Operating instructions for RAMSES 813 top2 HF and RAMSES 833 top2 HF

Dear client,
if you have the newer device, please use page 1 to 38

theben

RAMSES

RAMSES 813 top2 HF
8139500

RAMSES 833 top2 HF
8339500

Montage- und Bedienungsanleitung
Raumthermostat

D GB F
E I NL

309373 05

D

RAMSES 833 top2 HF

and if you have the older one, please use page 39 to 75 of this pdf.

theben

RAMSES

RAMSES 813 top2 HF
813 9 500

RAMSES 833 top2 HF
833 9 500

Montage- und Bedienungsanleitung
Raumthermostat

D GB F
E I NL

309373 04

D

RAMSES 833 top2 HF

theben

RAMSES

RAMSES 813 top2 HF
8139500

RAMSES 833 top2 HF
8339500

Installation and operating instructions
Room thermostat

D GB F
E I NL

RAMSES 833 top2 HF

Contents

GB

Basic safety instructions

⚠ WARNING

Danger of death through electric shock or fire!

➢ Installation should only be carried out by a qualified electrician!

- The devices are designed for different types of installation as described below

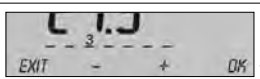
Designated use

- The room thermostat regulates the room temperature in houses, offices etc. via radio control
- It is used in dry rooms with normal levels of domestic cleanliness

Disposal

Dispose of devices and batteries in an environmentally sound manner

Screen and keys



➢ ***EXIT***
– Leave menu

➢ –/+
Scroll through menu or change values

➢ ***OK***
– Store selection
– Confirm selection

Operating instructions

GB

1. Read text line
Flashing text/symbol represents query

2. Make a decision

YES
Confirmation
Press ***OK***

NO
Amend/ change
◄ ► press

Connection/installation

⚠ WARNING

Warning, danger of death through electric shock!

- Must be installed by qualified electrician!
- Disconnect power source.
- Cover or shield any adjacent live components.
- Ensure device cannot be switched on!
- Check power supply is disconnected.
- Earth and bypass.

Wall installation

- Attach device to wall using the optionally available back wall set (907 0 605). This enables the use of the external input with the RAMSES 833 top 2 sets (see pages 33 ff.).
- Ensure installation height of approx. 1.5 m and check reception quality.

Free-standing installation

- The device can be used in free-standing position with the enclosed base.
- Avoid locations such as window sills, televisions, PCs or devices emitting heat/cold.

Dismantling

- Insert screwdriver from below, push detent hooks up and open device.

Insert batteries

- Only be carried out by a qualified electrician.
- Only use alkaline 1.5 V AA batteries.
- Ensure correct polarity when fitting batteries.
- Dispose of batteries in an environmentally sound manner.

Reset

- Press a pointed object into the opening on the left hand side of the device.

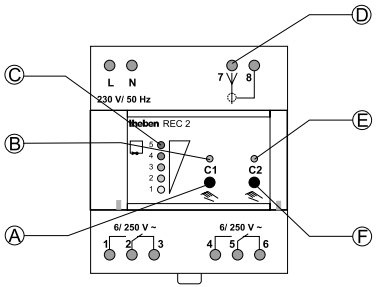
Replace batteries

1. Battery symbol flashes on display, controller remains active. The batteries should be replaced.
2. The display flashes, the controller cannot be used; the relay remains switched on. The batteries must be removed quickly and replaced within 10 minutes to ensure that the current settings are not lost.

REC 1/REC 2/REC 11/REC 21 receivers

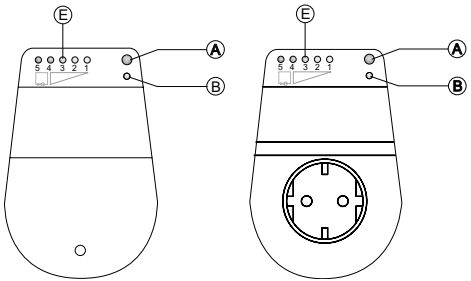
GB

REC 1/REC 2 for wall installation



A Switching pre-selection channel 1
B Switching status display channel 1
C Level display for reception strength
D Antenna connection
E Switching status display channel 2
F Switching pre-selection channel 2

REC 11/REC 21 for mains operation

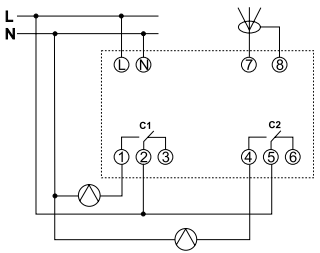


E Signal strength display

Range approx. 20–30 m

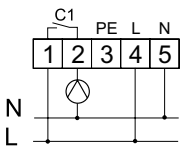
Installation and connection of receivers

- **REC 1 (1 channel)**
  Connect device to terminals 1, 2, 3.
- **REC 2 (2 channels)**
  Connection 1:
  Connect device to terminals 1, 2, 3.
  Connection 2:
  Connect device to terminals 4, 5, 6.



- **REC 11**
  Connect device to terminals.

- **REC 21**
  Plug device into socket.
  Connect device to REC 21 using plug.



REC 1/REC 2/REC 11/REC 21 receivers

Align antenna

- Connect REC 1/REC 2 to operating voltage.
- Align antenna vertically. In the event of errors (several LEDs light up), align antenna so that as few LEDs as possible light up.
- Do not place antenna next to water pipes or electricity cables.

Optimise reception quality

- The channels on the receiver must be off, i.e. the relevant display status (LED) must be off.

At least one green LED must light up for optimum reception.

Switching pre-selection of REC 1/REC 2/ REC 11/REC 21

Switch channel C1 on/off

- Briefly press key C1. The channel is on (C1/C2 LED lights up). The channel is off (C1/C2 LED goes off).

Switch channel C2 on/off (REC 2 only)

- Briefly press key C2.

Coding

Transmitters and receivers are pre-configured with each other ex works.
Delete old coding before entering new one.
Test of channel 1/channel 2 (e.g. room 1/2)

- Select CODING on the thermostat and press **OK** to confirm (the LED from channel 1/2 and the level display light up briefly).

Coding channel C1 (e. g. room 1)

- Press key C1 on REC 1/REC 2 (REC 11/ REC 21) for approx. 5 seconds.
  The LED on C1 flashes for approx. 10 seconds. The coding on the thermostat must be completed in this time period. The level display on the receiver lights up briefly.

Coding channel C2 (e. g. room 2)

- Press key C2 on REC 2 (e.g. room 2) for approx. 5 seconds.
  The LED on C2 flashes for approx. 10 seconds. The coding on the thermostat must be completed in this time period.

Delete coding

- Press key C1 on REC 1/REC 2 (REC 11/ REC 21) for approx. 10 seconds.
  The LEDs on C1 light up and go off after 3 seconds.
- Repeat process for C2.

General information on radio transmission

Since radio signals are electromagnetic waves, the signal from the sender to the receiver is dampened (referred to as transmission range limitation). There are also further interference factors such as metal parts in walls, metal foils used in insulation etc. These create what is known as radio shadow (see table).

Other sources of interference

Devices that also operate using high-frequency signals, e.g. computers, electric transformers etc., are considered further sources of interference.

The minimum clearance from these devices should be 0.5 m.

Transmission

Please note: Moisture in the material hinders transmission!

Dry material	Material strength	Transmission
Wood, plaster, gypsum plaster board	< 30 cm	90–100 %
Brick, compressed particle board	< 30 cm	65–95 %
Reinforced concrete	< 30 cm	10–70 %
Metal, metal grating, aluminium	< 1 mm	0–10 %
Metal, laminated aluminium	< 1 mm	0 %

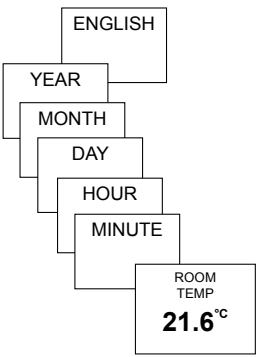
Initial start-up

➢ After inserting batteries, press the right key for more than 3 seconds and follow on-screen display (see fig.).

Date, time and summer/winter rule can be set via **MENU** menu under **TIME/DATE**.

Date and time have to be set on the RAMSES 813 top2 HF; they are preset with the RAMSES 833 top2 HF.

The RAMSES 813 top2 HF devices are basic devices and the RAMSES 833 top2 HF devices are comfort devices.



User information

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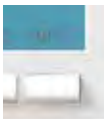
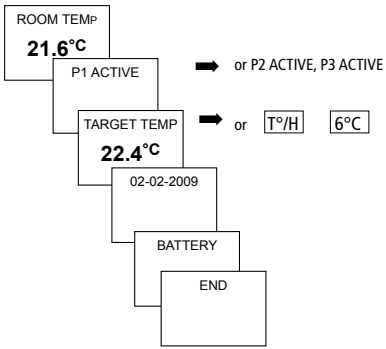
Note:
The whole screen, except for temperature and time, is faded out after 5 seconds. Press the INFO key to restore screen.
This setting can be changed under **USER SETTINGS/DISPLAY**.

INFO key – View settings

The **INFO** key allows you to access current room temperature, temperature program, target temperature, date/time or battery status.

➢ Press **INFO** key repeatedly.





T°/H key – Setting the timer function

- Press T°/H key. **REQUIRED TEMPERATURE** (6 °C–30 °C) appears.
- Use the + or – keys on the rotary control to set the value.
- Confirm with **OK**. **DURATION** appears.
- Use the + or – buttons on the rotary control to set duration (from 0:30 – 24:00).
- Confirm with **OK**. **COUNTDOWN** appears.

Provided the whole screen is shown, the T°/H button flashes to display the set countdown. The set temperature is maintained for the selected period.

Delete T°/H function

- Press **EXIT** key.
  RETURN TO PROGRAM appears.

6°C key – Set fixed temperature

- Press 6°C key. **REQUIRED TEMPERATURE** (6 °C–30 °C) appears.
- Use the + or – buttons on the rotary control to set the value.
- Confirm with **OK**. **QUIT PROGRAM** appears.

Provided the whole screen is shown, the 6°C button flashes to display the current function. The set temperature is maintained until the function is switched off manually

- Press **EXIT** key. **RETURN TO PROGRAM** appears.

Change target temperature

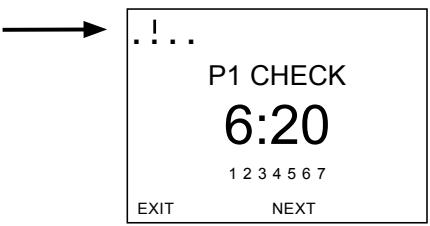
Use rotary control to make changes

In standard operation mode, you can temporarily change current target temperature via the rotary control. It is not stored in the program and is replaced by the set value at the next programmed switching time.

➢ Turn rotary control up or down to change temperature setting (in 0.2 °C increments).

The following applies to all programs:

The broken bar in the top left of the display shows the number of menu points in the relevant menu. The flashing cursor indicates the point in the menu that you are currently in.



Temperature programs

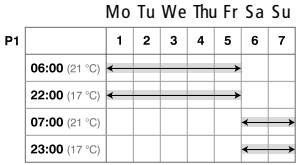
RAMSES top2 devices have several preset programs.

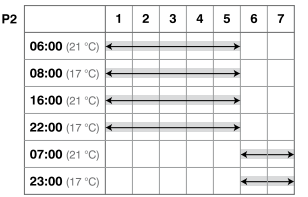
– P1
– P2
– P3

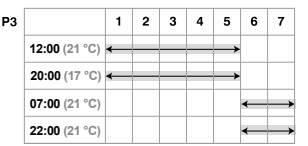
Use the **MENU/PROGRAMMING** key to access selection of active temperature program.

Change temperature programs (P1, P2, P3)

The programs are adjusted using the **MENU**, key in the **PROGRAMMING** menu (see page 20ff.)







MENU – Overview

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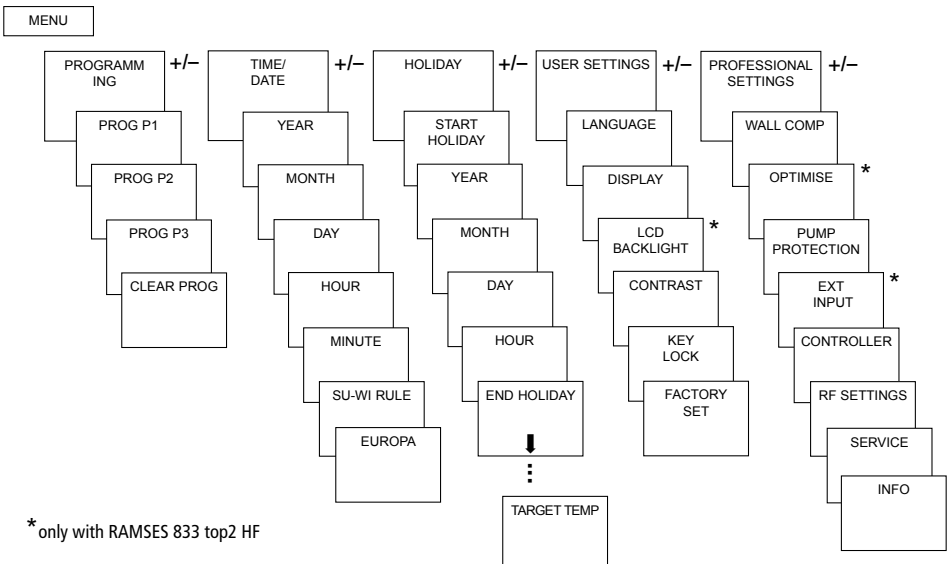
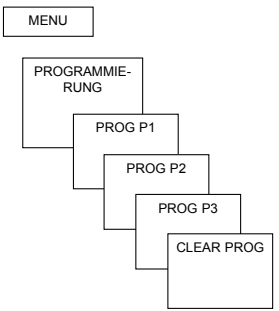


*only with RAMSES 833 top2 HF

PROGRAMMING

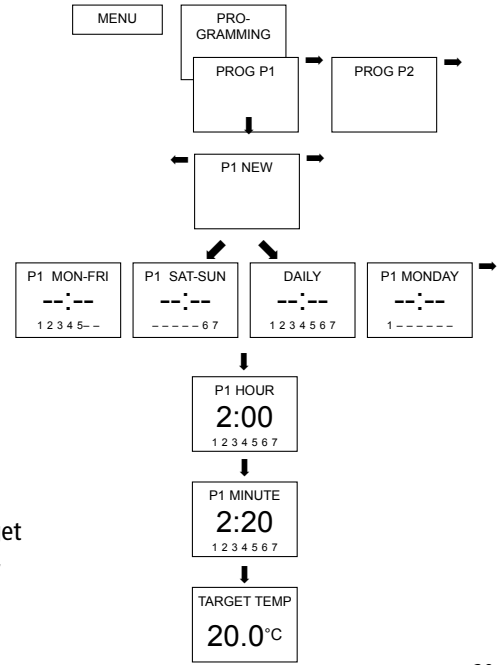
Programs P1–P3 are preset but they can be amended or deleted.
A maximum of 24 switching times can be set per program, up to a total of 42.



Program P1 (preset)		
Mon–Fri	21 °C	6.00–22.00
	otherwise	17 °C
Sat–Sun	21 °C	7.00–23.00
Program P2 (preset)		
Mon–Fri	21 °C	6.00–8.00
		16.00–22.00
	otherwise	17 °C
Sat–Sun	21 °C	7.00–23.00
Program P3 (preset)		
Mon–Fri	21 °C	12.00–20.00
	otherwise	17 °C
Sat–Sun	21 °C	7.00–22.00

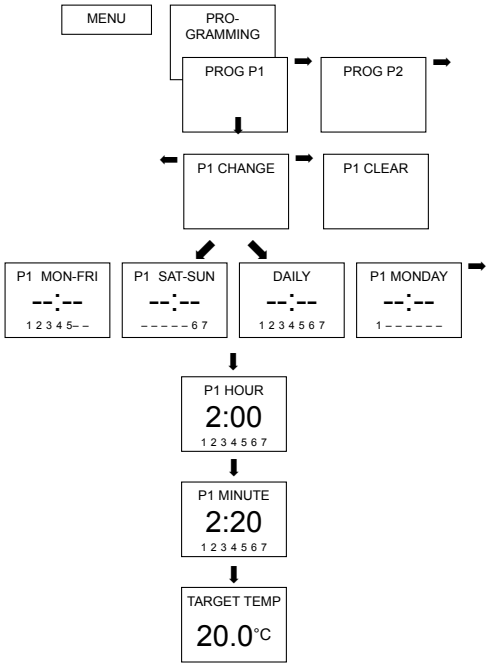
Reset switching time

- Press **MENU** key. The display shows **PROGRAMMING**.
- Confirm by pressing **OK**.
  The display shows, for example, **PROG P1**.
- Confirm by pressing **OK**.
- Selected **P1 NEW** using the + or – keys or the rotary control.
- Confirm by pressing **OK**.
- Selected desired days using the + or – keys or the rotary control (e.g. Mon–Fri, Sat–Sun, individual days or daily).
- Confirm by pressing **OK**.
- Enter switching time in hours, minutes and target temperature using the + or – keys or the rotary control.
- Confirm by pressing **OK**.



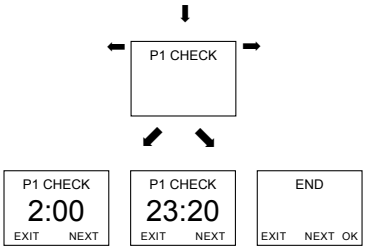
Change or clear switching time

- Press **MENU** key. The display shows **PROGRAMMING**.
- Confirm by pressing **OK**.
  The display shows, for example, **PROG P1**.
- Confirm by pressing **OK**.
- Selected **P1 CHANGE** or **P1 CLEAR** using the + or – or the rotary control.
- Confirm **P1 CHANGE** by pressing **OK**.
- Select switching time for desired days using the + or – keys or the rotary control (e. g. Mon–Fri, Sat–Sun, individual days or daily).
- Confirm by pressing **OK**.
- Enter switching time in hours and minutes using the + or – keys or rotary control and confirm by pressing **OK**.



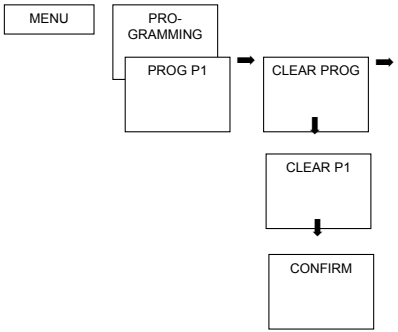
Check switching time

- Press **MENU** key. The display shows **PROGRAMMING**.
- Confirm by pressing **OK**.
  The display shows, for example, **PROG P1**.
- Confirm by pressing **OK**. The display shows **P1 CHECK**.
- Confirm by pressing **OK**.
- Press **NEXT** key. All programmed switching times can be viewed in succession.



Delete program

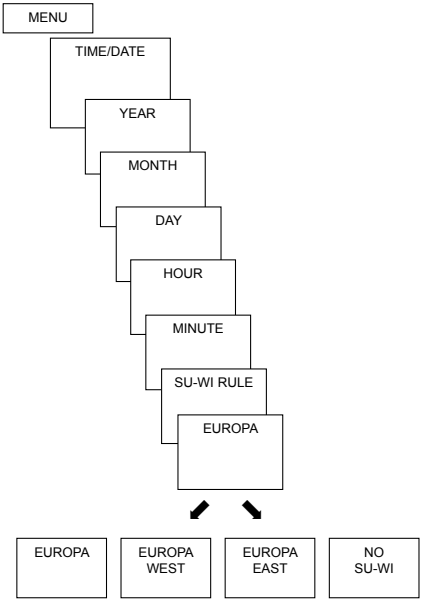
- Confirm **PROGRAMMING** by pressing **OK**.
- Select **CLEAR PROG** using the + or – keys.
- Confirm by pressing **OK**. The display shows **CLEAR P1**.
- Confirm by pressing **OK**. The display shows **CONFIRM**.
- Confirm by pressing **OK**.



TIME/DATE

Set date, time and summer/winter rule

- Press **MENU** key. The display shows **PROGRAMMING**.
- Selected **TIME/DATE** using the + or – keys or the rotary control.
- Confirm by pressing **OK**. The display shows **YEAR**.
- Change hours, minutes etc. in succession using the + or – keys or the rotary control. The display shows **SU-WI RULE**.
- Confirm by pressing **OK**. The display shows **EUROPA, EUROPA WEST, EUROPA EAST** or **NO SU-WI**.
- Select summer winter rule by pressing **OK**.

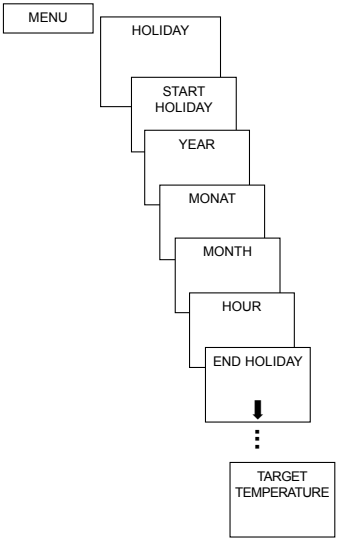


HOLIDAY

Set Holiday program

- Press **MENU** key. The display shows **PROGRAMMING**.
- Selected **TIME/DATE** using the + or – keys or the rotary control.
- Confirm by pressing **OK**. The display shows **START HOLIDAY**.
- Select year, month, day etc. in succession.
- Use + or – keys or rotary control to change value.
- Confirm each setting by pressing **OK**.

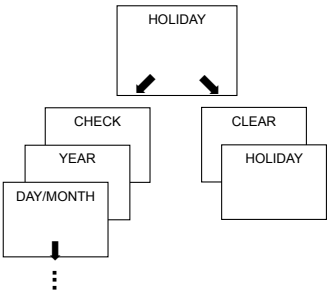
- Finally, enter **END HOLIDAY** in same way as **START HOLIDAY** entry.
- Set desired temperature for the holiday period using the + or – keys and confirm with **OK**.



A maximum of one holiday period can be entered.

Check/clear holiday program

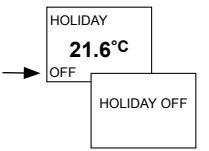
(only possible with a programmed holiday period)



Switch off holiday program

HOLIDAY is displayed on screen during the programmed holiday period. The controller can only be operated once the holiday mode has been switched off.

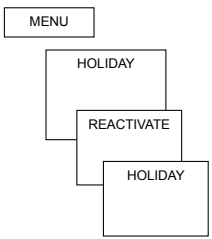
➢ Confirm **HOLIDAY** on display with **OFF**.
The display shows **HOLIDAY OFF**.



Briefly interrupt holiday program and restart

The program can be interrupted during the holiday period and restarted with the available data.

- Confirm **HOLIDAY** on screen by pressing **OK**.
  The display shows **REACTIVATE.**
- Confirm by pressing **OK**.
  The display shows **HOLIDAY.**



USER SETTINGS

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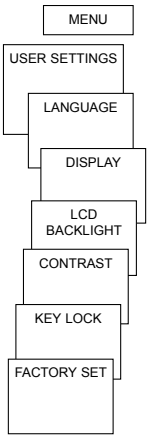
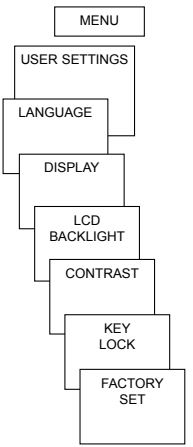
Set language

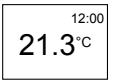
- Press **MENU** key. The display shows **PROGRAMMING**.
- Selected **USER SETTINGS** using the + or – keys or the rotary control.
- Confirm by pressing **OK**. The display shows **LANGUAGE**.
- Confirm by pressing **OK**.
  The display shows, for example, **ENGLISH**.
- Use + or – keys or rotary control to select language.
- Confirm by pressing **OK**.



Set display

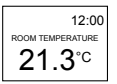
- Confirm **DISPLAY** by pressing **OK.**
- Use + or – keys or rotary control to select values **1–4**.
- Confirm by pressing **OK**.





1 = Standard display: after 5 seconds all display content except for temperature and time are faded out (factory setting)

2 = Standard display as in 1, but time and temperature are swapped round



3 = complete display

4 = complete display as in 3, but time and temperature are swapped round

Set LCD backlight

(only with RAMSES 833 top2 HF)

The brightness of the backlighting can be set at different levels.

- ➢ Confirm **LCD BACKLIGHT** by pressing **OK**. The display shows, for example, **3**.
- ➢ Use + or – keys or the rotary control to select 0–3.
- ➢ Confirm by pressing **OK**.

Set contrast

Screen contrast can be set at different levels.

- ➢ Confirm **CONTRAST** by pressing **OK**. The display shows, for example, **8**.
- ➢ Use + or – keys or the rotary control to select 0–15.
- ➢ Confirm by pressing **OK**.

Keypad lock

The device is fitted with a keypad lock that is switched on or off via software program. When the keypad lock is switched on, a key symbol appears on the display and pressing a key shows **KEY LOCK** on the display.

Set keypad lock

- Confirm **KEY LOCK** by pressing **OK**.
  The display shows **WITH** or **NO KEY LOCK.**
- Confirm selection by pressing **OK**.

Briefly interrupt keypad lock

The keypad lock can be interrupted to allow programming etc. The keypad lock is reactivated once changes are completed and the standard operating mode is returned to.

- Press **INFO** key for more than 3 seconds.

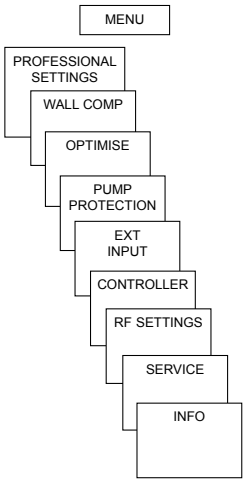
Set factory settings

The factory settings return all controller settings to delivery status.

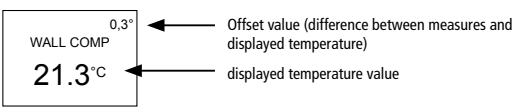
- Confirm **FACTORY SET** by pressing **OK**.
  The display shows **CONFIRM.**
- Confirm by pressing **OK**.

PROFESSIONAL SETTINGS – Set wall compensation

If the installation site is not in a good place, this may lead to a variation in temperature between the detected and actual room temperature. This can be corrected by using wall compensation.



- Press **MENU** key. The display shows **PROGRAMMING**.
- Selected **PROFESSIONAL SETTINGS** using the + or – keys or the rotary control.
- Confirm by pressing **OK**. The display shows **WALL COMP**.
- Confirm by pressing **OK**.
- Use + or – keys or rotary control to change the temperature setting and confirm by pressing **OK**.



Set optimisation

The optimisation function allows you to achieve a certain room temperature at a desired switching point The display shows how many minutes earlier the heating has to be started. This time applies per K of temperature difference between actual temperature and the desired setpoint temperature.

Example:
In the bathroom at 06.00 a change is programmed from reduction (17 °C) to comfort temperature(23 °C).
Without the optimisation function, the room thermostat stops heating request for bathroom at 06.00. Depending on the size of the room and heating system used, the bathroom reaches the desired 23 °C at 06.30, for example.
With a set optimisation of 5 min/K, the thermostat requests the heating requirement earlier as follows:

- Setpoint temperature at 06.00 --> 23 °C
- Actual temperature --> 17 °C
- i. e. Delta T = 6 K
- 6 K * 5 min/K = 30 min

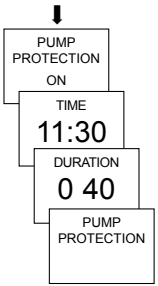
The controller starts the heating 30 mins earlier and reaches the setpoint temperature at 06.00. The optimisation value depends on spatial and heating setup.

➢ Confirm **OPTIMISE** by pressing **OK**.
➢ Use the + or – keys or rotary control to set the value (of 1–60) and confirm by pressing **OK**.

Set pump protection

Pump protection is not activated in the factory. But it can be set in the **PROFESSIONAL SETTINGS** menu.

- Confirm **PUMP PROTECTION** by pressing **OK**.
- Use the + or – keys or the rotary control to select **ON** or **OFF** and confirm by pressing **OK**.
- Set **TIME** and **DURATION** using the + or – keys or the rotary control and confirm by pressing **OK**.



Set external input

The external input on the **RAMSES 833 top2 HF** can be configured for various external sensors.

⚠ **CAUTION!** Input is active, therefore do not use external voltage. The connected contact must be floating and electrically isolated.

- Confirm **EXT INPUT** by pressing **OK**.
- You can choose from **UNUSED INPUT, FLOOR SENSOR, ROOM SENSOR, WINDOW SWITCH, TELEPHONE SWITCH, PRESENCE DETECTOR.**
- Confirm desired sensor/contact by pressing **OK**. Select available options and confirm by pressing **OK**.

The following options are available with the individual sensors/contacts

Floor sensor:	Mode 1	no options, floor temperature control, floor temperature is shown on screen
	Mode 2	Floor temperature control, floor temperature level can be set between 20 °C and 30 °C, room temperature is shown on display; floor sensor (907 0 321)
Room sensor:	no options,	internal temperature sensor is switched off; external temperature sensor (IP 65) (907 0 459)
Presence detector:	Temperature selection	this temperature is controlled when the HVAC output on the presence detector is switched on. If no presence is detected, the set program is used.
Window switch:	no options, provided the window switch is switched on, the thermostat controls to frost protection temperature level; WINDOW SWITCH is shown in display.	

Phone switch:	Temperature selection	Select temperature level for controller when the phone switch is switched on.
	Time selection	Select time until phone switch turns off automatically.
	PHONE SWITCH is shown on screen if the phone switch is switched on. The switched contact must be switched off manually to allow the control to be used again. A safety shutdown switches the contact off again automatically at the preset time. The telephone remote switch used should have a pulse output.	

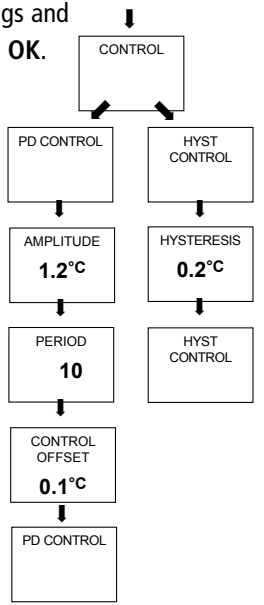
Set controller

Controller characteristics of pulse duration controller
With adapted heating systems, a PD controller is noted for its short transient time, minimal overshoot and therefore high control, accuracy.

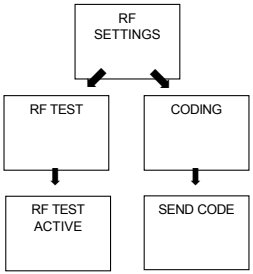
Controller characteristics of a hysteresis-/ on/off controller
With over or undersized heating systems, hysteresis controllers are noted for their minimal switching frequency and low temperature variations.

- Confirm **CONTROL** by pressing **OK**.
- You can choose between **PD CONTROL** or **HYST CONTROL.**

- Use + or – keys or rotary control to implement settings and confirm by pressing **OK**.



HF setting



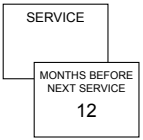
For HF setting, see
page 8 ff.

Set maintenance period

GB

With maintenance, it is a question of a "reminder function".

- Confirm **SERVICE** by pressing **OK**. The display shows **MONTHS BEFORE NEXT SERVICE**.
- Use the + or – keys or the rotary control to enter the value and confirm by pressing **OK**.



Technical data

REC 1 + REC 2 (868 MHz)

Nominal voltage:	230 V~ +/–10 % 50 Hz
Contact:	Changeover switch, floating max. 6 (1) A/250 V~ per channel

REC 11 + REC 21 (868 MHz)

Nominal voltage:	230 V~ +/–10 % 50 Hz
Contact:	Changeover switch, floating 16 (2) A/250 V~ per channel

Permissible ambient temperature:	0 °C ... +55 °C
Protection class:	II in accordance with EN 60730-1 for designated installation (REC 11, REC 1 + REC 2) I in accordance with EN 60730-1 (REC 21)
Protection rating:	IP 20 in accordance with EN 60529

RAMSES 813 top2 HF / RAMSES 833 top2 HF

Batteries:	2 x alkaline batteries 1.5 V, AA type
Power reserve during battery change:	10 minutes
Temperature range:	+4 °C to +30 °C in increments of 0.2 °C
Control period:	5–30 min. (PD controller)
Control capture range:	±0.2 K to 5 K (PD controller)
Switching hysteresis:	±0.2 K to ±1.0 K (hysteresis controller)
Memory locations:	42
Time accuracy:	≤ 1 s/day at 20 °C
State of cleanliness:	2
Protection class:	III in accordance with EN 60730-1 for designated installation
Protection rating:	IP 20 in accordance with EN 60529

Corresponds to type 1B in accordance with IEC/EN 60730-1

theben

RAMSES

RAMSES 813 top2 HF
813 9 500

RAMSES 833 top2 HF
833 9 500

Installation and operating instructions
Room thermostat

D GB F
E I NL

309 373 03

GB

RAMSES 833 top2 HF

GB

Contents

Basic safety instructions

⚠ WARNING

Danger of death through electric shock or fire!

➢ Installation should only be carried out by a qualified electrician!

- The devices are designed for different types of installation as described below

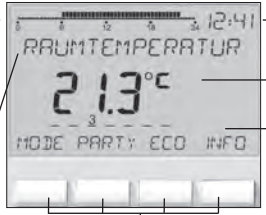
Designated use

- The room thermostat regulates the room temperature in houses, offices etc. via radio control
- It is used in dry rooms with normal levels of domestic cleanliness

Disposal

Dispose of devices and batteries in an environmentally sound manner

Screen and keys



Display programmed switching times

Text line

Time display

Temperature display

Days of the week from 1–7

Function keys:
– MODE – ECO
– PARTY – INFO

➢ ***ESC***
– Leave menu

➢ <-- -->
Scroll through menu or
➢ –/+
change values

➢ ***OK***
– Store selection
– Confirm selection

Operating instructions GB

1. Read text line
Flashing text/symbol represents query

2. Make a decision

YES
Confirmation
Press ***OK***

NO
Amend/ change
◄ ►
press

Connection/installation

⚠ WARNING

Warning, danger of death through electric shock!

- Must be installed by qualified electrician!
- Disconnect power source.
- Cover or shield any adjacent live components.
- Ensure device cannot be switched on!
- Check power supply is disconnected.
- Earth and bypass.

Wall installation

- Attach device to wall using the optionally available back wall set (907 0 605). This enables the use of the external input with the RAMSES 833 top 2 sets (see pages 33 ff.).
- Ensure installation height of approx. 1.5 m and check reception quality.

Free-standing installation

- The device can be used in free-standing position with the enclosed base.
- Avoid locations such as window sills, televisions, PCs or devices emitting heat/cold.

Dismantling

- Insert screwdriver from below, push detent hooks up and open device.

Insert batteries

- Only be carried out by a qualified electrician.
- Only use alkaline 1.5 V AA batteries.
- Ensure correct polarity when fitting batteries.
- Dispose of batteries in an environmentally sound manner.

Reset

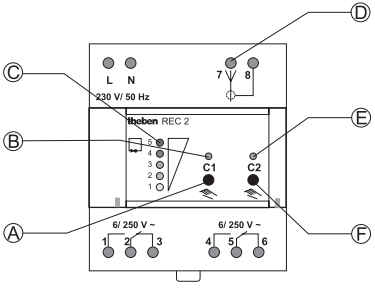
- Press a pointed object into the opening on the left hand side of the device.

Replace batteries

1. Battery symbol flashes on display, controller remains active. The batteries should be replaced.
2. The display flashes, the controller cannot be used; the relay remains switched on. The batteries must be removed quickly and replaced within 10 minutes to ensure that the current settings are not lost.

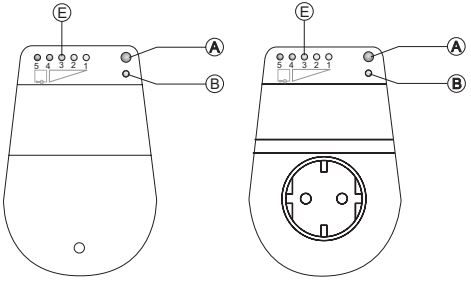
REC 1/REC 2/REC 11/REC 21 receivers

REC 1/REC 2 for wall installation



A Switching pre-selection channel 1
B Switching status display channel 1
C Level display for reception strength
D Antenna connection
E Switching status display channel 2
F Switching pre-selection channel 2

REC 11/REC 21 for mains operation

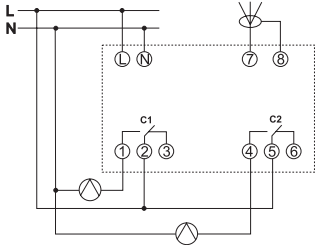


E Signal strength display

Range approx. 20–30 m

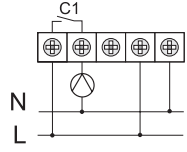
Installation and connection of receivers

- **REC 1 (1 channel)**
  Connect device to terminals 1, 2, 3.
- **REC 2 (2 channels)**
  Connection 1:
  Connect device to terminals 1, 2, 3.
  Connection 2:
  Connect device to terminals 4, 5, 6.



- **REC 11**
  Connect device to terminals.

- **REC 21**
  Plug device into socket.
  Connect device to REC 21 using plug.



REC 1/REC 2/REC 11/REC 21 receivers

Align antenna

- Connect REC 1/REC 2 to operating voltage.
- Align antenna vertically. In the event of errors (several LEDs light up), align antenna so that as few LEDs as possible light up.
- Do not place antenna next to water pipes or electricity cables.

Optimise reception quality

- The channels on the receiver must be off, i.e. the relevant display status (LED) must be off.

At least one green LED must light up for optimum reception.

Switching pre-selection of REC 1/REC 2/ REC 11/REC 21

Switch channel C1 on/off

- Briefly press key C1. The channel is on (C1/C2 LED lights up). The channel is off (C1/C2 LED goes off).

Switch channel C2 on/off (REC 2 only)

- Briefly press key C2.

Coding

Transmitters and receivers are pre-configured with each other ex works.
Delete old coding before entering new one.

Test of channel 1/channel 2 (e.g. room 1/2)

- Select CODING on the thermostat and press **OK** to confirm (the LED from channel 1/2 and the level display light up briefly).

Coding channel C1 (e. g. room 1)

- Press key C1 on REC 1/REC 2 (REC 11/ REC 21) for approx. 5 seconds.
  The LED on C1 flashes for approx. 10 seconds. The coding on the thermostat must be completed in this time period. The level display on the receiver lights up briefly.

Coding channel C2 (e. g. room 2)

- Press key C2 on REC 2 (e.g. room 2) for approx. 5 seconds.
  The LED on C2 flashes for approx. 10 seconds. The coding on the thermostat must be completed in this time period.

Delete coding

- Press key C1 on REC 1/REC 2 (REC 11/ REC 21) for approx. 10 seconds.
  The LEDs on C1 light up and go off after 3 seconds.
- Repeat process for C2.

General information on radio transmission

Since radio signals are electromagnetic waves, the signal from the sender to the receiver is dampened (referred to as transmission range limitation). There are also further interference factors such as metal parts in walls, metal foils used in insulation etc. These create what is known as radio shadow (see table).

Other sources of interference

Devices that also operate using high-frequency signals, e.g. computers, electric transformers etc., are considered further sources of interference.

The minimum clearance from these devices should be 0.5 m.

Transmission

Please note: Moisture in the material hinders transmission!

Dry material	Material strength	Transmission
Wood, plaster, gypsum plaster board	< 30 cm	90–100 %
Brick, compressed particle board	< 30 cm	65–95 %
Reinforced concrete	< 30 cm	10–70 %
Metal, metal grating, aluminium	< 1 mm	0–10 %
Metal, laminated aluminium	< 1 mm	0 %

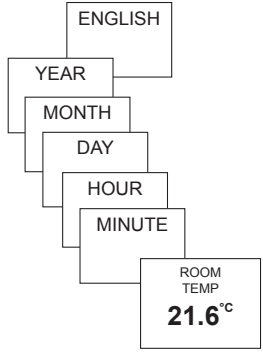
Initial start-up

➢ After inserting batteries, press the right key for more than 3 seconds and follow on-screen display (see fig.).

Date, time and summer/winter rule can be set via **MODE** menu under **TIME/DATE**.

Date and time have to be set on the RAMSES 813 top2 HF; they are preset with the RAMSES 833 top2 HF.

The RAMSES 813 top2 HF devices are basic devices and the RAMSES 833 top2 HF devices are comfort devices.



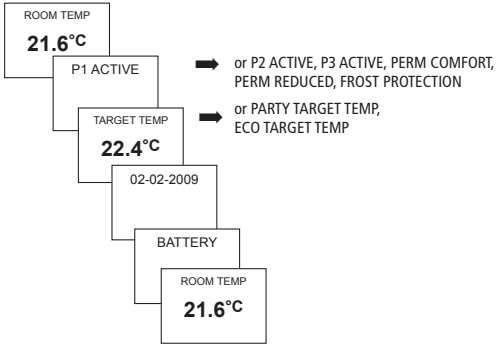
User information

Note:
The whole screen, except for temperature and time, is faded out after 5 seconds. Press the INFO key to restore screen.
This setting can be changed under OPTIONS/DISPLAY.

INFO key – View settings

The **INFO** key allows you to access current room temperature, temperature program, target temperature, date/time or battery status.

➢ Press **INFO** key repeatedly.



PARTY key – Set PARTY function

➢ Press **PARTY** key.
The display shows **PARTY TARGET TEMP 23,0 °C**.

Provided the whole screen is shown, the PARTY key flashes to display the set party mode. The INFO key plus the PARTY key appear once the contents of the screen are faded out.

Delete PARTY function

➢ Press **PARTY** key.
The display shows **PARTY OFF**.

Change PARTY TARGET TEMP

➢ The rotary control adjusts the **PARTY TARGET TEMP** up or down.

ECO key – Set ECO function

➢ Press **ECO** key.
The display shows **ECO TARGET TEMP 17,0 °C**.

Provided the whole screen is shown, the ECO key flashes to display the set party mode. The INFO key plus the ECO key appear once the contents of the display are faded out.

Clear ECO function

➢ Press **ECO** key.
The display shows **ECO OFF**.

Change ECO TARGET TEMP

➢ The rotary control adjusts the **ECO TARGET TEMP** up or down.

Temperature programs

RAMSES top2 devices have several preset programs.

– P1
– P2
– P3
– PERM COMFORT
– PERM REDUCED
– FROST PROTECTION

Use the **MODE** key to access selection of active temperature program.

Change temperature programs (P1, P2, P3)

The programs are adjusted using the **MODE**, key in the **SETTINGS** menu (see page 18 ff.)

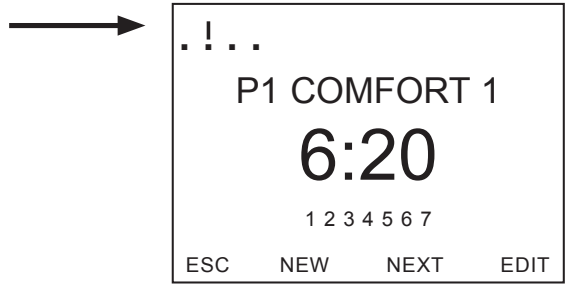
Use rotary control to make changes

In standard operation mode, you can temporarily change current setpoint temperature via the rotary control. It is not stored in the program and is replaced by the set value at the next programmed switching time.

➢ Turn rotary control up or down to change temperature setting (in 0.2 °C increments).

The following applies to all programs:

The broken bar in the top left of the display shows the number of menu points in the relevant menu. The flashing cursor indicates the point in the menu
that you are currently in.

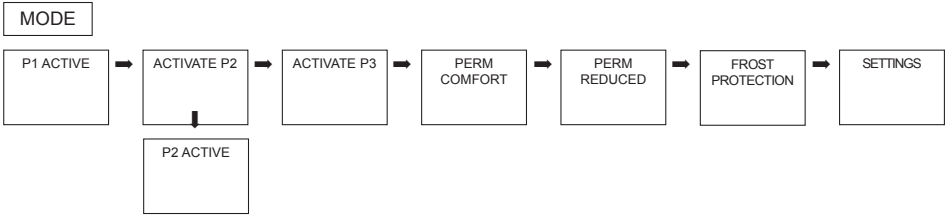


MODE key – Change/program settings

Using the **MODE** key and selecting the **SETTINGS** menu point brings up the programming and setting mode.

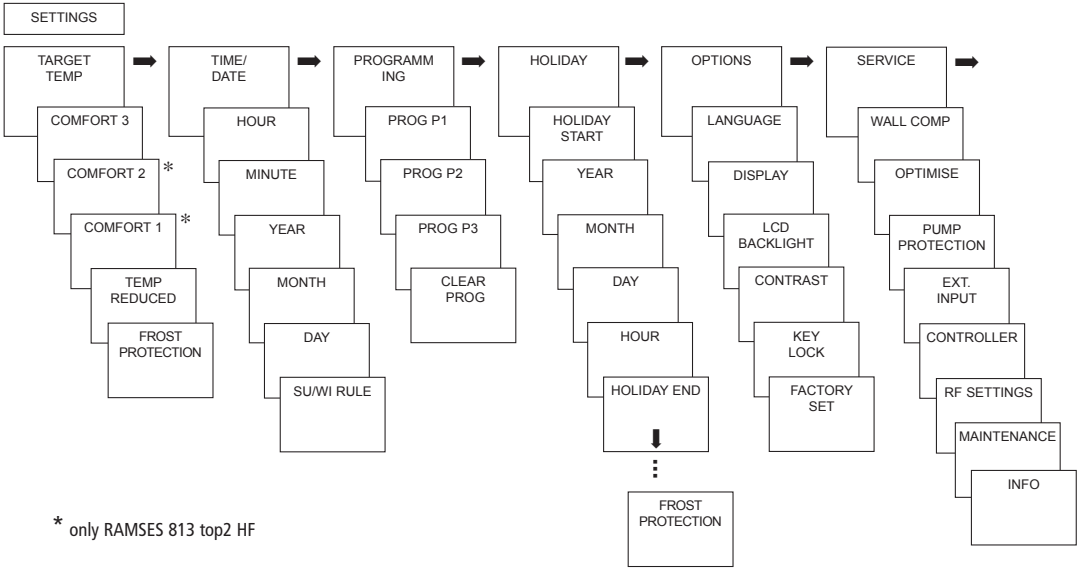
Select preset program

➢ Press **MODE** key.



➢ Use <- or -> to scroll through menu points, select desired program and confirm by pressing **OK**.

MODE – Settings– Overview



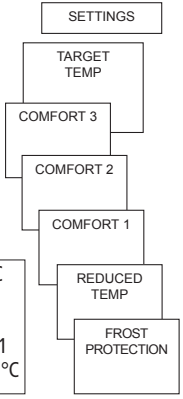
* only RAMSES 813 top2 HF

Change target temperature

- Confirm **TARGET TEMP** by pressing **OK**.
  The display shows **COMFORT 3**.
- Use + or – keys or rotary control to change value.
- Confirm by pressing **OK**.

The other setpoint values (for comfort 2, frost protection etc.) are set accordingly.

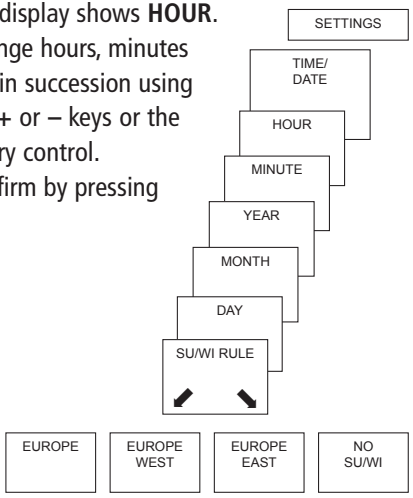
All 3 comfort temperatures are available as required:



– Comfort 1–3:	10.2 °C…30 °C
– Reduced temperature:	min. 10 °C, max. 0.2 K under Comfort 1
– Frost protection:	from 4 °C…10 °C

Set date, time and summer/ winter time

- Confirm **TIME/DATE** by pressing **OK**.
  The display shows **HOUR**.
- Change hours, minutes etc. in succession using the + or – keys or the rotary control.
- Confirm by pressing **OK**.

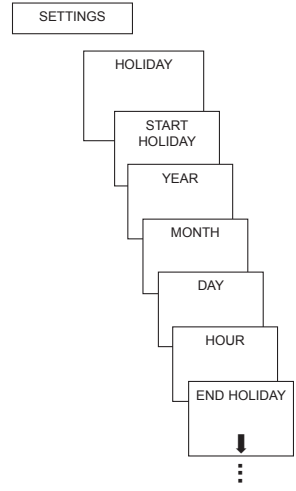


Set Holiday program

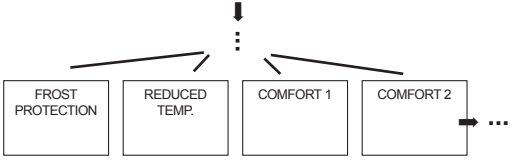
- Confirm **HOLIDAY** by pressing **OK**.
  The display shows **HOLIDAY START**.
- Select year, month, day etc.
  in succession.
- Use + or – keys or
  rotary control to change value.
- Confirm each setting by pressing **OK**.

- Finally, enter **END HOLIDAY** in same way as **START HOLIDAY** entry.
- Set desired temperature for the holiday period using the + or – keys and confirm with **OK**.

A maximum of one holiday period can be entered.

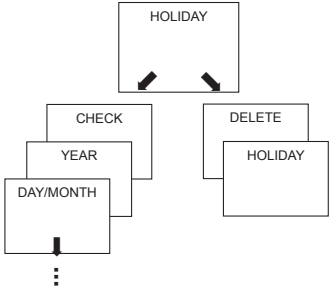


Set temperature preselection



Check/clear holiday program

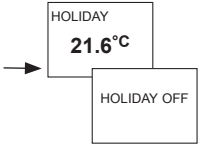
(only possible with a programmed holiday period)



Switch off holiday program

HOLIDAY is displayed on screen during the programmed holiday period. The controller can only be operated once the holiday mode has been switched off.

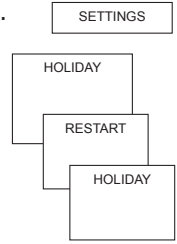
➢ Confirm **HOLIDAY** on display with **OFF**.
The display shows **HOLIDAY OFF**.



Briefly interrupt holiday program and restart

The program can be interrupted during the holiday period and restarted with the available data.

- Confirm **HOLIDAY** on screen by pressing **OK**.
  The display shows
  RESTART.
- Confirm by pressing **OK**.
  The display shows
  HOLIDAY.



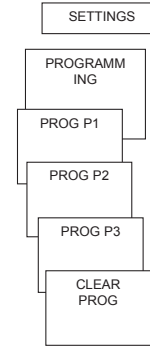
Programming

Programs P1–P3 are preset
but they can be amended or deleted.
A maximum of 24 switching times can be set per program, up to a total of 42.

Program P1 (preset)
Mon–Fri comfort 1 6.00–22.00
otherwise temp reduced
Sat-Sun comfort 1 7.00–23.00

Program P2 (preset)
Mon–Fri comfort 1 6.00–8.00
16.00–22.00
otherwise temp reduced
Sat-Sun comfort 1 7.00–23.00

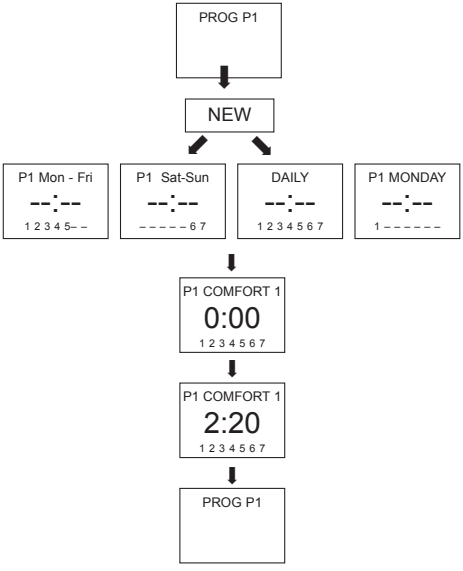
Program P3 (preset)
Mon–Fri comfort 1 12.00–20.00
otherwise temp reduced
Sat-Sun comfort 1 7.00–22.00



Reset switching time

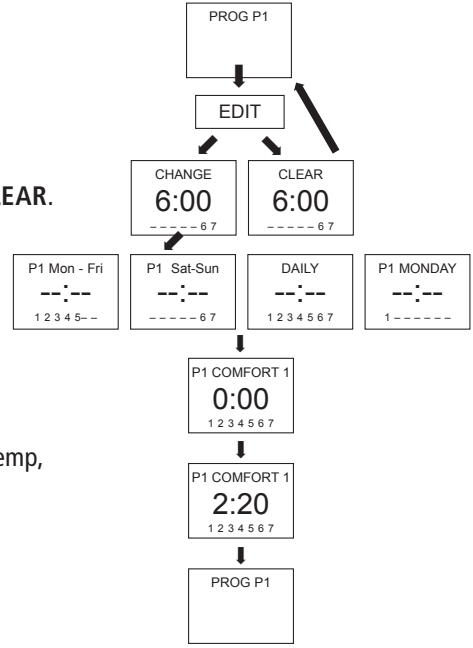
MODE – SETTINGS– PROGRAMMING

- Confirm **PROGRAMMING** by pressing **OK**. The display shows, for example, **PROG P1**.
- Confirm **PROG P1** by pressing **OK**.
- Press **NEW** key.
- Selected desired days using the + or – or the rotary control (e. g. Mon–Fri, Sat–Sun, individual days or daily).
- Confirm by pressing **OK**.
- Select desired temperature using the + or –keys or the rotary control (comfort 1–3, reduced temp, frost protection).
- Confirm by pressing **OK**.
- Enter switching time in hours and minutes using the + or – keys or the rotary control.
- Confirm by pressing **OK**.



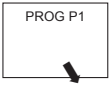
Change or delete switching time

- Confirm **PROGRAMMING** by pressing **OK**.
  The display shows, for example, **PROG P1**.
- Confirm **PROG P1** by pressing **OK**.
- Press **EDIT** key. The display shows **CHANGE** or **CLEAR**.
- Confirm **CHANGE** by pressing **OK**.
- Select switching time for desired days using the
  + or – keys or the rotary control
  (e. g. Mon–Fri, Sat–Sun, individual days or daily).
- Confirm by pressing **OK**.
- Select temperature using the + or –
  keys or the rotary control (comfort 1–3, reduced temp,
  frost protection) and confirm by pressing **OK**.
- Enter switching time in hours and minutes using
  the + or – keys or rotary control and
  confirm by pressing **OK**.

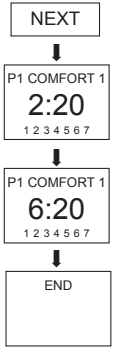


View switching time

- Confirm **PROGRAMMING** by pressing **OK**. The display shows, for example, **PROG P1**.
- Confirm **PROG P1** by pressing **OK**.
- Press **NEXT** key repeatedly.

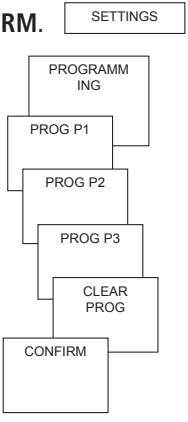


All programmed switching times can be viewed in succession.



Delete program

- Confirm **PROGRAMMING** by pressing **OK**.
- Select **CLEAR PROG** using the + or – keys.
- Confirm by pressing **OK**. The display shows **CONFIRM**.
- Confirm by pressing **OK**.

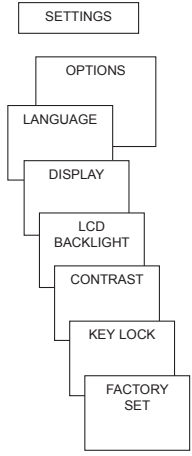


Set language

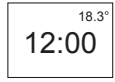
- Confirm **LANGUAGE** by pressing **OK**. The display shows, for example, **GERMAN**.
- Use + or – keys or rotary control to select language.
- Confirm by pressing **OK**.

Set display

- Confirm **DISPLAY** by pressing **OK.**
- Use + or – keys or rotary control to select values **1–3**.
- Confirm by pressing **OK**.



1 = Standard display: after 5 seconds all display content except for temperature and time are faded out.



2 = Standard display: Time and temperature are swapped round

3 = complete display

Set LCD backlight

(only with RAMSES 833 top2)

The brightness of the backlighting can be set at different levels.

- Confirm **LCD BACKLIGHT** by pressing **OK**. The display shows, for example, **3**.
- Use + or – keys or the rotary control to select 0-3.
- Confirm by pressing **OK**.

Set contrast

Screen contrast can be set at different levels.

- Confirm **CONTRAST** by pressing **OK**. The display shows, for example, **8**.
- Use + or – keys or the rotary control to select 0-15.
- Confirm by pressing **OK**.

Keypad lock

The device is fitted with a keypad lock that is switched on or off via software program. When the keypad lock is switched on, a key symbol appears on the display and pressing a key shows **KEY LOCK** on the display.

Set keypad lock

- Confirm **KEY LOCK** by pressing OK.
  The display shows **WITH** or **NO KEY LOCK.**
- Confirm selection by pressing **OK**.

Briefly interrupt keypad lock

The keypad lock can be interrupted to allow programming etc. The keypad lock is reactivated once changes are completed and the standard operating mode is returned to.

- Press **INFO** key for more than 3 seconds.

Set factory settings

The factory settings return all controller settings to delivery status.

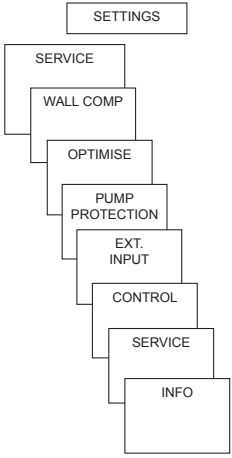
- Confirm **FACTORY SET** by pressing **OK**.
  The display shows **CONFIRM.**
- Confirm by pressing **OK**.

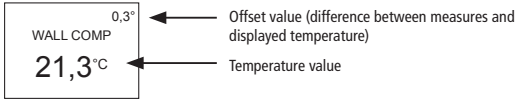
Operating level for specialist personnel

Set wall compensation

If the installation site is not in a good place, this may lead to a variation in temperature between the detected and actual room temperature. This can be corrected by using wall compensation.

- Confirm **SERVICE** by pressing **OK**.
  The display shows **WALL COMP**.
- Confirm **WALL COMP** by pressing **OK**.
- Use + or – keys or rotary control to change the temperature setting and confirm by pressing **OK**.





Set optimisation

The optimisation function allows you to achieve a certain room temperature at a desired switching point The display shows how many minutes earlier the heating has to be started. This time applies per K of temperature difference between actual temperature and the desired setpoint temperature.

Example:
In the bathroom at 06.00 a change is programmed from reduction (17 °C) to comfort temperature(23 °C).
Without the optimisation function, the room thermostat stops heating request for bathroom at 06.00. Depending on the size of the room and heating system used, the bathroom reaches the desired 23 °C at 06.30, for example.
With a set optimisation of 5 min/K, the thermostat requests the heating requirement earlier as follows:

- Setpoint temperature at 06.00 --> 23 °C
- Actual temperature --> 17 °C
- i. e. Delta T = 6 K
- 6 K * 5 min/K = 30 min

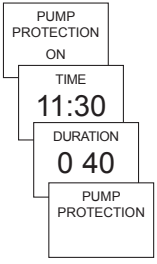
The controller starts the heating 30 mins earlier and reaches the setpoint temperature at 06.00. The optimisation value depends on spatial and heating setup.

➢ Confirm **OPTIMISE** by pressing **OK**.
➢ Use the + or – keys or rotary control to set the value (of 1–60) and confirm by pressing **OK**.

Set pump protection

Pump protection is not activated in the factory. But it can be set in the **SERVICE** menu.

- Confirm **PUMP PROTECTION** by pressing **OK**.
- Use the + or – keys or the rotary control to select **ON** or **OFF** and confirm by pressing **OK**.
- Set **TIME** and **DURATION** using the + or – keys or the rotary control and confirm by pressing **OK**.



Set external input

The external input on the RAMSES 833 top2 can be configured for various external sensors.

⚠ **CAUTION!** Input is active, therefore do not use external voltage. The connected contact must be floating and electrically isolated.

- Confirm **EXT INPUT** by pressing **OK**.
- You can choose from **UNUSED INPUT, FLOOR SENSOR, ROOM SENSOR, WINDOW SWITCH, TELEPHONE SWITCH, PRESENCE DETECTOR.**
- Confirm desired sensor/contact by pressing **OK**. Select available options and confirm by pressing **OK**.

The following options are available with the individual sensors/contacts

Floor sensor:	Mode 1	no options, floor temperature control, floor temperature is shown on screen
	Mode 2	Floor temperature control, floor temperature level can be set between 20 °C and 30 °C, room temperature is shown on display; floor sensor (907 0 321)
Room sensor:	no options,	internal temperature sensor is switched off; external temperature sensor (IP 65) (907 0 459)
Presence detector:	Temperature selection	this temperature is controlled when the HVAC output on the presence detector is switched on. If no presence is detected, the set program is used.
Window switch:	no options, provided the window switch is switched on, the thermostat controls to frost protection temperature level; WINDOW SWITCH is shown in display.	

Telephone switch:	Temperature selection	Select temperature level for controller when the telephone contact is switched on.
	Time selection	Select time until telephone contact turns off automatically.

TELEPHONE SWITCH is shown on screen if the telephone contact is switched on. The switched contact must be switched off manually to allow the control to be used again. A safety shutdown switches the contact off again automatically at the preset time. The telephone remote switch used should have a pulse output.

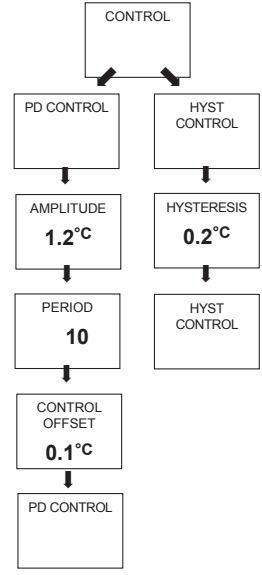
Set controller

Controller characteristics of pulse duration controller
With adapted heating systems, a PD controller is noted for its short transient time, minimal overshoot and therefore high control, accuracy.

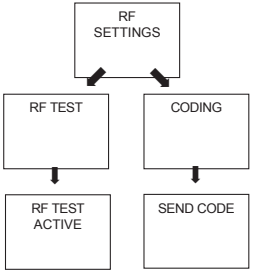
Controller characteristics of a hysteresis-/ on/off controller
With over or undersized heating systems, hysteresis controllers are noted for their minimal switching frequency and low temperature variations.

- Confirm **CONTROL** by pressing **OK**.
- You can choose between **PD CONTROL** or **HYST CONTROL.**

- Use + or – keys or rotary control to implement settings and confirm by pressing **OK**.



HF setting

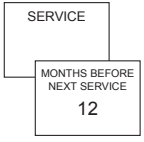


For HF setting, see page 8 ff.

Set maintenance period

With maintenance, it is a question of a "reminder function".

- Confirm **SERVICE** by pressing **OK**. The display shows **MONTHS BEFORE NEXT SERVICE**.
- Use the + or – keys or the rotary control to enter the value and confirm by pressing **OK**.



Technical data

REC 1 + REC 2 (868 MHz)

Nominal voltage:	230 V~ +/–10 % 50 Hz
Contact:	Changeover switch, floating max. 6 (1) A/250 V~ per channel

REC 11 + REC 21 (868 MHz)

Nominal voltage:	230 V~ +/–10 % 50 Hz
Contact:	Changeover switch, floating 16 (2) A/250 V~ per channel
Permissible ambient temperature:	0 °C ... +55 °C
Protection class:	II in accordance with EN 60730-1 for designated installation (REC 11, REC 1 + REC 2) I in accordance with EN 60730-1 (REC 21)
Protection rating:	IP 20 in accordance with EN 60529

RAMSES 813 top2 HF / RAMSES 833 top2 HF

Batteries:	2 x alkaline batteries 1.5 V, AA type
Power reserve during battery change:	10 minutes
Temperature range:	+4 °C to +30 °C in increments of 0.2 °C
Control period:	5–30 min. (PD controller)
Control capture range:	±0.2 K to 5 K (PD controller)
Switching hysteresis:	±0.2 K to ±1.0 K (hysteresis controller)
Memory locations:	42
Time accuracy:	≤ 1 s/day at 20 °C
State of cleanliness:	2
Protection class:	III in accordance with EN 60730-1 for designated installation
Protection rating:	IP 20 in accordance with EN 60529

Corresponds to type 1B in accordance with IEC/EN 60730-1