RPW411P-FTL room control module

Room control module with room humidity/temperatures sensor with SolarRadio technology, integrated bidirectional EnOcean wireless interface and algorithm for self-learning of utilization time profiles/heating profiles in rooms.



Application

Solar-powered, self-learning room control module with LCD and smart communication management.

For measuring room humidity and temperature, independent generation of utilization time profiles and their continuous dynamic adjustment/optimization and for wireless transmission of measured values.

Occupancy button for manually changing the comfort mode or economy mode status.

Together with the MD10-FTL-HE valve controller, the RPW411P-FTL room control module constitutes a functional unit for easy room temperature control.

The following EnOcean radio telegrams are supported:

- Manufacturer Specific Communication MSC* radio communication with MD10-FTL-HE
- EnOcean Equipment Profile EEP D2-10-30* radio communication with an Enocean system gateway

For information about the protocol description, visit
http://tools.enocean-alliance.org/EEPViewer/

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Important Information on Product Safety

Safety instructions

This data sheet contains information on installing and commissioning the product “RPW411P-FTL”.

Read this product description prior to installation, commissioning or operation. No previous special knowledge is required to commission and operate this product.

If you have any questions that are not resolved by this data sheet, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this data sheet, intended use could be impaired.

Unauthorized conversion and modifications to the device are not permitted for safety reasons and will result in the loss of all claims against the manufacturer.

The applicable local regulations must be observed when installing and using the device.

Meaning of the symbols



WARNING

Indicates a hazard of medium risk which can result in death or severe bodily injury if it is not avoided.



CAUTION

Indicates a hazard of medium risk which can result in material damage or malfunctions if it is not avoided.



NOTE

Indicates additional information that can simplify the work with the product for you.



Notes on disposal

In accordance with the applicable laws and directives of the European Union countries, the product should not be disposed of with household waste. This ensures environmental protection and sustainable recycling or raw materials.

Private users should contact their local retailer or their local authority for information regarding environmentally safe recycling of old appliances.

Commercial users should contact their supplier and observe the conditions of the purchase agreement. This device may not be disposed of together with other commercial waste.

Care instructions

The room control module should be cleaned with due care. Moisture must not be allowed to enter the housing.

CAUTION

Housing with a sensitive surface.

Shocks and abrasive cleaning materials can lead to scratches and a dulling of the surface.

Remove the protective foil only after you have finished all work.

Do not use any abrasive cleaning materials or cleaning products to clean the device. Clean the housing with a moist, lint-free cloth.

NOTE

This device contains a humidity sensor. This humidity sensor is influenced by chemical substances in the air that can be produced, for example, due to the evaporation of cleaning and care products used to clean the room.

NOTE

The operating modes described here only apply for the self-learning room temperature control consisting of:

- Valve controller MD10-FTL and
- room control module RPW411P-FTL.

Other radio partners such as gateways can generate other functions.

Comfort mode: Operating mode for a room that is in use (usage status: “Present”). The controller operates with comfort setpoint according to the value set on the MD10-FTL-HE valve controller.

Economy mode: Energy-saving operating mode (usage status: “Absent”) for a room that is not in use. The setpoint is decreased by approximately 4 °C depending on the value set on the value controller.

Item

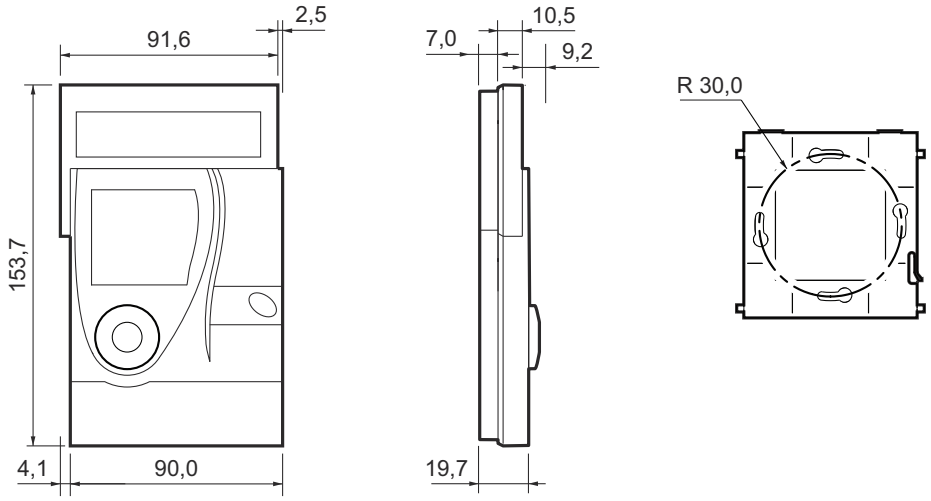
RPW411P-FTL	Room control module with humidity/temperature sensor, with SolarRadio technology and integrated bidirectional EnOcean wireless interface. Automatic determination of the utilization time profile/heating profile in the room for automatic control of comfort mode and economy mode For self-learning, energy self-sufficient and occupation-dependent control of the room temperature in conjunction with the MD10-FTL-HE valve controller

Technical Data

Nominal voltage	Dual power supply consisting of a solar cell and an internal energy storage unit with priority management Additional internal energy source, 2x 3.6 V, AA lithium
Measured quantity	Room temperature and relative humidity in homes or offices
Measuring system	Temperature sensor: - Integrated digital sensor Occupancy sensor: - Integrated PIR (“Passive infrared”) sensor Humidity sensor: - Integrated digital sensor
Measuring range	Temperature: 0 to 50 °C Relative humidity: 20 to 80%
Measuring tolerance	Temperature: Typically ±0.3 K Humidity: Typically ±3.0%r.F. at 25 °C
Display	LCD display: ■ Room temperature, humidity, date or time, optional ■ Status indicators
Controls	■ Occupancy button: manually switch between comfort mode/economy mode For selecting options from the menu and setting the setpoint and time, for example
Interfaces	EnOcean® radio interface: ■ Radiogram: EnOcean radiogram, bidirectional ■ Frequency: 868.3 MHz ■ Duty cycle: < 1% ■ Cyclic transmission/reception intervals
Communication cycle	10 min
Transmission power	< 10 mW
Illumination strength	Min. 150 lux recommended
Operating range	Radio: Approx. 30 m in buildings (depending on building structure) Occupancy sensor: Approx. 10 m
Housing	Plastic housing, RAL 9010 (pure white), 7001
Protection class	III
Degree of protection	IP30
Ambient temperature	0..50 °C
Ambient humidity	During operation: 20..85% r.h., non-condensing Out of operation: 5..90% r.h., non-condensing
Mounting	Flexible mounting using screws or adhesive

Maintenance	Maintenance-free
Weight	0.22 kg
Dimensions	WxHxD in mm: 90 x 153.7 x 26.7

Dimensions



Radio Interface

The radio communication with the radio partner is cyclical, bidirectional and includes an intelligent synchronization process.

If the radio communication between the room control module and the radio partner is interrupted, an internal resynchronization algorithm starts automatically.

Radio interference is indicated on the screen by corresponding icons (see page 28).

CAUTION

This product uses only EnOcean wireless telegrams.

Only devices that support the EncOcean radio standard can be used as radio partners.

Installation

CAUTION

This product description describes the specific settings and functions of the RPW411P-FTL room control module. In addition to these instructions, the product description of the radio partner must also be observed.

General installation instructions

It is not always possible to freely select the installation location of devices which communicate wirelessly, as radio data transmission is influenced to a greater or lesser extent by structural or spatial factors.

In order to establish operational and reliable communication paths, the following aspects must be considered before and during planning:

- Structural factors restrict the transmission ranges which can be reached. Building materials and screening elements (e.g. suspended ceiling elements, installation shafts, fire doors, etc.) must be taken into consideration during planning.

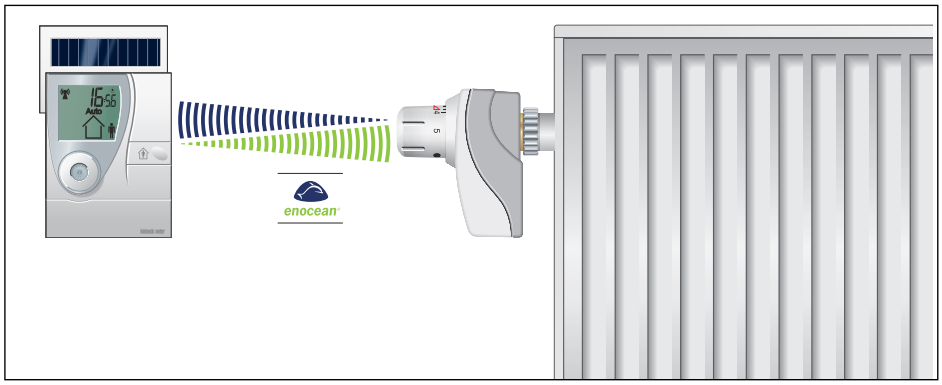
CAUTION

Elevated humidity increases natural signal damping.

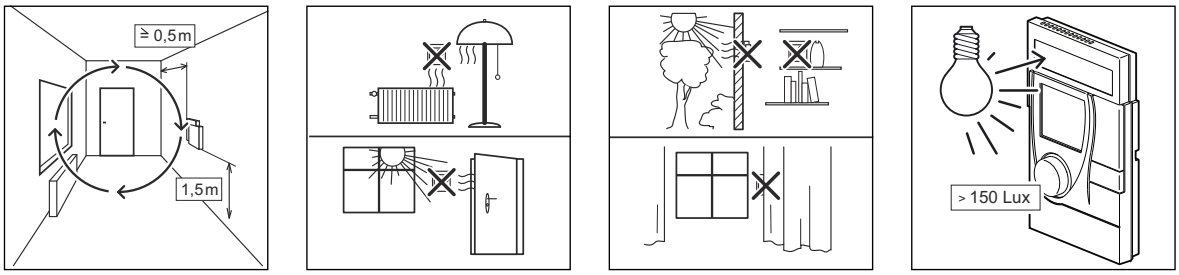
NOTE

Recommendation: Plan radio paths **horizontally on a single level** with max. 30 m between the trasmitting and receiving modules.

- Designed only for use in rooms.
- Observe minimum distances to potential sources of interference.
  - Min. 0.5 m to high-frequency sources of interference (such as microwaves, transformers or computers)
  - Min. 0.5 m to transmitters of other radio systems (such as a cordless telephone or headphones)
  - Min. 0.1 m to metal and door frames
- Minimize the effect of wall thickness (for example partition walls or room dividers) by ensuring that the radio signal passes through the walls at as close to a right angle as possible.
- Do not select installation locations in the radio shadow of screening building parts/structures → No direct reception possible.
- Where the device is installed at the limits of reliability, change the position of the transmitter/ receiver slightly if possible (reduce overlapping effects of radio waves).



- In order for the room control module to be able to measure the room temperature and humidity quickly and accurately, it must be installed in such a way that it can detect the air flow in the room.



- As a result of the autonomous operation and wireless installation of RPW411P-FTL, the selected installation location can be changed and optimized at any time without additional effort.

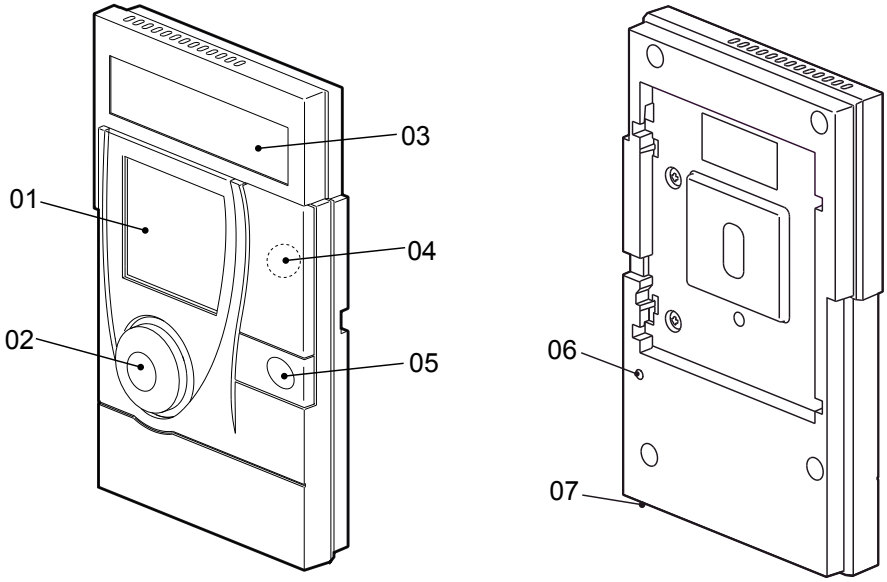
The installation location must have sufficient lighting; using the device in unlit rooms (such as interior kitchens/bathrooms) shortens long-term functionality.

The solar cell is optimized for indoor use and it works particularly efficiently with diffuse lighting.

CAUTION

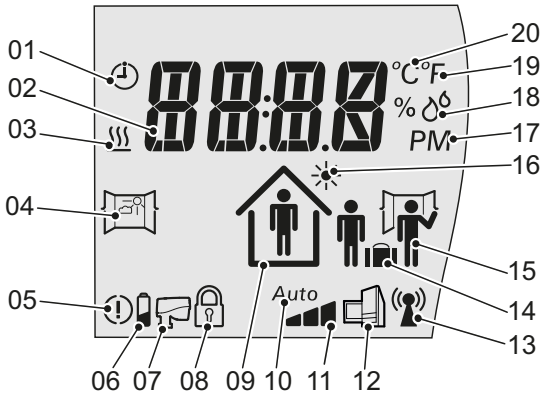
Prolonged illumination at high intensities, e.g.
- direct sunlight or
- artificial light (such as halogen emitters) can cause damage to the solar cell.

Controls and functional components



Item	Designation	Explanation
01	Display	Displays information regarding the current status
02	Occupancy sensor	Detects presence/absence for the utilization time profile
03	Solar cell	Generates the energy for the room control module
04	Magnetic contact (below the housing)	For information about selecting the service level, see page 24
05	Occupancy button	- Switching between comfort mode/economy mode, see page 16 - For switching the RPW411P-FTL on/off (with the setting button), see page 11 - For setting functions
06	Setting button	- Switches the room control module on (together with the occupancy button); see page 11 - Starts the login process; see page 12 - Resets the room control module to factory settings; see page 17
07	Service connection (underside)	For authorized service technicians only

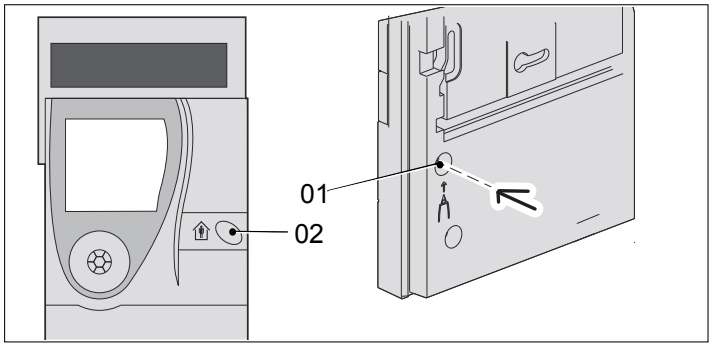
Indicators on the display



Item	Icon/display	Explanation
01	Time	The information field displays the time (HH:mm)
02	Information field	Display of the room temperature, room humidity, date, time (= initial display, can be configured) or messages
03	Heating	Recommendation to heat the room
04	Window	Rapid temperature drop detected
05	Message	Status or malfunction messages present
06	Battery	Room control module energy storage unit charging state < 30%
07	Actuators	Teach-in modes for actuators active
08	Display lock	The buttons cannot be operated
09	Occupancy	Occupancy sensor is active (test installation location), detected presence/absence and vacation mode
10	Auto	Learned utilization time profile is active, automatic mode
11	Bars	Shows the field strength of the receiving wireless signal, in information menu only
12	Gateway	Remote access by the EnOcean system gateway, teach-in modes for gateway active
13	Antenna	Status of the radio connection
14	Vacation mode	This icon appears on the display when vacation mode is activated
15	Open window	Recommendation to ventilate the room
16	Sun	The solar cell is active (test installation location). Summer mode is active
17	PM	When 12 hour display is activated, afternoon
18	Humidity	Information field displays the humidity as a percentage (%)
19	Fahrenheit	The information field displays the temperature in degrees Fahrenheit (°F)
20	Degrees Celsius	The information field displays the temperature in degrees Celsius (°C)

Commissioning

Switching the device on/off



(01) Setting button
(02) Occupancy button

■ Switching on

The device is delivered in storage mode (switched off).

All functions are deactivated and the device does not consume any power. The energy storage unit has been fully charged at the factory for initial commissioning.

► Press the “Occupancy button (02)” and the “Setting button (01)” simultaneously for 5 seconds.

The display is activated. The icons “Sun”, “Occupancy” and the text “**InSt**” appear.

The occupancy sensor and the solar cell are active. (= installation/commissioning mode for evaluating the installation location).

NOTE

The “Test installation location” function remains active as long as the text “**InSt**” is displayed (see page 12).

The room control module switches off again if a radio partner is not taught-in within 15 minutes.

■ Switching off

The room control module must be decommissioned (switched off) before transportation or storage. The device does not consume any power and is sufficiently charged when recommissioned.

► Press the “Setting button (01)” for 5 seconds.

The text “**Res**” briefly appears on the display.

The display goes completely blank.

Or

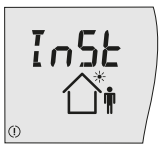
► Run the “Restore default settings and switch off room control module” on the service level, see page 25.

NOTE

The taught-in radio partners are then deleted and the room control module is reset to the default settings.

“Test installation location” function

The room control module provides assistance in selecting the optimum installation location.



This function is active after switching on the device (see the “Switching the Device On/Off” section page 11), provided a radio partner has not been registered (for a maximum of 15 minutes).

The text “**InSt**” is displayed.

- ► Switch on the room control module, see page 11.

  The display switches on. The “Sun”and “Occupancy” icons and the text “**InSt**” appear. The occupancy sensor and the solar cell are active.
- ► Position the room control module at the potential installation location.
- ► Check the “Sun” icon on the display.
- ► Move about in the room and check the “Occupancy” icon.

Evaluation	Display
Installation location good	The “Sun” icon is permanently displayed and the “Occupancy” icon switches from “Person inside the house” to “Person outside the house” and back again
Installation location bad	The “Sun” icon is not displayed or the “Occupancy” icon does not switch to “Person inside the house” and remains unchanged.

- ► Once a suitable installation location has been found, the room control module can be mounted and commissioned.

NOTE

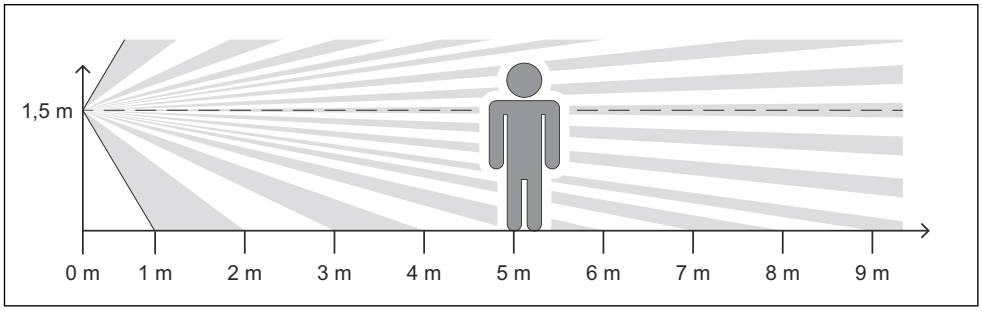
If a radio partner has not been taught-in after 15 minutes, the room control module automatically switches off.

NOTE

If the energy storage unit is empty, the “Sun” icon will not appear even if the location is good. The energy storage unit must be charged first. Charge the energy storage unit by placing the room control module in a source of light for two hours (day light or artificial light, but not direct sun light).

Occupancy sensor

The room control module automatically detects a presence in the room with its occupancy sensor. Depending on the distance, the range of movement in the detection area is important. The further a person is away from the occupancy sensor, the greater the movement must be.

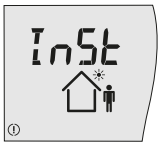


Teaching in the MD10-FTL-HE radio partner on the RPW411P-FTL

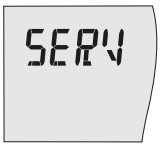
CAUTION

This product description describes the specific settings and functions of the RPW411P-FTL. In addition to these instructions, the product descriptions of the radio partners must also be observed.

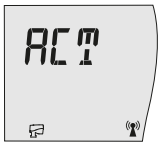
Up to 4 MD10-FLT-HE valve controllers can be taught-in on the room control module.



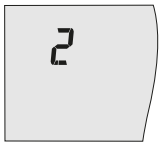
- Switch on the room control module, see page 11.



- Press the Setting button (01) briefly.
  The text “**SERV**” briefly appears on the display, followed by the “actuator” icon and the text “**ACT**”

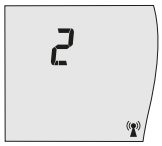


- Press the Occupancy button (02) for approximately 5 seconds.
  The “Antenna” icon also flashes on the display.
- A teach-in radio telegram has to be triggered on the MD10-FTL-HE. Details can be found in the documentation of the MD10-FTL-HE.
- If multiple MD10-FTL valve controllers are to be taught in, the teach-in radio telegrams must be triggered consecutively.



The number of taught-in valve controllers is displayed for approx. 15 s once the teach-in process is complete.

Once all the valve controllers have synchronized successfully after the teach-in process, the “antenna” symbol is also displayed after another 45 s.



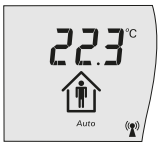
Data has been exchanged between the radio partners.

All valve controllers must be taught-in within a **single** teach-in sequence.

The time between each valve controller teach-in may not exceed 15 s.

The MD10-FTL-HE acknowledges the start of the teach-in process with a signal tone.

Successful registration of the MD10-FTL-HE is acknowledged with two signal tones.



If the teach-in process was successful, the “Antenna”, “Auto” and “Occupancy” icons are displayed.

The current room temperature is displayed.

CAUTION

An error has occurred and registration has failed if the MD10-FTL-HE valve controller acknowledges registration with a downward sequence of tones (two long tones). Start the teach-in process again.

The valve controllers are registered on the RPW411P-FTL. The room control module now starts to learn the individual utilization time profile.

The room control module controls the room temperature using the default utilization time profile until is has learned the first utilization time profile.

Default utilization time profile:

Room used: 6:00 AM - 8:00 PM, comfort temperature

Room unused: 8:00 PM - 6:00 AM, economy temperature

NOTE

It is not possible to add an additional valve controller after the procedure is complete.

If you want to do this, you must teach in **all** valve controllers again.

NOTE

If the room control module was already switched on, the “Switching on the device” item is skipped and the room control module uses the utilization profile that is already taught-in.

Mounting

The room control module can be stuck to smooth, flat surfaces using the wall mount and the adhesive pad supplied, or it can be screwed directly onto level surfaces.

Screws and wall plugs are not included in the scope of delivery of the room control module.

WARNING

Flush mounted cabling and piping at the installation location (electricity, gas, water)

Cabling and piping can be damaged by drilling.

Check the installation location for flush mounted piping and cabling, or contact a specialist.

NOTE

Position the wall mount so that the bar (1) can be easily accessed. Ensure a distance of at least 10 cm from other objects (door frames, electrical sockets, cupboards, etc.).

NOTE

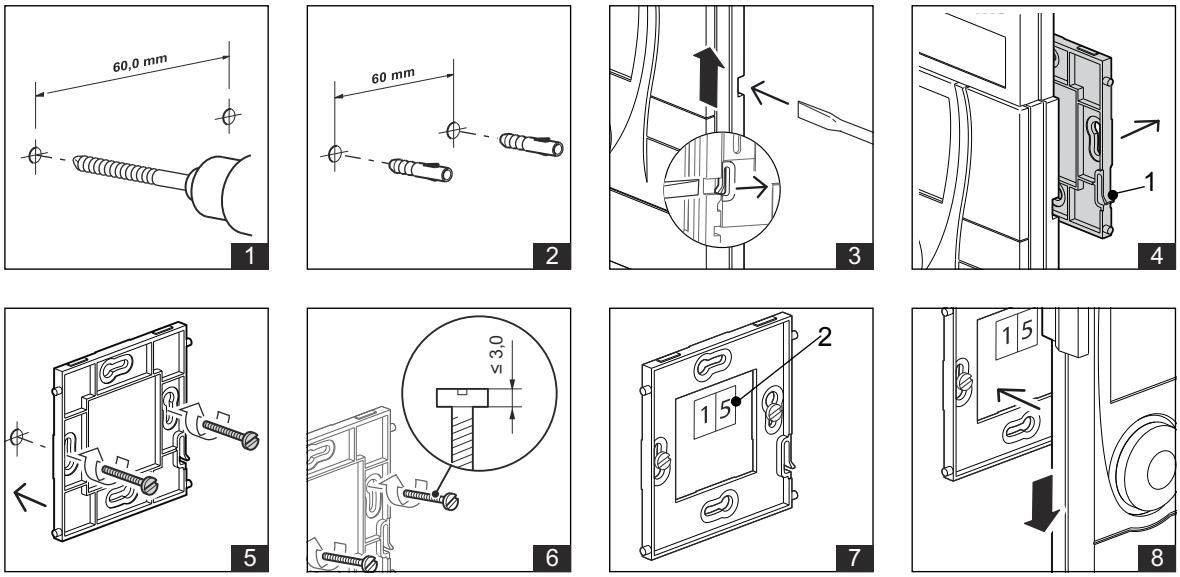
Observe the orientation of the wall mount. The bar (1) must be on the right-hand, lower side when the device is installed, see figure 4.

Use the enclosed adhesive numbers (2) to uniquely identify the mounting location and the respective room control module.

- ► Mark the room control module and the wall mount with a unique number using the enclosed adhesive numbers (2).

Wall mounting

- Flexible screw mounting



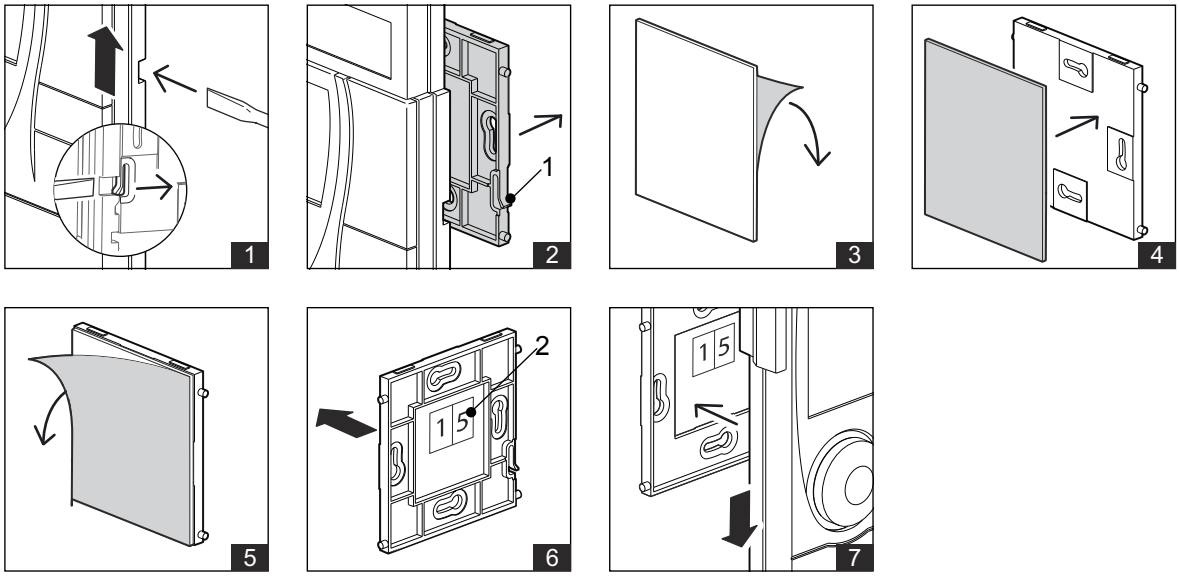
(1) Bar (2) Adhesive digits

Wall mounting

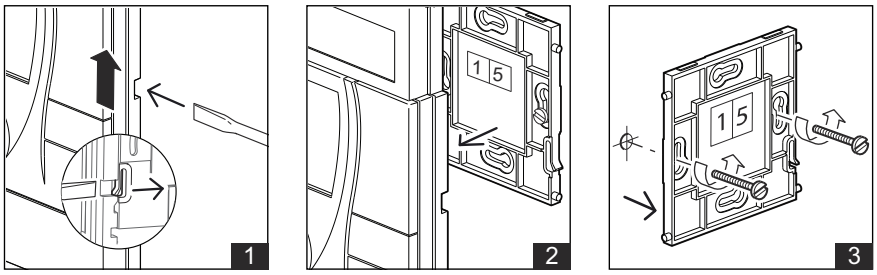
- Flexible adhesive mounting with double-sided adhesive pad

NOTE

For a permanent connection, remove any dust and grease from the adhesive surface on the wall mount and the wall.



Removal



Operating level

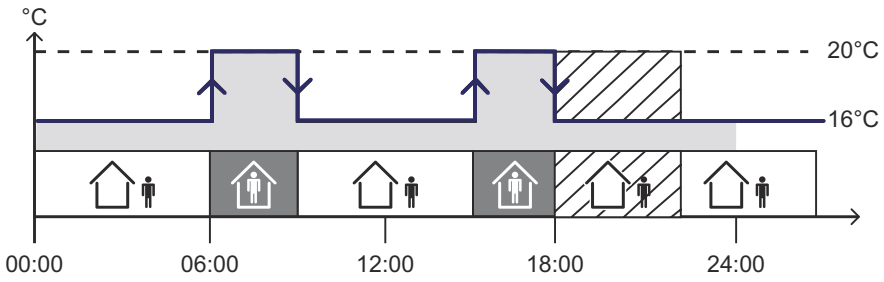
Manually switching between comfort and economy mode

- You can manually switch between comfort mode and economy mode and vice versa by pressing the “Occupancy button”.

  This is displayed by the comfort mode or economy mode icons. The “Auto” icon also disappears from the display.

- **Changing from comfort mode to economy mode:**
  economy mode is active for 4 hours.
  The utilization time profile is then active again and the “Auto” icon appears on the display.

Example 1:
Comfort temperature 20 °C, economy temperature: 16 °C
Room used: 6:00 AM - 9:00 AM and 3:00 PM - 9:00 PM
Absence set manually (by pressing the “Occupancy button) 6:00 PM - 10:00 PM



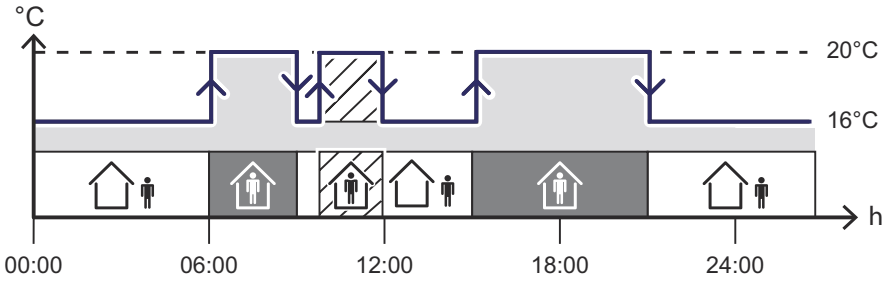
- **Changing from economy mode to comfort mode:**
  comfort mode is active for 2 hours.
  The utilization time profile is then active again and the “Auto” icon appears on the display.

Example 2:

Comfort temperature 20 °C, economy temperature: 16 °C

Room used: 6:00 AM - 9:00 AM and 3:00 PM - 9:00 PM

Presence set manually (by pressing the “Occupancy button) 10:00 AM - 12:00 AM



Automatically switching between comfort and economy mode

Automatic switching between comfort or economy mode is performed according to the utilization profile learned.

The utilization profile is generated automatically, and is continuously and dynamically adjusted and optimized.

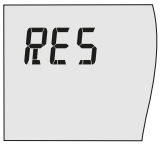
This is displayed by the comfort mode or economy mode icons. The “Auto” icon also appears in the display.

Presence/absence is recorded by the occupancy sensor in order to learn the utilization profile.

The room control module continuously adapts the mode depending on real utilization behavior and room environment.

Restoring defaults

When the defaults are restored, the learned utilization time profile and the wireless connections are deleted and all settings are restored to the factory settings.



- Press the “Setting button” for 5 seconds.

  The text “**RES**” appears briefly and the display goes blank.

  The room control module is now switched off.

Menu level

NOTE

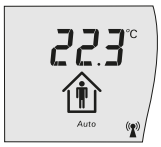
If no settings are made within approx. 5 seconds, the individual setting functions are exited and saved as required.

Configuration menu

The following functions are available in the Config menu:

- Setting vacation mode
- Setting the time and date
- Setting the 12/24 hour display
- Switching the temperature scale °C/°F
- Setting the initial display

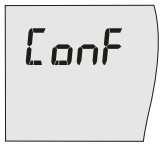
Setting vacation mode



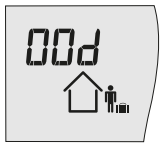
▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display.



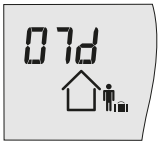
▶ Release the “Occupancy button”.



▶ Briefly press the “Occupancy button” repeatedly to select the “**ConF**” function
.



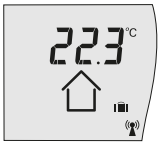
▶ Hold down the “Occupancy button” for 5 seconds.
▶ Release the “Occupancy button”.
The “Set vacation” menu appears in the display.



▶ Hold down the “Occupancy button” for 5 seconds.
The value being set flashes.
▶ Briefly press the “Occupancy button” to set the duration of the vacation to a maximum of 31 days.
Briefly pressing the “Occupancy button” increases the current value by +1.
Setting "00d" = 0 days deletes all previous vacation settings.



The setting is accepted after 5 seconds of no entry being made. Vacation mode comes into effect upon the end of the day at 0.00 hours.
The display switches back to initial display and the “suitcase” icon appears for vacation mode.



When vacation mode is active, the room control module is in economy mode and control is based on the setpoint for vacation mode, see page 24.

The display also shows the ⌂ (house without little man) symbol.

At the end of vacation mode, the comfort mode becomes active at 0.00 for a duration of 6 h.

Delete vacation mode

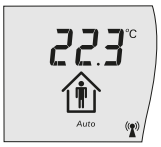
To abort vacation mode, you must set vacation duration to "00d" = 0 days.

The settings procedure is the same as previously described.

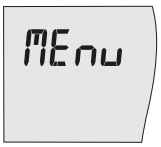
Setting the time and date

The hour, minutes, year, month and day can be set in sequence.

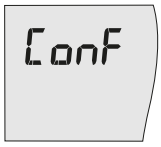
The values to be set flash.



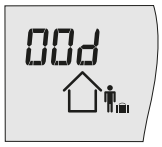
▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display.



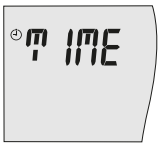
▶ Release the “Occupancy button”.



▶ Briefly press the “Occupancy button” repeatedly to select the “**ConF**” function.

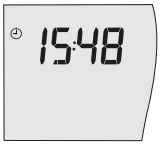


▶ Hold down the “Occupancy button” for 5 seconds.
The “Set vacation” menu item appears in the display.



▶ Briefly press the “Occupancy button” repeatedly to select the “**TIME**” function.

▶ Hold down the “Occupancy button” for 5 seconds.
The display switches to the menu item for the “Time and date” settings.



The value being set flashes.

▶ Press the “Occupancy button” once only to confirm the hour displayed, or press it several times/hold it down until the desired set value is reached.

▶ Release the “Occupancy button”.

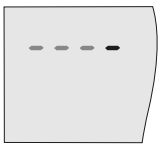
The next value to be set will start to flash after approximately 3 seconds.

The procedure for setting the minutes, year, month and day is the same as that for setting the hour.

NOTE

Pressing the “Occupancy button” increases the current value by +1.

Holding down the “Occupancy button” increases the value sequentially.

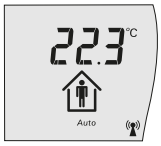


Once the last value for the day has been entered, this is indicated by a moving line on the display.
The time and date settings are complete and are saved.
The display then switches to the initial display.

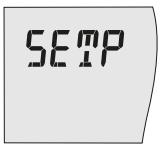
NOTE
If no input is made for approx. 10 seconds, the display returns to the initial display. Any settings that were previously made are not saved.

Daylight saving time switching occurs automatically according to Central European standards.
Default setting: current CET Central European Time

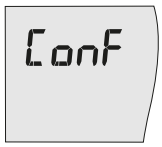
Setting the 12/24 hour display



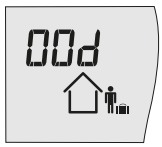
▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display, followed by “**SETP**”.



▶ Release the “Occupancy button”.



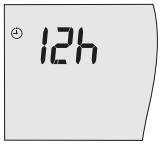
▶ Briefly press the “Occupancy button” repeatedly to select the “**ConF**” function.



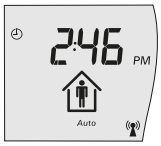
▶ Hold down the “Occupancy button” for 5 seconds.
The “Set vacation” menu item appears in the display.



▶ Briefly press the “Occupancy button” repeatedly to select the “**24h**” function.
▶ Release the “Occupancy button”.

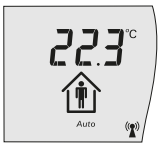


▶ If you press the “Occupancy button” for 5 seconds, the 12 hour-display is the set.
After approx. 3 seconds, the display switches to the initial display.

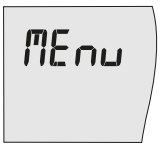


When the 12 hour display is activated, an additional **PM** is shown in the display in the afternoon.
Default setting: 24h

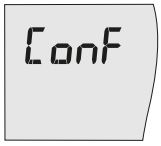
Switching the temperature scale °C/°F



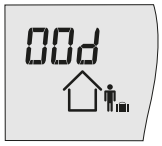
▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display.



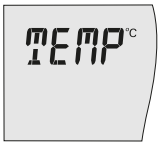
▶ Release the “Occupancy button”.



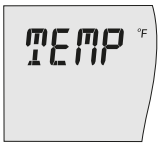
▶ Briefly press the “Occupancy button” repeatedly to select the “**ConF**” function.



▶ Hold down the “Occupancy button” for 5 seconds.
The “Set vacation” menu item appears in the display.



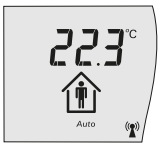
▶ Briefly press the “Occupancy button” repeatedly to select the “**TEMP**” function.
▶ Release the “Occupancy button”.



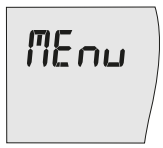
▶ If you press the “Occupancy button” for 5 seconds, the °F temperature scale is then set.
After approx. 3 seconds the display switches to the initial display and the temperature is now displayed in °F.

Default setting: °C

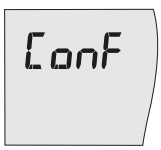
Setting the initial display



▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display.



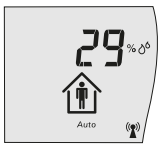
▶ Release the “Occupancy button”.



▶ Briefly press the “Occupancy button” repeatedly to select the “**ConF**” function.



▶ Briefly press the “Occupancy button” repeatedly to select the “**DISP**” function.
▶ Hold down the “Occupancy button” for 5 seconds.
The display then switches to the next initial display.



In the example here, the initial display is the relative humidity

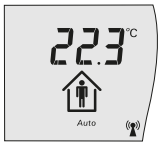
If you repeat the previous steps, you can roll through the initial displays for the room temperature, relative humidity, date or time in succession.

Default setting: Display of the room temperature.

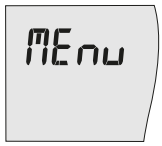
Information menu

The following information is displayed in the Info menu:

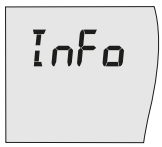
- Status message
- Display taught-in radio partners
  - Radio address for taught-in radio partners
  - Position indicator for the taught-in valve controllers
  - Field strength of the receiving radio signal



▶ Hold down the “Occupancy button” for 5 seconds.
The text “**Menu**” briefly appears on the display.



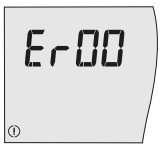
▶ Release the “Occupancy button”.



▶ Briefly press the “Occupancy button” repeatedly to select the “**Info**” function.
▶ Hold down the “Occupancy button” for 5 seconds.
▶ If you briefly press the “Occupancy button” repeatedly, the system displays the aforementioned information in succession.

If you do not take any other actions, the display will return to the initial display after 5 seconds.

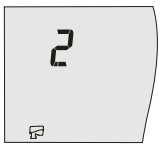
Status message



The status message is displayed. Further information can be found on page 27.

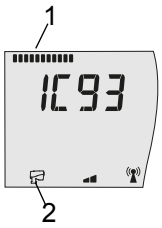
Display of the taught-in radio partners

If no radio partners have been taught-in, this display does not appear.



First, the number of taught-in MD10-FTL valve controllers is shown in the display.

▶ Briefly press the “Occupancy button” repeatedly or the “ <> ” button to display the individual information for the taught-in radio artners one after the other.



The wireless IDs of the taught-in radio partners are displayed.

The last four hexadecimal digits of the wireless ID of the taught-in radio partner are displayed.

The position indicator (1) for the valve controllers is also displayed in a bar diagram.

The display (2) also indicates which valve controller or EnOcean gateway is currently shown.

- = taught-in EnOcean gateway
- = taught-in valve controllers 1 to 4
- = trend display for the field strength of the receiving radio signal

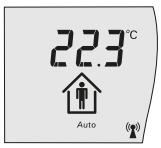
Service level

The following functions are available on the service level:

- Teaching in valve controllers
- Teaching in an EnOcean system gateway
- Deleting all taught-in radio partners
- Restore default settings and switch off room control module
- Software version display

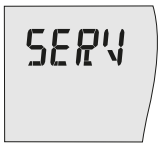


Use a magnet (1) or briefly press the settings button to switch to the service level



▶ Briefly slide the magnet along the upper right-hand side of the device (see figure) or briefly press the Setting button.

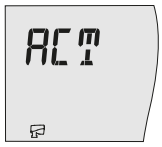
The room control module switches to the service level.



▶ Briefly press the “Occupancy button” repeatedly and the system will offer you the aforementioned functions one after the other.

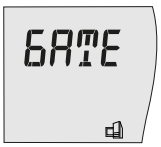
If you do not take any other actions, the display will return to the initial display after 5 seconds.

Teaching in the MD10-FTL-xx radio partner

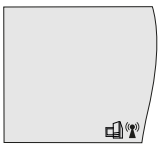


▶ Hold down the “Occupancy button” for about 5 seconds to run the “Teach in the MD10-FTL-xx radio partner” function (see the “Teaching in the MD10-FTL-HE radio partner on the RPW411P-FTL” section on page 13).

Teaching in an EnOcean system gateway



- ▶ Briefly press the “Occupancy button” repeatedly to select the “**GATE**” function.
- ▶ Hold down the “Occupancy button” for about 5 seconds and the “Teach in an EnOcean system gateway” function will run.



The “Antenna” icon flashes briefly on the display.

A teach-in radiogram is sent to the system gateway and a teach-in radiogram from the system gateway is awaited.

You can find details in the documentation of the EnOcean system gateway.

The display then returns to the initial display. If the teach-in process was successful, the wireless communication icon also appears.

NOTE

An EnOcean system gateway makes it possible to connect to a Building and Energy Management System BEMS.

This makes it possible to generate additional functions such as:
- Visualizing operating states
- Displaying trend curves e.g. for the room temperature
- Overriding the operating modes with special utilization times such as public holidays.

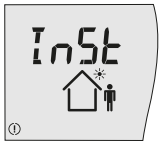
NOTE

The resources of the energy source are also used when communicating with a system gateway. The increased transmission frequency has an impact on the service life of the energy source (AA lithium batteries), see p. 28

Deleting all taught-in radio partners



- ▶ Briefly press the “Occupancy button” repeatedly to select the “**dEL**” function.
- ▶ Hold down the “Occupancy button” for about 5 seconds and the “Delete all taught-in adio partners” function will run.



NOTE

After all the taught-in radio partners have been deleted, the radio partners must be taught in again. Otherwise, the room control module will switch off after 15 minutes.

Restoring default settings and switching off the control module (see also page 19)



- ▶ Briefly press the “Occupancy button” repeatedly to select the “**RES**” function.
- ▶ Hold down the “Occupancy button” for about 5 seconds and the “Restore default settings and switch off room control module” function will run.

The room control module switches off. The display disappears.

NOTE

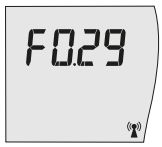
The taught-in radio partners are then deleted and the room control module is reset to the default settings.

Software version display



- ▶ Briefly press the “Occupancy button” repeatedly to select the “Software version display” function.

The software version of internal processor 1 is displayed.



- ▶ The press the “Occupancy button” or 5 seconds.

The software version of internal processor 2 is displayed.

Messages

Status messages

Icon/display	State	Explanation
Antenna (!)	On Off	Fault-free radio connection, Er00 is displayed in the information menu
InSt	On	“Test installation location” evaluation function is active
Antenna	Flashes	Valve controllers can be registered
Antenna (!) Er01	On On	Radio connection partly interrupted (> 1 hour) At least one valve controller is transmitting
Antenna (!) Er01	Off On	Radio connection interrupted (> 1 hour) No valve controller is being received
Antenna (!) Er02	On On	Radio connection partly interrupted (> 4 hours) At least one valve controller is being received
Antenna (!) Er02	Off On	No valve controller is being received
Battery	On	Room sensor Charge state < 30%
(!) Er04	On	Valve controllers (1 to 4), for at least one valve controller Charge state < 30% On the service level, the battery icon also appears next to each actuator.
Window	On	Set economy mode for max. 30 minutes or manually close the valve
Suitcase	On	Vacation mode activated (starts at 0.00)
⌂ Suitcase	On On	Longer absence - vacation
Sun ☀	On Off	Summer mode System in energy saving mode
(!) Er06	On	Radio connection to EnOcean system gateway interrupted
HEAt	On	If the room temperature is below 14°C, the display will show "HEAt". It is recommended to heat to prevent mold growth
OPEN 🪟	Flashes Flashes	In case of increased humidity in relation to the dew point, "OPEN" is shown in the display and the window symbol flashes. It is recommended to ventilate

NOTE

If the Message icon (!) also appears in the display, you can find more information in the Info menu; see page 23.

Radio connection

The “Antenna” displays the current state of the radio connections to the radio partners.

The status of the radio connection is monitored continuously. A message is displayed if the radio connection status changes.

NOTE

Communication is continued automatically once the radio connection between the room control module and valve controller is functioning properly again. “ⓘ Er01” or “ ⓘ Er02” disappears and the “Antenna” icon is displayed permanently.

Energy storage unit

The “Battery” icon indicates the current state of the room sensor energy storage unit. The room sensor continuously monitors the charge state of the energy storage unit. The “Battery” icon appears on the display if the charge state drops below 30%.

NOTE

Charge the energy storage unit by placing the RPW411P-FTL in a source of light for two hours (day light or artificial light, but not direct sun light).

Energy source

The internal AA lithium batteries support solar operation. The resources of the energy source are only used when the internal energy storage unit can no longer guarantee the function of the room control module.

The service life of the AA lithium batteries depends on the transmission frequency, the aging of the batteries and the self-discharge. They generally last for several years.

NOTE

If the “Battery” icon begins to appear in the display more and more frequently, it indicates that the AA lithium batteries need to be replaced.

This must be carried out by an authorized service technician.

Please contact your supplier.

Extended absence

The room control module continuously monitors the room utilization. If the room control module detects a longer absence (more than three days without occupancy), the utilization time profile permanently switches to economy mode and the ⌂ icon appears on the display.

If the “Occupancy button” is pressed after a longer absence, or if the room control module detects room occupancy for a period of 20 minutes, the utilization time profile switches to comfort mode and the learned utilization time profile becomes active again.

Summer mode

The room temperature controller detects longer periods of time during which the MD10-FTL-HE valve controller is not supplied with thermal energy. The room temperature controller switches to summer mode if such a period of time is detected between June 1 and August 31 of a year.

The “Sun” icon appears and the “Occupancy” icon disappears.

The valve controller charge can drop to below 30% in the transition periods before and after summer mode and the “ ⓘ Er04” icon is displayed

If the integrated thermal generator on the MD10-FTL-HE valve controller has generated sufficient energy again after the summer break, the room temperature controller switches back to automatic mode and controls the room temperature according to the last active utilization schedule profile.

The "Occupancy" icon is displayed. The “Sun” and “ⓘ Er04” icon disappear.

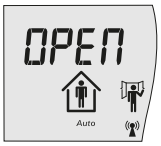
Rapid temperature drop

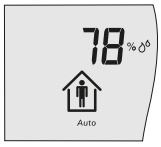
If the humidity/temperature sensor detects a rapid drop in temperature (e.g. a window has been opened), economy mode is automatically activated for max. 30 minutes.

The “Window” icon appears on the RPW411P-FTL display.

The rapid drop in temperature detected is not included in the learned utilization time profile.

Ventilate operating message





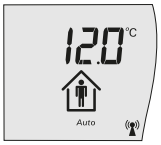
If these icons appear alternately in the display, we recommend ventilating the room to prevent the formation of mold.

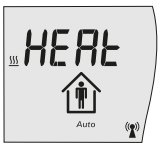
► Press the “Occupancy button” briefly to quit this display.

NOTE

For prolonged periods of room ventilation, turn the rotary knob on the valve controller to the value “*” (6° C) before opening or tilting the window. After the ventilation period, turn the rotary knob back to the comfort temperature.

Heat operating message





If these icons appear alternately in the display, we recommend heating the room by increasing the setpoint to prevent the formation of mold.

► Press the “Occupancy button” briefly to quit this display.

Malfunction messages

Icon/display	State	Explanation
Antenna ⓘ Er08	Off On	Transmission function on the RPW411P-FTL malfunctioning
ⓘ Er03	On	Synchronization on the RPW411P-FTL malfunctioning

Transmission function malfunctioning

The radio connection is continuously monitored. If a transmission function malfunction is detected in the room control module, the "ⓘ Er08" icon appears on the display.

The following troubleshooting procedures can be implemented:

- ► Reset the room control module to the factory settings (see page 18).

  The "ⓘ Er08" icon disappears from the display.
- ► Register the radio partner again.

If the "Er08" icon appears again, it means that the room control module has a serious fault. It must be checked by an authorized service technician.

NOTE

If the humidity/temperature sensor transmission function is malfunctioning, the valve controllers continuously operate in comfort mode without lowering the level.

System time

The internal system time of the room control module is monitored constantly. If a system time malfunction is detected in the room control module, the "ⓘ Er03" icon appears on the display.

- ► Reset the time and date (see page 20).

  The "ⓘ Er03" icon disappears from the display.

If the "ⓘ Er03" icon continues to appear, it means that the room control module has a serious fault. It must be checked by an authorized service technician.