



OPERATING INSTRUCTIONS

MTC-40 radio-controlled room thermostat





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OPERATING INSTRUCTIONS MTC-40

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TECHNICAL DATA

TRANSMITTER / THERMOSTAT



- » Display with background lighting
- » Key lock / parental control
- » Automatic daylight saving time / standard time change
- » Manual temperature adjustment
- » Automatic temperature control, 2 programmes, each with 6 switching times (P1/P2)
- » Programme selection for individual days or periods, Mon - Fri, Sat - Sun, Mon - Sun
- » Holiday programme
- » Automatic frost protection (3 °C)
- » Open window recognition
- » Temperature setting + 5 °C to + 39 °C
- » Every transmitter has a unique ID
- » Power supply: 2 × 1.5 V AA alkaline batteries (not included in the scope of delivery)
- » Frequency: 433.92 MHz
- » Radio range approx. 20 m in an open area

TECHNICAL DATA

RECEIVER



- » Switching capacity: **6.3 A / 230 V AC / 1449 W Max.**
- » Switching capacity: **6.3 A / 230 V AC / 1449 W Max. (Switzerland)**
- » Status control with LED
- » Automatic connection after power failure
- » Frequency: 433.92 MHz
- » Manual on / off switch on the receiver

DESCRIPTION

The MTC 40 is a radio-controlled thermostat set. The thermostat monitors the room temperature and sends this information to the receiver, which switches the connected heat sources on/off according to the thermostat settings.

MTC-40 thermostat – transmitter

- » measures the room temperature and regulates this using the values which have been set.
- » 2 automatic weekly programmes (P1 / P2), each with 6 switching times per day.
- » Manual temperature regulation.
- » Display with background lighting.
- » Easy to use, with pre-set parameters for infrared heaters.
- » Integrated feet, wall mountable.
- » Open window recognition to increase the energy efficiency.
- » Can control multiple receivers at the same **time**.

MTC-40 receiver

- » Receiver switching capacity 6.3 A / 230 V AC / 1449 W Max. 6.3 A / 230 V AC / 1449 W Max. (Switzerland).
- » Easy to install / use.
- » LED display of the operating status.
- » Automatic reconnection after a power failure.
- » Switch the heating on / off manually with an on / off button without a thermostat.

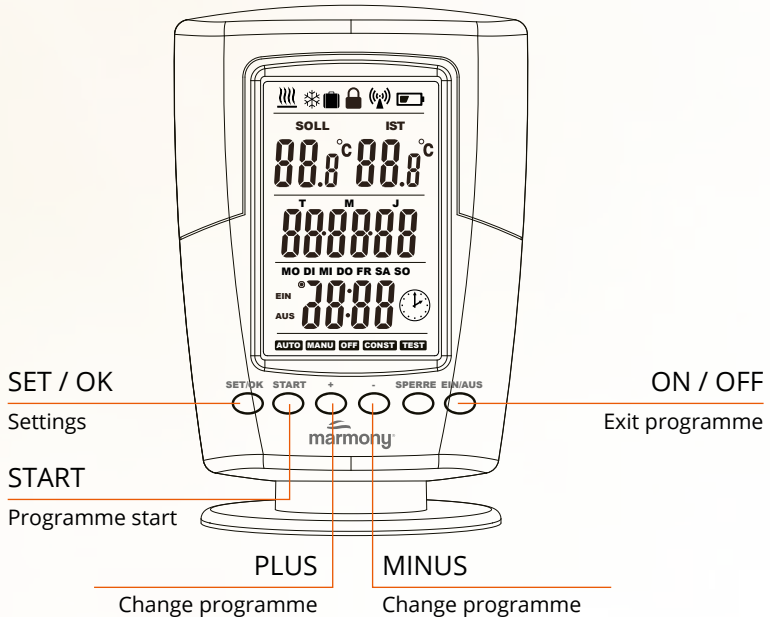
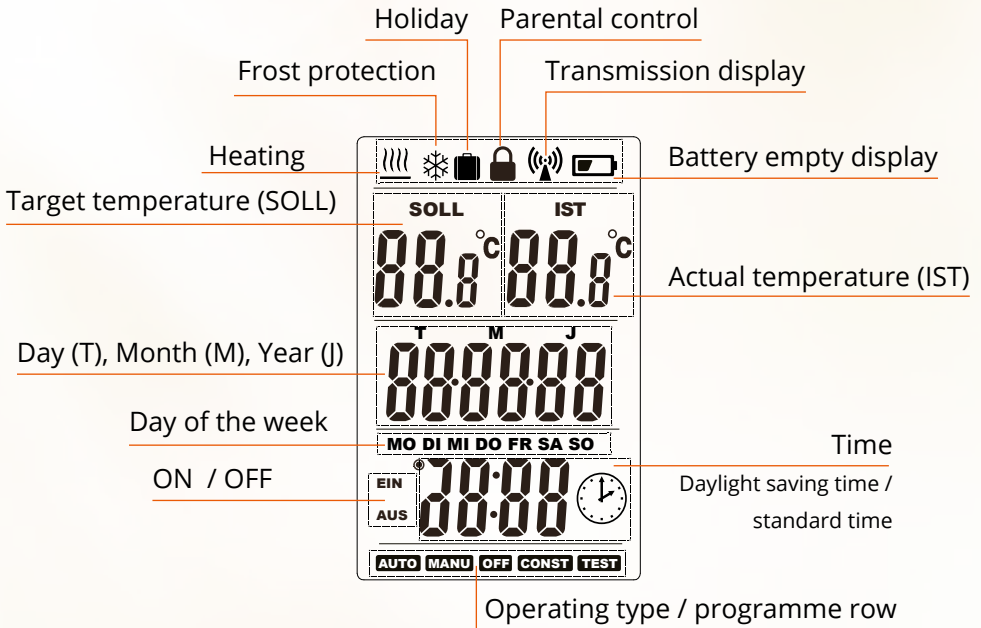
Warnung!

The receiver is only suitable for use with a harmony marble heating plate. Operation with devices over 1449 Watt / 6.3 A 230 V leads to the triggering of the internal protection device and to a receiver fault!

USE IN THE HOME



ERKLÄRUNG



INSTALLATION

TRANSMITTER

1. Remove the cover of the battery compartment by gently pressing the recessed grip and removing the battery cover.

See Fig. 1



Fig. 1

2. Insert two alkaline batteries (Type AA / LR6) into the battery compartment. Ensure that the polarity is correct!

See Fig. 2

Attention: do not use any rechargeable batteries!
Note: Replace the batteries when the battery symbol is illuminated on the display. Dispose of the old batteries in accordance with the local regulations.



Fig. 2

3. Replace the battery cover. In the case of wall assembly, the thermostat can be secured on the wall using a screw or a hook. In order to do so, remove the feet by pulling them off the thermostat.

Fig. 3

Note: Assembly tools are not included in the scope of delivery..

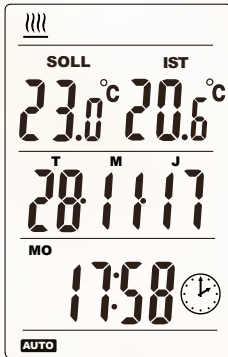


Fig. 3

4. The thermostat is now ready for the date and time to be set. Before doing so, you just need to insert the receiver into the socket as described below in the receiver installation details.

INSTALLATION

DISPLAY HINTERGRUNDBELEUCHTUNG



Press any
button.



The display must be switched on to change a setting (1 x press any button). The display switches itself back off again after 15 seconds. When you are programming a setting, the thermostat switches back to the main menu after 30 seconds if you do not enter anything! Anything you have already entered will be saved automatically. Therefore, you should carry out the programming rapidly!

INSTALLATION

RECEIVER

LED display
of the operating status

Red

**Ready for operation
(Heating off)**

Green

**Heating operation
(Heating on)**

Manual
ON / OFF switch



With the ON / OFF button, the heater can be switched on and off independently from the thermostat.

Important information:

If the receiver is being operated without a thermostat, the thermostat/transmitter must be switched off. Switch off the display fully! Press the ON / OFF button on the thermostat for 3 seconds until the display switches off.

INSTALLATION

RECEIVER

1. Connect the receiver to the 230 V socket which you intend to use to connect your harmony infrared heater.
2. Connect the connector plug on your harmony infrared heater to the receiver socket.
3. That's it! In the factory settings, both the transmitter and the receiver are connected to each other (paired). The receiver now waits for commands from the transmitter / thermostat.

Manual connection (pairing) of the transmitter and receiver:

If you wish to connect an additional receiver to your radio-controlled thermostat or you wish to connect your receiver manually as a result of connection issues, proceed as follows...

... Press the ON / OFF button on the receiver and the LED lights up green

... The thermostat is in ON / OFF mode and the display lighting is on (short press on any button).

... Press the " - button" until "TEST" appears in the programme row of the display. Press „Start“. The display now switches the ON / OFF display in sync. Now press the ON / OFF button on the receiver for 3 seconds. The LED display flashes quickly for a short time, then the display appears in sync. The connection has now been established. Exit the connection mode by pressing the "ON / OFF" button on your thermostat. Your thermostat and receiver are now connected (paired).

SETTINGS

DATE, TIME, CONSTANTS

After inserting the batteries, the thermostat is in OFF mode.

- Switch on the display lighting (short press on any button).
- Press the SET / OK button for 3 seconds.

The year (**Y**) starts to flash. Use the "+" or "-" button to adjust the value. Press the "SET / OK button" to confirm.

The month (**M**) starts to flash. Use the "+" or "-" button to adjust the value. Press the "SET / OK button" to confirm.

The day (**D**) starts to flash. Use the "+" or "-" button to adjust the value. Press the "SET / OK button" to confirm.

The hour starts to flash. Use the "+" or "-" button to adjust the value. Press the "SET / OK button" to confirm.

The minute starts to flash. Use the "+" or "-" button to adjust the value. Press the "SET / OK button" to confirm and 1.0 °C flashes in the programme row and CONST. is illuminated. The date and time setting process is now complete! Additional entries for the CONSTANTS are not necessary! Now wait 15 seconds until the display lighting switches off. The data is saved automatically and the previous menu is displayed!

Additional entries for the CONTANTS are already optimised as factoring settings for your marmony infrared heating systems and should not be changed!

After the date and time have been entered, the CONSTANTS are displayed and "CONST." is illuminated in the programme bar. Change hysteresis: On the display at the top left, the pre-set hysteresis value of 1.0 °C flashes. This pre-set value should not be changed. Confirm value by pressing the "SET / OK button".

Note: When the "TARGET" temperature is reached, the thermostat switches the heater off and switches it back on again when the room temperature falls below the set hysteresis value (error variable). The hysteresis value can be changed with plus / minus from 1 °C to 5 °C.

Example: If the TARGET temperature is 20 °C and the hysteresis is 1 °C, the thermostat switches the heater off at 20 °C and switches it back on again in the event of a temperature drop to 19 °C. Recommended setting for marmony infrared heaters: "1.0 °C"

SETTINGS

CONSTANTS

In the display at the top left you can see OFF and at the bottom the "1" value is flashing. Press the "SET / OFF button" to confirm. This value is not relevant for harmony infrared heaters and must not be changed. Confirm value by pressing the "SET / OK button" to confirm.

Recommended setting for harmony infrared heaters: 1

Set open window function:

The display says open and the "1" is flashing at the top left. This pre-set value must not be changed. Confirm value by pressing the "SET / OK" button. The programming of the CONSTANTS is now complete, the thermostat saves the values which are entered independently and returns to the previous "ON / OFF" mode.

This function is to be activated for harmony infrared heaters in accordance with the Ecodesign Directive. (Active in factory settings)

Note: The open window recognition is a function defined by the energy saving regulations to increase the energy efficiency. If the identified room temperature sinks within approx. 5 minutes by approx. 2 °C (e.g. through an open window in winter), the thermostat recognises this and switches the heater off. The display now reads "OPEN". After closing the window, the room temperature increases slightly again, which the thermostat notices and switches to heating mode again. If you forget to close the window again, the heating mode is activated again after 30 minutes to prevent frost damage in your rooms.

Recommended setting for harmony infrared heaters: "1"

The installation settings are now complete!

BUTTON FEATURES DESCRIPTION

SET / OK – button:

Sets the date and time, sets the programmes and confirms entry values:
AUTO P1 / P2 – Holiday mode – Date / time

+ / - button:

Programme selection in ON / OFF mode: AUTO-P1 / AUTO-P2 / MANU /
Holiday / TEST / OFF Value entry during programming

START button:

Activates the programme selected in the programme row (programme
flashes when active)

Key lock / parental control:

You can activate the key lock by pressing the “LOCK” button for 3
seconds. A padlock symbol is displayed in the symbol row of the
display. No other buttons can be pressed any more. In order to unlock
the buttons, press the “LOCK” button for 3 seconds again to disengage
the key lock. The padlock symbol disappears.

On / off button:

You can switch off the heater by remote control manually using the “ON
/ OFF button”. The display shows “ON” or “OFF”. On the receiver, the
green LED is illuminated (heater on) for ON and, for OFF, the red LED
is illuminated (heater off). The “flame symbol” on the thermostat in the
“symbol row” is either on or off.

Switching off the thermostat/heater fully:

Press the “ON / OFF button” until the display switches off (approx. 3
seconds). The thermostat is now fully switched off. In order to switch it
back on, press the ON / OFF button again until the display switches back
on (OFF is displayed). By pressing the ON / OFF button again, you can
switch back to the ON mode (heater manually switched on).

If the thermostat is in an active programme (display in the programme row is flashing), the active programme can be exited by pressing the ON / OFF button. The programme row now shows OFF. Heating mode is switched off.

Symbol row:

The symbol row features the symbols for heating , frost protection , holiday , parental control , transmission display  and battery empty .

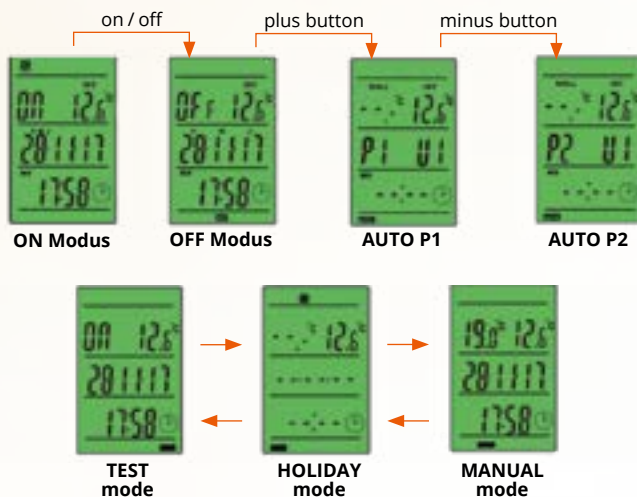
Programme row:

The displays for the following programmes are located in the programme row AUTO, MANU, OFF, CONST, TEST.

MENU SELECTION

PROGRAMME MENU SELECTION

In ON or OFF mode, you can switch forwards or backwards by pressing the + or - button in the menu. By pressing the start button, you can activate the selected menu (menu flashes in the programme row). Deactivate the menu by pressing the ON / OFF button.



MENU SELECTION

OPERATION WITH A THERMOSTAT & MANUAL MODE

Operation with thermostats (radio operation) and manual mode (MANU).

Once you have set the date and time, the thermostat is ready for operation. In manual mode, you can preselect a desired "TARGET" temperature and this temperature is then automatically kept constant by the thermostat. The temperature can be set from +5 °C to +39 °C.

Setting the "MANU" manual mode:

- The thermostat is in ON / OFF mode
- Switch on the display lighting (short press on any button).

Use the "+ / - button" to switch to manual mode (you can find "MANU" in the lower part of the programme row) and press the START button (MANU is flashing now).

Note: Attention: do not select MANU with a suitcase in the symbol bar (holiday mode).

Now use the "+ or -" button to set the desired TARGET temperature. The thermostat now sends commands to the receiver. The "flame symbol" is illuminated in the symbol row when heating mode is switched on. The receiver switches your harmony infrared heater on. The LED on the receiver is illuminated in green (heating mode).

- To exit the "MANU" manual mode, press the "ON /OFF" button and the thermostat switches to "OFF" mode (heater switched off).

Note: A connection is established between the thermostat and the receiver approx. every 15-30 seconds depending on the mode to save battery. Delayed switching of the receiver is therefore normal.

MENU SELECTION

AUTOMATIC TEMPERATURE CONTROL "AUTO"

Setting automatic temperature control "AUTO" (P1 / P2)

In "AUTO" mode, you can set different programmes for each day of the week as you wish (P1 / P2), each with 6 switching and switching off times (U1-U6). The thermostat regulates the room temperature independently according to the selected settings.

The following day/weekday groups are available for selection:

Individual Mon, Tue, Wed, Thu, Fri, Sat, Sun

Group Mon-Tue-Wed-Thu-Fri

Group Sat-Sun

Group Mon-Tue-Wed-Thu-Fri-Sat-Sun

Note: When a group is created, the switching on and off times U1-U6 are applied to each day of the week in the group. Any individual days which have been set previously are overwritten. For existing groups, an individual day in the group can subsequently be overwritten by programming the individual day. The remaining group days are not changed.

MENU SELECTION

PROGRAMME MENU SELECTION

Setting the AUTO P1 programme:

Example weekday group (Mon-Tue-Wed-Thu-Fri-Sat,)

- The thermostat is in ON / OFF mode.
- Switch on the display lighting (short press on any button).
- Use the "+ / - buttons) to select the AUTO P1 mode ("AUTO" is in the programme row and "P1" is in the middle row)

- Press the "SET / OK" button for 3 seconds

The day of the week "Mon" flashes! Use the + / - buttons now to select an individual day (individual Mon, Tue, Wed, Thu, Fri, Sat, Sun) or a day of the week group. (Group Mon-Tue-Wed-Thu-Fri) (Group Sat-Sun) (Group Mon-Tue-Wed-Thu-Fri-Sat-Sun).

- Make the selection, example: (Mon-Tue-Wed-Thu-Fri-Sat-Sun) by pressing the "SET / OK" button U1 flashes, press the "SET / OK button". The TARGET temperature flashes. Use the "+ / - button" to select the desired room temperature for U1. The switching on time "hour" flashes.

- Use the "+ / - button" to select the desired hour for the switching on time U1 "ON". Press the "SET / OK button" to confirm

- Use the "+ / - button" to select the desired minute for the switching on time U1 "ON". Press the "SET / OK button" to confirm

- Use the "+ / - button" to select the desired hour for the switching off time U1 "OFF". Press the "SET / OK button" to confirm

- Use the "+ / - button" to select the desired minute for the switching off time U1 "OFF". Press the "SET / OK button" to confirm.

U2 flashes, press the "SET / OK button". The TARGET temperature flashes.

Use the "+ / - button" to entire the desired room temperature for U2. The switching on time "hour" flashes.

- Use the + / - button to entire the desired hour for the switching on time U2 "ON". Press the "SET / OK button" to confirm

- Use the + / - button to entire the desired minute for the switching on time U2 "ON". Press the "SET / OK button" to confirm

- Use the + / - button to entire the desired hour for the switching off time U2 "OFF". Press the "SET / OK button" to confirm

- Use the + / - button to entire the desired minute for the switching off time U2 "OFF". Press the "SET / OK button" to confirm

- Follow the same steps now to enter the additional switching on and off times for U3 to U6. After the final entry for "U6", the thermostat saves the entries independently and switches to "AUTO P1" mode. Press the "START button", which activates "AUTO P1" mode and "AUTO" flashes. The thermostat regulates the desired room temperature now according to the set values.

Note: If you only wish to set one, two, three, four or five switching on and off times, once you have entered the final value you wish to enter, wait until the thermostat switches back to the main menu (approx. 15 seconds) and the values you have entered will be saved automatically.

The setting process for "AUTO P2" takes place in the same way as for "AUTO P1". In the "ON / OFF mode", select Auto P2 and follow the instructions above.

- In the activated "AUTO mode", you can change the desired "TARGET" temperature manually at any time by pressing the "+ / - button".

The change remains active until the next programmed temperature change to "AUTO mode" becomes active.

Note: For times for which you have not created a target (U1-U6), the thermostat switches to the 19 °C factory setting.

HOLIDAY MODE

For the duration of a longer absence, e.g. a holiday, you have the option of programming the thermostat accordingly. You can set a start time (holiday start) and end time (holiday end) as well as the desired room temperature for the holiday. While you are away, the thermostat regulates the desired temperature and, after your holiday, it returns to the selected "AUTO" or "MANU" programme.

Setting the holiday programme:

- The thermostat is in ON / OFF mode. Switch on the display lighting (short press on any button).

- Use the "+/- buttons" to select the desired MANU mode ("MANU") is in the programme row and the suitcase symbol appears in the symbol (row). Press the "SET / OK button" for 3 seconds and "MANU" starts flashing. Press the "SET / OK" button. The "TARGET" temperature display flashes.

- Use the "+/- button to select the desired "TARGET" room temperature during your absence. Press the "SET / OK" button to confirm.

- The date for the holiday start date "year" flashes, use the "+/- button" to select the desired year and confirm by pressing the "SET / OK" button. The month flashes, use the "+ / - button" to select the desired month and confirm by pressing the "SET / OK" button.
- The "DAY" flashes, use the "+/- button" to select the desired day and confirm by pressing the "SET / OK" button.
- The "HOUR" for the holiday start time flashes, use the "+/- button" to select the desired hour and confirm by pressing the "SET / OK" button. - The "minute" flashes, use the "+/- button" to select the desired minute and confirm by pressing the "SET / OK" button.
- The date for the holiday end time "year" flashes, use the "+ / - button" to select the desired year and confirm by pressing the "SET / OK" button. The "month" flashes, use the "+ / - button" to select the desired month and confirm by pressing the "SET / OK" button.
- The "DAY" flashes, use the "+ / - button" to select the desired day and confirm by pressing the "SET / OK" button.
- The "HOUR" for the holiday end time flashes, use the "+ / - button" to select the desired hour and confirm by pressing the "SET / OK" button. - The "minute" flashes, use the "+ / - button" to select the desired minute and confirm by pressing the "SET / OK" button.
- Then press the "START" button and the suitcase symbol flashes. The thermostat now regulates the temperature until the start of your holiday at the level you previously selected in MANU or AUTO mode. At the set start of the holiday, the thermostat regulates the temperature to the level that has been selected for holiday mode and, at the end of your holiday, switches back to its original operating mode.

Note: If, for example, you have set the start of your holiday for next week, then you can select any other programme you wish to use in the meantime. Then, switch to holiday mode promptly before the start of your holiday (suitcase symbol in the symbol row) and press the "START" button. The suitcase symbol flashes and the holiday mode is active.

MISCELLANEOUS

Frost protection:

Should the room temperature fall below 3 °C in "OFF mode", the frost protection is automatically activated (the frost symbol is illuminated in the symbol row). The thermostat switches to heating mode. If the room temperature rises to +12 °C, the heating mode is deactivated again and the thermostat switches back into "OFF mode".

Note: If the thermostat is completely switched off (display off), the frost protection is not activated!

TEST mode:

- In "ON / OFF mode", press the "+ / - button" until "TEST" appears in the programme row. Press the "START" button. On the display, ON / OFF is shown on an alternating basis. The receiver switches on and off in sync (LED red/green flash in sync). By pressing the "ON / OFF button" on the thermostat, you can exit the functional test. (With the TEST mode, you have the option of testing the connection between the thermostat and the receiver).

If the receiver does not respond to the signal from the thermostat, establish the connection manually (pairing). "See Installation of the receiver).

Battery replacement:

If the battery symbol lights up in the symbol row on the display, you should insert new batteries promptly (2 x AA / LR6)! Only use alkaline batteries. Do not use rechargeable batteries!

Dispose of used batteries according to the local regulations!

Daylight saving time / standard time changeover:

The thermostat automatically switches the daylight saving time / standard time on or off. On 24th March at 23:59, the time is moved forwards by an hour. (daylight saving time) On 28th October at 23:59, the time is moved backwards by an hour (standard time).

Conformity information:

The manufacturer hereby confirms that this device complies with the fundamental requirements and the other relevant provisions:

- Directive 2014/53/EU
- RoHS Directive 2011/65/EU

The full declarations of conformity can be found at:

<https://marmor-infrarotheizung.de/service-downloads-bedienungsanleitung/>

Technical data:

Power supply	2 x 1.5 V AA alkaline batteries (not included in the scope of delivery)
Type of communication	One-way communication ASK
High-frequency power	< 10 mW
Frequency	433,92 MHz
Hysteresis	1 - 5 °C / in 1°C steps
Number of temperature changes	6 temperature changes per day
Automatic programmes	2 automatic programmes with a daily and weekly programme
Minimum programmable time	10 minutes
Temperature setting increments	0.5 °C increments
Temperature setting	+5 to 39 °C (Frost protection 3 °C)
Temperature measurement	each 0.1 °C
Measuring accuracy	± 0,5 °C
Battery life	One heating period
Protection class	IP20
Operating temperature	0 °C to 40 °C
Switching capacity Germany	Receiver 230 V AC / 6.3 ampere 1449 W
Switching capacity Switzerland	Receiver 230 V AC / 6.3 ampere 1449 W
Output	Relay contact
Open window recognition	In all programmes



as of July 2020

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