

theben

307400

EN Clock thermostat

RAMSES 812 BLE
8120150



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1. Basic safety information



WARNING

Danger of death through electric shock or fire!

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

- The clock thermostat conforms with EN 60730-2-9 if correctly installed
- Corresponds to type 1 B in accordance with IEC/EN 60730-2
- Operation and programming only via **RAMSES BLE** app
- With external input (no SELV, adjustable)



2. Proper use

- Heating control for time-dependent monitoring and control of room temperature in single-family houses, offices etc.
- Use in dry rooms with normal levels of domestic cleanliness

Disposal

- Dispose of device in environmentally sound manner

3. Installation

Mounting the clock thermostat



Electrostatic discharge!

Caution, sensitive electronic components!

When fitting, observe ESD safety measures (electrostatic discharge).



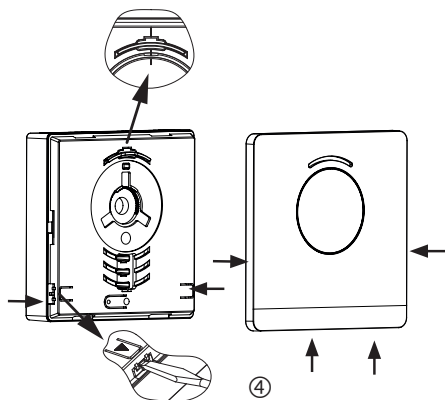
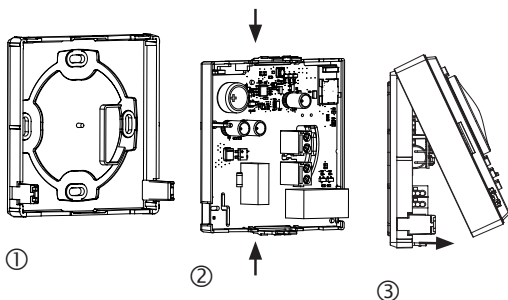
Position the clock thermostat on an internal wall, at about eye level.



Avoid drafts or heat emission.

① For wall mounting








- ▶ Attach the mounting plate above the wall outlet for the supply line ①.
- ▶ Engage and wire the circuit board carrier ②.
- ▶ First, hook in the upper part of the clock thermostat on top, then engage ③.
- ▶ Put on the cover ④.

Dismounting the clock thermostat

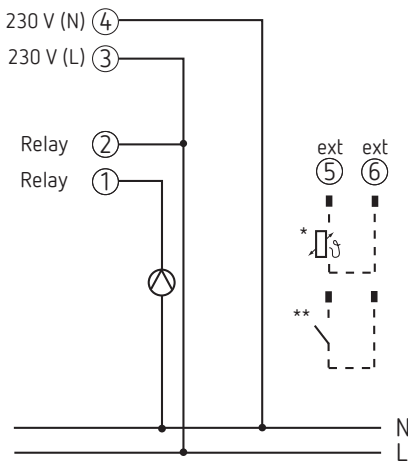
- Using a screwdriver, loosen the front panel at the two side and bottom openings ④.
- Then release the catches on the left and right and remove the upper part of the housing ③.
- Loosen the plug-in connectors and press the circuit board carrier together at the top and bottom ②.
- Remove the circuit board carrier through the front.

4. Connection

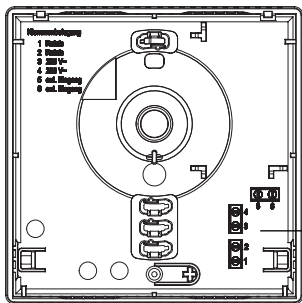
Power is supplied via L and N (see technical data); the connection to the boiler is made via a relay contact.

-  Disconnect the boiler from mains supply before connecting the thermostat.
-  In order to eliminate the possibility of EMC interference, always lay the mains supply feed separate from the external input (if one is being used).
-  Faulty connections will damage the device.

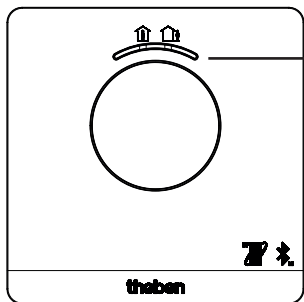




Terminal layout



5. Manual setting at the clock thermostat



- Button with LED display for setting
- Comfort mode (green LED on)
 - ECO mode (green LED off)

With the button, you can select either comfort mode or ECO mode.

1. Quick selection of comfort or eco mode

- Press the button
→ Comfort mode or eco mode will be set.

At the next switching time, the quick selection will be reset.

2. Pairing

- Press the button for 3 s
→ RAMSES BLE can be connected with a smartphone/ tablet (paired) for 5 min. (green LED flashes). If pairing is successful, the LED goes out.

Delete pairing

- Press the button for 6 s

→ All connections saved in the RAMSES BLE (pairing) will be deleted (red LED flashes)

- ▶ Delete the connection/pairing also on the smartphone/tablet (Settings → Bluetooth pairing → delete respective device (RAMSES BLE)).

The PIN will be reset to 0.

3. Reset

- ▶ Press the button for 12 s
→ Hardware reset (the red LED goes out)

6. Settings and functions – operation via Theben app



Is my smartphone BLE capable?



- ▶ Download Bluescan app for Android and iOS

The app can be used to check whether a device is BLE capable or not.

RAMSES BLE app



Settings, device management
Software info

Selection RAMSES BLE

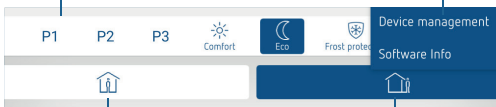
Set temperature, adjustable in increments of 0.2 °C (2 °C – 30 °C)

Info: External input, relay, PIN etc.



Operating modes:
– Programs P1 – P3
– Comfort, reduction, frost

Programming of switching times



Quick selection
Comfort mode*

Quick selection
Eco mode*

*until the next switching time

Connecting clock thermostat and smart-phone (via app) – pairing

The clock thermostats can be programmed using an app (from Android 4.3, iOS 5) on a mobile end device. Communication takes place via Bluetooth BLE.

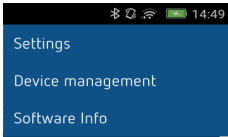
- Download the RAMSES BLE app from the App Store or Google Play Store



- Open the app
 - Window with offline mode/assign appears
- Press the button on RAMSES BLE for 3 s (green LED at RAMSES BLE flashes)
- Press **Assign**
 - Device list appears
- Select device and press ok
- Enter the name for RAMSES BLE (e.g. living room ...)
- Confirm with ok
 - RAMSES BLE is now paired. Each time when restarting the app, a connection will be established. This takes several seconds (the Bluetooth icon on the top left of the app flashes)



Loading additional devices ...

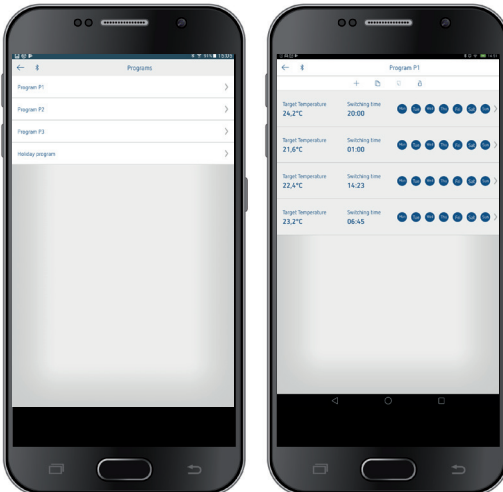


- Press device management
→ A window will open
- Press +
→ Further devices will be searched ...



Program

In the program menu,

- programs P1 – P3 can be changed
- a new program, or
- a holiday program can be created, or



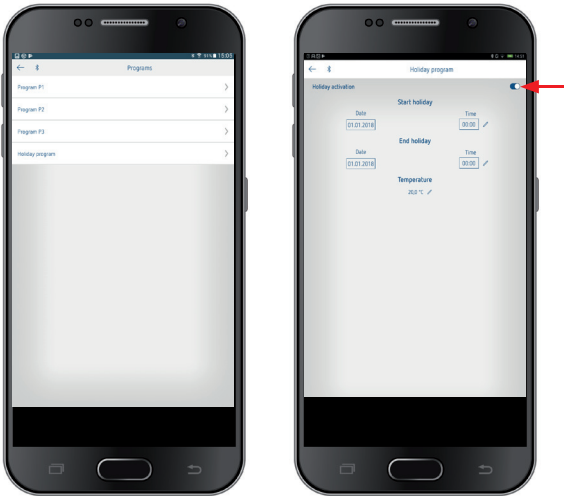
- Programs P1 – P3 can be set, edited, or deleted.
- A maximum of 24 switching times can be set per program, up to a total of 42.

① During programming, selected days are shown like , and unselected days like .

The created programs are automatically sent to the clock thermostat.

Creating a holiday program

In order to create a holiday program and activate it,
 ➤ slide the controller to "Activation"



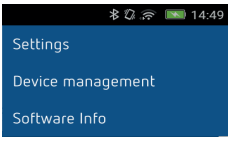
After a holiday program has been created via the app, the clock thermostat receives the following information:

- active/not active
- Start date and end date with time
- Room set temperature during holiday time

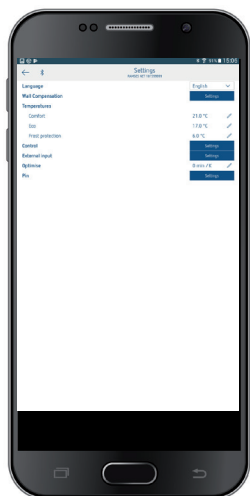
Info



Settings



- Press Settings
→ A window will open



① The functions in this submenu have to be set by the qualified electrician.

In the settings, language, temperature (comfort, eco, frost), wall compensation, optimisation, etc. can be set.

1. Setting the wall compensation

If the installation location is unfavourable, temperature deviations between detected and actual room temperature might occur. This difference can be corrected by using the wall compensation.



2. Setting the controller

Behaviour of a PD controller (pulse duration controller)

With adapted heating systems, a PD controller is characterised by its short transient time, minimal overshoot and high control accuracy.

- Control period: 5 bis 30 min
- Control range: $\pm 0,2$ K bis ± 5 K


Behaviour of a hysteresis (on/off) controller

In over or undersized heating systems, a hysteresis controller is characterised by a minimum switching frequency and low temperature deviations.

- Switching hysteresis: $\pm 0,2$ K bis ± 1 K

3. External input

The external input can be configured for various external sensors.

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

The following options are available with the individual sensors/contacts

Floor	Temperature limit	Floor temperature restriction, floor temperature selection adjustable between 20 °C and 50 °C; floor sensor (9070321) ⓘ no safety temperature limiter, but device type 1 B in accordance with EN 60730-1
Room temperature	no options	The internal temperature sensor will be switched off; external temperature sensor (IP 65) (9070459)
Presence detector	Temperature selection	This temperature is used for control if the HVAC output of the presence detector is switched. If no presence is detected, the set program is used for control
Window contact	no options	As long as the window contact is switched, the thermostat controls to frost protection temperature
Telephone contact	Temperature selection	Select temperature for the controller if the telephone contact is switched

Error display at RAMSES BLE

- ⓘ If the external input is set to "floor" or "room temperature", an appropriate temperature sensor has to be connected. If this sensor is missing, the red LED flashes at one second intervals.



4. Setting the 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 starts. This time applies per K of temperature difference between actual temperature and desired set temperature.

Example

At 06.00 a.m. in the morning, a change in the bathroom is programmed from reduction (17 °C) to comfort temperature (23 °C).

Without optimisation function, the room thermostat enables the heating request for the bathroom at 06.00 a.m. Depending on the size of the room and the installed heating system, the bathroom reaches the desired 23 °C at 6.30 a.m., for example.

With a set optimisation of 5 min/K, the thermostat sends the heating request earlier, as follows:

Set temperature at 06.00 a.m. → 23 °C
Actual temperature → 17 °C
i.e. Delta T = 6 K
 $6 \text{ K} * 5 \text{ min/K} = 30 \text{ min}$

The controller sends the heating start 30 min. earlier and reaches the setpoint temperature at 06.00 a.m.

- ① The optimisation value depends on the spatial and heating conditions.

5. PIN

This function can be used to assign a new PIN.

- The factory setting for the PIN is 0.
- New PIN can be entered (1 – 6 digits).
- In case of **Delete pairing** (2nd pairing), the PIN is set to 0.
- If the PIN is 0, the PIN will not be requested during pairing.



7. Technical data

Supply voltage:	230 V AC +10 % / - 15 %, 50 Hz
Controller type:	Hysteresis controller or pulse duration controller
Contact:	Switch contact μ max. 8 (1) A / 250 V AC
Temperature setting range:	+ 2 °C ... + 30 °C in increments of 0.2 °C
Memory locations:	42
Protection rating:	IP 20 in accordance with EN 60529
Protection class:	II in accordance with EN 60730-1
Operating temperature:	+ 0 °C ... + 50 °C
Power reserve:	4 hours
Mode of operation:	Type 1 B in accordance with EN 60730-1
Rated impulse voltage:	4 kV
Pollution degree:	2
Software	Class A

Theben AG herewith declares that this type of radio installation complies with Directive 2014/53/EU. The complete text of the EU Declaration of Conformity is available at the following Internet address: www.theben.de/red-konformitaet

8. Contact

Theben AG
Hohenbergstr. 32
72401 Haigerloch
GERMANY
Phone +49 7474 692-0
Fax +49 7474 692-150

Hotline

Phone +49 7474 692-369
hotline@theben.de

Addresses, telephone numbers etc.
www.theben.de

