# THERMOSTATIC DIGITAL HEAD

# HD13

AUTO
MANU
OFF

**modes according to period**

**8**

**changes each day**

**2**

**temperatures**

HD13

- display without backlight
- Save up to 30% energy
- for standard valves (thread M30x1.5)
- 2 x 1.5 V AA batteries (included)

**EOB s.r.o.**
**ELEKTROBOCK CZ**
MADE IN CZECH REPUBLIC

## DESCRIPTION HD13

**transmission part of the head**

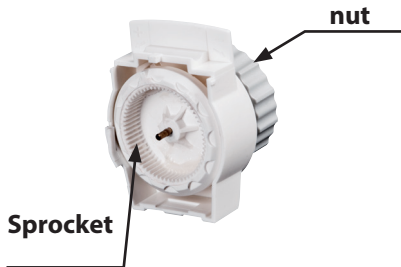**head body**

**Controls:**

**i ↵** enter the menu (AUTO, MANU, OFF, CLO, PROG, PAr)
short press = confirm (ENTER)
long press = step back

**─ +** scrolling through functions temperature, time setting,

Note: If in 2 min. if no button is pressed, the head returns to the basic mode. Function button ─ and + accelerates after a long press.

## TRANSMISSION PART

**nut**

**Sprocket**

## HEAD BODY

**latch lever**

**display**

**battery cover**

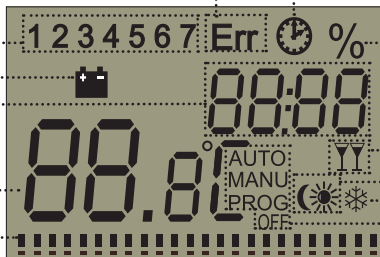**controls**

## Description LCD

error indication (see page 11)

actual day

low battery

required temperature or current time or valve position

actual temperature

the course of the set temperature program

clock setting mode

opening percent sign

economical, comfortable temperature

BOOST function indication (more on page 8)

non-freezing temperature

set mode

1 2 3 4 5 6 7 Err

88:88

88.8°

AUTO
MANU
PROG
OFF

## 1. LOCATION AND REPLACEMENT OF BATTERIES

- grasp the head and turn it with the display down;
- Open the battery cover and remove the battery protection paper (on first use), this makes HD13 functional;
- the need to replace the batteries is indicated on the display by flashing symbol 🔋
- **wait until the head is replaced before replacing the batteries will not rotate (close or open valve) during do not press any button to replace the batteries;**
- **to preserve the data, it is necessary to replace the batteries within 20 s!**

**WARNING!**

If the replacement takes longer than 20 s, a factory reset will take place and all data will disappear from the display. **The display is not reactivated until the batteries are replaced and put on radiator head!** In this case it is necessary to set the current time!

**Always use 2 x 1.5 V / AA alkaline batteries.**

### Note: automatic adaptation takes place after each battery change (see p.8)

**!** Dispose of used batteries in accordance with hazardous waste regulations!

## 2. BASIC FUNCTIONS AND SETTINGS

2 x press the button $i\leftarrow$ and enter to the menu. Button $-$ or $+$ scroll through the menu:

**AUTO:** the head works according to the set program.

**MANU**:  used for manual temperature setting (selection with buttons $-$ or $+$ ), the temperature will be constant until the next manual temperature change.

**OFF**    :the head is permanently switched off in this mode (frost protection 3 ° C is active).

**CLo**    : etting the current day and time.

PROG: mode for setting temperature programs.

PAr: setting of parameters (constants).

## setting the current day and time (CLo)

Press 2x the button $i\leftarrow$, button. $+$ choose the function **CLo** and confirm by the button $i\leftarrow$ . The clock indication flashes on the display, button $-$ or $+$ set the required data and confirm by the button $i\leftarrow$ . Then set the current date, successively day, month and year, confirm each setting with the button. $i\leftarrow$ .
To return to the menu, press and hold $i\leftarrow$ .

## PARAMETER settings (PAr)

Press 2x the button $i\leftarrow$, button $+$ choose the function **PAr** and confirm byt the button $i\leftarrow$ .
Set the parameters as follows:

## P1 economy temperature (from production 17 ° C) ☾

- P1 appears on the display
- button $-$ or $+$ set your desired saving temperature and confirm with button $i\leftarrow$ .

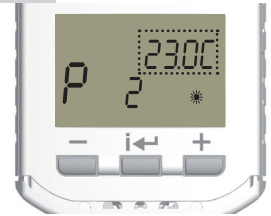## P2 comfort temperature (from production 23 ° C) ☀

- P2 appears on the display
- button $-$ or $+$ set your desired comfort temperature and confirm with button $i\leftarrow$ .

## P3 summer mode (from production - - - -)

- P3 appears on the display
- button $-$ or $+$ activate summer mode **LE:tr** and confirm byt the button $i\leftarrow$ .

Designed for the summer season when it is not heating, the warhead will be released to 100%. **It is used to extend the service life valves!** The display alternates between LE: tr, required temperature (0.0 ° C), current time and valve position in percent.
<u>**Note: There is also functional protection in summer mode against limescale (see page 9)!**</u>

## P4 reference point correction (from production 3)

- P4 appears on the display
- button — or + select a value from 1 to 5 and confirm by the button i↵ .

### REFERENCE POINT CORRECTION:
serves to exact setting the reference point at adaptation of the head to the valve.
It moves in steps 1 to 5 and is factory default set to 3. This value usually does not need to be changed. The change only needs to be made if the head cannot reach the valve
adapt and report **Err1** or if it passes even when the valve is closed. Correction is also necessary for older valves with squeezed sealing rings or for valves that offer greater mechanical resistance. The larger the number, the greater the force when tightening the valve.

### Examples of settings:
1. The head allows water even when closed to 0% - we increase the given constant to 4 or 5.
2. The head starts to release water up to the value of 50% of the opening - we reduce it given a constant of 2 or 1.

## P5 firmware version number / factory reset

- P5 appears on the display
- this parameter is for information only and displays firmware version number
- long press i↵ to return to the selection functions.

**Deleting set programs, RESET head:**
- 2x press the button i↵ , button + select the **PAr** function and confirm with button i↵
- press the button i↵ as many times as it appears **P5**
- long press the button — , this will restore factory setting, appears on the LCD **rESE**!

**Note: use only when necessary, all**
saved changes will be deleted and the head will be re-adapted!

## TEMPERATURE PROGRAM setting (PROG)

- 2x press the button i↵ , button . + choose the function **PROG** and confirm by the button i↵

### CHOOSE A DAY OR BLOCK OF DAYS:
- the button + select the day or block of days you want to program

| TABLE FOR SELECTING DAYS FOR PROGRAMMING | | |
|---|---|---|
| 1= Monday | 5= Friday | 12345= Monday until Friday |
| 2= Tuesday | 6= Saturday | 67= Saturday until Sunday |
| 3= Wednesday | 7= Sunday | 1234567= whole week |
| 4= Thursday | | |

- after selection, press the button. i↵

### CHOOSE TIME 1. CHANGE:
- the first setting appears on the display time changes (1) and the time flashes
- button − or + set the time of the first change (minimum jump 30 min.) and confirm with button i↵

### SELECT THE DESIRED TEMPERATURE:
- the symbol flashes on the display ☀ or ☾, the button + select the desired temperature (temperature values are set in parameters P1 and P2, see page 4) again confirm by the button i↵

- the display automatically shows the setting of the second time change (2) the same day.
- repeat this procedure only after setting all time changes (max.8) and then exit the programming mode by long pressing the button i↵.
- mount the head on the radiator valve (see p.10-11)
- select the AUTO function and the head will start working according to the setting program.

## PRESET TEMPERATURE PROGRAM

### P1 ☾ = 17 °C    P2 ☀ = 23 °C

**program for Mon-Fri**
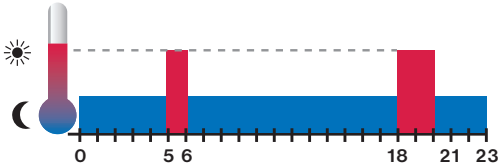
**program for Sat-Sun**

```
0      5 6                18    21  23        0        7                    21  23
```
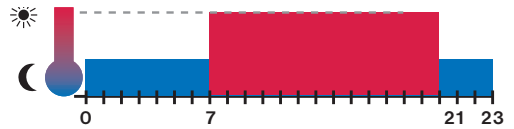
## EXAMPLE OF TEMPERATURE PROGRAM CHANGE

Change of temperature program for the whole week according to the following requirement.
From 6 to 9 o'clock and from 7 to 9pm melt to 23.5 ° C. Maintain the temperature at 18 ° C for the rest of the day.

**2x**

**5x**    →    **1x**    →    **set 18°C**    **set 23.5°C**

**1x**    →    **1x**    **long time**

**5x**

**1x**    →    **9x**

**1x**

set the time at 6:00, choose ☀

set the time at 9:00, choose ☾

set the time at 7:00pm choose ☀

set the time at 12 and choose ☾

After setting, press and hold twice **i ↵** and the button **+** choose the regime AUTO.

## 3. OTHER HEAD FUNCTIONS

### Automatic adaptation to the valve

When mounting the head on the valve for the first time, a search is
 performedvalve stops called adaptation to the valve. The head saves the
measured values and performs the regulation in the given one
range of valve operation (Err means that the head does not yet know the
stops). Each time the head body is separated from the gear unit
part, automatic adaptation is performed so that the regulation runs
correctly.

### Short-term temperature change in AUTO mode

Press 2x the button $+$ in the regime **AUTO** and the button $-$ or
$+$ change the desired temperature for a short time.
This temperature is maintained by the head until the next temperature
change given by the program.

### BOOST FUNCTION short-term switching on
### (valve opening)

Do not press any button for 20 seconds, then press and hold $+$ . The
character appears on the LCD
and the head fully opens the valve for 5 minutes. To cancel the
function before the time expires, press and hold the button.
$-$ .

### OFF FUNCTION permanent shutdown (valve closing)

Press 2x the button $i \leftarrow$, button. $+$ choose the button **OFF** and con-
firm by the button $i \leftarrow$.
The head starts to close the valve. The display shows the valve position
in percent and the word OFF.
When the valve is closed, OFF lights up permanently on the display
(frost protection is still active).
To cancel this function, press twice $i \leftarrow$ and the button $+$ select
another mode (AUTO or MANU).

## "OPEN WINDOW" FUNCTION

If the room temperature suddenly drops, eg by opening a window by 0.5 ° C on the LCD, it will appear at the current one
temperature small „o". If within 2 minutes
to drop by more than 1.3 ° C and the head closes the valve
and thus saves energy. The display alternates between the symbol - -: - -, the required temperature, the current time and the valve position in percent. The mode ends when the temperature rises or within 30 minutes.
The next „open window" mode can occur after 10 minutes at the earliest. Cancel this function, ie open the valve, by pressing the button. i ← .

## Scale protection

It takes place once every 14 days on Wednesday at 12 noon automatic adaptation to prevent scale blocking of the valve. During this function, Ad: AP lights up on the display.
This protection also takes place in the selected summer mode.

## Automatic summer / winter time changeover

The head automatically changes the time from summer to winter and vice versa at the right time. It is not necessary to adjust the date and watch whether the warhead will work according to our imagination.

## Frost protection

If the room temperature is less than 3 °C, the head automatically opens the valve and shortens the control ianterval to 2 min. As soon as the temperature rises, it gradually returns to the set mode.

## 4. INSTALLATION OF THE VALVE HEAD

4.1 Remove the original head from the valve, by simple unscrewing (without the need to drain the water from the heating system).

4.2 Using a suitable screwdriver turn lever HD13 towards up and slide out the transmission from the body of the head.
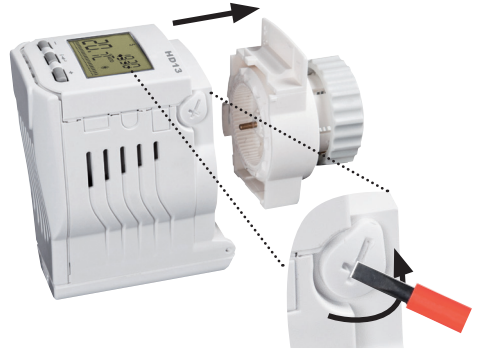




4.3
Grasp the transmission part of the head HD13, unscrew the gears counterclockwise wheel hands as far as it will go. Install the transmission with nut on the valve and hand-tighten the nut on the valve (DO NOT USE ANY TOOLS!).

4.4 Grasp the head body with the display upwards, check if the latch lever points as well up. Then tilt the body from top to bottom on the valve with gearbox parts.

4.5 Using a suitable screwdriver
turn lever HD13 towards
to the valve, to complete the assembly.
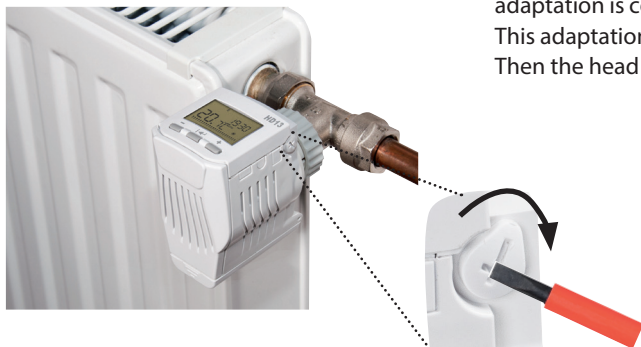
After fitting the head to the valve, turn it on **„Ad: AP"** appears on the display and the head automatically adapts to the valve (until the adaptation is correct, the word **Err** also appears). This adaptation takes about 1 min.
Then the head returns to normal mode.



## 5. EMERGENCY MANUAL VALVE CONTROL

OPENING
VALVE          CLOSING
VALVE
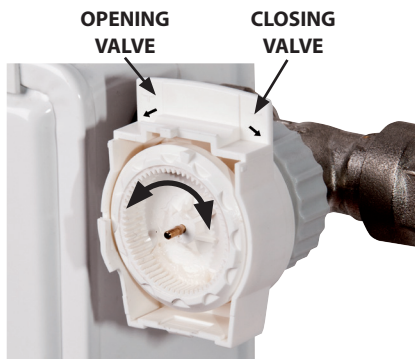


Remove the subject from the transmission, adjust the valve manually by turning gear wheel as shown.



## 6. ERROR MESSAGES

**Err - lights during the first adaptation to the valve or when errors Err0 to Err3 occur**
This is not a fault, the head is looking for the correct stops or is the transmission part separated from the head body. If it is constantly lit and some also appears from errors Err0 to Err3, follow the solutions below.
**Err0 - temperature sensor error.**
 We recommend removing the batteries for about 2 minutes and reinserting them. If the error reappears on the LCD, contact the manufacturer.
**Err1 - valve stop not found**
The head may not be mounted correctly on the valve, mount the head on the valve according to the instructions above.
**Err2 - adaptation error.**
Separate the head body from the gear unit and refit the head, then adapt.
When the error is displayed again, set P4 to a higher value (reference point correction).
**Err3 - head mechanism error or stiff valve.**
Separate the head from the radiator and practice the valve manually by pressing the piston several times. Then do reassembly of the head on the radiator, then adaptation will take place. When the error is displayed again, set P4 to a higher value (reference point correction). In case of repeated error messages, we recommend contacting the manufacturer.
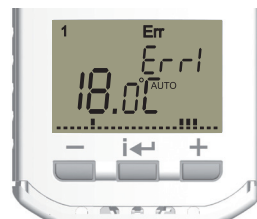
# THERMOSTATIC DIGITAL HEAD    HD13

**HD13 is used for automatic regulation of heating systems in family houses, apartments and offices. Allows you to set up to 8 temperature changes for each day.**

## Other advantages are:

- a different temperature program for each day
- possibility to set 2 temperatures levels(☀ , ☾)
- automatic adaptation after connection on the valve
- information on the ongoing temperature program
- valve opening indication in%
- automatic valve protection against

scale formation
- autom. closing the valve in the event of a sudden room temperature drop (open window)
- automatic change SUMMER / WINTER time
- frost protection
- possibility of short-term temperature change program or BOOST function
- low battery indication
- temperature regulation by 0.5 ° C

| Table of usable valves | |
| --- | --- |
| **HD13 without reduction (thread M30x1.5)** | **HD13 with reduction** |
| HONEYWELL HEIMEIER VAC JUNKERS KORADO PURMO (shodné s HEIMEIER, KORADO) SIEMENS KERMI DIANORM RADSON DELONGHI | HERZ (thread M28x1,5) DANFOSS (thread M28x1,5) UNIVA (identical to HERZ) (thread M28x1,5) COTERM (thread M28x1,5) MYJAVA (thread M28x1,5) DANFOSS RTD (thread M30x1,5) For new types of OVENTROP valves and ENBRA (M30x1.5) no reduction required. |

| Technical parameters | |
| --- | --- |
| Power supply | 2 x 1.5 V alkaline. AA battery (included)! |
| Number of temperature changes | 8 temperature changes for each day |
| Minimum program time | 30 minutes |
| Adjustable temperature range | 3 to 40 ° C |
| Temperature settings | after 0.5 ° C |
| Minimum indication jump | 0.1 ° C |
| Measurement accuracy | ± 0.5 ° C |
| Battery life | heating season |
| Degree of protection | IP40 |
| Operating temperature | 0 to 40 ° C |

## These reductions can be ordered at www.elbock.cz

| RD20 (Danfoss) | RH20 (Herz) | RE-M (Myjava) | RE-C (Coterm) | RE-RTD (Danfoss RTD) | RE-G (Giacomini) |
| --- | --- | --- | --- | --- | --- |

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