theben

RAMSES

RAMSES 850 top2 OT
8509132

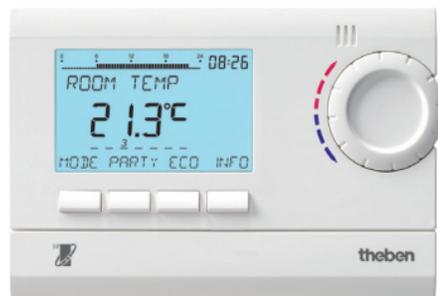**Installation and operating instructions**
Room thermostat

D	GB	F
E	I	NL

ROOM TEMP
21.3℃
08:26
MODE PARTY ECO INFO

RAMSES 850 top2 OT

Contents

Basic safety instructions

NOTE:

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

- The device is designed for wall installation
- Corresponds to type 1 in accordance with IEC/EN 60730-1

Designated use

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

Disposal

Dispose of device in environmentally sound manner

Screen and keys

Operating instructions

Display programmed switching times

Time display

Text line

Temperature display

Days of the week from 1–7

Display symbols:
– Burner
– Domestic heating water pump
– Heating pump

RAUMTEMPERATUR

21.3°c

MODE PARTY ECO INFO

Function keys:
– MODE – ECO
– PARTY – INFO

ESC   (--   --)   OK

➢ *ESC*
– Leave menu

➢ *OK*
– Store selection
– Confirm selection

➢ <-- -->

Scroll through menu or

➢ –/+

change values

1. Read text line
Flashing text/symbol represents query

2. Make a decision

YES
Confirmation

Press
OK

NO
Amend/change

◀ ▶
press

Connection/installation

Installation

➢ Fix plate to wall and attach device.

➢ Ensure installation height of approx. 1.5 m.

Dismantling

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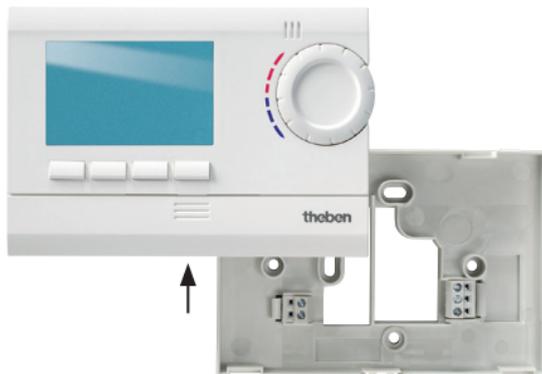
Connection

- The power supply from the thermostat to the boiler is provided via OpenTherm.
- The two-wire connection (OpenTherm) is not polarised, i. e. the wires can be connected to the boiler as required.

OT device connection
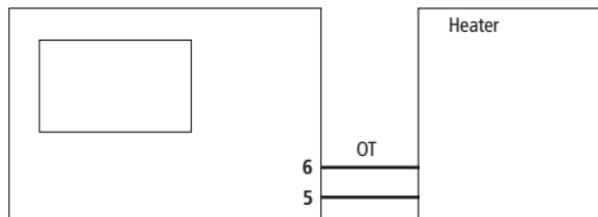
0–10 V device connection
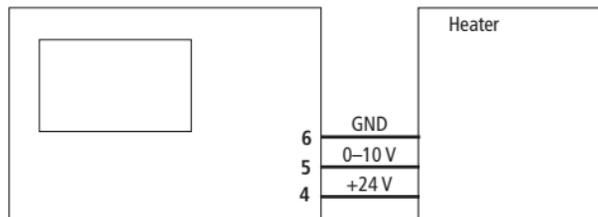
⚠ CAUTION!

➢ Do not feed the thermostat cable through the same cable duct as the 230 V mains cable.

➢ Do not lay thermostat cable parallel to power cable.

➢ Disconnect the boiler from mains supply before connecting the thermostat.

➢ Faulty connections can damage the device.

➢ 24 V power supply must be SELV.

➢ The bus cable can be extended to 50 m without interference.

Initial start-up

➢ Follow the on-screen instructions (see fig.)
   after connecting the thermostat.

Language, room controls or OT controls, date,
time and summer/winter time can be set in the
MODE menu under TIME/DATE or SERVICE.

Reset

➢ Press a pointed object (paper clip) in the
   opening on the left side of the device.

📖 user information

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

INFO key – View settings

The **INFO** key allows you to access the
temperature program, setpoint
temperature, date/time etc.

➢ Press **INFO** key repeatedly.

EXT. TEMP.
21.6°C

P1 ACTIVE ➡ or P2 ACTIVE, P3 ACTIVE, PERM COMFORT, PERM REDUCED, FROST PROTECTION

FEED SETPOINT TEMP ➡ or PARTY TARGET TEMP, ECO TARGET TEMP.

FEED SETPOINT

ACTUAL FEED
53°C

⋮

02-02-2009
15:31
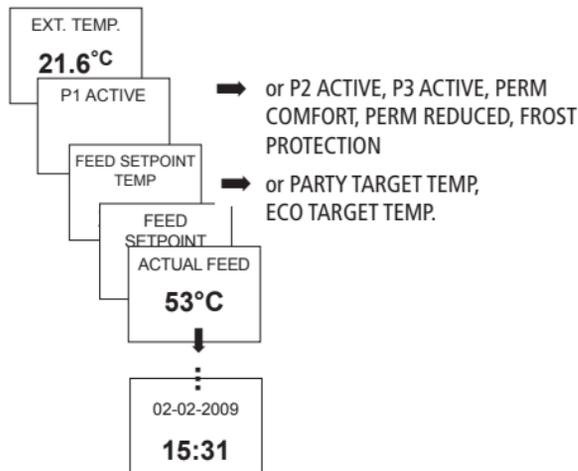
PARTY key – Set PARTY function (room-dependent only)*

➢ 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 (room-dependent only)*

➢ 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 ECO 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.

* Adjustment of feed setpoint temperature with weather-dependent control, see page 33. PARTY or ECO function is per formed until manual switch-off or up to next switching time.

Temperature programs

RAMSES top2 devices have several preset programs.
– **P1**
– **P2**
– **P3**
– **PERM COMFORT**
– **PERM REDUCTION**
– **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 13ff.)

Use rotary control to make changes

In standard operation mode, you can temporarily change current setpoint temperature using 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.

```
. . ! . .
     P1 COMFORT 1
        6:20
      1 2 3 4 5 6 7
ESC   NEW   NEXT   EDIT
```

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.

MODE

| P1 ACTIVE | ➡ | ACTIVATE P2 | ➡ | ACTIVATE P3 | ➡ | PERM COMFORT | ➡ | PERM REDUCED | ➡ | FROST PROTECTION | ➡ | SETTINGS |

P2 ACTIVE
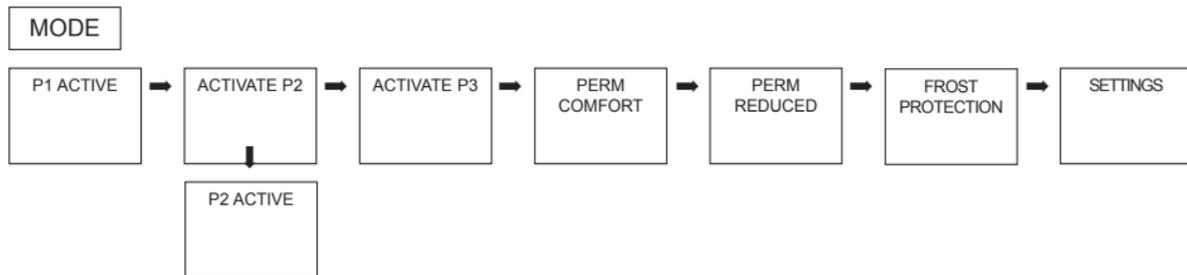
➤ Use <- or -> to scroll through menu points, select desired program and confirm by pressing **OK**.

MODE – Settings– Overview

SETTINGS

| TARGET TEMP | ➡ | TIME/ DATE | ➡ | PROGRAMM ING | ➡ | HOLIDAY | ➡ | OPTIONS | ➡ | SERVICE | ➡ |

TARGET TEMP	TIME/ DATE	PROGRAMM ING	HOLIDAY	OPTIONS	SERVICE
COMFORT 3	HOUR	PROG P1	HOLIDAY START	LANGUAGE	WALL COM
COMFORT 2	MINUTE	PROG P2	YEAR	DISPLAY	OPTIMISE
COMFORT 1	YEAR	PROG P3	MONTH	LCD BACKLIGHT	EXT. INPUT
REDUCED TEMP.	MONTH	HOT WATER	DAY	CONTRAST	DEVICE TYPE
FROST PROTECTION	DAY	CLEAR PROG	HOUR	KEY LOCK	CONTROL
	SU-WI RULE		HOLIDAY END	ERROR FORMAT	SERVICE
			⋮	FACTORY SET	CHIMNEY SWEEP
			FROST PROTECTION		INFO
					TSP PARAMETERS

Change target temperature
(only for room-dependent control)

➢ 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
comfort 2, frost protection etc.)
are adjusted accordingly.
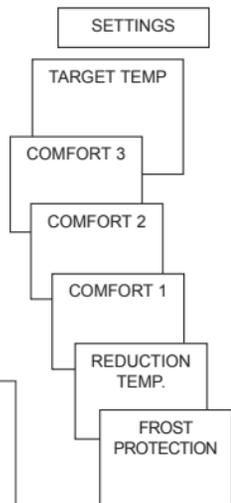All 3 comfort temperatures
can be selected as required:

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

SETTINGS

TARGET TEMP

COMFORT 3

COMFORT 2

COMFORT 1

REDUCTION TEMP.

FROST PROTECTION

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**.

SETTINGS

TIME/ DATE

HOUR

MINUTE

YEAR

MONTH

DAY

SU-WI RULE

EUROPE	EUROPE WEST	EUROPE EAST	NO SU-WI
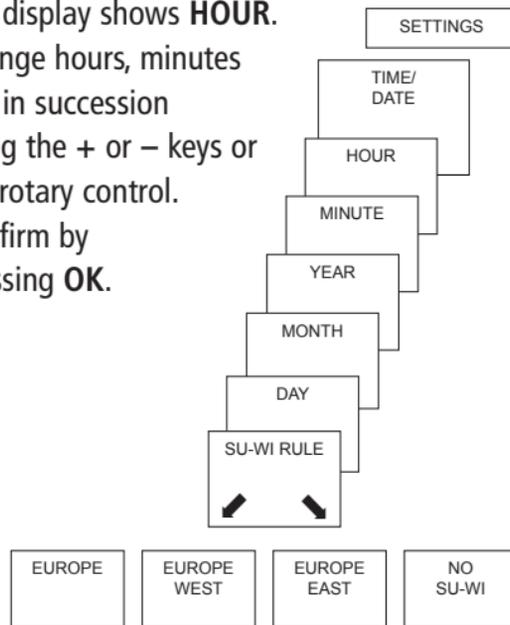
Set Holiday program

- ➤ 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**.

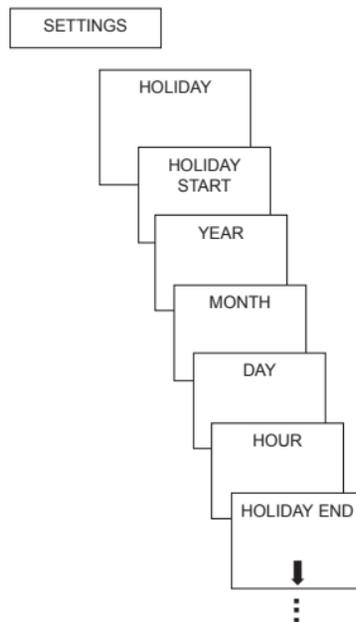- ➤ Finally, enter **HOLIDAY END** in same way
  as **HOLIDAY START** entry.
- ➤ Set desired temperature for the holiday
  period using the **+** or **–** keys and
  confirm with **OK** .

A maximum of one holiday period can be
entered.

```
SETTINGS

  HOLIDAY

    HOLIDAY
    START

      YEAR

        MONTH

          DAY

            HOUR

              HOLIDAY END

                ↓
                ⋮
```

Set temperature pre-selection

↓
⋮

FROST PROTECTION	REDUCED TEMP.	COMFORT 1	COMFORT 2

...
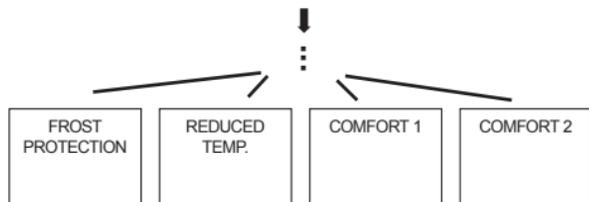
Check/clear holiday program
(only possible with a programmed holiday period)

```
        HOLIDAY
       ↙      ↘
   CHECK        CLEAR
    YEAR        HOLIDAY
DAY/MONTH
    ⋮
```
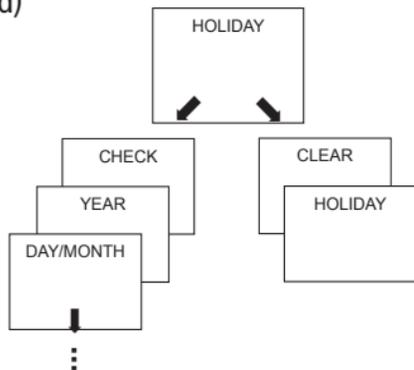
Switch off holiday program

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.

```
        HOLIDAY
         21.6°C
   →  OFF
            HOLIDAY OFF
```

Briefly interrupt holiday program and restart

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

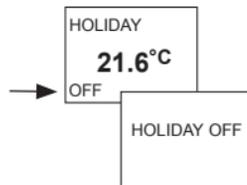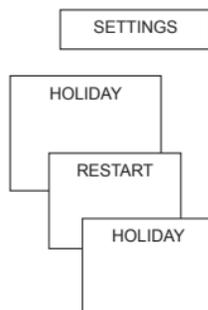➢ Confirm **HOLIDAY** on screen by pressing **OK**.
The display shows **RESTART**.

➢ Confirm by pressing **OK**.
The display shows **HOLIDAY.**

SETTINGS

HOLIDAY

RESTART

HOLIDAY

Programming

Programs P1–P3 and hot water 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 reduction temperature	
Sat-Sun	Comfort 1	7.00–23.00
Program P2 (preset)		
Mon–Fri	Comfort 1	6.00–8.00
		16.00–22.00
	otherwise reduction temperature	
Sat-Sun	Comfort 1	7.00–23.00
Program P3 (preset)		
Mon–Fri	Comfort 1	12.00–20.00
	otherwise reduction temperature	
Sat-Sun	Comfort 1	7.00–22.00
Hot water (preset)		
Mon–Fri	6.00–23.00	60 °C
	otherwise 10 °C	
Sat-Sun	7.00–23.59	60 °C
	otherwise 10 °C	

SETTINGS

PROGRAMM-ING

PROG P1

PROG P2

PROG P3

HOT WATER

CLEAR PROG

17
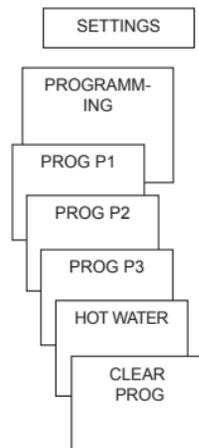
Reset switching time

MODE – SETTINGS– PROGRAMMING

➢ Confirm **PROGRAMMING** by pressing **OK**.
  The display shows, for example **PROG P1**.
➢ Confirm **PROG P1** by pressing **OK**.
➢ Press **NEW** key.
➢ Select 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 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**.

18
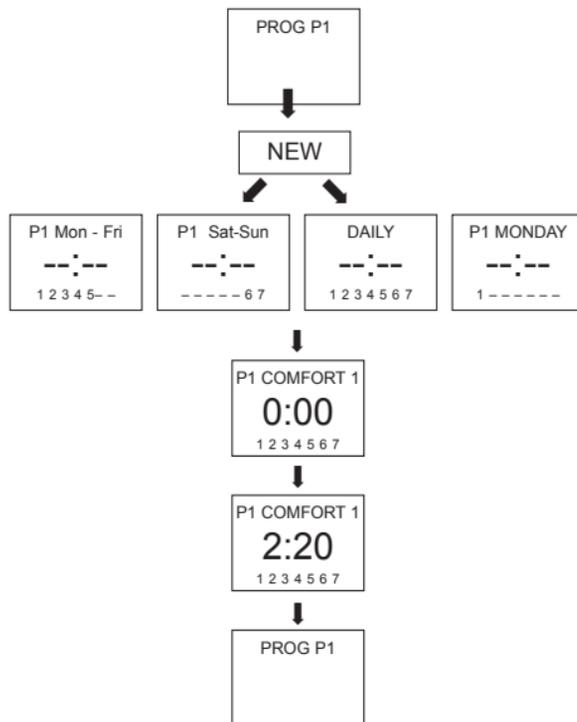
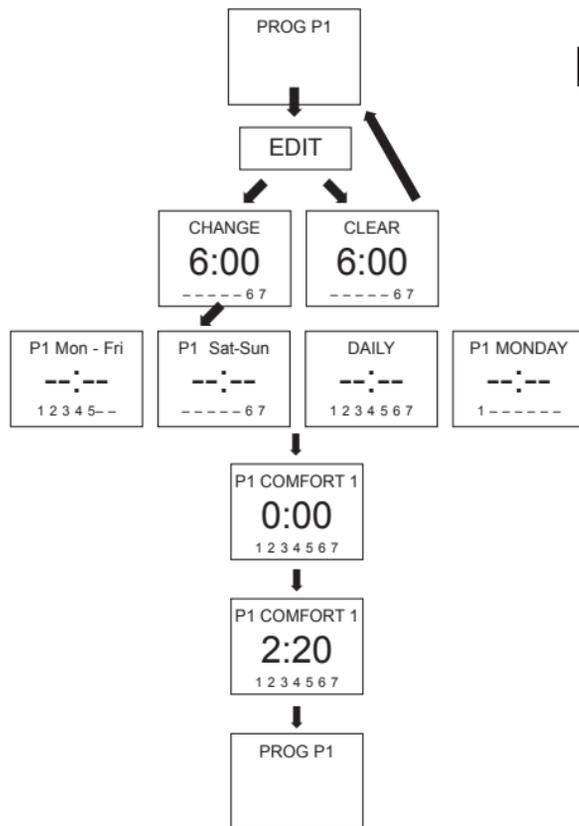# Change or delete switching time

➤ 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**.
➤ Change 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 the rotary control and confirm
  by pressing **OK** .

PROG P1

↓

EDIT

↙   ↘

CHANGE 6:00 - - - - - 6 7		CLEAR 6:00 - - - - - 6 7

P1 Mon - Fri --:-- 1 2 3 4 5 - -	P1 Sat-Sun --:-- - - - - - 6 7	DAILY --:-- 1 2 3 4 5 6 7	P1 MONDAY --:-- 1 - - - - - -

↓

P1 COMFORT 1 0:00 1 2 3 4 5 6 7

↓

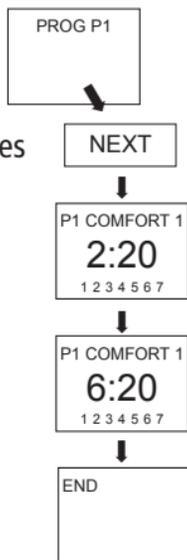| P1 COMFORT 1 2:20 1 2 3 4 5 6 7 |
|---|

↓

PROG P1

19

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.

```
PROG P1
```

```
NEXT
```
↓
```
P1 COMFORT 1
2:20
1 2 3 4 5 6 7
```
↓
```
P1 COMFORT 1
6:20
1 2 3 4 5 6 7
```
↓
```
END
```

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**.

```
SETTINGS

PROGRAMM
ING

PROG P1

PROG P2

PROG P3

HOT WATER

CLEAR
PROG

CONFIRM
```
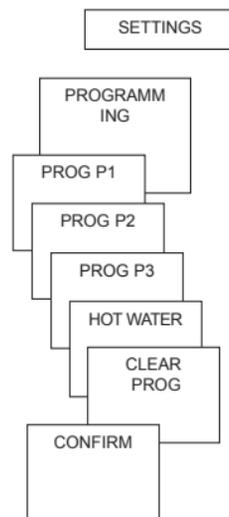
Reset hot water

➢ Confirm **PROGRAMMING** by pressing **OK**.
➢ Select **HOT WATER** using the **<-** or **->** keys.
➢ Confirm by pressing **OK**.
➢ Press **NEW** key.
➢ Select 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 hot water temperature using the
   + or **–** keys or the rotary control.
➢ Confirm by pressing **OK**.
➢ Enter switching time in hours and minutes using
   the **+** or **–** keys or the rotary control.

• Change, view or delete switching times, see page 19f.
• Manual temperature setting for 1 hour possible via
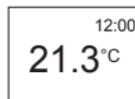 HW-TEMP-SETPOINT (using INFO key).

```
          ┌──────────────┐
          │  HOT WATER   │
          │              │
          └──────────────┘
                 ↓
          ┌──────────────┐
          │     NEW      │
          └──────────────┘
          ↙    ↓    ↘
┌─────────┐ ┌─────────┐ ┌─────────┐ ┌─────────┐
│P1 Mon-Fri│ │P1 Sat-Sun│ │  DAILY  │ │P1 MONDAY│
│  --:--   │ │  --:--   │ │  --:--  │ │  --:--  │
│ 12345- - │ │ - - - -67│ │ 1234567 │ │1- - - - -│
└─────────┘ └─────────┘ └─────────┘ └─────────┘
                 ↓
          ┌──────────────┐
          │  HOT WATER   │
          │    22°C      │
          │   1234567    │
          └──────────────┘
                 ↓
          ┌──────────────┐
          │  HOT WATER   │
          │    0:00      │
          │   1234567    │
          └──────────────┘
                 ↓
          ┌──────────────┐
          │  HOT WATER   │
          │    2:20      │
          │   1234567    │
          └──────────────┘
                 ↓
          ┌──────────────┐
          │  HOT WATER   │
          │              │
          └──────────────┘
```

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.
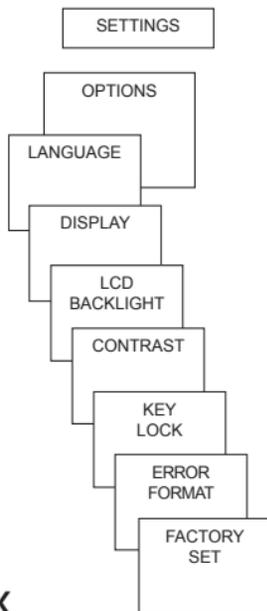
Set display

➢ Confirm **DISPLAY**
  by pressing **OK**.

➢ Use **+** or **–**
  keys or rotary control
  to select values **1–3**.

➢ Confirm by pressing **OK**.

SETTINGS

OPTIONS

LANGUAGE

DISPLAY

LCD BACKLIGHT

CONTRAST

KEY LOCK

ERROR FORMAT

FACTORY SET

| 12:00 |
| 21.3°C |

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

| 18.3° |
| 12:00 |

2 = Standard display: Time and
    temperature are swapped
    round

| 12:00 |
| ROOM TEMPERATURE |
| 21.3°C |

3 = complete display

Set LCD backlight

The backlighting can be switched on or off.

➢ Confirm **LCD BACKLIGHT** by pressing **OK**.
  The display shows, for example, **0**.
➢ Use **+** or **–** keys or the
  rotary control to select 0–1.
➢ Confirm by pressing **OK**.

Backlighting only works if the connected
devices support SmartPower. This menu item
is not available if devices are connected
without SmartPower.

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 **KEYPAD LOCK** on the display.

Set key 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 error format

To display error messages correctly you can choose between hexadecimal and decimal.

➢ Confirm **ERROR FORMAT** by pressing **OK**.
 The display shows **HEXADECIMAL** or **DECIMAL.**
➢ Confirm by pressing **OK**.
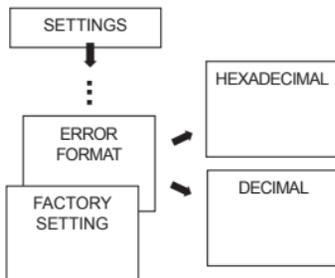
Set factory settings

The factory settings return all controller settings to delivery status.

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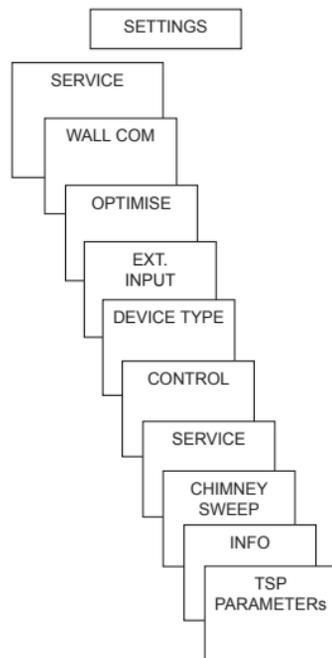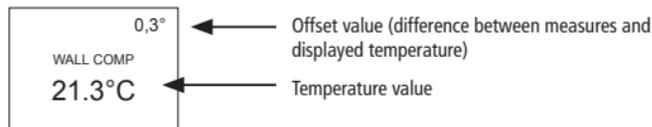 The display shows **CONFIRM.**
➢ Confirm by pressing **OK**.

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🔧 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**.

```
                    0,3°  ◄──── Offset value (difference between measures and
                                displayed temperature)
         WALL COMP
         21.3°C           ◄──── Temperature value
```

```
                    SETTINGS
            SERVICE
         WALL COM
              OPTIMISE
                  EXT.
                  INPUT
               DEVICE TYPE
                    CONTROL
                       SERVICE
                       CHIMNEY
                       SWEEP
                          INFO
                            TSP
                            PARAMETERs
```

Set optimisation (not for weather-dependent control)

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 factors.

➢ 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 type of device

In type of device you can choose between OT device and a 0–10 V device.

➢ Confirm **TYPE OF DEVICE** by pressing **OK**.
➢ Use the **+** or **–** keys select **OPEN-THERM** or **0–10 V** and confirm by pressing **OK**.
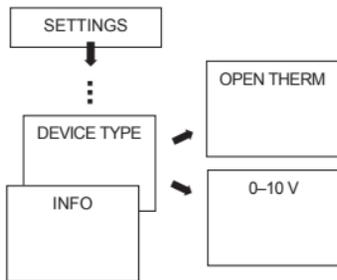
0–10 V (± 0.5 V) output

➢ **Reset** is required after device change-over.

Set external input

The external input on the RAMSES 850 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 between **UNUSED INPUT, FLOOR SENSOR, ROOM SENSOR, WINDOW SWITCH, PHONE 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)
RT 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 contact:	no options,	as long as the window contact is switched on, the thermostat controls at frost protection temperature; window contact is displayed on screen.

| Telephone contact: | 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 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

System upgrade with the OT Center

If you want to upgrade RAMSES 855 top2 with the OT Center, please contact our service hotline.
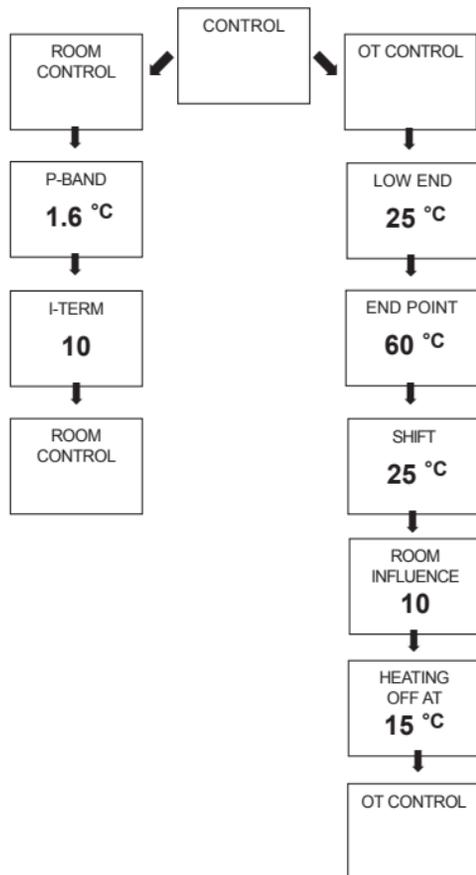
Set controller

RAMSES 850 top2 OT can be used as room-dependent (room temperature dependent) or weather-dependent (outdoor temperature dependent) versions.

Confirm **CONTROLLER** by pressing **OK**.

➢ You can choose between **ROOM CONTROLLER** or **AT CONTROLLER**.

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

After a reset you will be asked to select a type of control.

If the OT-Box RAMSES top2 OT is connected, for the external temperature regulation a 2nd heating circuit can be set (with base point2, end point2, delay2).

CONTROL

ROOM CONTROL

P-BAND
1.6 °C

I-TERM
10

ROOM CONTROL

OT CONTROL

LOW END
25 °C

END POINT
60 °C

SHIFT
25 °C

ROOM INFLUENCE
10

HEATING OFF AT
15 °C

OT CONTROL

The room setpoint temperature can be set directly with the room-controlled version. With the weather-dependent version (📖 on screen) the temperature is determined by a set heating curve. The base and end points of this curve can be set.
With the REDUCED TEMP temperature level, the curve can also be adjusted by a set value.
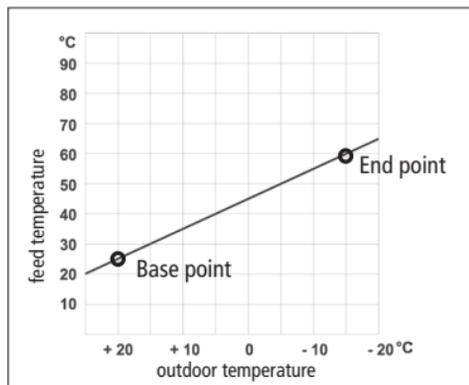
Set heating curve

With weather-dependent control, the base and end points of the curve can be set. The curve can be adjusted using the + or – keys for a temporary change of temperature (see fig. on page 31).

	Setting range	Factory settings
Base point	10–40 °C	+25 °C
End point	25–90 °C	+60 °C
P adjustment reduction	5–35 K	25 K
Frost limit		+3 °C

Set parameters for the heating system

Heating type		Feed/return temp.
Radiator heating	Top temperature	90 / 70
Radiator heating	Mid temperature	70 / 50
Floor heating	Lowest temperature	40 / 30

Heating type	HVAC base point	HVAC end point	P-adjust-ment/reduction	Frost line
90 / 70 system	30 ℃	85 ℃	15 ℃	3 ℃
70 / 50 system	25 ℃	75 ℃	15 ℃	3 ℃
40 / 30 system	25 ℃	45 ℃	15 ℃	3 ℃

Temporarily change heating curve

If you change the programmed heating curve, a parallel adjustment of +/–5 can be set, i. e. a heating curve adjustment from the set value of max. +/–25 K (+1 ≙ +5 K, –1 ≙ –5 K). The changed curve is not permanently stored but only remains in place until the next time the the program's temperature is changed.

If one of the **PERM COMFORT**, **PERM REDUCED** or **FROST PROTECTION** programs has been set the changed curve is kept until the next program change.

Switch off heating (HEATING OFF AT)

With weather-dependent control you can program the controller so that the heating switches off at a set outdoor temperature.

Set room influence

With weather-dependent control, the feed temperature can be adjusted if there is a large divergence between the room temperature and the setpoint temperature.

Offset supply temperature $= \Delta T_v$
Set room influence $= PI$
Setpoint value of room temperature $= T_{R\ set}$
Actual value of room temperature $= T_{R\ act}$

$\Delta Tv = PI\ (T_{R\ set} - T_{R\ act})$
Example: $T_{R\ set} = 20\ ^\circ C$ $T_{R\ act} = 18\ ^\circ C$ $PI = 3$
$\Delta Tv = 3 \times (\ 20\ ^\circ C - 18\ ^\circ C) = 6\ K$

Result: The feed temperature is increased by 6 K.

The higher the selected room influence, the greater the influence of the room temperature on the feed temperature.

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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**.

```
SERVICE

MONTHS BEFORE
NEXT SERVICE
    12
```
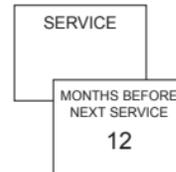
Set chimney sweep function

This function serves to carry out the prescribed emission measurements.

➢ Confirm **CHIMNEY SWEEP** by pressing **OK**.
➢ Select PART LOAD or FULL LOAD using the **+** or **– keys.**
  Confirm by pressing **OK**.
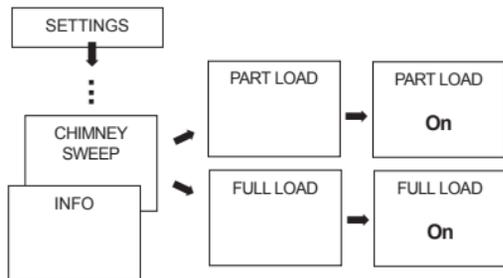
Set TSP parameters (Transparent Slave Parameters)

The TSP parameters are set in the SETTINGS -> SERVICE menu.

➢ Confirm **TSP-PARAMETER** with **OK**.
  Various TSP parameters can be set (see the OT-Box RAMSES top2 OT operating guide).
➢ Use the **+** or **–** keys or the rotary control to enter the value and confirm with **OK**.
  The value will be transferred to the OT-Box RAMSES top2 OT.
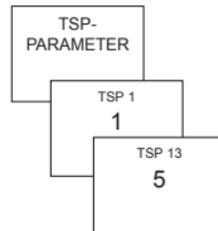
Technical data

Controller type:	modulating controller, works with OpenTherm protocol (OpenTherm V4.0 with SmartPower)
Power supply:	OT bus or 24 V (SELV)
Temperature setting range:	+4 °C to +30 °C in increments of 0.2 °C
Permissible ambient temperature:	0 °C ... +50 °C
Memory locations:	42
Protection class:	III in accordance with EN 60730-1 subject to designated installation
Protection rating:	IP 20 in accordance with EN 60529
Time accuracy:	≤ 1 s/day at 20 °C
Power reserve:	4 hours
Pollution degree:	2

Error messages

For the error messages that are sent from the OT-Box RAMSES top2 OT to the room thermostat, see the OT-Box RAMSES top2 OT operating guide.

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