Control System THETA

Operating Instructions

Room control unit RSC and RSC-OT
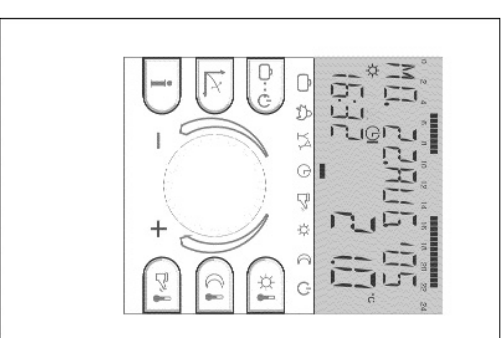
Table of contents

Page 2

PROGRAMMING LEVEL

Display and Controls

Operating instruments

Heating System Information

Heating curve adjustment

Operating modes button

LCD-display

Setting daytime temperature

Setting night setback

Setting domestic hot water temperature
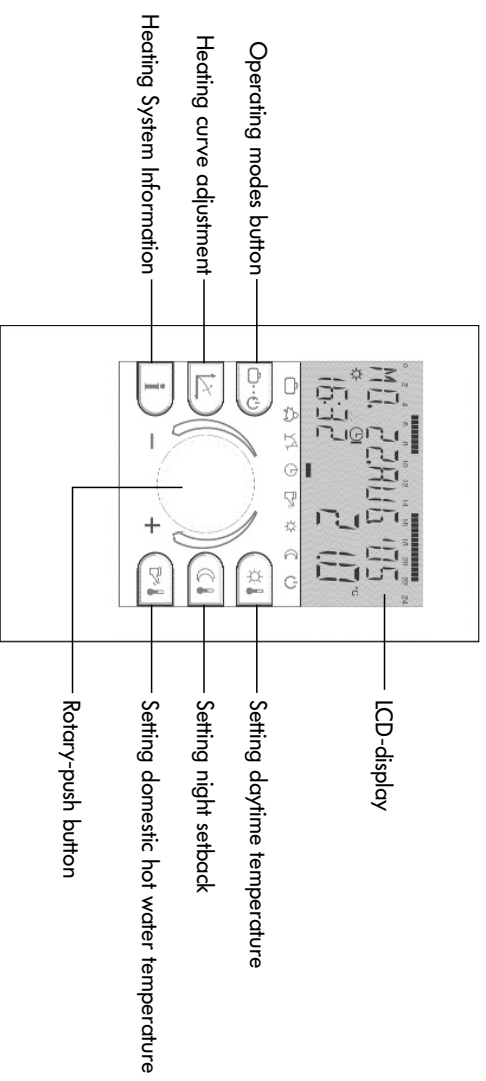
Rotary-push button

Operation

Symbolism used in this manual:

Turn: select parameters, change values

Press once: confirm, store

Display test

Language selection

SPRACHWAHL
-DE-

Country code

The center-positioned rotary-push button and the labeled keys guarantee a simple and easy operation. It is however recommended to read this manual attentively to be informed about the repeating steps.

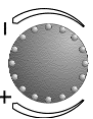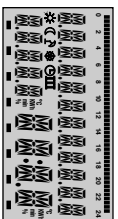– Each value in the display appears flashing and can be modified with the rotary-push button. A flashing display is appropriately marked in this manual.

  Turn to the right (+): Increase values

  Turn to the left   (-): Decrease values

– Press once: Acceptance of the selected and indicated value, store.

– Keep pressed: Entry into the programming level (level selection),

The last operation step will be stored automatically after approx. 60 seconds if it was not stored by means of the rotary-push button.

Start-up

In case of initiation of the plant or after every power failure a display test of the large display is carried out with automatic error diagnosis. At that all available segments and symbols will be displayed.

Language selection

In case of first initiation the desired language can be chosen after the display test. The languages DE, GB, FR, IT, NL, ES, PT, HU, CZ, PL, RO, RU, TR, S, N, BG can be selected.

Note: This display appears after every restart on day of first initiation until midnight. After that the language can only be changed in the level SYSTEM - parameter LANGUAGE.

Page 6

Device identification

After the display test and/or the language selection the device identification momentary appears with device type, interface and the corresponding number of software version.

Basic display

Provided that there is not any error message, the basic display indicates the date, time, heating mode (☼ = daytime temperature , ☾ = reduced set back temperature) as well as the current boiler temperature or, if released, the room temperature. Response time program. The cursor below (■) indicates the current operating mode (see function of operating modes). The upper time bar shows the heating periods and the corresponding operating times of the current weekday.

An activated summer switch-off is represented in the basic display by a sunshade symbol (⛱). The heating mode symbols ☼ or ☾ will be suppressed during an activated summer switch-off.

With acting frost protection function an ice crystal symbol appears in the basic display (❄).

Device identification

— Interface and software version

Standard display

— Heating cycles

— Actual boiler temperature resp. room temperature

Standard display

Summer switching-off activated
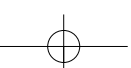
Standard display

Frost protection activated

Temperature settings

set
temperature

− +

accept

Required daytime
room temperature

ROOM-DAY

20.0°

Setting range: 5.0 ...30°C
Factory preset: 20°C

Required set back
room temperature

ROOM-NIGHT

16.0°

Setting range: 5.0 ...30°C
Factory preset: 16°C

Domestic hot water
temperature

DHW
DAY

50.0°

Setting range: 5...80°C
Factory preset: 50°C

This button is used to set the required day-
time room temperature

This button is used to set the required set
back room temperature

This button is used to set the required
domestic hot water temperature

Adjustment (standard display mode only):
After pressing the button for the required tempe-
rature the current value appears flashing and can
be adjusted directly with the rotary pushbutton.

Re-entry into the standard display is done by pres-
sing the rotary-push button or the corresponding
temperature button or automatically after approx.
60 seconds.

Operational mode selection for heating and hot water

With this button the required operational mode is selected. It appears in plaintext on the display, simultanously a cursor at the lower edge of the display points to the appertaining program symbol.

Select: Pressing the button ⟨⟩, the previously selected operational mode appears flashing. The other operational modes can be selected and activated with the rotary-push button according to the following scheme.

Entry into the previously selected heating operation mode

Select required operational mode

AUTOMATIC

SUMMER-DHW

HEATING

RED HEATING

STANDBY

Note: This mode is skipped in case of separate selection (see »function of operating modes« and »Level SYSTEM - parameter CONTROL MODE«)

accept, activate

set date or time

activate, re-entry to standard display

Heating operation via timer	Domestic hot water only	Permanent heating operation	Permanent red. heating operation	Plant off frost protection

HOLIDAY TIL 27.08

ABSENT TIL 19:45

PARTY TIL 02:30

HOLIDAY TIL 15:30 -27.08

ABSENT TIL 15:30 -19:45

PARTY TIL 15:30 -02:30

Plant off during holiday	Interrupt heating operation	Extend heating operation

Functions of operational modes

Plant off during holiday	Interrupt heating operation	Extend heating operation	Heating operation via timer	Domestic hot water only	Permanent heating operation	Permanent red. heating operation	Plant off frost protection
HOLIDAY TIL 19:27 24.09	ABSENT TIL 19:27 19:30	PARTY TIL 19:27 02:27	MO 22AUG '05 19:27 56.5°	SUMMER 19:27 24.0°	HEATING 19:27 72.0°	RED HEATING 19:27 45.0°	STANDBY 19:27 19.0°

Plant off during holiday

Setting range:
Actual date...actual date + 250 days

Return to the previously selected operational mode at 0.00 o'clock of the set return date.

Interrupt heating operation

Setting range P1:
Heating operation is interrupted until next switching-on time of current operating time program (see level TIME PROGRAMS)

Setting range:
0.5 ...24h:
Heating operation is interrupted until set time of return.

Earlier termination:
Press button ☾○, select required operational mode with rotary-push button and press again to activate.

Hot water operation is set to frost protection temperature of 5°C.

Extend heating operation

Setting range P1:
Heating operation is continued until next switching-on time of current operating time program (see level TIME PROGRAMS)

0.5 ...24h:
Heating operation is continued until end of party.

Earlier termination:
Press button ☾○, select required operational mode with rotary-push button and press again to activate.

Heating operation via timer

Operating times:
(see level TIME PROGRAMS)

Heating and domestic hot water operation according to settings of hot water and domestic hot water temperature (see Temperature settings) and selected operating times program.

Programming of individual operating times see level TIME PROGRAMS.

Domestic hot water only

Operating times:
(see level TIME PROGRAMS)

Only hot water operation according to the settings of daytime room temperature according to settings of Temperature values and selected operating times program. The heating operation is interrupted and frost protected.

Programming of individual operating times see level TIME PROGRAMS.

Permanent heating operation

Permanent heating and reduced hot water operation round the clock operation round the clock according to the settings of set temperature back temperature (see Temperature settings), reduced heating mode (see level UNMIXED CIRCUIT) and hot water economic temperature (see level DHW).

Permanent red. heating operation

Permanent reduced heating and reduced hot water operation round the clock (see Temperature settings), reduced heating mode (see level UNMIXED CIRCUIT) and hot water economic temperature (see level DHW).

Plant off frost protection

Heating and hot water plant completely switched off except for frost protection mode.

Quick operational mode selection

modify

if required

activate

Automatic mode — 3 sec

```
MO. 22.AUG '05
16:32        62.5°
```

Party mode — 3 sec

```
PARTY TIL
     -02:50
```

Absence mode — 3 sec

```
ABSENT TIL
     -19:45
```

Manual hot water loading — 3 sec

```
1 TIME DHW
        -0.0
```

Setting range: 0...240 min
Factory preset: 0.0 min
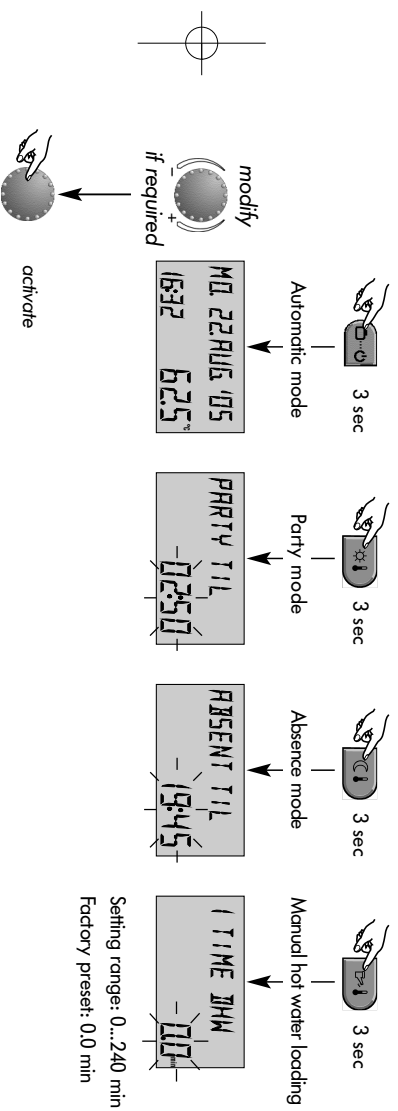
Short-time operational modes

Frequently used operating modes such as *PARTY* or *ABSENT* or reloading the hot water tank during set back mode can be selected quickly according to the left scheme.
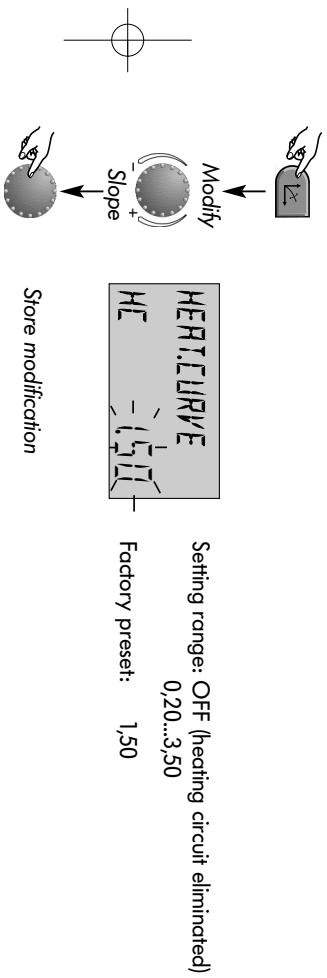
Direct automatic mode

Pressing button for approx. 3 seconds activates the automatic mode via timer inevitably. Functions and setting range see *Operational mode selection for heating and hot water - Function of operational modes.*

Manual hot water loading

To activate manual hot water loading outdoor of operation times the button has to be pressed for about 3 seconds. This turns on hot water preparation at any time for a period which may to be adjusted with the rotary pushbutton between 0 ...240 minutes. Pushing the rotary pushbutton activates loading. Afterwards the controller returns to program operation.

At adjustment 0.0 the loading is independent of any time period. The tank will be loaded up to the set DHW-temperature value once.

Heating system information

Modify

Slope

Store modification

HEAT.CURVE

HE -1.50-

Setting range: OFF (heating circuit eliminated)
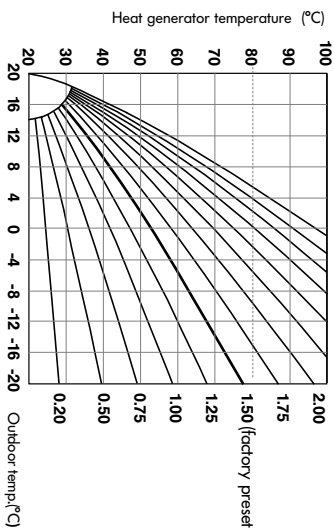0,20...3,50

Factory preset: 1,50

Note: The heating slope should be modified only in small steps and left for a while until steady condition can be obtained. Changes to the slope should be made in intervalls of 0.1 every 1 or 2 days.

This button regulates the heating characteristics of the heating circuit in relation to outdoor temperature.

The adjustment is dependent of the plant installation and shows the relation between outdoor temperature and heat generator (boiler) temperature.

The slope sets the change of the supply temperature, if the outdoor temperature changes for 1 K.

Diagram of heating curves

Heat generator temperature (°C)

100
90
80
70
60
50
40
30
20

20 16 12 8 4 0 -4 -8 -12 -16 -20   Outdoor temp.(°C)

0.20
0.50
0.75
1.00
1.25
1.50 (factory preset)
1.75
2.00

Re-entry into the standard display is done be pressing the button again or automatically after approx. 60 seconds.

Page 11

Heating system information
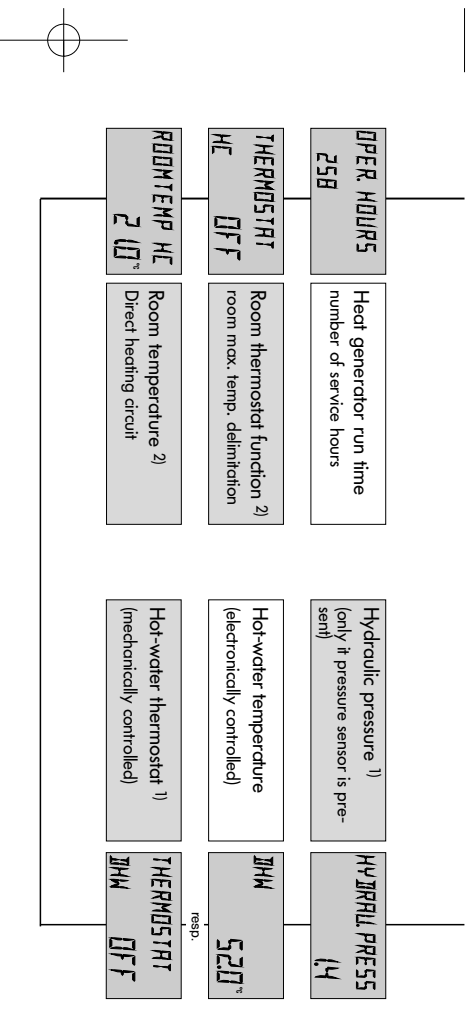
i Entry into information level

This button displays all plant temperatures and states of all circuits. The information can be requested according to the direction with the rotary-push button.

OUTSIDE
135°
Outdoor temperature

Inquire clockwise temperatures, consumption datas one after the other

Examples:

OUT MIN/MAX
145°
Outdoor temperatur
Minimum-maximum value between 0.00h and 24.00h

HEAT GENER
650°
Heat generator temperature (boiler temperature)

RETURN FLOW
450°
Return flow temperature (only with return flow sensor)

EXHAUST
1350°
Flue gas temperature (only with flue gas sensor)

Turning rotary-push button clockwise

displays from all plant-specific temperatures

− the actual values and
− the nominal values (pressing rotary-push button)
− meter readings such as consumption data etc.

Turning rotary-push button anti-clockwise

displays from direct heating circuit resp. DHW circuit

− operational mode (holiday, absence, party, auto etc.)
− timer programm P1(P2 and P3 only when released)
− heating mode (daytime-, reduced-, ECO-mode)
− identification (direct circuit HC, hot water circuit DHW)
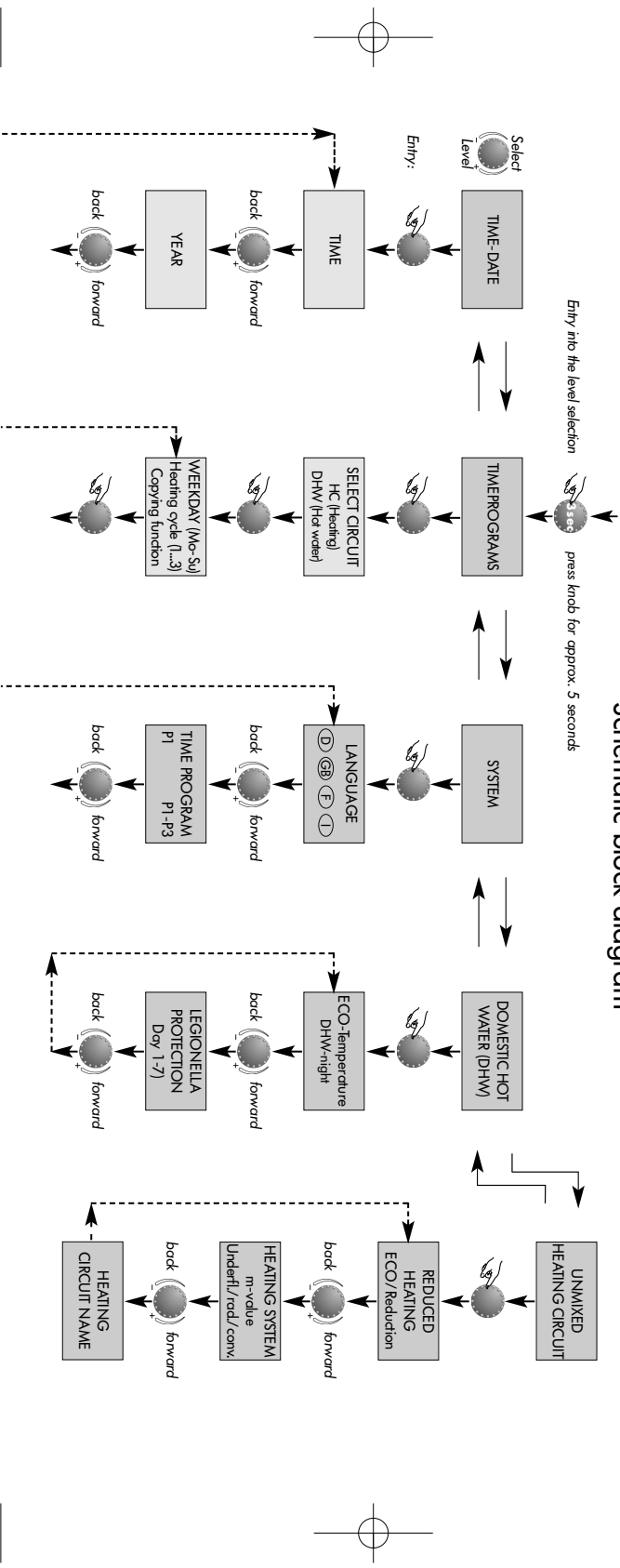− status of heating- and DHW charging pump (on, off)

Inquire anti-clockwise heat circuit information one after the other

Examples:

AUTO-P1 DRV   HC
ON
Direct heating circuit (unmixed)

AUTO-P1 DRV   DHW
OFF
Domestic hot water circuit

HEAT GENER
ON
Heat generator (boiler)

STARTS
1245
Heat generator starts (number of starts)

OPER. HOURS
258

Heat generator run time
number of service hours

THERMOSTAT HC
OFF

Room thermostat function 2)
room max. temp. delimitation

ROOMTEMP HC
21.0°

Room temperature 2)
Direct heating circuit

HYDRAUL PRESS
1.4

Hydraulic pressure 1)
(only if pressure sensor is present)

DHW
52.0°

Hot-water temperature
(electronically controlled)

resp.

THERMOSTAT DHW
OFF

Hot-water thermostat 1)
(mechanically controlled)

shows
– operating status (on, off)
– number of service hours
– number of starts
of heat generator, boiler etc.

shows
– room thermostat function (heating on, off)
– current room temperature
if room sensor is activated

shows
– water pressure
if pressure sensor is present

1) display dependent on the type of heat generator
2 will be displayed only if the room sensor was activated before

Programming level – Level summary

Schematic block diagram

Standard display
(Example: Operational mode AUTOMATIC)

MO 22AUG '05
19:45   58.5 °C

Entry into the level selection

press knob for approx. 5 seconds

Entry:

Select Level

TIME-DATE

TIME

back / forward

YEAR

back / forward

↑ ↓

TIMEPROGRAMS

SELECT CIRCUIT
HC (Heating)
DHW (Hot water)

WEEKDAY (Mo–Su)
Heating cycle (1...3)
Copying function

↑ ↓

SYSTEM

LANGUAGE
D GB F I

back / forward

TIME PROGRAM
P1
P1–P3

back / forward

↑ ↓

DOMESTIC HOT WATER (DHW)

ECO–Temperature
DHW–night

back / forward

LEGIONELLA
PROTECTION
Day 1–7

back / forward

UNMIXED HEATING CIRCUIT

REDUCED HEATING
ECO/Reduction

back / forward

HEATING SYSTEM
m-value
Underfl./rad./conv.

back / forward

HEATING CIRCUIT NAME

DAY-MONTH → back / forward → CHANGEOVER Summer-Wintertime → back / forward

HEATING START selected cycle → HEATING END selected cycle → TEMPERATURE selected cycle

OPERATING MODE common (1) separate (2) → back / forward → SUMMER switching off → back / forward → PARAM.-RESET Reset to factory preset → back / forward

Selection and modification of parameters and setting values

Entering into the programming level, principally the operating times level (TIME PROGRAMS) appears at first. All other levels, such as

- SYSTEM

- DHW

- UNMIXED CIRCUIT

- DATE-TIME

can be selected directly via rotary-push button

By pressing the rotary-push button, the selected flashing level is activated; the first value resp. parameter appears flashing. If necessary, it can be modified via the rotary-push button and accepted by pressing again. If necessary, the following parameters can be treated in the same way.

Re-entry into the level selection is done via the info button ⓘ, re-entry into the standard display via the program-selection button ⓘ or automatically after approx. 60 seconds.

Programming of operating times
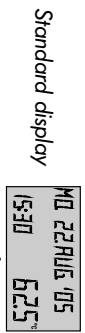
With this mode of operation individual programs, other than standard programs for heating and hot-water mode can be set up. For this purpose after selecting the heating- resp. hot-water circuit the factory preset standard program (P1) is called an can be overwritten individually.
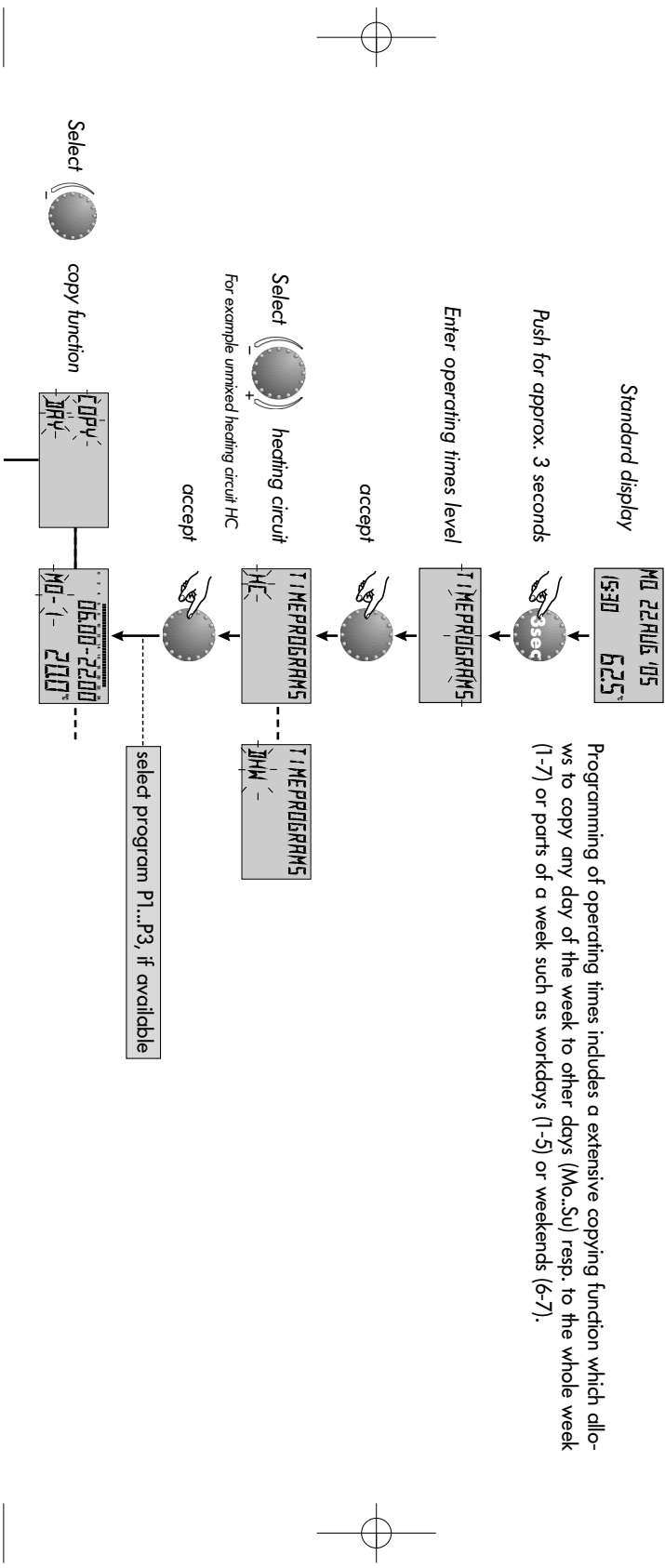
For programming the operation times, for each week day maximum three heating cycles with one switch-on and switch-off time each are available. Further more, the heating- resp. hot-water cycle can be combined with a required room temperature resp. hot-water temperature for the duration of the cycle.
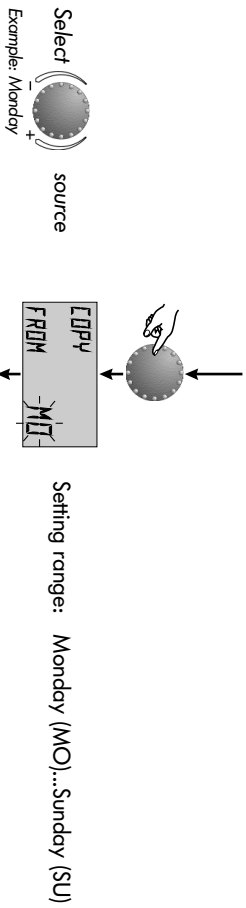
Standard display

```
MO 22AUG '05
15:30    62.5°
```

Press for approx. 3 seconds

⟲ 3 sec

Enter operating times level

```
TIMEPROGRAMS
```

⟲ *accept*

```
TIMEPROGRAMS
HC
```

Select (−/+) heating circuit

For example unmixed heating circuit HC

```
TIMEPROGRAMS
DHW
```

⟲ *accept*

select program P1...P3, if released

Select day and cycle

For example Tuesday - heating cycle 1

accept

Modify (− +) switching-on time

Setting range 0.00...24.00 h

accept

Modify (− +) switching-off time

Setting range: 0.00...24.00 h

accept

Modify (− +) temperature

For heating circuit: Room temperatur
Setting range: 5.0...30.0°C
For hot-water circuit: Hot-water temperature
Setting range: 10.0...80.0°C (resp. DHW-max)

accept

Note: The 3rd heating cycle is skipped if the 2nd heating cycle does not include any operating times.

- Wed - Thu - Fri - Sat - Sun -

Modify - Exit :

Confirm the selected flashing value by pressing the rotary-push button. Then set the new required value and take over by pressing the rotary-push button again.

Re-entry into the former step in done by pressing the button ⓘ , exit into the standard display via the button ⏻ or automatically after approx. 60 seconds.

Copy operating times

Programming of operating times includes a extensive copying function which allows to copy any day of the week to other days (Mo..Su) resp. to the whole week (1-7) or parts of a week such as workdays (1-5) or weekends (6-7).

Standard display

`MO 22 AUG '05`
`15:30    62.5°`

Push for approx. 3 seconds

`3sec`

`TIMEPROGRAMS`

Enter operating times level

accept

`TIMEPROGRAMS`

`TIMEPROGRAMS`
`HC`

`TIMEPROGRAMS`
`DHW`

Select   heating circuit

For example unmixed heating circuit HC

accept

select program P1...P3, if available

`COPY`
`DAY`

`06:00 - 22:00`
`MO - 1 -`

Select   copy function

Select

Select — source
Example: Monday

`COPY FROM MO`

Setting range: Monday (MO)...Sunday (SU)

accept

Select — first destination
Example: Monday to Friday

`COPY TO 1-5`

Setting range:
Days (MO...SU), whole week (1-7),
Working days (1-5), weekend (6-7)

Copy

Confirmation

`COPY DAY OK`

Source and destination are identical

Select — next destination
Example: Saterday and Sunday

`COPY TO 6-7`

If necessary select and takte over further destinations in the same way.

etc...

Modify - Exit :

Confirm the selected flashing value by pressing the rotary-push button. Then set the new required value and take over by pressing the rotary-push button again.

Re-entry into the former step in done by pressing the button [i], exit into the standard display via the button [⊡] or automatically after approx. 60 seconds.

Page 19

Reloading of standard time programs – deleting of individual time programs
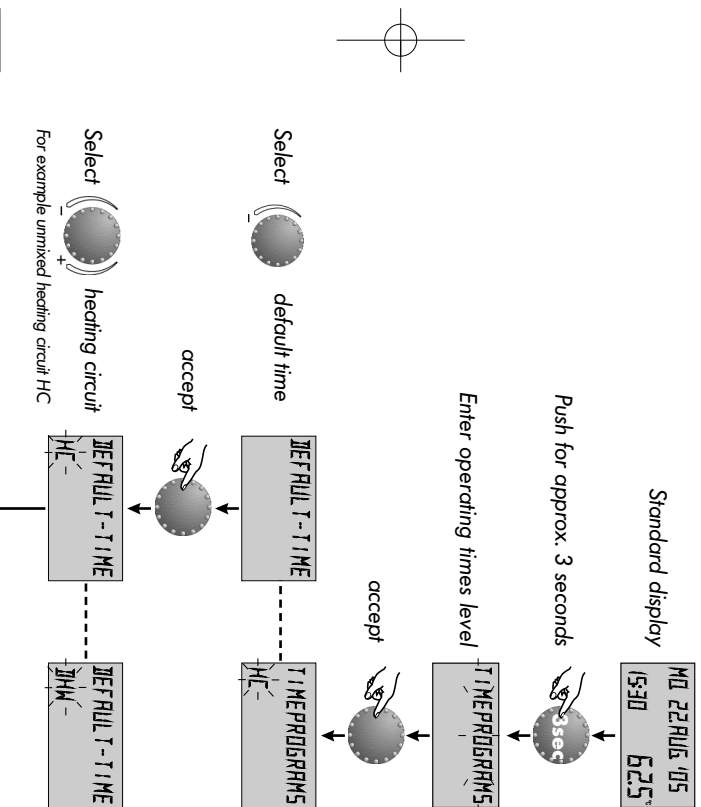
The standard programs do not get lost by overwriting with individual programs. Individual programs however are cancelled at a later call of the corresponding standard programs and have to be set up again. For this purpose individual switching-on and switching-off times should always be noted (see level *TIME PROGRAMS* - table for individual programs).

Modify - Exit :

Confirm the selected flashing value by pressing the rotary-push button. Then set the new required value and take over by pressing the rotary-push button again.

Re-entry into the former step in done by pressing the button [i], exit into the standard display via the button [⌂] or automatically after approx. 60 seconds.

Standard display

    MO 22.AUG '05
    15:30   62.5°

Push for approx. 3 seconds

3sec

Enter operating times level

    TIMEPROGRAMS

accept

    TIMEPROGRAMS
    HC -

default time

    DEFAULT T-TIME

accept

    DEFAULT T-TIME
    HC -

Select

    DEFAULT T-TIME
    HC -

        DEFAULT T-TIME
        DHW -

        DEFAULT T-TIME
        ALL -

Select heating circuit

For example unmixed heating circuit HC

Standard time programs

Standard operating-times program P1

Circuit	Day	Heating from...to
Unmixed heating circuit (HC)	Mo-Su	06.00 - 22.00 h
Domestic hot water (DHW)	Mo-Su	05.00 - 22.00 h

accept

RESET
HC

Reset (3sec)

RESET
OK

⚠

press approx. 3 seconds

Standard program was reloaded
Individual Program was deleted!

select program P1...P3, if released [1]
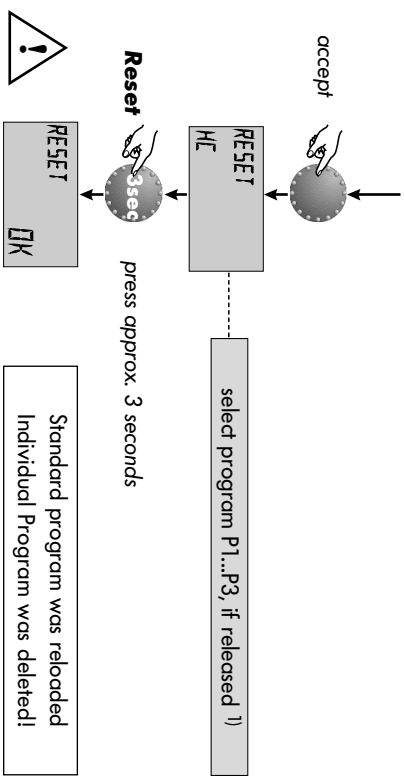
[1] see level SYSTEM - parameter PROGRAM

Standard operating-times program P1 [1]

Circuit	Day	Heating from...to	
Unmixed heating circuit (HC)	Mo-Th	06.00-08.00	16.00-22.00h
	Fr	06.00-08.00	13.00-22.00h
	Sa-Su	07.00-23.00h	
Domestic hot water (DHW)	Mo-Th	05.00-08.00	15.30-22.00h
	Fr	05.00-08.00	12.30-22.00h
	Sa-Su	06.00-23.00h	

Standard operating-times program P3 [1]

Circuit	Day	Heating from...to
Unmixed heating circuit (HC)	Mo-Fr	07.00-18.00 h
	Sa-Su	reduced heating
Domestic hot water (DHW)	Mo-Fr	06.00-18.00 h
	Sa-Su	reduced heating

Table for individual operating times and programs

Page 22

Unmixed heating circuit (HC)

Day	Operating times program P1						Operating times program P2						Operating times program P3					
	1st cycle		2nd cycle		3rd cycle		1st cycle		2nd cycle		3rd cycle		1st cycle		2nd cycle		3rd cycle	
	from	till	from	till	from	till	from	till	from	till	from	till	from	till	from	till	from	till
Mon																		
Tue																		
Wed																		
Thu																		
Fri																		
Sat																		
Sun																		

Domestic hot-water circuit (DHW)

Day	1st cycle		2nd cycle 2		3rd cycle	
	From	till	from	till	from	till
Mon						
Tue						
Wed						
Thu						
Fri						
Sat						
Sun						

TIME-DATE

Entry:

set time → set year → set day & month → set changeover

—TIME-DATE—

—TIME—
13:45

—YEAR—
2005

—DAY-MONTH—
MO 22.08

—CHANGE—
SU-WI AUTO

Current time
Setting range:
0.00…24.00 h
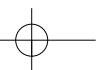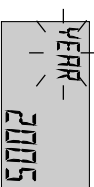
Calender year
Setting range:
2001…2099
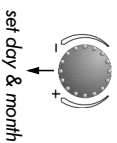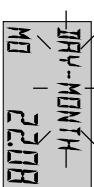
Calender day-month-weekday
Setting range: 01.01…31.12.
Weekday is set automatically
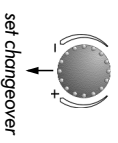
Time changeover mode
Setting range:
Automatic: last Sunday in March & Oct.
Manual: no time reset

Entry: see » Programming level – Level summary «.

Exit: via button ⊖⊙ or automatically after 60 seconds

Modify: Confirm selected flashing parameter by pressing the rotary-push button. Then set the new required value via and accept by pressing the rotary-push button again. If necessary, correct the following parameters in the same way.

The values to the left are factory presets and normally need not be updated. If in some exceptional cases corrections should be necessary, the values can be adapted to the real conditions.

The internal pre-programmed calender provides an automatic time changeover at the yearly repeating summer-wintertime dates.

If required, the automatic time changeover can be switched off (manual reset).

Page 23

SYSTEM

This level includes general delimiting parameters and options referring to the corresponding heating system

Entry: see » *Programming level - Level summary* « .

Exit: via button 🔘 or automatically after 60 seconds
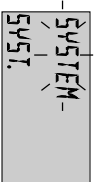
Modify: Confirm selected flashing parameter by pressing the rotary-push button. Then set the new required value via and accept by pressing the rotary-push button again. If necessary, correct the following parameters in the same way.

Language

Setting range:

DE = German	GB = English	FR = French
IT = Italian	NL = Dutch	ES = Spanish
PT = Portuguese	HU = Hungarian	CZ = Czech
PL = Polish	RO = Romanian	RU = Russian
TR = Turkish	S = Swedish	N = Norwegian
BG = Bulgarian		

Factory preset: DE
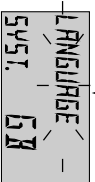
All information that appears in the display, is available in a number of languages. After entry as first parameter appears the language selection. The required language can be selected and accepted according to the above assignment.

Application: Use of the instrument at the corresponding language area.
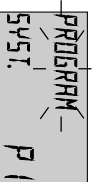
Operating times program

Setting range: P1, P1-P3
Factory preset: P1

This parameter specifies the number of the released time programs. With setting P1 only *one* operating-times program is available, with setting P1-P3 *all three* programs are released and can be selected for programming operating times.

Application: Shift work, different programs for summer, transition period, winter etc.
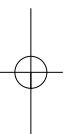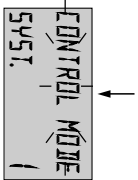
CONTROL MODE
SYST.   1

next parameter

Control mode

Setting range: 1 = common mode
Factory preset: 1   2 = separated mode

Common control mode:

The selected operational mode (via button ⌾ for *Holiday, Absence, Party, Automatic* etc.) applies to the heating circuit and to the hot-water circuit together.

Application: Objects with uniform seizure character (One-family houses etc).

Separated control mode:

The heating- and hot-water circuit can be assigned with own operational mode.

Application: Objects with different use of heating and hot-water (for example heating operation in Holiday mode, hot-water permanently in reduced mode).

Select Circuit

⌾ Operational mode

OP. MODE
HC

Unmixed circuit (HC), hot-water circuit (DHW)

accept
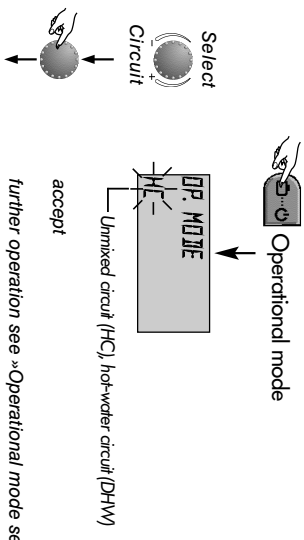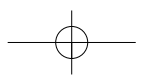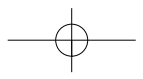
further operation see »Operational mode selection for heating and hot water« and »Temperature settings«
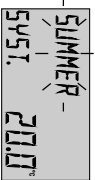
Summer switch-off

Setting range: OFF, 10.0 to 30,0 °C
Factory preset: 20.0 °C

This parameter specifies the heating delimiting value regarding the average resp. current outside temperature and puts the heating system automatically out of service as soon as the outside temperature exceeds the set heating delimiting value. During summer switch-off the pump of the heating circuit is activated each day for approx. 10 seconds to protect it against corrosion.

With setting OFF the summer switch-off is not effective.

Hot water preparation is not affected by summer switch-off.

Note: The active summer switch-off appears on the standard display with a sunshade symbol.
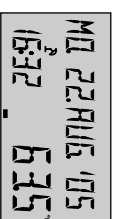
Summer switch-off activated

Application: *All objects which do not require a heating operation during summertime*
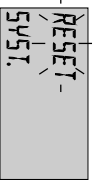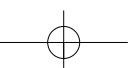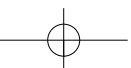
Parameter-reset

This function resets all individually entered values in the programming level to factory preset.

Exception: Time-date, operating times
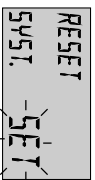
Reset: Press rotary-push button for approx. 5 sec. while indication SET is flashing, until standard display appears.

Important: *Reset may only be executed if all individually entered values shall be replaced by the factory preset values!*
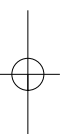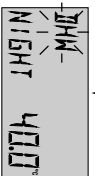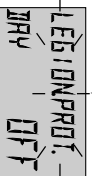
next parameter

DOMESTIC HOT WATER

This level includes the necessary parameters for programming the hot-water circuit except the hot-water operating-times.

Entry: see » Programming level – Level summary «.

Exit: via button ⟨⊐-o⟩ or automatically after 60 seconds

Modify: Confirm selected flashing parameter by pressing the rotary-push button. Then set the new required value via and accept by pressing the rotary-push button again. If necessary, correct the following parameters in the same way.

Application: Base temperature inside the hot-water tank in order to avoid a cooling down of the tank.

Note: This parameter is skipped if a hot-water thermostat is used instead of an electronic hot-water sensor.

Hot-water economic temperature

Setting range: 5.0 °C up to the required hot water temperature
Factory preset: 40.0 °C

This parameter determines the amount of the reduced hot-water temperature outside the hot-water operating times (between the hot-water cycles) as well as in the operational mode ABSENCE for the duration of absence.

Legionella protection (day)

Setting range: OFF, MO...SU, ALL
Factory preset: OFF

The legionella protection serves to avoid a legionella infestation inside the hot-water tank and is activated on the selected week-day (Mon to Sun) or every day at 2.00 o'clock. If the hot-water temperature should drop below 65 °C, the tank is reloaded. With setting OFF this function is not effective.

Note: Other legionella protection times can be regulated exclusively by the heating plant specialist.

Important: Danger of scalding! Use thermostatic mixing valve on DHW outlet.

# Unmixed heating circuit (direct circuit)

UNMIXED CIRC
HC

This level includes the parameters required for programming the heating circuit with the exception of the related operating-times programs.

Entry: see » *Programming level - Level summary* «.

Exit: via button ⟨⎆⟩ or automatically after 60 seconds

Modify: Confirm selected flashing parameter by pressing the rotary-push button. Then set the new required value via and accept by pressing the rotary-push button again. If necessary, correct the following parameters in the same way.

Entry:

REDHEATING-
HC   ECO

next parameter

Application: Objects with high insulation values
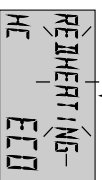
Reduced heating mode

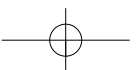Setting range: ECO, RED
Factory preset: ECO

During the reduced operation the following modes can be selected:

ECO mode: At oudoor temperatures above the set plant frost protection the heating circuit is switched off completely. At temperatures below frost protection the heating circuit is controlled with reduced heating characteristic according to the required reduced temperature (see »*Temperature setting*«).

RED mode: During the reduced mode the heating circuit pump remains activated. The heating circuit is controlled according to the reduced heating characteristic, the temperature does not drop below the set minimum temperature value.
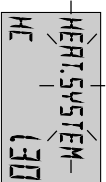
Application: Objects with low insulation values

Adaptation to the heating system

Setting range: 1,00 to 10.0
Factory preset: 1,30

This parameter refers to the type of the heating system and has to be adapted to the power characteristic of the corresponding consumer (underfloor systems, radiator, convector). The setting value specifies the curvature of the heating curve of the selected weather dependent heating circuit and compensates the system-related efficiency losses at lower temperatures by a progressive heating curve in conformity with the adjustment.

Heating circuit name

This is used to assign an individual, 5 character, abbreviated name to each heating circuit.
No individual name is assigned if the setting "empty" is used. The default abbreviated name appears.

• The character that blinks can be altered using the rotary knob according to the code number and accepted by pressing the knob once. The remaining characters can be altered in the same way.

• The individual heating circuit name display appears
  – in the menu
  – in the parameter tree
  – in the info level

Applications:

The following setting values are recommended for the below-mentioned applications

Setting value	Application
1.00 … 1.10	Heating curve for underfloor heating systems or other static heating surfaces
1.30 … 2.20	Normal standard heating curves for radiators
3.00 … 4.00	Heating curves for convectors
4.00 … 10.0	Special heating curves for ventilators with high starting temperatures

Page 29

Alarm messages

```
OUTSIDE
ERROR 10-0
```

Example for alarm message »sensor«
(short or open circuit)
Error code 10...20

```
HEAT GEN
ERROR 30-n
```

Example for alarm message »heat generator«
(flue gas temperature exceeded)
Error code 30...40... [1]

```
IHW
ERROR 50-4
```

Example for logical alarm messages
(control functions)
Error code 50...60

```
BUS
ERROR 70-n
```

Example for alarm message »data bus«
(address error)
Error code 70

[1] For these alarm messages the error codes of the heat generator in the corresponding installation manuals have to be considered.

The instrument is equipped with an extensive error diagnostic features. The error displayed takes priority over other displays and varies dependent on the model in question.
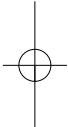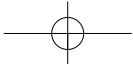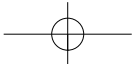
For alarm messages from burner control (ERROR Xn:m) the error codes in the corresponding installation manuals have to be considered.

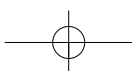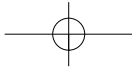**Note:** Alarm messages only appear alternating with the standard display.

In case of alarm messages the heating specialist always has to be informed!

Personal notes

Technical specification

Supply voltage:	Via data bus (DC-safety voltage by EN 60730)
Power consumption:	300 mW
Bus interface:	T2B or OpenTherm according to model
Ambient temperature:	0...60 °C
Storage temperature:	-25...60 °C
Protection type acc. to EN 60529:	IP 30
Protection class acc. to EN 60730:	III
Approval according to:	VDE 60730
Casing dimensions (BxHxD):	90 x 138 x 28 mm
Casing material:	ABS, antistatic
Electrical connections:	2-wire mode with plugable connection
Recommended cable:	J-Y(St)Y 2 x 2 x 0.6 mm²
Max. length of cable:	50 m
Data and timer back up:	Min. 5 years from date of delivery
Accuracy of the internal clock	± 2s/day
Weight:	Approx. 150 g