BPT 102
WIRELESS ROOM THERMOSTAT
with two-way communication

The great advantage is the possibility of changing the reference room by simply relocating the transmitter part, in which way an optimum temperature comfort can be achieved in the room heated. The coverage of the set can reach up to 35 m. The receiver is equipped with a code self-learning system and the E-EPROM memory, which can keep the code saved even at power failure. The possibility of setting up to 4 time periods and temperatures for every day provides for optimum distribution of electric energy for all week. An ideally selected program will help you to reduce heating costs by up to 30 %.

receiver – wall-mounted

- Receiver power supply 230 V/ 50 Hz.
- Receiver with the CODE SELF-LEARNING system and the E-EPROM memory (saving the code even at power failure).
- Two-wire connection to the boiler.
- **Indication LED for signalization of the states**
  - **power supply indication**
  - **signal transmission / reception**
  - **failure state**
  - **relay closed.**

2W

TWO-WAY COMMUNICATION
- providing for reliable signal transmission and enabling return information acquisition.

transmitter

- Weekly program
- 4 temperature changes per every day
- Programming by 30 minutes and 0.5 °C
- Programming by day or Mon-Fri, Sat-Sun or Mon-Sun
- Hysteresis 0.5 °C
- Possibility of short-term temperature change
- Key lock
- Sum of boiler operating hours
- Manual mode (MANU)
- Permanent switch-off (OFF)
- Anti-freeze mode (3 °C)
- TEST function
- Supplied by alkaline batteries 2 × 1.5 V/AA

- **freely portable**
- **small dimensions**
- **simple operation**
- **possibility of using the stand (included in the delivery)**

ELEKTROBOCK CZ
MADE IN CZECH REPUBLIC

RECEIVER CONTROL ELEMENTS

Indication LEDs:

GREEN LIT - correct connection to the mains

BLUE FLASHES shortly - during communication with the transmitter

RED FLASHING - empty E-EPROM memory
RED LIT - FAILURE (if no signal from the transmitter is received within approx. 6 hours, it switches to the "2-min-ON / 8-min-OFF" mode)

BLUE+RED FLASHING ALTERNATELY - code learning mode

BLUE+RED FLASHING SIMULTANEOUSLY - code has been learned

BLUE+RED LIT SIMULTANEOUSLY - memory erasure mode

ORANGE LIT - relay 1 switched

Lifting off the front cover:

Fig.1   **Fig.2**
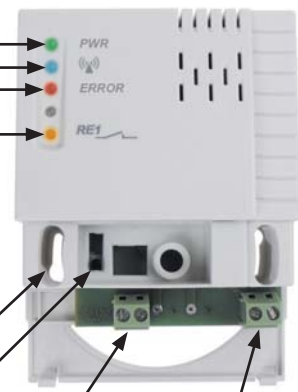
holes for mounting on KU/KP68

FUNCTION BUTTON
- short push (approx. 1 s) = CODE-LEARNING mode
- long push (approx. 5 s) = RESET (memory erasure)

output terminals for the boiler (potential-free switching contact)

power supply terminals

RECEIVER INSTALLATION

- Lift off the front cover of the receiver acc. to Fig. 1, 2.
- Fix the receiver to the wall (or directly to the wiring box).
- Switch off the main circuit breaker.
- Connect the receiver to the boiler according to the diagram (on the boiler, use the terminals for wires of the room thermostat 2).
- Connect the receiver to the mains 230 V / 50 Hz.
- Switch on the main circuit breaker; the green LED lights up on the receiver; thus the receiver is ready for further setting

Owing to disturbance of the signal reception, install the receiver (in the interior) as far as possible (no less than 0.5 m) from big metal objects and outside high-current power lines! We recommend that the installation be done by a person properly qualified in electrical engineering!

Wiring diagram:

BOILER

N   L
230 V/50Hz
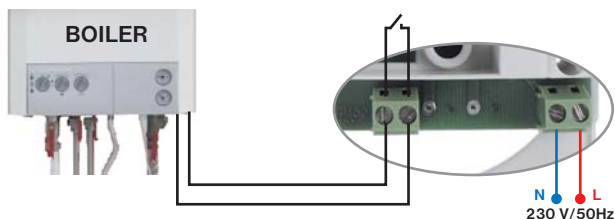
CODE LEARNING

To be used if the receiver memory has been erased – the red diode is flashing!

1) Push the receiver's "**FUNCTION BUTTON**" for about 1.5 sec; the blue and red LEDs start flashing alternately; and the receiver is awaiting the code ("learning mode").

2) After insetting batteries into the transmitter (see page 3), push the `Fce`, button; select the **tE:St** function with the `−/+` button and confirm it with the `i↵` button (the **Ad:r** message appears on the display); confirm with the `i↵` button (the code will be sent to the receiver).

3) The code receipt in the receiver is indicated by simultaneous flashing of the blue and red LED; thus the code has been learnt. After the code receipt, the output relay is switched several times to verify correct function of BPT 102 (On/OFF is displayed on the transmitter).

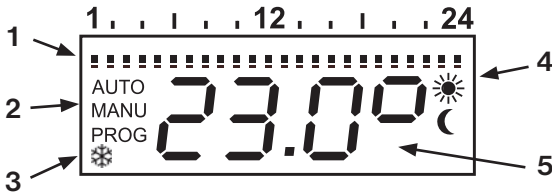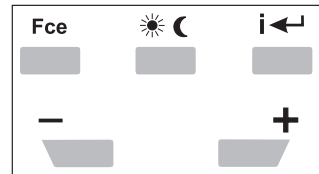**Fig.4**   **Fig.5**   **Fig.6**

DISPLAY AND CONTROL ELEMENTS DECRIPTION

1) Preset temperature program indication
2) Selected function – AUTO, MANU, PROG, etc.
3) Anti-freeze temperature (3 °C)
4) Temperature indication – comfortable ☀ , economical ☾ .
5) Required temperature display

Fce : used for function selection
☀☾ : selection of required temp. (in MANU)
i↵ : confirmation button (ENTER) information on current temperature (tE:A), time (CL:O), sum of operating hours (SU:MA) and day (dE:n)
−/+ : for movement in the menu and temperature setting

TRANSMITTER INSTALLATION

The transmitter must be located as far as possible from interference sources (TV, PC, etc.) and must not be placed on a metal base. When locating it, pay attention to the thermal properties of the given place.
- Lift off the back cover of the transmitter acc. to Fig. 5.
- Insert batteries (alkaline 2×1.5 V, type AA); the transmitter will be fully functional (batteries are not included in the delivery).
- Snap on the back cover again.
- The transmitter is freely portable and can be located, for example, on the table. We recommend using of the stand included in the delivery.
- If the thermostat is mounted on the wall, pay attention that no heavy-current power lines are led in its vicinity!

BATTERY REPLACEMENT

The necessity to replace the batteries is indicated by the " **bA:tt** " symbol flashing on the display.
1) Remove the control part from the lower cover of the device (Fig. 5).
2) Replace the batteries. Heed the correct polarity indicated in the battery compartment (Fig. 6). When the batteries have been removed, the thermostat preserves all settings in the memory. Always use alkaline batteries **2 x 1,5 V type AA**!
   After replacement of the batteries, perform the TEST (see page 6)!
Recommendation: check the batteries before every heating season!

Dispose of old batteries in conformity with regulations on hazardous waste handling!

Push the `Fce` button and by means of the `−/+` button choose the following functions:

AUTO *(=AUTOMAT)* : Thermostat works according to the preset program.

MANU *(=MANUAL)* : It is used for manual setting of the temperature (selection with the `☀☾` button or the `−/+` buttons); the temperature remains constant until the next temperature change.

CL:O *(=CLOCK)* : Current day and time settings.

PROG *(=PROGRAMMING)* : Programming mode.

PA:r *(=PARAMETERS)* : Parameter (constant) settings.

OF:F *(=SWITCH-OFF)* : In this mode, the thermostat is permanently off (the antifreeze protection of 3 °C is active).

tE:St *(=TESTING)* : The thermostat sends a signal to the receiver (see page 6)

Note: If no button is pushed for 2 minutes, the thermostat returns to the basic mode (recently selected). Setting of the given function values can be accelerated by long push of the `−/+` button.

" CL:O " FUNCTION current day and time setting

Push the `Fce` button and by means of the `−/+` button choose the **CL:O** function; confirm it with the `i↵` button. Hour indication is flashing on the display; set the required value with the `−/+` button and confirm it with the `i↵` . button. Proceed in the same way with minutes and the day (**d:1** stands for Monday, **d:2** for Tuesday, up to **d:7** for Sunday). After setting, return with the `Fce` button.

" PA:r " FUNCTION parameters (constants) setting

Parameters are used to set displaying of parameters on the LCD, defining temperatures and other functions.

- Push the `Fce` button and by means of the `−/+` button choose the **PA:r** function; confirm it with the `i↵` button
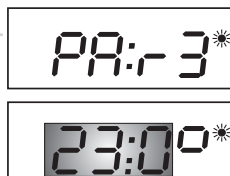- **PA:r2** appears on the display.

PA:r2 economical temperature (17°C by default) ☾

- **PA:r2** appears on the display
- Confirm it with the `i↵` button and set the economical temperature with the `−/+` button; confirm it again with the `i↵` button.

PA:r3 comfortable temperature (23°C by default) ☀

- **PA:r3** appears on the display
- Confirm it with the `i↵` button and set the comfortable temperature with the `−/+` button; confirm it again with the `i↵` button.

### PA:r9 firmware version number / factory setting restoration

- **PA:r9** appears on the display; this is for information only – firmware version
- To resume factory settings, push long the `−` button (use only if necessary; all changes saved will be deleted!).

PROG FUNCTION program settings

- Push the `Fce` button and by means of the `−/+` button choose the **PROG** function; confirm it with the `i↵` button.
- With `−/+` button, choose the day which you want to program according to the table:

d:1 Monday	d:5 Friday	d1:5 Monday to Friday
d:2 Tuesday	d:6 Saturday	d6:7 Saturday to Sunday
d:3 Wednesday	d:7 Sunday	d1:7 all week
d:4 Thursday	TABLE FOR SELECTION OF DAYS TO PROGRAM	

- After selection, push the `i↵` button; the display shows the **1:U1** message to set the first time period.
- With `−/+` button, set the first change time (minimum step of 30 min.)
- Repeatedly pushing the `☀☾` button, assign the required temperature to this time.
- Confirm again with the `i↵` button; the display automatically shows the **1:U2** message for the second period of the 1st day.
- Repeat this procedure until you set all the time periods (up to 4); then exit the programming mode with the `Fce` button.
- Choose **AUTO** function; the thermostat starts working according to the preset program.
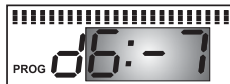
THERMOSTAT STATE INDICATION	
State	**Description**
ON	AUTO or MANU lit on the display
OFF	AUTO or MANU flashing on the display

EXAMPLE weekly program setting

1) Set ☾ to 18°C (PA:r2)
2) Set ☀ to 23°C (PA:r3)
3) Choose programming of the whole week **d1:7** (Prog)
4) To **17:U1** assign the time **6:00** and temperature ☀
5) To **17:U2** assign the time **9:00** and temperature ☾
6) To **17:U3** assign the time **13:00** and temperature ☀
7) To **17:U4** assign the time **19:00** and temperature ☾
8) Exit programming with the `Fce` button and choose the **AUTO** function.
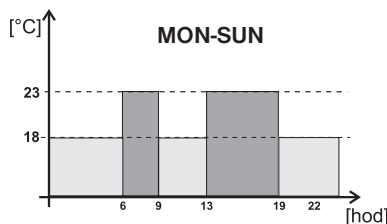
OFF FUNCTION permanent switch-off

Push the `Fce` button, with the `−/+` button choose the **OF:F** function and confirm it with the `i↵` button. Thus the thermostat is permanently off. In this mode, the display alternately shows the **OF:F** message and the required temperature value (anti-freeze protection is still active). To cancel this function, push the `Fce` button and choose another mode with the `−/+` button.

Short-term temperature change in the AUTO mode

In the AUT mode, push the `−/+` button to make a short-term change in the required temperature; the thermostat will keep this temperature until the next temperature change given by the program.

TEST FUNCTION verification of function (signal transmission test)

Push the `Fce` button, with the `−/+` button choose the **tE:St** function and confirm it with the `i↵`. The **Ad:r** message appears on the display; push the `i↵` button to send out a signal (the **On:** and **OF:F** messages alternate on the display). The relay will be switched on/off several times in the receiver (indicated by orange LED).

If communication fails, the **Er:r1** message appears on the display within 2 minutes.

Check the receiver connection and repeat the procedure!

```
tE:St
```

```
Ad:r
```

```
On:
```

Anti-freeze protection

If the room temperature falls below 3 °C, the thermostat automatically switches the outlet and the symbol ❄ appears on the display. In this way, BPT 102 prevents the heating system from freezing. As soon as the temperature rises, it gradually resumes the preset mode.

Child lock

It enables locking of the keyboard as a protection against undesired operation. Push the `Fce` button, then simultaneously the ☀◖ and `−` . The keyboard will be locked *(keys inoperative)*.

```
LO:C
```

LO:C message appears on the display shortly. Cancellation (unlocking) can be done by simultaneously pushing the ☀◖ and `+` buttons *(keys are operative again)*.

Operating hours

The sum total of the thermostat operating hours appears if you push three times the `i↵` button; the LCD shows a value, such as 00:10, which means that the thermostat was switched on for 10 hours. The hours are set to zero if the thermostat is reset.

TECHNICAL PARAMETERS

Receiver	
Power supply	230 V/ 50 Hz
Communication type	two-way
Frequency	433,92 MHz
Range	300 m (free area) 35 m (built-up area)
Sensitivity	< -102 dBm
Output	relay, max. 16 A
Protection	IP20
Protection class	II
Working temperature	0 °C to +40 °C
Dimensions (H×L×W)	110x80x31mm

Transmitter	
Power supply	2 x1.5V alkaline AA batteries (not included in the delivery)
Communication type	two-way
Hf power	< 10 mW
Frequency	433,92 MHz
Hysteresis	0.5 °C
Adjustable temp. range	+3 °C to 40 °C
Temperature setting	by 0.5 °C
Measurement accuracy	± 0,5 °C
Protection	IP20
Battery life	heating season
Working temperature	0 °C to +40 °C
Dimensions (H×L×W)	76x114x25 mm

DECLARATION OF CONFORMITY
We, ELEKTROBOCK CZ s.r.o., herewith declare that the product BPT102 conforms to the basic requirements and other corresponding provisions of the Directive 1999/5/EC.
Issued: 01.05.2012   see www.elbock.cz

In case of guarantee or post-guarantee service, send the thermostat to the distributor's or manufacturer's address.

CE ☒ ♿

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in compliance with s RoHS

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