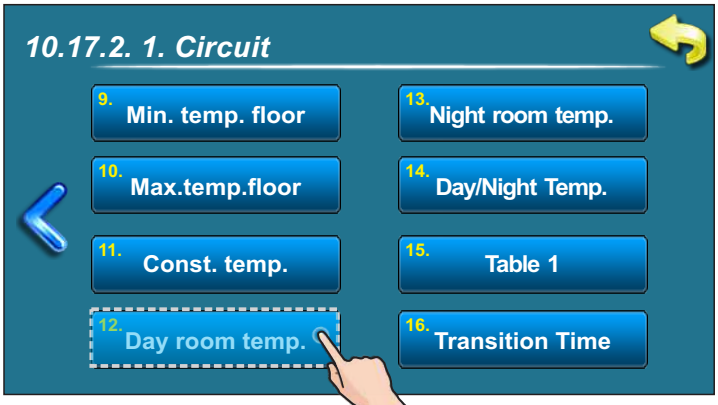


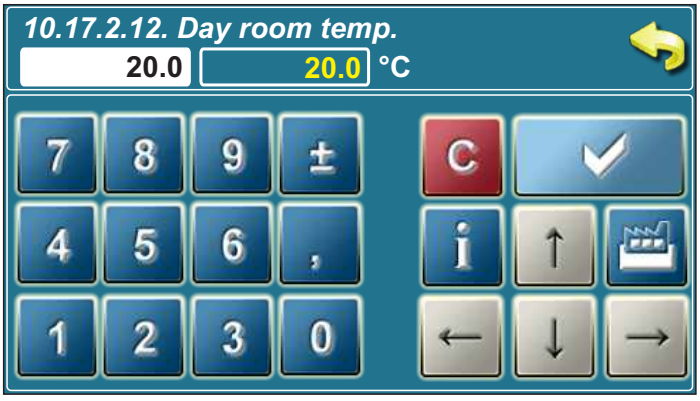


Possible selection: - factory: **60°C**
- Minimum: 20°C
- Maximum: 90°C

This parameter determines the value of the constant temperature (in constant temp. heating)

VALUE OF DAY ROOM TEMPERATURE

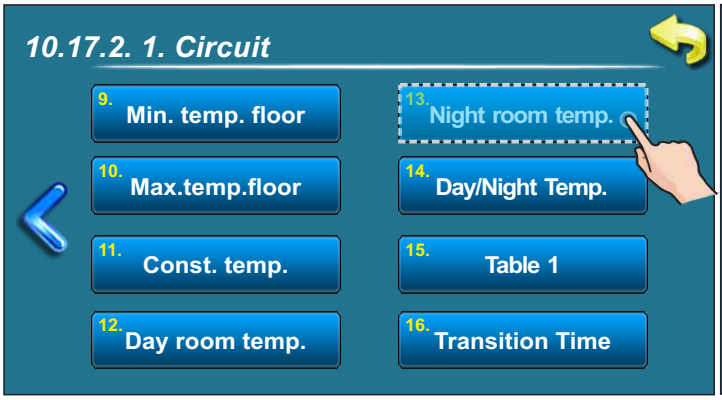


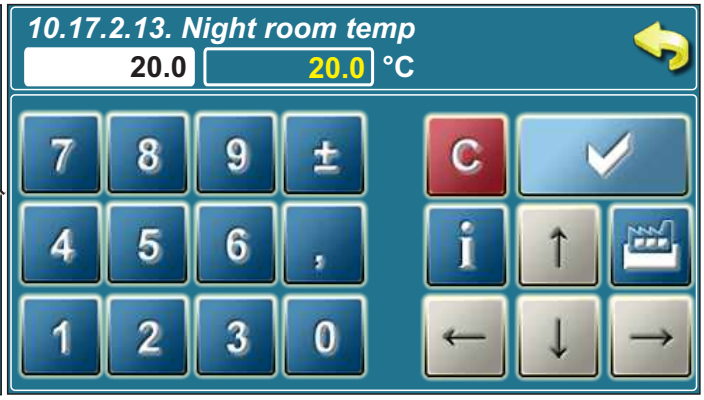


Possible selection: - factory: **20,0°C**
- Minimum: 5°C
- Maximum: 30,0°C

This parameter determines the value of day room temperature.

VALUE OF NIGHT ROOM TEMPERATURE

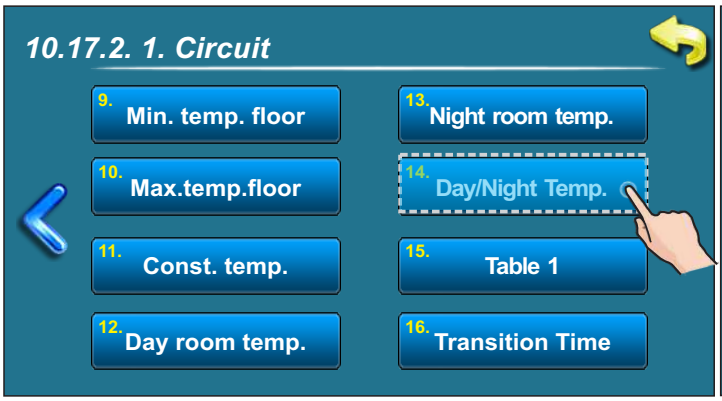




Possible selection: - factory: **20,0°C**
- Minimum: 5°C
- Maximum: 30,0°C

This parameter determines the value of night room temperature.

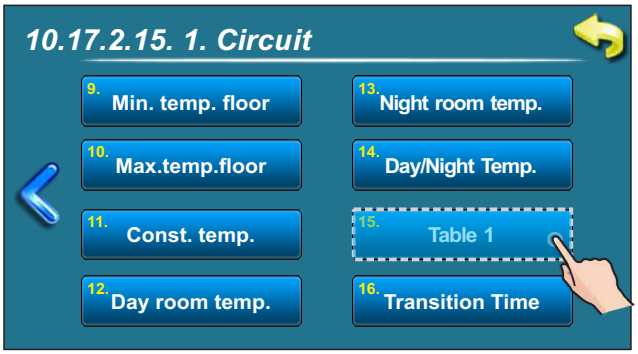
DAY/NIGHT TEMPERATURE CHOICE

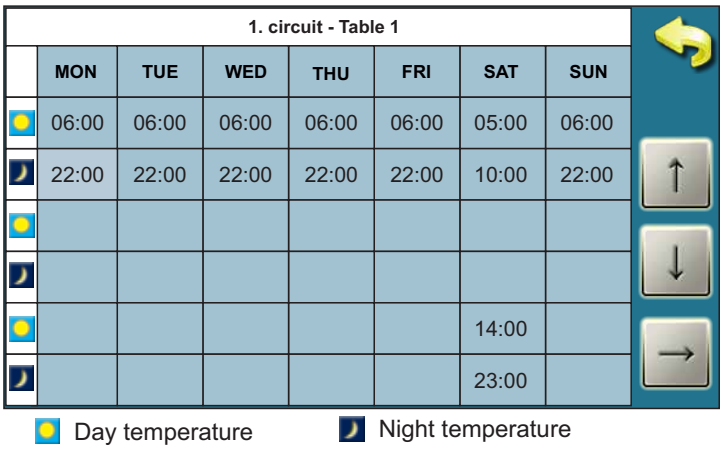


Possible selection: - factory: **Day temperature**
Day temperature, Night temperature, Table

This option enables you to choose type of desired temperature (day, night or table.) In next page you can see how to fill a table.

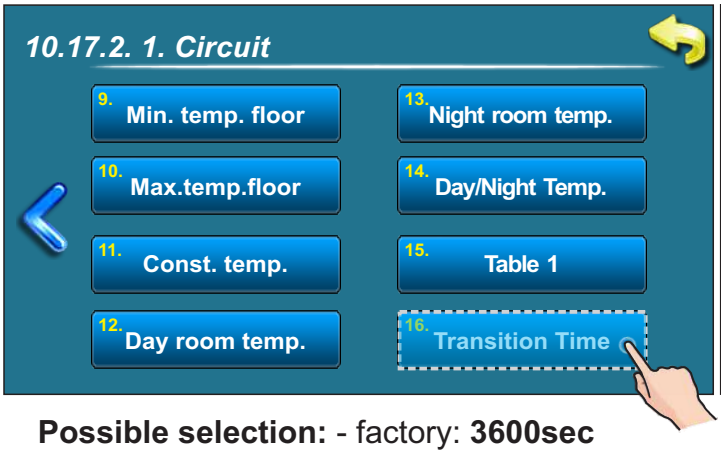
DAY/NIGHT TEMPERATURE TABLE





Each cell marks the beginning of some type (day/night) of selected room temperature.
According to this table every day from monday at 06:00 am is activated day room temperature, until 22:00 pm when is activated night room temperature until tuesday, when at 06:00 am is again activated day room temperature.
On saturday, the day temperature is activated at 05:00 am and works until 10:00 am when is switched to night temperature. At 14:00 pm is again activated day room temperature up to 23:00 pm when is again switched to night temperature.
When passed one cycle (week) circle starts again from the beginning. The values of a day/night room temperature can be selected as is described in previous pages.

TRANSITION TIME (is used only when the configuration doesn't contain room corrector)



Possible selection: - factory: **3600sec**
- Minimum: 0 sec
- Maximum: 18000 sec

This parameter is used only when configuration doesn't contain room corrector, because regulation doesn't have information of room temperature.

This parameter is time which is presumed that the system will achieve a given room temperature in a transition from day to night mode, and vice versa. So, this is time in which will "flow temperature" be optimally adjusted to achieve quick transition.

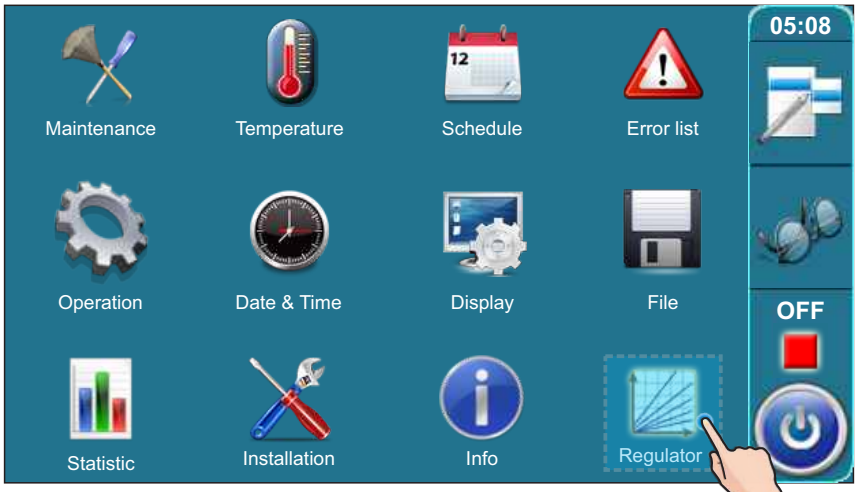
In the same way, you can set the same parameters for 2. circuit

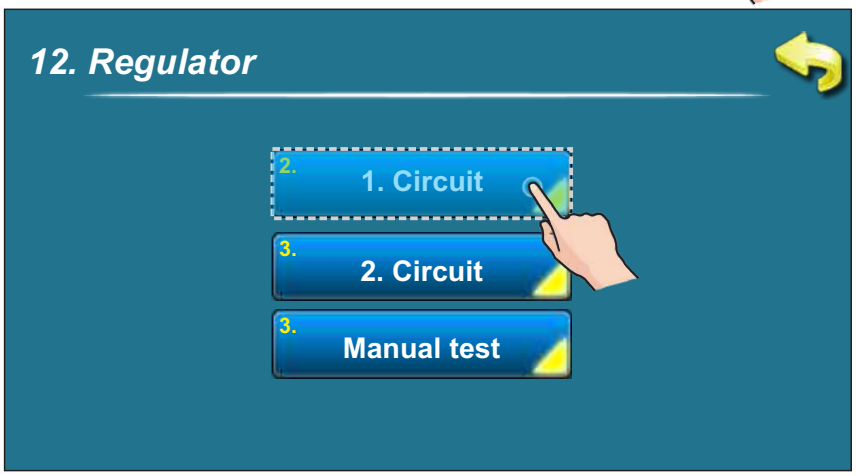
PART 2

INSTRUCTIONS FOR USER

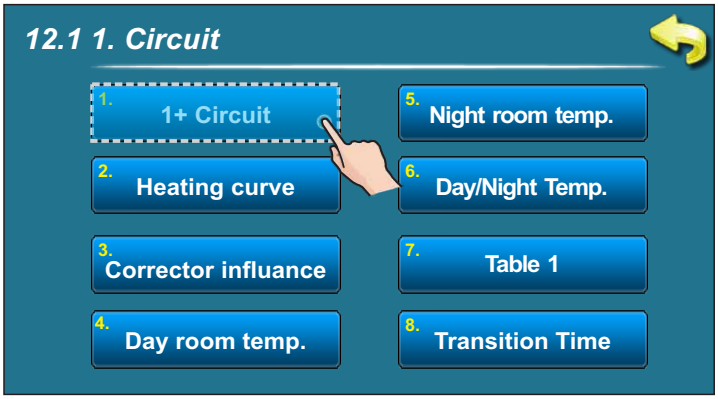
For any kind of function problems the user is obligated to contact the authorized person who made a first startup.

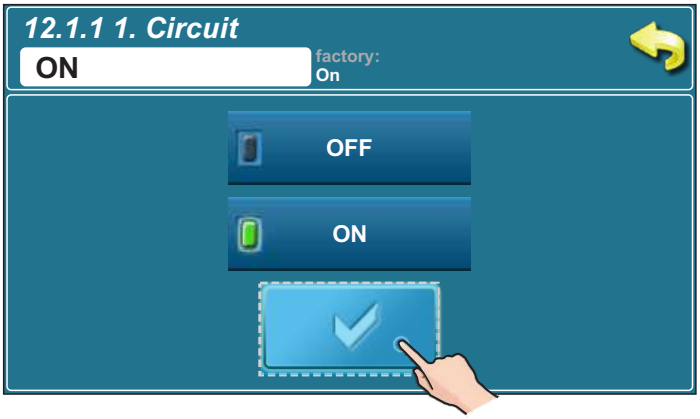
Users can change some parameters to adjust the heating system. Parameters can be changed by clicking icon ”Regulator“.





1. CIRCUIT

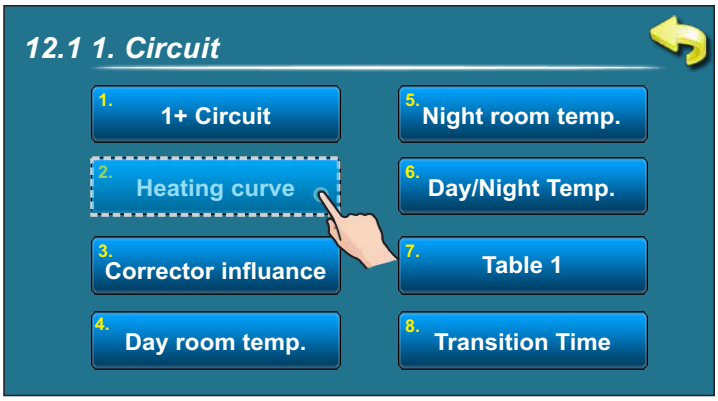


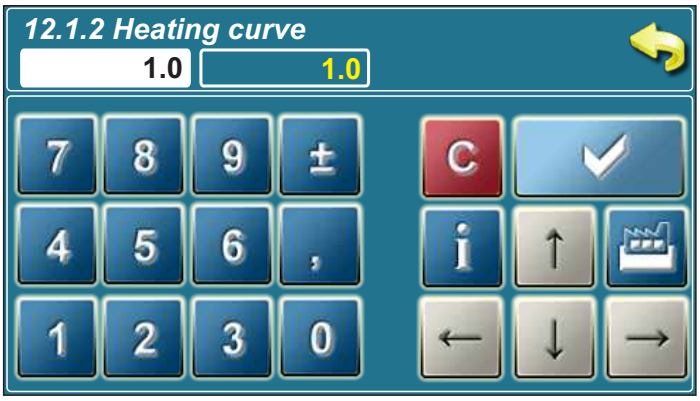


Possible selection: - factory: **ON**
-OFF, ON

By using this option 1+ circuit can be turned off/on.

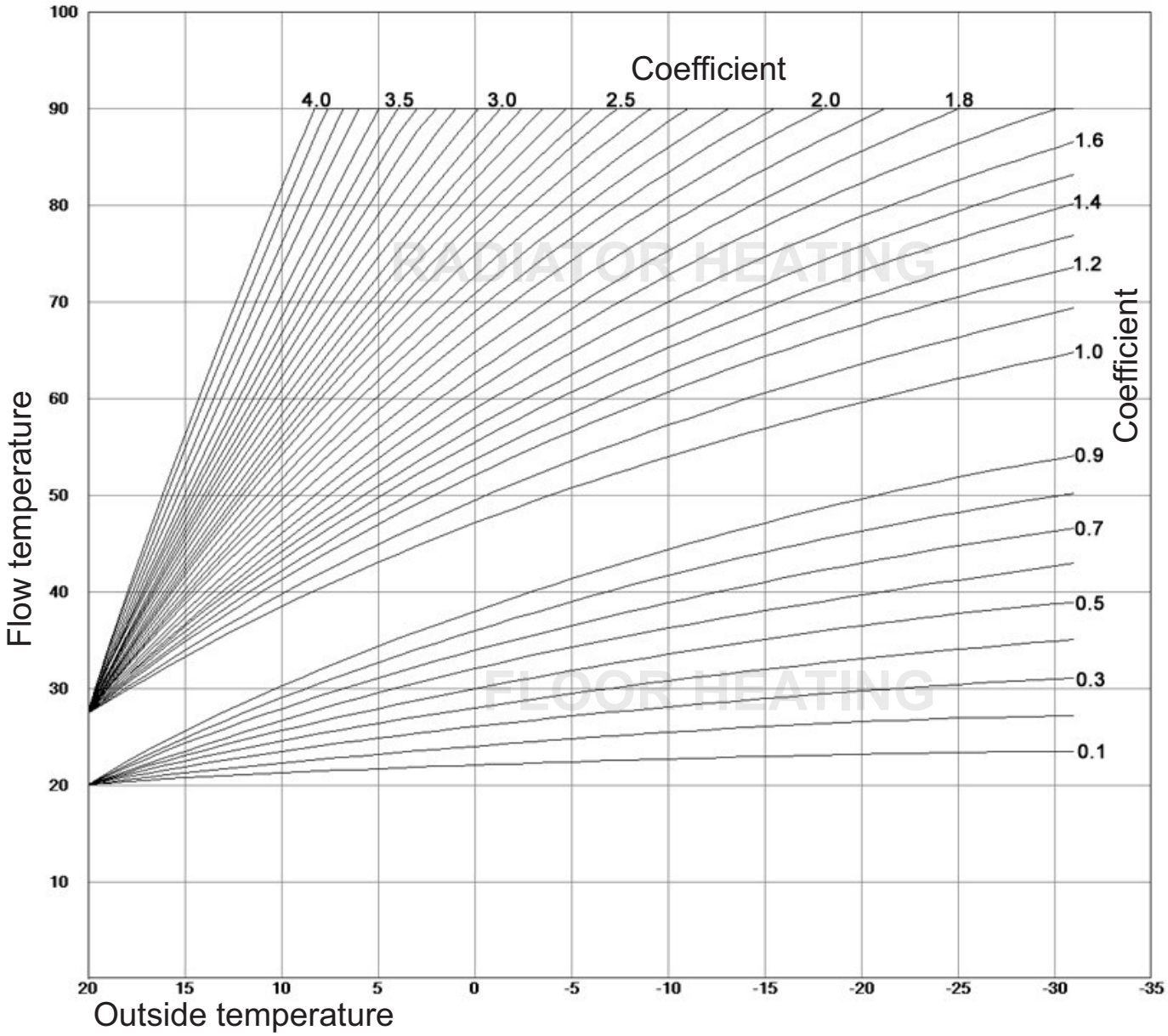
HEATING CURVE



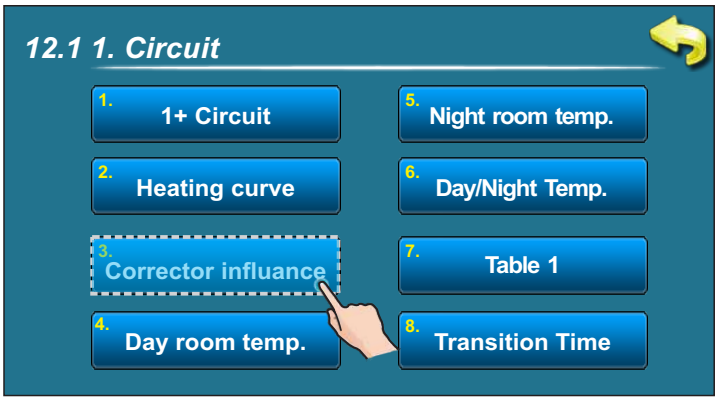


Possible selection - Factory: **1**
- Minimum: 0,1
- Maximum: 4,0

This parameter determine the coefficient of the heating curve. The regulation calculate required flow temperature according to the heating curve and outside temperature to achieve the desired rroom tempearatura

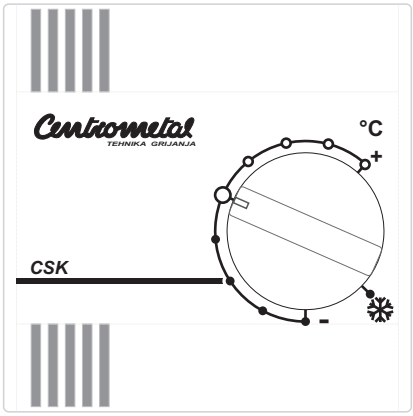


CORRECTOR INFLUANCE

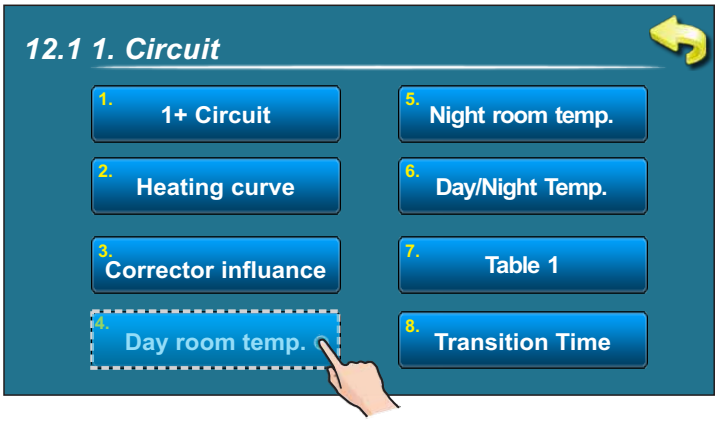


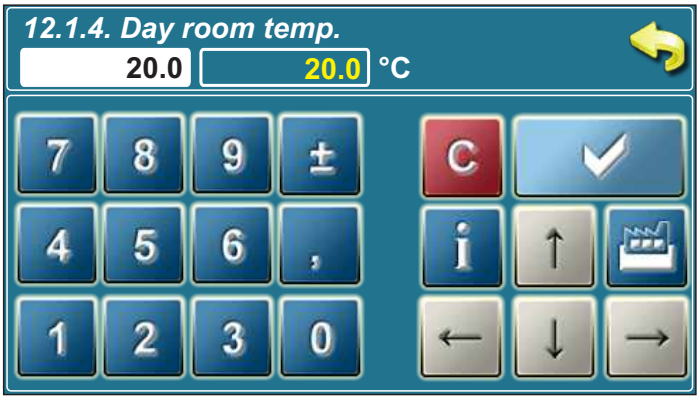
Possible selection: - Factory: **1**
- Minimum: 0,1
- Maximum: 5,0

This parameter determines coefficient of room corrector influence.



VALUE OF DAY ROOM TEMPERATURE

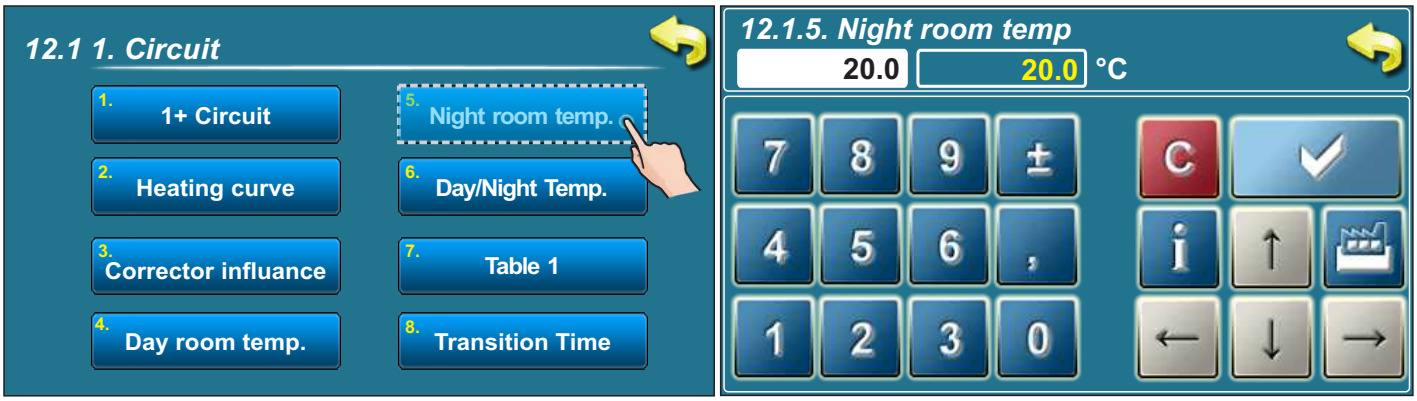




Possible selection: - factory: **20,0°C**
- Minimum: 5°C
- Maximum: 30,0°C

This parameter determines the value of day room temperature.

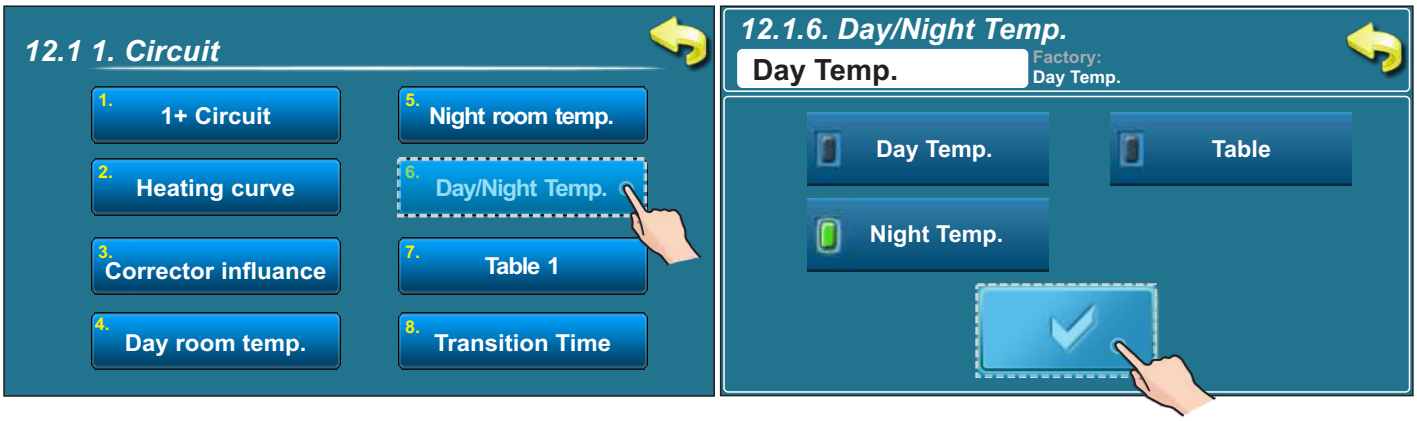
VALUE OF NIGHT ROOM TEMPERATURE



Possible selection: - factory: **20,0°C**
- Minimum: 5°C
- Maximum: 30,0°C

This parameter determines the value of night room temperature.

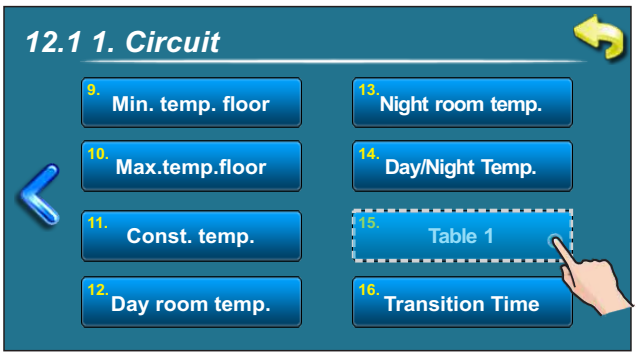
DAY/NIGHT TEMPERATURE CHOICE

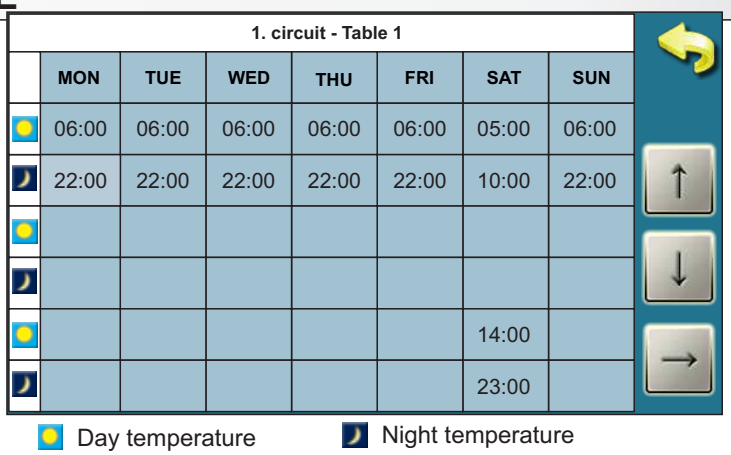


Possible selection: - factory: **Day temperature**
Day temperature, Night temperature, Table

This option enables you to choose type of desired temperature (day, night or table.) In next page you can see how to fill a table.

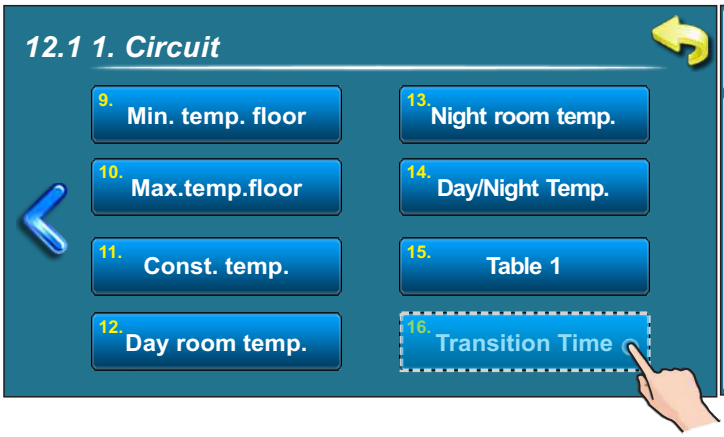
DAY/NIGHT TEMPERATURE TABLE





Each cell marks the beginning of some type (day/night) of selected room temperature.
According to this table every day from monday at 06:00 am is activated day room temperature, until 22:00 pm when is activated night room temperature until tuesday, when at 06:00 am is again activated day room temperature.
On saturday, the day temperature is activated at 05:00 am and works until 10:00 am when is switched to night temperature. At 14:00 pm is again activated day room temperature up to 23:00 pm when is again switched to night temperature.
When passed one cycle (week) circle starts again from the beginning. The values of a day/night room temperature can be selected as is described in previous pages.
The type of temperature (day/night) will not be changed in the same moment, he will be changed occur gradually by parameter "time of transition" (see below).

TRANSITION TIME (is used only when the configuration doesn't contain room corrector)

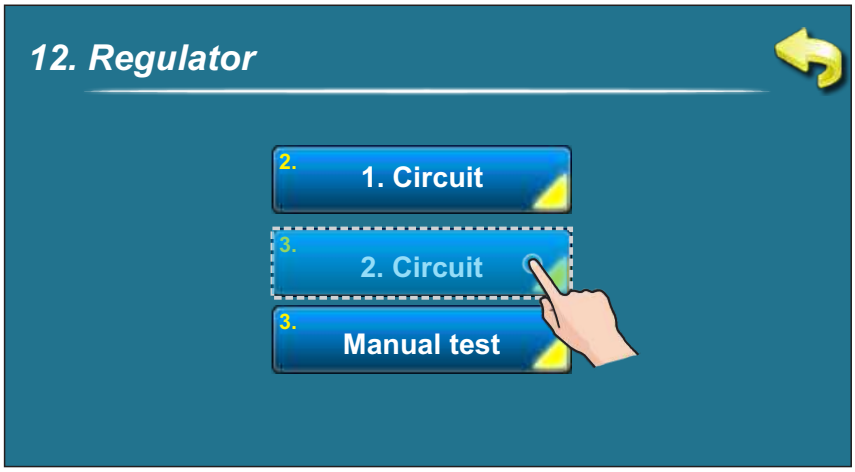


Possible selection: - factory: **3600sec**
- Minimum: 0 sec
- Maximum: 18000 sec

This parameter is used only when configuration doesn't contain room corrector, because regulation doesn't have information of room temperature.

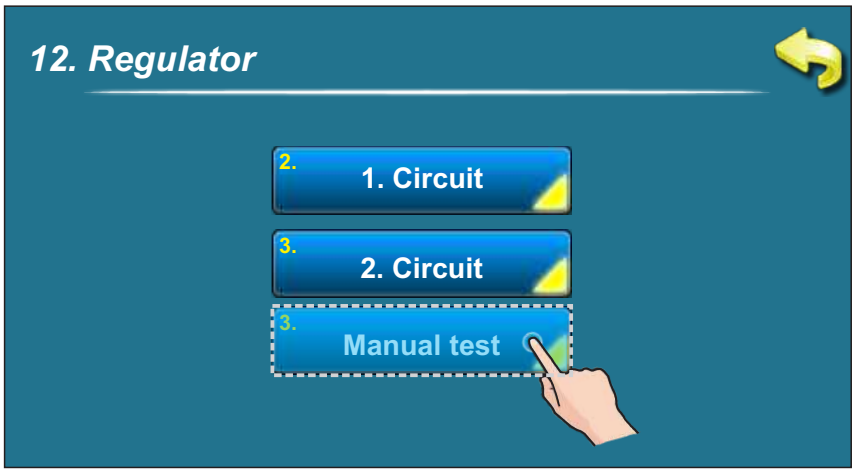
This parameter is time which is presumed that the system will achieve a given room temperature in a transition from day to night mode, and vice versa. So, this is time in which will "flow temperature" be optimally adjusted to achieve quick transition.

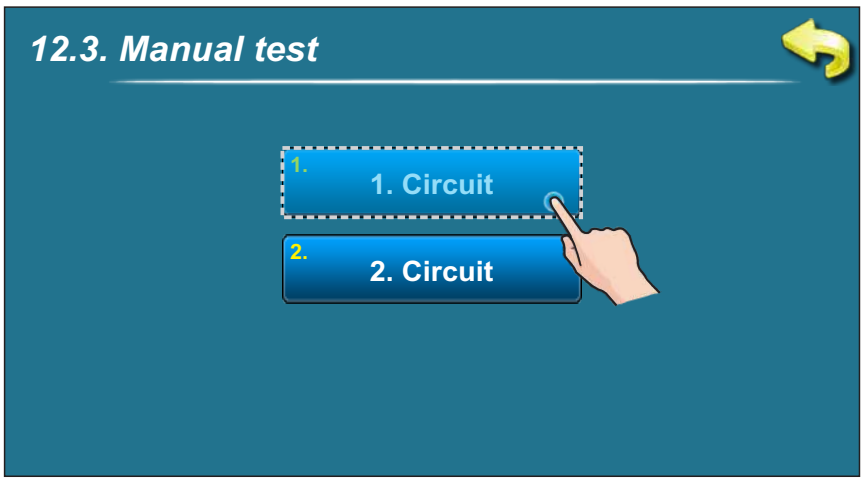
2. CIRCUIT



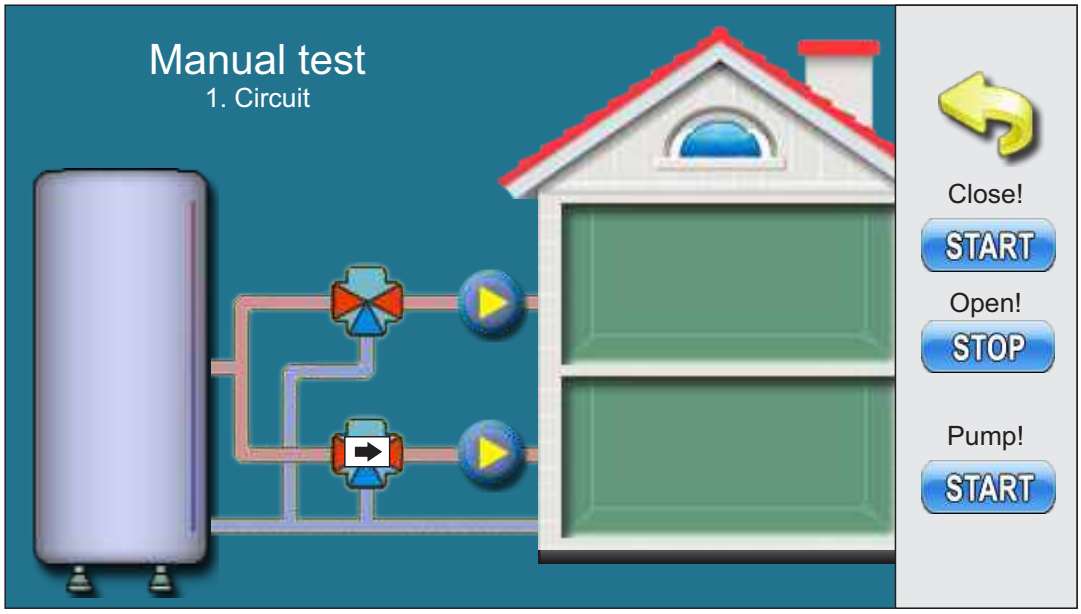
Setting parameters for 2+ circuit is done in same way like in 1+ circuit.

MANUAL TEST





User can check the operation of all components of each heating circuit.



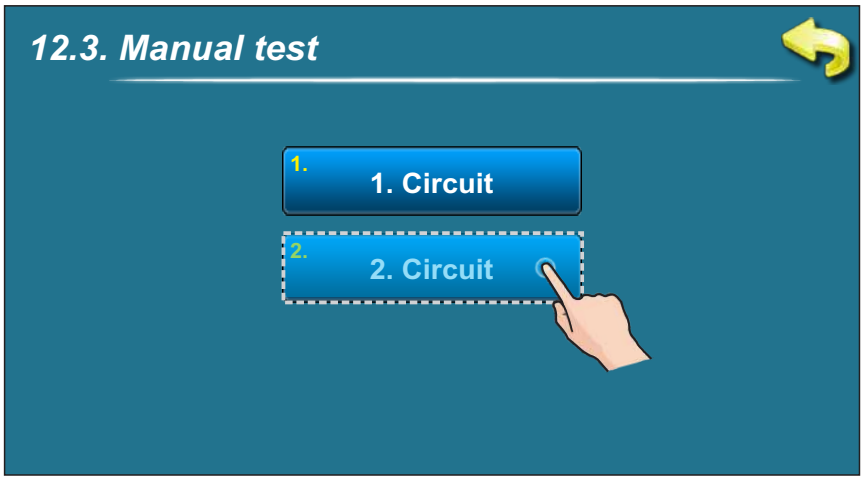
When clicked button START below text "Close" mixing valve should begin closing mixing valve and symbol ⬅ appear on the screen which means that mixing valve closes. When is ”start“ pressed and mixing valve closes, then button START becomes STOP . If you want to cancel the test you must press the button STOP.

When clicked button START below text "Open" mixing valve should begin opening mixing valve and symbol ➡ appear on the screen which means that mixing valve opens. When is ”start“ pressed and mixing valve opens, then button START becomes STOP . If you want to cancel the test you must press the button STOP.

When clicked the button for START manual test pump, pump symbol starts to rotate and pump works. Tipka START postaje STOP .

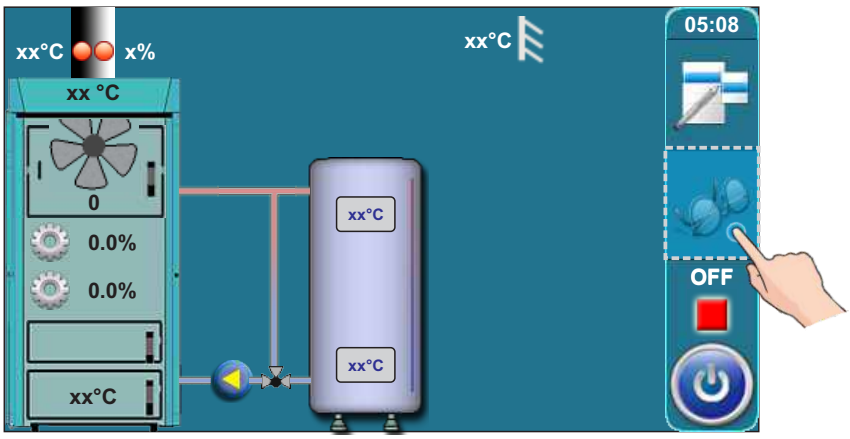
To exit from the manual test has to press the button .

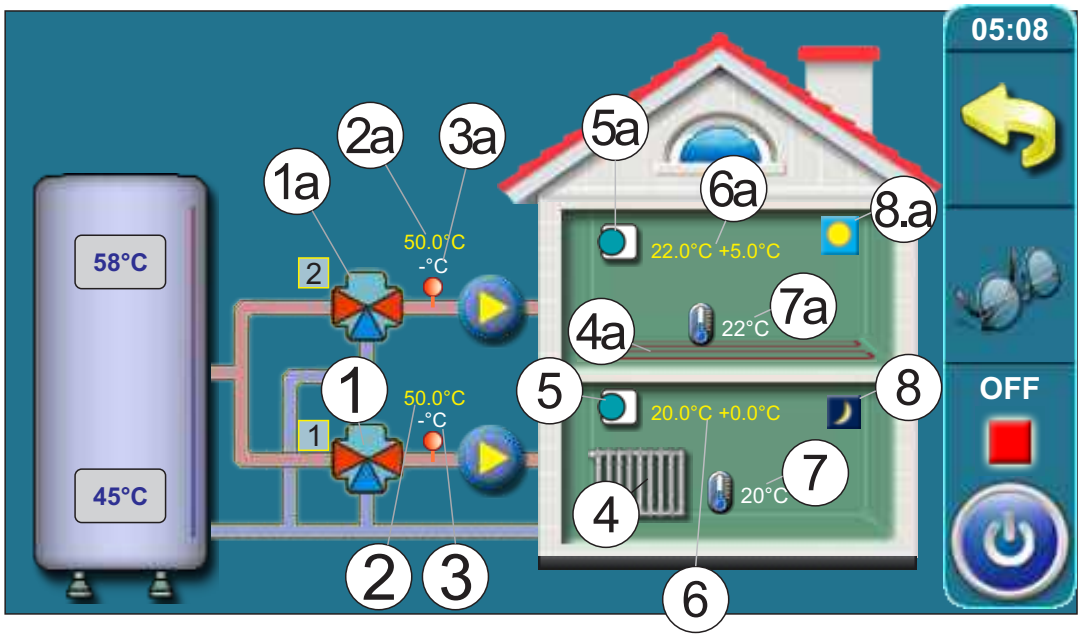
In the same way you can do manual test for 2+ circuit.



ON THE SCREEN

It is possible to graphically monitor the operation of both heating circuits.
To open the graphical window of 2 heating circuits, it is necessary to press the .





For each heating circuit can be specifically select items.
For example, you can Include / exclude heating circuits, turn on/off room corrector, choose heating type in each circuit (radiators / floor), choose the mode (day / night).

1. Mixing valve (1.circuit)
2. The calculated flow temperature to achieve the the required room temperature (1.circuit)
3. Current measured flow temperature (1.circuit)
4. Heating type on 1. circuit (radiators or floor heating)
5. Room corrector „CSK“ on 1. circuit (if turned off, icon disappears)
6. The desired temperature + deviation by room corrector (1.circuit)
7. Current measured room temperature (shown only if the room corrector is turned on) in 1.circuit
8. Mode (1.circuit) (day / night)

Items 1a - 8a have the same meaning as items 1-8 (described above) which only relate to 2. heating circuit.

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HEATING TECHNIQUE