Contents

GB

| 1 DOCUMENT REVISION |
|---|
| 2 SOFTWARE VERSION |
| 3 BASIC DESCRIPTION |
| 4 BASIC OVERVIEW OF HYDRAULIC DIAGRAMS5 |
| 4.1 BOILER NOT CONTROLLED BY THE CONTROLLER: |
| 5 HYDRAULIC DIAGRAMS6 |
| 5.1 Hydraulic example NO. 1 – NOT CONTROLLED BOILER CONNECTED WITHOUT AN ACCUMULATION TANK |
| 6 CONTROL ELEMENTS |
| 6.1 BASIC DISPLAYS 12 6.1.1 DISPLAY - HYDRAULIC DIAGRAMS 1, 9 12 6.1.2 DISPLAY - HYDRAULIC DIAGRAMS 3, 4, 10, 12 12 6.1.3 DISPLAY - HYDRAULIC DIAGRAM 17 12 6.1.4 DISPLAY - HYDRAULIC DIAGRAM 19 A 20 12 6.2 CONTROL KEYS 13 6.2.1 ROTARY BUTTON (PRESS / TURN) 13 6.2.2 "DAYTIME ROOM TEMPERATURE" KEY 13 6.2.3 "NIGHT-TIME ROOM TEMPERATURE" KEY 13 6.2.3.1 FUNCTION OF QUICK SWITCHING TO THE "PARTY" MODE 13 6.2.3.1 FUNCTION OF QUICK SWITCHING TO THE "ABSENCE" MODE 14 6.2.4.1 ONE-OFF FILLING FUNCTION IN THE DAYTIME MODE 14 6.2.5.1 FULNING FUNCTION IN THE DAYTIME MODE 14 6.2.5.2 ABSENCE MODE (SHORT-TERM PROGRAM) 16 6.2.5.3 PARTY MODE (SHORT-TERM PROGRAM) 16 6.2.5.4 AUTOMATIC MODE 17 6.2.5.5 MANUAL SUMMER MODE (DHW HEATING ONLY) 17 6.2.5.6 CONSTANT HEATING MODE (DHW HEATING ONLY) 17 6.2.5.7 CONSTANT HEATING MODE 18 |
| 7 CONTROLLER PARAMETERS MENU |
| 7.1MENU SELECTION247.1.1ENTERING THE MENU SELECTION LEVEL247.2MENU OVERVIEW - AVAILABLE ON THE USER LEVEL247.2.1ENTERING THE HIGHER MENU ACCESS LEVEL (TECHNICIAN)247.2.2DATE MENU257.2.3TIME PROGRAMS MENU25 |

Contents

| 7.2.3.1CIRCUIT SELECTION7.2.3.2PROGRAM SELECTION | 25 25 |
|---|----------|
| 7.2.3.3 WEEKDAY AND CYCLE SELECTION | |
| 7.2.3.4 PROGRAMMING SWITCHING TIMES AND CYCLE TEMPERATURES | |
| 7.2.3.4.1 SWITCH-ON TIME | |
| 7.2.3.4.2 SWITCH-OFF TIME | |
| | |
| 7.2.3.4.4 PROGRAMMING SWITCHING TIMES (PROGRAMS P2 AND P3 DISABLED) | |
| 7.2.3.4.5 BLOCK PROGRAMMING | |
| 7.2.3.4.5.1 COPYING THE SWITCHING TIME PROGRAMS (DAYS) | |
| 7.2.3.4.5.2 COPYING SWITCHING TIME PROGRAMS (HEATING CIRCUITS) | |
| 7.2.3.4.6 KELOADING STANDARD PROGRAMS | |
| 7.2.4 SYSTEM PARAMETERS MENU | 30 |
| 7.2.4.1 LANGUAGE SELECTION | |
| 7.2.4.2 TIME PROGRAMS | |
| 7.2.4.2.1 OPERATION MODE SETTING | |
| /.2.4.2.2 IME PROGRAMMING | |
| 7.2.4.3 OPERATION MODE (MODE) | |
| 7.2.4.3.1 DIFFERENT DAYTIME TEMPERATURE OF INDIVIDUAL HEATING CIRCUITS | |
| 7.2.4.3.2 DIFFERENT NIGHT-TIME TEMPERATURE OF INDIVIDUAL HEATING CIRCUITS | |
| 7.2.4.3.3 SEPARATE OPERATION MODE OF HEATING CIRCUITS | |
| 7.2.4.4 SUMMER - SUMMER SWITCH-OFF | |
| 7.2.4.5 PARAMETER RESET | |
| 7.2.4.6 FULL RESET | |
| 7.2.5 DHW MENU | 34 |
| 7.2.5.1 REDUCED DHW TEMPERATURE | |
| 7.2.5.2 DAY OF DHW PROTECTION FROM LEGIONELLA | |
| 7.2.6 MIXING CIRCUIT 1 / MIXING CIRCUIT 2 MENUS | 34 |
| 7.2.6.1 Reduced mode type | |
| 7.2.6.2 HEATING EXPONENT (HEATING CURVE INCLINATION) | |
| 8 SDW10/20 WALL UNITS | 35 |
| 8.1 OPERATION OF SDW 20 DIGITAL WALL UNITS | 35 |
| 8.2 OPERATION WITH SDW 10 WALL UNITS | 36 |
| | |
| 9 MALFUNCTION MESSAGES - ALARMS | 38 |
| | |
| 10 TIPS AND TRICKS | 39 |
| | |
| 11 NOTES | 40 |
| 11.1 Overview of time programs | 40 |
| 11.2 DESCRIPTION OF THE HEATING SYSTEM AND CONTROLLER SETTINGS | 41 |
| 11.3 NOTES | 41 |
| | |

1 Document Revision

This User Manual was updated on March 18, 2009.

2 Software Version

This User Manual can only be used in conjunction with software version V3.0. The software version that is installed in your controller will be displayed for approx. 8 seconds after connection of the controller to the power supply.

3 Basic Description

The ACD01 equithermal controller is programmed to control the boiler and system circuit in accordance with specific hydraulic diagrams. For proper functioning the controller must be set to the particular hydraulic diagram after the initial start-up; otherwise the controller cannot control the heating system properly.

Hydraulic diagrams differ in the boiler type, the way of control and connection to the heating circuit.

SDC12-31ACD01

4.1 Boiler not controlled by the controller:

Hydraulic diagram no. 1: boiler without an accumulation tank Hydraulic diagram no. 3: boiler with an accumulation tank

Hydraulic diagram no. 4: boiler with a zone valve and an accumulation tank

4.2 Boiler controlled by the controller:

Hydraulic diagram no. 9: pellet boiler without an accumulation tank Hydraulic diagram no. 10: pellet boiler with an accumulation tank Hydraulic diagram no. 12: pellet boiler with a zone valve and an accumulation tank Hydraulic diagram no. 17: boiler with a fan, flue gas sensor without an accumulation tank Hydraulic diagram no. 19: boiler with a fan, flue gas sensor with an accumulation tank Hydraulic diagram no. 20: boiler with a fan, flue gas sensor, zone valve and an accumulation tank

| | Without an accum. tank | With an accum tank. | With an accum. tank and zone |
|---|--|--|--|
| Standard wood boiler (type 1) | Hydraulic example 1 - Boiler pump controlled by boiler water temperature - System controlled by boiler water temperature | Hydraulic example 3 - Boiler pump controlled by boiler and tank water temperature - System controlled by tank temperature | Valve Hydraulic example 4 - Boiler pump and zone valve controlled by boiler vs. tank temperatures - System controlled by tank temperature |
| Pellet boiler (type 2 and 3) | Hydraulic example 9 - Boiler pump controlled by boiler water temperature - System controlled by boiler water temperature - Burner controlled by boiler water temperature | Hydraulic example 10 - Boiler pump controlled by boiler and tank water temperature - System controlled by tank temperature - Burner controlled by boiler and tank top and bottom temperatures | Hydraulic example 12 - Boiler pump and zone valve controlled by boiler vs. tank temperatures - System controlled by tank temperature - Burner controlled by boiler and tank top and bottom temperatures |
| Wood boiler with combustion sequence control (type 4) | Hydraulic example 17 - Boiler pump controlled by boiler water and flue gas temperature - System controlled by boiler water temperature | Hydraulic example 19 - Boiler pump controlled by boiler water and flue gas and tank temperature - System controlled by tank temperature - Fan controlled manually by boiler water and flue gas temperature | Hydraulic example 20 - Boiler pump and zone valve controlled by boiler water and flue gas and tank temperature - System controlled by tank temperature - Fan controlled manually by boiler water and flue gas temperature |

Note – The variable output VA configured as the zone valve may be used to control any periphery with the same function and control logic (e.g. indication of boiler switch-off, switching another source, etc.).

| The hydraulic example number is entered as par. no. 1 in the HYDRAULIC menu by the installation technician. If the hydraulic diagram number and the heating system does not correspond to the boiler, the controller cannot control the components properly. |
|--|
| A secondary automatic source (solar heating) can be connected to any hydraulic diagram by configuring the Variable Output VA as a solar pump. The manual shows an application example with solar heating. |

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5 Hydraulic diagrams

5.1 Hydraulic example no. 1 – not controlled boiler connected without an accumulation tank



5.2 Hydraulic example no. 3 – not controlled boiler connected with an accumulation tank



5.3 Hydraulic example no. 4 – not controlled boiler connected with an accumulation tank and zone valve



5.4 Hydraulic example no. 9 – pellet boiler connected without an accum. tank SDW10/20 SDW10/2





5.6 Hydraulic example no. 12 – pellet boiler connected with an accumulation tank and zone valve





5.8 Hydraulic example no. 19 – boiler with a fan, flue gas sensor and accum. tank



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SDW10/20 SDW10/20 VF2 (33) Max. 60°C SF (28) VF1 (29) (C) Ĵ ļ P4 (5) P1 (9) P2 (15) AF (26) 0 0 0 0 M M1 (7,8) M2 (13,14) 000 0 Ą Schornstein ° Å Å ł 2-6 bar 10-15°C VA2 (11) 0- VE2(31) t WF(27) / 📲 🕻 • AGF(30) (BR2) \bigcirc \bigcirc \bigcirc HØ ATMOS Ĵ ntilator (BR1) HØ P F 0 вŢ ┤ ╹ ▓╋┫<u>┣</u>╋╔╦╼

5.9 Hydraulic example no. 20 – boiler with a fan, flue gas sensor, zone valve and accum. tank

Control Elements 6



- 1
- "Manual mode" / "Fan" key "Operation mode" key (basic display)
- 2 3 "Heating characteristics" key "Information" key
- 4
- 5 Display
- 6 Cover for the connection of the service programmer
- 7 "Daytime room temperature" key
- . 8 9 "Night-time room temperature" key
- "HDW temperature" key Rotary button
- 10
- Symbols of operation modes 11

6.1 Basic displays

Backlighting of the display is activated by pressing of any key or rotary button and is deactivated automatically after a longer period of inactivity.

On the first switch-on pf the controller or after a power supply failure a test of the circuits and error diagnostics are performed. After the end of the test the software version and controller type are displayed.

The ATMOS controller contains four basic display modes depending on the selected hydraulic diagram.

6.1.1 Display - hydraulic diagrams 1, 9

The display shows the date, time and temperature of the heat source (boiler)



6.1.2 Display - hydraulic diagrams 3, 4, 10, 12

The display shows the date, temperature of the accumulation tank, and the temperature of the heat source (boiler).



6.1.3 Display - hydraulic diagram 17

The display shows fan operation, fan ventilation period, fan status, the time and the temperature of the heat source (boiler).



6.1.4 Display - hydraulic diagram 19 a 20

The display shows fan operation, fan ventilation period, fan status, the temperature of the accumulation tank and the temperature of the heat source (boiler).

| Fan operation and ventilation period — | -<< [] 3:] [] | ŪFF - | — Fan status |
|--|-------------------|---------------------------------------|--|
| Accumulation tank temperature — Active operation mode Symbols of operation modes | 50.0°° ⊡ A ™ © | ୳ <u>∏</u> . <u> </u> °⊂_ b≈ ጵ ແ ୯ | Boiler temperature |

The display modes may differ depending on individual settings and status of the controller.

The **parasol** symbol \hat{L} indicates the summer mode of the controller.

The **snowflake** symbol ***** indicates the winter mode of the controller (active anti-freeze protection).

6.2 Control keys

6.2.1 Rotary button (Press / Turn)

- By pressing the rotary button once, you can:
- Confirm inputs/values
- Enter individual parameters

By prolonged pressing (approx. 3 sec.) of the rotary button, you can:

- Enter the menu
- Change the selection level in the menu •

By turning the rotary button, you can:

- Change values (increase clockwise and decrease counter-clockwise)
- Browse in the menu/parameters

6.2.2 "Daytime room temperature" key



NOTE

This key is used to set the room temperature in the automatic mode during the heating cycle as well as in the PARTY a HEATING operation modes. If in the SYSTEM menu value 1 of the MODE parameter is selected, the entered value is identical for all the heating circuits. If in the SYSTEM menu the MODE parameter is set to 2, you can enter values for each of the heating circuits individually. The value entered this way is the starting point for individual temperature settings during heating cycles in the time program menu. If this value differs from the set value, it is modified as necessary in case of a subsequent temperature change.

Setting:



Press the "Daytime room temperature" key

Set the required room temperature value by turning the rotary button \bigcirc to the required value. Confirm the set value either by pressing the "Daytime room temperature" key $\stackrel{\text{\tiny{(1)}}}{\longrightarrow}$ or by pressing the rotary button \bigcirc .

Default setting 20 °C Setting range

5 ... 30 °C

6.2.2.1 Function of quick switching to the "PARTY" mode

By keeping the "DAYTIME TEMP." key 🔅 pressed for more than 3 sec. you will switch the controller to the PARTY mode - see the operation modes 6.2.5.3

6.2.3 "Night-time room temperature" key



ROOM - NIGHT

This key is used to set the reduced temperature value in the automatic program between heating cycles as well as during the ABSENCE and REDUCED operation modes. If in the SYSTEM menu value 1 of the MODE parameter is selected, the entered value is identical for all the heating circuits. If in the SYSTEM menu the MODE parameter is set to 2, you can enter values for each of the heating circuits individually.

Setting:

- Press the "Night-time room temperature" key .
- Set the required reduced room temperature by turning the rotary button O to the required value.
- Confirm the set value either by pressing the "Night-time room temperature" key \bigcirc or by pressing the rotary button \bigcirc

| Default | setting |
|---------|---------|
| Setting | range |

16 °C 5 ... 30 °C

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6.2.3.1 Function of quick switching to the "ABSENCE" mode

By keeping the "NIGHT-TIME TEMP. key (4) depressed for more than 3 sec. you will switch the controller to the ABSENCE mode - see the operation modes 6.2.5.2.

6.2.4 "Daytime DHW temperature" key

B .

This key is used to set the DHW temperature value in the daytime mode during the DHW operation times in the automatic program as well as during the *PARTY* and *HEATING* operation modes.

The value entered this way is also used for the domestic hot water only mode (manual summer mode).

NOTE The value entered this way is the starting point for individual temperature settings during DHW cycles in the time program menu. If this value differs from the default setting, it is modified as necessary in case of a subsequent adjustment of the set value.



Setting:

- ▶ Press the "DHW temperature" key 🖼.
- ► Set the DHW buffer temperature by turning the rotary button to the required value.
- ► Confirm the set value either by pressing the "DHW temperature" key → or by pressing the rotary button .

Default setting Setting range

Economic hot water temperature ... maximum temperature of the source of heat (service setting)

6.2.4.1 One-off filling function in the daytime mode

50 °C



By keeping the "DHW temperature" key 🔄 pressed for more than 3 sec. you will activate the function of one-off filling (heating) of hot water in the daytime mode. This function suppresses the currently set time program.

After pressing of this button the time value will be displayed with the following meaning: 0 s: The function of one-off filling will only be executed once until the DHW

- The function of one-off filling will only be executed once until the DHW temperature value is achieved. When the set value is reached, this function will be switched off again
- >0 s: The hot water filling period will be executed for the time interval (0 to 240 minutes) set with the use of the rotary button. This means that the filling function will be switched off after the expiration of the set time interval independently of the subsequently set value.

6.2.5 "Operation Mode" key (Basic display) This key is used to set the required operation mode. The operation mode appears in plain text and at the same time the cursor at the bottom side of the display indicates the relevant operation mode symbol. If in the SYSTEM menu the MODE parameter = 1, the set value is identical for all the heating circuits; if in the SYSTEM menu the MODE parameter = 2 is selected, values are set separately for each individual circuit.

| Overview of the Operation Modes | | | | |
|---------------------------------|--------------------------|---|----------------------------|--|
| Arrow on symbol | Program | Mode display | Setting | |
| ĉ | Holiday | HOLIDAY TIL ↓820 24.09 ▲ A IN O B ★ (0 | Day of return from holiday | |
| දි | Absence | | Return time | |
| PT | Party | РАКТЧТІЦ 20.10 0 1.10 САТОБЖКО | Party end time | |
| ٩ | Automatic | FR2 (SEP.0 ∃. 5 <mark>5 8.0°°</mark> ⊡ A ™ © B* * (0 | Time programs 1 (2, 3) | |
| | Summer | 5UMMER 5 8.0° [°] ≏ a ™ o t≫ * « o | DHW temperature | |
| ₩ | Constant heating mode | HEATING 5₽0°° □ & ™ © B * * « 0 | Comfortable temperature | |
| | Constant reduced mode | REIHERTING 15.0°° | Reduced temperature | |
| Ċ | Constant standby mode | 57AN 11 34 5 8.0℃ • 8 17 0 5 * « 0 | | |

Setting:

- ▶ Press the "Operation Mode" key 📼
- Set the arrow at the bottom side of the display by turning to the position of the desired operation mode.
- ► Confirm the setting by pressing the "Operation Mode" key o or the rotary button.
- In the case of the short-term operation modes (Holiday, Absence, Party) set the required value by turning the rotary button and confirm the set value in the above mentioned way.

Return to the basic display Keep the key and pressed for approx. 3 seconds.

6.2.5.1 Holiday Mode (Short-term Program)

| HOLINAY TIL | |
|-------------|--|
| 18.20 24.09 | |
| | |
| | |

By means of this mode you can switch off the heating and hot water heating for the household for the whole holiday period. **The frost protection remains activated**

Control in the Holiday Long absence during the heating season. mode If outdoor temperatures are lower than the frost protection temperature, the heating circuits without the SDW wall modules are controlled to the room temperature set point of 3 °C and the circuits with SDW wall modules are controlled to their set frost protection limit (see parameter 8 of the mixing circuit: room frost protection limit). Setting See the "Operation Mode" key. **Terminating the Holiday** mode The activated "Holiday" mode may be terminated at an early return. Simply press the "Operation Mode" key and select the automatic mode. Default setting Current date Setting range Current date ... Current date + 250 days Display An activated "Holiday" program appears on the basic display with the indication of

Short-term absence during the heating season

the "Operation Mode" key and select the automatic mode.

See the "Operation Mode" key.

6.2.5.2 Absence Mode (Short-term Program)

the return date.



By means of this mode you can temporarily switch off the heating for a short absence period. During the absence period all the heating circuits are controlled in accordance with the specified room temperature. After the expiration of the set time period the heating circuits automatically return to the operation mode that was active before setting of the "Absence" mode. The short-term programs as *Party* or *Holiday* are skipped in this mode.

The activated "Absence" mode may be terminated at an early return. Simply press

Application Setting Terminating the Absence Mode

Setting range

Display

0,5 hours ... 24 hours, P1 (P2, P3) An activated "Absence" program appears on the basic display with the indication of the return time.

6.2.5.3 Party Mode (Short-term Program)



This program offers one-off immediate heating of all the heating circuits until a preset time and completely or partly skips a coming or an already active reduced cycle. After the expiration of the preset time period the heating circuits automatically return to the operation mode that was active before setting of the *Party* mode. The short-term programs as *Absence* or *Holiday* are skipped in this mode.

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Application One-off unscheduled extension of the heating period or immediate start of heating during the reduced mode. See the "Operation Mode" key Setting Terminating the Party mode The activated "Party" mode may be terminated earlier as necessary. Simply press the "Operation Mode" key and select the automatic mode. Setting range 0.5 hours ... 24 hours, P1 (P2, P3)

> Display An activated Party program appears on the basic display with the indication of the duration of the party.

6.2.5.4 Automatic Mode



In the automatic mode automatic time programs with variable heating times are available. Standard default time programs can be overwritten as necessary with your own settings of switching times.

As necessary you can use up to three different switching programs.

All the three automatic programs contain for each weekday up to three heating cycles per circuit with their own switch-on time, switch-off time and cycle temperature.

Automatic programs P2 or P3 may only be selected if they have been enabled in the System menu (Parameter 2 – Time Program = P1-P3). If they are not enabled,

NOTE

program P1 is active only.

See the "Operation Mode" key.



Enabling programs P2 - P3 (extension for three weekly time programs) System menu . Time Program = P1-P3 .

Display

Disable/enable P2-P3



Disabling programs P2 – P3 (only one weekly time program is active) System menu - Time Program = P1

date. If automatic programs P2 and P3 have been enabled, depending on the selected program the corresponding symbol $\mathfrak{G}_{i}, \mathfrak{G}_{i}_{i}, \mathfrak{or} \mathfrak{G}_{i}_{i}_{i}$ is inserted.

The active automatic program appears in the basic display with the current time and

6.2.5.5 Manual Summer Mode (DHW heating only)



In this program just the DHW heating circuit remains active and the temperature is controlled on the basis of the set temperature value for hot water and the DHW heating program. The heating system has frost protection.

The manual Summer mode can only be selected in control mode 1 as it influences the overall function of the controller (heating + DHW).

Setting Terminating the manual Summer mode

Disable/Enable P2-P3

See the "Operation Mode" key. The active manual Summer mode may be terminated at an early return. Simply press the "Operation Mode" key and select the automatic mode.

Disabling programs P2 – P3 (only one weekly time program is active)



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System menu - Time Program = P1

The selected automatic program is activated by pressing of the rotary button. All the heating circuits and the DHW circuit exclusively work in accordance with the standard or adapted programmed switching times in automatic program P1. The P1 program does not appear on the display.

Enabling programs P2 - P3 (extension for three weekly time programs) System menu - Time Program = P1-P3

If the automatic program has been confirmed by pressing of the rotary button, the P1 program will start flashing. You can select the P2 ... P3 programs by means of the rotary button.

A manual "Summer" program appears on the basic display with the *SUMMER* indication, the current time and date. If automatic programs P2 and P3 have been enabled, the corresponding symbol \oplus i, $\oplus \bar{c}$, or $\oplus \exists$ also appears depending on the selected program. It corresponds to the valid program for DHW heating.

6.2.5.6 Constant Heating Mode

Display



This program offers uninterrupted heating according to the set daytime temperature in the room. DHW heating works continuously on the basis of the value set for DHW heating.

Setting See the "Operation Mode" key.

Terminating the Constant
Heating ModeThe active Constant Heating Mode may be terminated any time. Simply press the
"Operation Mode" key and select the automatic mode.

- **NOTE** The Constant Heating mode remains active until another mode is selected.
- **Display** An active *Constant Heating* program appears on the display with the HEATING indication.

6.2.5.7 Constant Reduced Mode



This mode provides constant reduced heating according to the set reduced temperature in the room within the corresponding ECO (frost protection off mode) or RED (reduced mode) mode set in the heating circuit in compliance with the low limit of the corresponding heating circuit.

See the options of the menu Unmixed Circuit, Mixing Circuit 1 or Mixing Circuit 2) Parameter 1 = ECO. DHW heating works continuously according to the set reduced temperature for hot water heating (see the DHW menu / Parameter 1- Reduced DHW temperature).

NOTE The operation reduction remains active until another mode is selected.

Setting Terminating the Constant Reduced Mode Display See the "Operation Mode" key. The active *Constant Heating Mode* may be terminated any time. Simply press the "Operation Mode" key and select the automatic mode. An active *Reduced* program appears on the display with the RED. HEATING indication. Standby Mode

6.2.5.8 Standby Mode 5TRNIBY 1720 550° Application Setting Terminating the In this mode the whole system is off and only the frost protection is active (all the functions of the frost protection are active). DHW heating is off and just the frost protection is active. At tank temperatures below 5°C water is heated to 8°C. Complete switch-off of heating and DHW heating with complete frost protection. See the "Operation Mode" key. The active Standby mode may be terminated any time. Simply press the

"Operation mode" key and set the automatic mode.

NOTE Heating and heating of hot water are activated by an external demand or demand of the other heating circuit connected via the bus. Pumps of the heating system are activated for a short time every day (protection from pump blocking).

Display An active *Standby* program appears on the display with the STANDBY indication.

6.2.6 "Heating Curve" key

This key allows you to set the heating characteristics for the heating circuits in the system by setting the heating curve on the basis of the character of the building (rough setting). Setting the shape of the curve:

The inclination of the heating characteristic describes the relationship between a change of the system temperature and a change of the outdoor temperature. In the case of large heating surfaces, e.g. a floor heating system the heating curve is less steep as compared to small heating surfaces (e.g. heating elements). The set value is related to the lowest outdoor temperature on the basis of the heat demand calculation.





As the curve defines the flow temperature into the system on the basis of the outdoor temperature, which continuously changes during the heating period, the curve is not likely to be set precisely correctly at the first try, i.e. the value of the curve must be additionally adapted. The value of the curve should be adapted after longer time periods and by small values and the development of temperatures should be exactly observed. Setting: ▶ Press the "Heating curve" key 🔄. By turning the rotary button O select the required heating circuits (if there are ► more than one). Confirm your selection by pressing the rotary button. ► ► Change the flashing value and confirm it by pressing the button. ▶ To return to the basic display press the "Heating curve" key 🔄. Setting range 0,20 ... 3,5 **Default settings** Mixing heating circuit 1 (MC-1): = 1.00 Mixing heating circuit 2 (MC-2): = 1.00

6.2.7 "System Information" key

i

Press the "Information" key i and turn the rotary button to find out all information about the system.

The first data item always corresponds to the outdoor temperature. By turning the button clockwise you will display the system temperatures and the counter and consumption statuses; by turning the button counter-clockwise you will display the operation statuses of the connected system components. This key allows you to return from a certain menu level by one order back.

NOTE The information displayed depends on the installed components and control cycles.

Manual exit from the display: You can return to the basic display any time by pressing the **(i)** key.

System statuses, counter readings, etc. are invoked gradually by turning of the button clockwise

Displaying temperatures – the right value (large numerals) on the

display indicates the current value.

- the left value (small numerals) on the display indicates the required or calculated value (by pressing ⁽⁾)

pressing 🤄

| Information | Display | Display condition | Remarks |
|--|-------------------------------|---|---|
| Outdoor temp. (1) | Mean value / Current value | Outdoor sensor connected No error indication | |
| Outdoor temp. (1) | Min./max. outdoor temp | Outdoor sensor connected No error indication | Min./max. for the last 24 hours |
| Boiler temp. | Set value / Current value | WF/KF sensor connected No error indication | |
| External blocking of boiler burner | ON/OFF | External contact connected to VI-1, VI-2 or VI-3 | Pellet boiler only |
| Flue gas temp. | Current value | Variable input set as AGF Solid fuel boiler with a fan | Connection to variable input VE-1 only |
| DHW temp. | Set value / Current value | DHW sensor connected | |
| Heat demand via switch contact (VI-2) | ON/OFF | VI 2 set | External contact connected to variable input VI-1, VI-2 or VI-3 |
| Heat demand via switch contact (VI-3) | ON/OFF | VI 3 set | External contact connected to variable input VI-1, VI-2 or VI-3 |
| Water temp. MIX1 | Set value / Current value | If mixing circuit 1 is used | |
| Water temp. MIX2 | Set value / Current value | If mixing circuit 2 is used | |
| Room temp. MIX1 | Set value / Current value | If mixing circuit 1 is used | Required temp. in the room / current temp. in the room - mixing circuit 1 |
| Room temp. MIX2 | Set value / Current value | If mixing circuit 2 is used | Required temp. in the room / current temp. in the room - mixing circuit 2 |
| Thermostatic function MIX1 | THERMOSTAT MC1 ON/OFF | If there is the thermostatic function | |
| Thermostatic function MIX2 | THERMOSTAT MC2 ON/OFF | If there is the thermostatic function | |
| Buffer temp. upper | Set value / Current value | Sensor connected and VE configured | |
| Buffer temp. lower | Set value / Current value | Sensor connected and KSPH configured | If a pellet boiler or e.g. solar heating is used |
| Operation status (St. 1) of the fan (FAN) | FRN DN/DFF ON/OFF | If the boiler is controlled | If the boiler type is 4, i.e. with a flue gas sensor only |

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| Information | Display | Display condition | Remarks |
|---|------------------------------------|--|--|
| Function and status of variable output 1 | 0UTPUT V0- I 50P 0N/0FF | Defined variable output | Information about the function and switching status of VA1 |
| Function and status of variable output 2 | 001PU1 V0-2 50P - 0N/0FF | Defined variable output | Information about the function and switching status of VA2 |
| Boiler pump operation hours | OPER. HOURS 246 | | Info about operation hours of the solid fuel boiler pump |
| Test temperature for measurement purposes | INFO TEMP. 50 °C | Sensor connected and VI configured | Independent test temperature connected to variable input VI-1, VI-2 or VI-3 |
| Operation mode External switching modem | MOIEM VE-X AUTO | VI configured as an external switching modem | Operation modes dependent on modem switching: AUTO (automatic) STBY (standby), HEAT (heating), RED (reduced). |
| Solar heating power | HERT-POWER 43 Ø₩ 50L | VO1/2 configured as a solar panel pump | Current heat capacity of the solar system in kW |
| Solar heating gain | НЕЯТЕNER6Y 2468 @ Wh 50L | VO1/2 configured as a solar panel pump | Total heat capacity of the solar system in kWh |
| Number of solar panel pump starts | NRDF STARTS 295 SOL | VO1/2 configured as a solar panel pump | Info about the number of starts of the filling pump of the solar system |
| Operation hours of the solar panel pump | ОРЕЯ. НОЦЯ 5 ЧТӨ 50L | VO1/2 configured as a solar panel pump | Information about the overall runtime of the solar system pump. BU1 buffer sensor connected to variable input 1 or 2, an occupied input cannot be selected any more |
| DHW operation status | АПТО-ЛАА ЛАМ ОМ | If a DHW sensor is connected | Operation modes: Party, Auto, Summer heating, Reduced heating, Constant heating Time program: P1(P2,P3), mode: day, limited, reduced / Heating pump status |
| Operation status of mixing circuit 1 | ЯШТО-РІ ЯЕЛ МІХ-І ОN | If mixing circuit 1 is connected | Operation modes: Holiday, Absence, Party, Summer heating, Reduced heating, Standby Time program: P1(P2,P3), mode: day, limited, reduced / Circuit pump status |
| Operation status of the drive MC1 | RETURTOR - MEI OPEN/STOP/ELOS. | If mixing circuit 1 is connected | Mixing valve 1 is opening / closing or at standstill |
| Operation status of mixing circuit 2 | ЯШТО-РІ REЛ МІХ-І ОN | If mixing circuit 2 is connected | Operation modes: Holiday, Absence, Party, Summer heating, Reduced heating, Standby Time program: P1(P2,P3), mode: day, limited, reduced / Circuit pump status |
| Operation status of the drive MC1 | RETURTOR - ME2 OPEN/STOP/ELOS. | If mixing circuit 2 is connected | Mixing valve 2 is opening / closing or at standstill |

Setting the time for automatic return

If the "Information" key (i) is pressed for more than 3 sec., the INFO TIME parameter appears.

This parameter determines the time for automatic return to the basic display.

Setting range

OFF, 1 ... 60 min
OFF The last displayed information remains on the display.
1 ... 60 min Automatic exit from the information level after the specified time, adjustable with the step of 0.5 min

Default setting

OFF

6.2.8 Fan / Manual (Service) Mode



Function 1

The "Manual Mode / Fan Mode" key is used to control the boiler fan if the boiler type 4 has been defined (hydraulic example no. 17, 19 and 20).

The fan controls the operation of the boiler with regard to the water and flue gas temperature. The way of control differs depending on the fan type (pressure or exhaust), i.e. the exhaust fan is left on during the opening of the boiler door while the pressure fan must be switched off by pressing of the key before the opening of the door. The fan type, switch-off temperature, differential, etc. is set by the INSTALLER within the definition of parameter; the default fan type is exhaust.

In the case of an exhaust fan manual operation is only used during the start-up or cleaning of the boiler; during normal boiler operation the fan is switched off when the operation temperature is achieved, i.e. its operation is completely automatic and is controlled by the controller. If it is necessary to start the fan in case the operation temperature has been achieved, by pressing the key you will activate the ventilation period, which is indicated on the display by counting down of the configured period to 00:00; if the boiler achieves the critical temperature, the fan will be switched off in a forced way.

The operation of a pressure fan only differs from the exhaust one in that it must be switched off before the opening of the door (by pressing the key). Again, the display will show the count-down of the ventilation period and after its expiration the display will return to the normal automatic mode.

During the start-up of the boiler, i.e. when the flue gas temperature is below the minimum value, after the expiration of the ventilation period a 60-minute switched-on fan period is automatically activated to support burning up of the boiler.

Priorities for the fan running time:

- Priority 1: Safety function the fan is always switched off at the critical temperature of the boiler
- Priority 2: Manual fan control during the start-up or cleaning of the boiler
- Priority 3: Automatic mode during boiler operation

6.2.8.1 Indications on the display



Application The manual mode is used for service purposes.

GB

Termination of function 2 You can stop the manual operation of the fan any time by pressing the "Operation mode" key (-).

7 Controller Parameters Menu

The ATMOS ACD01 equithermal controller features menus that contain values of parameters for setting and functions of the controller.

7.1 Menu selection The controller contains parameter menus that differ by various ATMOS boiler types, types of hydraulic circuits and attached accessories.

7.1.1 Entering the menu selection level

To enter the menu you must keep the rotary button \bigcirc pressed for at least 3 sec. The parameter menu always starts with the offer of time programs; you can select all the other menus by turning the rotary button \bigcirc . Press the rotary button to select the required option.

7.2 Menu overview - available on the USER level

| | MENU on the USER level | | | | | |
|-----------|------------------------|---------------|-----------------|--------------------------|----------------------|-------------------|
| Parameter | Date | Time programs | System | DHW | Mix. circuit 1 | Mix. circuit 2 |
| 1 | Time | MIX1 | Language | DHW night | Reduced mode type | Reduced mode type |
| 2 | Year | MIX 2 | Time programs | Legionella protection | Heating exponent | Heating exponent |
| 3 | Day / Month | TUV | Control mode | | | |
| 4 | Time angeover | Standard time | Summer | | | |
| 5 | | Copy circuit | | | | |
| | | | Parameter reset | | Name | Name |

The other parameters are only available on the higher access level (TECHNICIAN) after entering the code.

7.2.1 Entering the higher menu access level (INSTALLER)

By entering the access code you can enable the display of more setting options in the menu.

Code input: Simultaneously press the (*) and (*) keys for more than 3 sec. to display the request for the four-digit code.

Use the rotary button to select the required code number. You will save the selected figure by pressing the rotary button. By turning the rotary button you will move to the next position of the entered access code. Proceed this way when entering all the four digits of the code. If the correct code is entered, the OK confirmation message will appear on the display.

| 7.2.2 | Date Menu | |
|-------|---------------|---|
| | | In the Date menu you can select the following parameters: par.1 - Time = setting the current time par.2 - Calendar year = setting the current year par.3 - Day - month = setting the current day in the month par.4 - Time changeover mode = automatic switching between the summer / winter time |
| | | All the above mentioned values are pre-set in the factory and they do not need to be changed. The internal pre-programmed calendar enables automatic changeover from the summer to winter time and vice versa. This function can be deactivated if necessary. The current weekday from Mon to Sun is automatically derived from the calendar date. |
| | U | Select the menu by pressing the rotary button O. |
| | | ► In the Date - Time menu select the required parameter (time, year, day-month) by turning the button . |
| | | Press the rotary button and change the value by turning the button . |
| | | Confirm the value by pressing the rotary button . |
| | | by turning the button . |
| | Exit | To exit the menu and return to the basic display press the "Operation Mode" key. |
| 7.2.3 | Time Programs | Menu |
| | | In this menu you can set individual time programs for the heating and preparation of hot water for the household. The standard default program P1 (as well as P2 and P3 if they are enabled) for each heating circuit can be overwritten with your own values of switching times and temperature values. This is particularly useful if you need to create specific, periodically recurring personal heating programs (e.g. in case of work in shifts, etc.). For the programming of switching times max. 3 heating cycles (P1-P3) with their own switch-on and switch-off times are available for each weekday . Each heating cycle can also be combined with a freely selectable temperature value. |

- **IMPORTANT!** If you overwrite standard programs with your own settings, the standard programs are not lost. After reloading of the standard programs your personalized programs will be deleted.
 - **Exit** To exit the menu and return to the basic display press the "Operation Mode" key.

7.2.3.1 Circuit selection

After entering the switching menu you can use the rotary button o select the desired heating circuit in the following order:

- Mixing heating circuit 1 (MC1)
- Mixing heating circuit 2 (MC2)
- Domestic hot water circuit (DHW)

You can access the selected circuit by pressing the rotary button.

7.2.3.2 Program selection

If time programs P2 and P3 are enabled (see the *System menu / Parameter 2 - Time Program* = P1 - P3); the program selection menu will appear.

GB

If time switching programs P2 and P3 are not enabled (see the *System menu / Parameter* 2 - Time Program = P1 - P3), the program selection menu is automatically skipped.

7.2.3.3 Weekday and cycle selection

After the selection of the program the first cycle of the first weekday (MO-1) will appear and the corresponding section will start to flash in the upper time bar. You can select other cycles by turning the button clockwise in the sequence of the cycles and weekdays (e.g. Mo-1, Mo-2, Mo-3, Tue-1, Tue-2, Tue-3 while after setting these cycles should be selected by turning of the button counter-clockwise and confirmed by pressing of the rotary button.

7.2.3.4 Programming switching times and cycle temperatures

7.2.3.4.1 Switch-on time

Start of heating, or with enabled optimization: start of maintenance.

After the selection of the weekday and corresponding cycle the relevant switch-on time will start flashing on the display and you can set it directly with the rotary button. The time column in the upper part of the display provides an overview of all the programmed cycles between 00:00 and 24:00 of the selected weekday.

IMPORTANT NOTE

The switch-on time cannot be set earlier than the switch-off time of the previous cycle (if it is set) and not earlier than 0:00 of the selected weekday.

When you set a switch-on time, the corresponding time item in the column on the left will change.

If the switch-on time coincides with the switch-off time, the cycle will be deleted. The deleted cycle will be replaced with the following cycle (if available).

If you subsequently set an earlier cycle, the corresponding weekday will have to be reprogrammed.

You can display flashing switch-on time by pressing the rotary button.

7.2.3.4.2 Switch-off time

End of heating, or with enabled optimization: end of maintenance.

After setting of the switch-on time the corresponding switch-off time will start flashing on the display and you will be able to set it directly with the rotary button. The time column in the upper part of the display provides an overview of all the programmed cycles between 00:00 and 24:00 of the selected weekday.

IMPORTANT NOTE

- You cannot set the switch-off time later than the switch-on time of the next cycle (if set).
- When you set a switch-off time, the corresponding time item in the column on the right will change.
- If the switch-off time coincides with the switch-on time, the cycle will be deleted. The deleted cycle will be replaced with the following cycle (if available).
- If you subsequently set an earlier cycle, the corresponding weekday will have to be reprogrammed.
- You can display flashing switch-off time by pressing the rotary button. .

7.2.3.4.3 Cycle temperature

After setting of the switch off time the corresponding cycle temperature will start flashing on the display and you can set it directly with the rotary button. In the case of heating circuits the displayed temperature always refers to the desired room temperature while in the case of DHW heating it refers to the desired normal DHW temperature in the selected cycle.

You can display flashing cycle temperature by pressing the rotary button.

At the same time the last cycle to be called will start flashing on the display and it can be checked. Then you can directly select further cycles in the following sequence: SWITCH-ON TIME - SWITCH-OFF TIME - CYCLE TEMPERATURE.

7.2.3.4.4 Programming switching times (Programs P2 and P3 disabled)

After selection of the menu on the parameter level the time programming function will appear.



| Standard time program P1 | | |
|--------------------------|------------|-------------------------|
| Heating circuit | Day | Heating mode from to |
| DHW heating circuit | Mo – Su | 5:00 - 22:00 |
| Mixing circuit 1/2 | Mo – Su | 6:00 - 22:00 |

Standard time program (P1) for heating and DHW

Automatic heating and DHW preparation function for each weekday

If programs P1-P3 are enabled, the time program may be configured in accordance with the following tables.

| Standard program P1 | | |
|------------------------|----------|----------------------------|
| Heating circuit | Day | Heating mode from to |
| DHW heating circuit | Mo – Su | 5:00 – 22:00 |
| Mixing circuit 1/2 | Mo. – Su | 6:00 – 22:00 |

| Standard program P2 | | |
|---------------------|--------------------------|--|
| Heating circuit | Day | Heating mode from to |
| DHW heating circuit | Mo – Th Fr Sa – Su | 5:00-8:00 15:30-22:00 5:00-8:00 12:30-22:00 6:00-23:00 |
| Mixing circuit 1/2 | Mo – Th Fr Sa – Su | 6:00-8:00 16:00-22:00 6:00-8:00 13:00-22:00 7:00-23:00 |

| Standard Program P3 | | | |
|---------------------|--------------------|----------------------------|--|
| Heating circuit | Day | Heating mode from to | |
| DHW heating circuit | Mo – Fr Sa – Su | 6:00 – 18:00 reduced | |
| Mixing circuit 1/2 | Mo – Fr Sa – Su | 7:00 – 18:00 reduced | |

7.2.3.4.5 Block programming

7.2.3.4.5.1 Copying the switching time programs (Days)

Block programming offers copying of switching times and cycle temperatures of the selected weekday:

- 1 Specific weekday (Mo, Tu, We, ... Su)
- 2 All the working days (Mo to Fr)
- 3 Weekend (Sa to Su)
- 4 All the week (Mo to Su)

Calling the Copy function (Days)

- **Source day** After selection of the copy function you can select the source day that you want to copy (Mo to Fr) by pressing the rotary button. The corresponding automatic program P1 (P2, P3) of the source day will appear on the display together with the clock symbol and program index.
- **Target day** When you have confirmed the source day by pressing the rotary button, the target day following after the source day will start flashing on the display. By means of the rotary button you can select:
 - individual following source days (Mo Fr);
 - all the days of the week (1-7) as a weekly block;
 - all the working days (1-5) as a working day block;
 - the weekend (6-7) as a weekend block;

and confirm by pressing the rotary button.

The copy function is accomplished by the confirming message "COPY OK".

After the confirmation once you press the rotary button, the next target days will gradually appear on the display. You can select or skip these days as necessary.

You can return to the basic display by pressing the program selection key (

NOTE Only complete days with the settings of cycles, temperatures and corresponding programs can be copied.

7.2.3.4.5.2 Copying switching time programs (heating circuits)

Block copying allows you to copy switching times and temperature settings from a heating cycle to another one.

Calling the Copy function (heating circuits)

Source circuit After selection of the copy function you can select the source mixing circuit that you want to copy (MC1, MC2, WW) by pressing the rotary button.

If automatic programs P1, P2 and P3 are enabled (see the *System menu - Parameter - Time Program = P1-3*), you can select the desired switching program P1, P2 or P3 of the source circuit. If they are not enabled, the program selection is skipped.

Target circuit After confirming the source circuit by pressing the rotary button you can select the target circuit in the same way and confirm the required program if it is enabled.

The copy function is confirmed by the "COPY OK" message. The copy function can be invoked again for copying other circuits if necessary.

IMPORTANT NOTE Heating circuits cannot be copied to hot water heating circuits and vice versa due to different temperature settings. If a heating circuit (MC1, MC2) is set as the source circuit, the hot water circuit (DHW) is excluded from the list of possible target circuits.

A source hot water circuit may be a target and a source circuit **at the same time**. In this case only switching programs P1 - P3 can be copied between each other.

You can return to the basic display by pressing the program selection key or .

7.2.3.4.6 Reloading standard programs

See also the "Reloading standard programs" diagram.

Personalized time programs P1, P2 or P3 can be overwritten by standard time switching programs P1, P2 or P3 if necessary.

After entering the menu of switching programs you must select the *STANDARD TIME* function in the heating cycle.

After confirmation with the rotary button the circuit the setting of which should be overwritten by a standard program (MC1, MC2, ALL) will start flashing on the display.

If automatic programs P1, P2 and P3 are enabled (see the *System menu* - *Time Program* = P1-3), you can select the desired switching program P1, P2 or P3 of the circuit the setting of which should be overwritten by a standard program. If they are not enabled, the program selection is skipped.

Reset Restoration of the original values occurs together with pressing of the rotary button for approx. 5 seconds until the confirmation information appears on the display. The reset is confirmed by the "COPY OK" message.
 The STANDARD TIME function can be invoked as necessary if you need to replace the settings of the other circuits with their corresponding standard programs.

NOTE If you select ALL, the settings of all the heating circuits and DHW circuits assigned to the selected program will be overwritten by their standard switching times.
 After the overwriting all the personalized time programs are irreversibly lost and they must be created again.

To return to the basic display press the program selection key (

7.2.4 System Parameters Menu

| Setting | Parameters in this menu refer to the general limit parameters and preset values of the heating system. After the end of work with the control unit the display automatically returns to the basic display after 2 minutes. This time period can be changed by setting of a system parameter. |
|---------|---|
| Exit | The menu return time refers to the 🗠 💷 💷 a 🖦 keys in the selection menu and to code setting. To return directly to the basic display press the "Operation Mode" key 🗠 |

7.2.4.1 Language selection

FunctionFor the display of all information on the screen you can select several world
languages .It settingCzech

Default setting Setting range

| No. | Abbrev. | Language | No. | Abbrev. | Language |
|-----|---------|------------|-----|---------|-----------|
| 1 | DE | German | 9 | CZ | Czech |
| 2 | GB | English | 10 | PL | Polish |
| 3 | FR | French | 11 | RO | Rumanian |
| 4 | IT | Italian | 12 | RU | Russian |
| 5 | NL | Dutch | 13 | TR | Turkish |
| 6 | ES | Spanish | 14 | S | Swedish |
| 7 | PT | Portuguese | 15 | N | Norwegian |
| 8 | HU | Hungarian | | | |

7.2.4.2 Time programs

Function This parameter determines whether the particular time program will be enabled or disabled for a heating circuit. **Default setting** P1 Setting range P1 - one-week time program P1-P3 - three-week time program Settings Program 1 enabled, programs 2 and 3 = disabled P1: P1-P3: All 3 programs enabled Effect Besides the above mentioned setting enabling of programs P1 to P3 provides the following possibilities of setting different operation modes for individual time programs:

7.2.4.2.1 Operation mode setting

Time programs P1, P2 and P3 may be selected in the Automatic and Summer operation modes.

7.2.4.2.2 Time programming

Within the time programming each heating circuit can be assigned to one of the three time programs P1-P3.

7.2.4.3 Operation Mode (MODE)

| Function | The Operation Mode determines common or separate setting of values of the mixing circuits and DHW. |
|-----------------|--|
| Default setting | 1 |
| Setting range | 1,2 |

Setting values 1 The selected setting (operation mode, daytime temperature,

- night time temperature) is common for all the heating circuits .
 - 2 You can assign a separate setting (operation mode, daytime temperature, night time temperature) to each heating circuit.

This parameter determines the control mode and influences:

- The operation mode selected with the "Operation Mode" key (
- They daytime temperature selected with the "Daytime Temperature" key
- The night time temperature selected with the "Night Time Temperature" key" (with regard to the effect on different heating circuits

Different daytime temperature of individual heating circuits 7.2.4.3.1

Function

ิสถิกิท - ปีลิษ HE If the operation mode is set to 2, the respective set value only refers to the selected HC (non-mixing circuit), MIX 1 (= mixing circuit 1), or MIX 2 (= mixing circuit 2).

Setting:

- Press the "Daytime Temperature" key .
- Select the desired heating circuit HC, MC1 or MC2 with the use of the rotary button O.
- Confirm the selected circuit by pressing the rotary button O.
- ► Set the flashing value of room temperature by turning the rotary button ⁽⁾ to the required value.
- ► Confirm the set value by pressing the "Daytime Temperature" key 💷 or the rotary button ().
- Another possibility of displaying the value is automatic return after the INFO-TIME setting (see 6.2.7 "System Information" key). 20 °C

Default setting 5 ... 30 °C Setting range

7.2.4.3.2 Different night-time temperature of individual heating circuits

Function

If the operation mode is set to 2, the respective set value only refers to the selected HC (non-mixing circuit), MIX 1 (= mixing circuit 1), or MIX 2 (= mixing circuit 2).

Setting:

- Press the "Night Time Temperature" key .
- Select the desired heating circuit HC, MC1 or MC2 with the use of the rotary button O.
- ► Confirm the selected circuit by pressing the rotary button ○.
- Set the flashing value of room temperature by turning the rotary button \bigcirc to the required value.
- Confirm the set value by pressing the "Night Time Temperature" key a or the rotary button

| Default setting | 16 °C |
|-----------------|---------|
| Setting range | 5 30 °C |

7.2.4.3.3 Separate operation mode of heating circuits

Function

If the operation mode is set to 2, the respective operation mode only refers to the selected HC (non-mixing circuit), MIX 1 (= mixing circuit 1), or MIX 2 (= mixing circuit 2).

| <u>ОРЕ</u> ЯЯТ. | мале |
|-----------------|------|
| М : Х - 7 | |

Setting:

- Press the "Operation Mode" key.
- Select the desired heating circuit, i.e. MC1 or MC2, with the use of the rotary button O.

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| RUTOMRTIE |
|-----------|
| MIX Z 🗸 |
| |

- ► Confirm the selected circuit by pressing the rotary button ○.
- ► Set the flashing operation mode value by turning the rotary button to the desired value.
- ► Confirm the set value by pressing the "Operation Mode" key ^{Colo} or the rotary button ^{Cl}
- ► In the case of short-term operation modes (Holiday, Absence, Party) set the required target value by pressing the rotary button and confirm the set value as described above.

7.2.4.4 Summer - Summer switch-off

Function This parameter determines automatic ending of the heating season on the basis of the outdoor temperature in accordance with the following criteria:

Abrupt increase of outdoor temperature

If the average value of outdoor temperature is below the set limit and the current outdoor temperature is 2 K higher than the set limit, the heating is off.

Slow increase of outdoor temperature

Heating switch-off is enabled if the average and current outdoor temperature exceed the set limit value.

Switching off the heating limit

Heating switch-off is disabled if the average and current outdoor temperature drop below the set limit value plus 1 K.

The summer heating switch-off function is also disabled:

- In case of failure of the outdoor sensor
- If the frost protection is active
- NOTE If parameter no 12 of the SYSTEM MENU = ON (ANTI-BLOCKING function), in case heating is switched off for more than 24 hours (Standby mode, Manual summer mode, Summer Switch-off), all the pumps are activated for 20 s to be protected from getting stuck due to corrosion. The mixing valves are open temporarily for this period.

In connection with another outdoor temperature sensor the heating switch-off function uses the average outdoor temperature measured by both the outdoor sensors. If a heating limit is active, it is indicated in the basic display by the parasol symbol.

Default setting 20 °C

Setting range OFF, 0,5 ... 40 °C

7.2.4.5 Parameter reset

With the use of the Parameter Reset function you can restore the default setting in case of a wrong entry in the parameter menu.

ACAUTION After the reset all the parameters will return to the default values.

Setting:

- ► When the "PARAM-RESET indication flashes on the display, press the rotary button.
- ► The indication of readiness for the reset (SET) will appear.
- ▶ Press the rotary button for approx. 5 seconds.

If the reset is successful, "RESET OK" will appear immediately.

7.2.4.6 Full reset

If necessary, you can reset the controller by simultaneously pressing the , it is a pai, keys until the controller is switched on again. The controller will be switched off and on automatically.

7.2.5 DHW Menu

This menu contains all parameters necessary for DHW heating with the exception of the time program.

NOTE This menu can only be invoked if a charging or circulation pump for DHW heating is defined.

7.2.5.1 Reduced DHW temperature

| Function | This parameter determines the reduced temperature in the DHW buffer in the reduced mode. |
|-----------------|--|
| Default setting | 40 °C |
| Setting range | 10 °C comfortable DHW temperature |
| NOTE | If a thermostat is used to measure DHW temperature, this parameter is skipped |

7.2.5.2 Day of DHW protection from legionella

| OFF | |
|--------------------|--|
| OFF, MO to SU, ALL | |
| OFF: MO – SU | The legionella protection function is not active. Legionella protection is activated on the selected weekday at the time that is set by the installation technician together with various parameters. |
| ALL: | Legionella protection is activated every day at the selected time. |
| | OFF, MO to OFF: MO – SU ALL: |

NOTE If a hot water thermostat is used to measure the heater temperature, this parameter is skipped.

7.2.6 Mixing Circuit 1 / Mixing Circuit 2 Menus

These menus contain all parameters necessary for programming of the heating circuits. Max. 2 mixing circuits per controller (mixing circuit 1 and mixing circuit 2) are available as heating circuits. The heating circuit parameters described below are available for each heating circuit and are set separately.

7.2.6.1 Reduced mode type

- **Function** In the reduced mode you can choose from two reduced mode types:
- Default setting ECO
 - Setting range ECO, RED
- Setting values RED (reduced mode)

In the reduced mode the heating circuit pump remains active. The flow temperature is determined on the basis of the corresponding reduced heating characteristic in accordance with a reduce temperature in the room. The temperature will not drop below the set lower limit.

Use: Buildings with low insulation values and high heat losses.

ECO (switch-off mode) In the reduced mode the direct heating circuit is completely off if the outdoor temperatures are higher than the set frost protection. The heating circuit pump is 7.2.6.2 H

| Heating exponent (heating curve inclination) Function This parameter refers to the heating system type (floor heating, heating elements hot air circulation). Depending on the heating system type the following settings are recommended: 1,10 Slowly rising heating curve for floor or other systems of area heating 1,30 Normally rising heating curve for systems with heating elements with m-values between 1.25 and 1.35. 2,00 Rising heating curve for systems with hot air circulation and panel heating. >3,00 Very fast growing heating curve for the use of ventilation with a high initial temperature. Default setting 1.30 (heating elements) 1.10 (floor heating) for mixing circuits | Use: NOTE | switched off with a short delay to avoid overheating of the boiler due to (extended running time of the pump). Buildings with high insulation values The above mentioned mode also applies to these operation modes: <i>Abs</i> <i>Constant reduced mode</i> . | | | | |
|---|-----------------|---|--|--|--|--|
| FunctionThis parameter refers to the heating system type (floor heating, heating elements hot air circulation).Depending on the heating system type the following settings are recommended:1,10Slowly rising heating curve for floor or other systems of area heating 1,301,30Normally rising heating curve for systems with heating elements with m-values between 1.25 and 1.35.2,00Rising heating curve for systems with hot air circulation and panel heating.>3,00Very fast growing heating curve for the use of ventilation with a high initial temperature.Default setting1.30 (heating elements) 1.10 (floor heating) for mixing circuits | Heating expon | ent (heatin | g curve inclination) | | | |
| Depending on the heating system type the following settings are recommended:1,10Slowly rising heating curve for floor or other systems of area heating1,30Normally rising heating curve for systems with heating elements with <i>m</i> -values between 1.25 and 1.35.2,00Rising heating curve for systems with hot air circulation and panel heating.>3,00Very fast growing heating curve for the use of ventilation with a high initial temperature.Default setting1.30 (heating elements) 1.10 (floor heating) for mixing circuits | Function | This parame hot air circu | eter refers to the heating system type (floor heating, heating elements, lation). | | | |
| 1,10 Slowly rising heating curve for floor or other systems of area heating 1,30 1,30 Normally rising heating curve for systems with heating elements with <i>m</i> -values between 1.25 and 1.35. 2,00 Rising heating curve for systems with hot air circulation and panel heating. >3,00 Very fast growing heating curve for the use of ventilation with a high initial temperature. Default setting 1.30 (heating elements) 1.10 (floor heating) for mixing circuits | | Depending | on the heating system type the following settings are recommended: | | | |
| 2,00 Rising heating curve for systems with hot air circulation and panel heating. >3,00 Very fast growing heating curve for the use of ventilation with a high initial temperature. Default setting 1.30 (heating elements) 1.10 (floor heating) for mixing circuits | | 1,10 1,30 | Slowly rising heating curve for floor or other systems of area heating. Normally rising heating curve for systems with heating elements with m -values between 1.25 and 1.35. | | | |
| >3,00 Very fast growing heating curve for the use of ventilation with a high initial temperature. Default setting 1.30 (heating elements) 1.10 (floor heating) for mixing circuits | | 2,00 | Rising heating curve for systems with hot air circulation and panel heating. | | | |
| Default setting 1.30 (heating elements) 1.10 (floor heating) for mixing circuits | | >3,00 | Very fast growing heating curve for the use of ventilation with a high initial temperature. | | | |
| | Default setting | 1.30 (heatin 1.10 (floor h | g elements) leating) for mixing circuits | | | |

Setting range 1.00 ... 10.00

8 SDW10/20 wall units

8.1 Operation of SDW 20 digital wall units

| | Function |
|---------|----------|
| 345 | |
| M I X I | Z6- I |
| ሮ ይ ፻ ው | |

Besides monitoring the room temperature with a digital wall unit you can also remotely control the central unit (e.g. from the living room) to set operation modes, time programs, etc. You can make settings for all the existing heating circuits.

Room units communicate with the controller in a data way, i.e. they must be connected with a data cable. The BUS address of each unit must be set so that the controller will recognize which heating circuit the unit is assigned to.

If a SDW 20 is connected to the bus system for the first time, the bus address of the heating circuit that SDW 20 should be assigned to (bus address) must be selected.



After the confirmation of the setting a response is returned with the information which heating circuit (HC, **MC**1, **MC**2) and which central unit (ZG) the wall unit has been assigned to.

The assignment is performed on the basis of the following table:

| Address | Central unit address | Assignment to a heating circuit |
|---------|----------------------|---------------------------------|
| 11 | 10 | ZG 1 – Direct heating circuit |
| 12 | 10 | ZG 1 – Mixing circuit 1 |
| 13 | 10 | ZG 1 – Mixing circuit 2 |
| 21 | 20 | ZG 2 – Direct heating circuit |
| 22 | 20 | ZG 2 – Mixing circuit 1 |
| 23 | 20 | ZG 2 – Mixing circuit 2 |
| 31 | 30 | ZG 3 – Direct heating circuit |
| 32 | etc. | |

MOTE
 Duplicate assignment of addresses is not permitted and leads to transmission errors and subsequently to communication failure of the whole heating system.
 Bus address change
 The bus address may be modified later as follows:
 Disconnect all the wall units from the data bus (disconnect the connector in the bottom part of the unit)
 Reconnect the unit and keep the rotary selector pressed until the address setting appears on the display.

• Set and confirm the new bus address.

8.2 Operation with SDW 10 wall units

Function A SDW 10 wall unit can be connected to the control unit.

With a SDW 10 unit you can monitor the room temperature, remotely set the temperature value and change the operation mode of the heating circuit. The settings are only valid for the corresponding heating circuit. The bus address of the wall unit is used to determine which heating circuit the room

sensor and operation mode setting should be applied to. The connection is accomplished with the use of a data bus.

Bus address setting The address of SDW 10 is set by turning of the code switch inside the room unit in accordance with the following table:

| Address | Central unit address | Assignment |
|---------|----------------------|-------------------------------|
| 0 | Not defined | Not defined |
| 1 | 10 | ZG 1 – Direct heating circuit |
| 2 | 10 | ZG 1 – Mixing circuit 1 |
| 3 | 10 | ZG 1 – Mixing circuit 2 |
| 4 | 20 | ZG 2 – Direct heating circuit |
| 5 | 20 | ZG 2 – Mixing circuit 1 |
| 6 | 20 | ZG 2 – Mixing circuit 2 |
| 7 | 30 | ZG 3 – Direct heating circuit |
| 8 | 30 | ZG 3 – Mixing circuit 1 |
| 9 | 30 | ZG 3 – Mixing circuit 2 |
| A | 40 | ZG 4 – Direct heating circuit |
| В | 40 | ZG 4 – Mixing circuit 1 |
| С | 40 | ZG 4 – Mixing circuit 2 |
| D | 50 | ZG 5 – Direct heating circuit |
| E | 50 | ZG 5 – Mixing circuit 1 |
| F | 50 | ZG 5 – Mixing circuit 2 |

Monitoring the current room temperature

The integrated room sensor evaluates the current room temperature for all the functions that are bound to the room temperature setting and transmits it to the central unit every 20 sec.

Operation mode setting

The required operation mode is selected with the respective key (press for approx. 2–3 seconds) and indicated by the corresponding LED. After pressing of the key the operation mode is set in the following order:

| | AUTOMATIC MODE – HEATING – REDUCED – AUTOMATIC MODE – | | | | | | |
|----------------------|--|---|--|--|--|--|--|
| Automatic Mode | After setting of an operation mode this information is transmitted to the central of The change is only reflected in the heating circuit the SDW 10 is assigned to. Mode The heating circuit is controlled constantly in accordance with the specifications the automatic program P1 - P3 set in the central unit with addition or deduction the room setting correction entered with the rotary button. | | | | | | |
| Heating | The heating circuit is controlled temperature in the room with ad entered with the rotary button. | The heating circuit is controlled constantly in accordance with the required daytime temperature in the room with addition or deduction of the room setting correction entered with the rotary button. | | | | | |
| Reduced Mode | The heating circuit is controlled temperature in the room with ad entered with the rotary button. T for the heating circuit, the REDU | The heating circuit is controlled constantly in accordance with the required daytime temperature in the room with addition or deduction of the room setting correction entered with the rotary button. The function depends on the setting of parameters for the heating circuit, the REDUCED OPERATION MODE parameter. | | | | | |
| Value correction | The rotary button allows you to change the room temperature set in the central unit by \pm 6 K with regard to the central position. | | | | | | |
| | Turning to the right: Turning to the left: | temperature increase temperature reduction | | | | | |
| Operation indication | The operation is indicated with t | he use of three LED's. Possible statuses are | | | | | |

| Operation mode / Function | "Moon" LED | "Clock" LED | "Sun" LED |
|---|----------------|----------------|----------------|
| Automatic | OFF | ON | OFF |
| Constant heating | OFF | OFF | ON |
| Constant reduced | ON | OFF | OFF |
| Start-up stage | Quick flashing | Quick flashing | Quick flashing |
| Address setting error | Flashing | ON | ON |
| Bus failure and parameter blocking indication | ON | Flashing | ON |
| Party (can be set on ZG) | OFF | OFF | Flashing |
| Absence (can be set on ZG) | Flashing | OFF | OFF |
| Holiday (can be set on ZG) | OFF | Flashes | OFF |

summarized in the following table:

| Definitions: | 0.8 sec ON and 0.8 sec OFF |
|----------------|-----------------------------|
| Quick flashing | 0.08 sec ON and 0.7 sec OFF |
| Flashes | 0.08 sec ON and 1.4 sec OFF |

In case of setting on SDC 10 the operation indication is updated immediately and within 20 seconds in case of setting on the central unit.

NOTE In all the other operation modes that are defined in the above mentioned table all the three LED's are permanently ON.

NOTE

9 Malfunction messages - alarms

The controller is equipped with widespread built-in logic for indication and reporting of malfunctions that displays the malfunction type with the highest priority.

Malfunction messages alternate with the basic display as soon as a malfunction occurs. If several malfunctions occur at the same time, they will appear on the display one after another in the time sequence of their occurrence.

There are four types of malfunction messages:

Sensor alarm messages

Values of a sensor that do not lie within its measurement range are considered as interruption or short-circuit. Their alarm codes have values 10 to 20 with index 0 for short circuit and 1 for interruption.

Heating failure messages

These alarm messages analyze the current switching status. They are indicated with malfunction codes 30 to 40 and index 0, 1 or 2.

Logic failure messages

These alarm messages refer to the expected status of controller function. They are indicated with malfunction codes 50 to 60 and index 0, 1 or 2.

Bus failure messages

There alarm messages refer to addressing errors as e.g. double assignment or failure to recognize the address setting on the bus. They have malfunction codes starting with 70 with index 0 or 1.

If any alarm message appears, a technician should be informed. If a variable output is connected and set to value 13 (general alarm output) - e.g. a signal light, modem, input of a safety device, etc., this output will be activated in case of occurrence of an alarm.

GB

Principal terms

10 Tips and tricks

This chapter serves as a guide for understanding of some statuses of components controlled by the ACD01 controller. As the controller contains a lot of adjustable options, variable inputs and parameters, not all causes and problems can be explained here. For this purpose use the Service Manual, this table only serves as a quick reference guide.

- Temperature is specified in °C, temperature difference (differential) is specified in Kelvin and the relationship is 1 K = 1 °C

- The "i" key is used to view the condition and temperatures of the whole system, so first it is necessary to verify all information about current and required temperatures, status of individual components to determine whether an error has occurred.

- If parameters that have an influence on the function and calculations of the controller are changed during operation, the controller must be switched off and on again so that all calculation can be performed with new values.

| Component | Problem | Boiler type | Arrangement | Note | Possible cause |
|--|---|---------------------------------|------------------------------------|---------------------------|--|
| - | | Non-controlled or pellet boiler | Without an accumulation | | The switch-on temperature of the pump is higher than the current boiler water temperature |
| | the boiler is | Flue gas sensor boiler | tank | | Low flue gas temperature |
| Component Boiler pump Three-way mixer System pump | neating | Flue gas sensor boiler | With an accumulation tank | | Water temperature is lower than tank water temperature by more than 3°C |
| | ON although the boiler temperature is lower than the tank temp. | | With an accumulation tank | | If the current boiler temperature is higher than the critical one, the pump is ON to relieve energy from the boiler |
| | le continuously | | Without an accumulation | With a room unit | The current boiler temperature is lower than the system switch on temperature |
| Three-way | closed although the desired room temperature is | | | Without a room unit | Wrongly set heating curve or its inclination, active summer mode, etc. |
| | | | accumulation | | Low accumulation tank temperature |
| | | Αηγ | lank | System pump is running | Low accumulation tank temperature, active frost protection |
| | Is continuously | , u.j | Without an accumulation tank | With a room unit | Current boiler temp. is higher than critical, the pump is ON and mixer open to relieve energy from boiler |
| | open although the room temperature is | | Any | Without a room unit | Wrongly set heating curve or its inclination, active summer mode, etc. |
| | desired one | | With an accumulation tank | With a room unit | Current boiler temp. is higher than critical, the pump is ON and mixer open to relieve energy from boiler |
| System | At standstill | | | | No system start temperature REDUCED mode is set and room temperature achieved |
| pump | | | Δηγ | | Erost protection active |
| | Running | | / | | ANTI-BLOCKING active in summer mode |
| Boiler fan | Stops after 1 hour from start- | Flue gas sensor boiler | 1 | | Minimum flue gas temperature is not achieved |

11 Notes

11.1 Overview of time programs

| D1 | | Weekday | | | | | | |
|---------|-------|---------|---------|-----------|----------|--------|----------|--------|
| Г | 1 | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Cycle 1 | Start | : | : | : | | • | : | : |
| | End | : | : | : | • | • | : | : |
| Cycle 2 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |
| Cycle 3 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | • | | : | : |

| P2 | | Weekday | | | | | | |
|---------|-------|---------|---------|-----------|----------|--------|----------|--------|
| | | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Cycle 1 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |
| Cycle 2 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |
| Cycle 3 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |

| 20 | | Weekday | | | | | | |
|---------|-------|---------|---------|-----------|----------|--------|----------|--------|
| | 3 | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Cycle 1 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |
| Cycle 2 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |
| Cycle 3 | Start | : | : | : | : | : | : | : |
| | End | : | : | : | : | : | : | : |

| DHW | | Weekday | | | | | | | |
|---------|-------|---------|---------|-----------|----------|--------|----------|--------|--|
| | | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | |
| Cycle 1 | Start | : | : | : | | : | : | : | |
| | End | : | : | : | : | : | : | : | |
| Cycle 2 | Start | : | : | : | : | : | : | : | |
| | End | : | : | : | : | : | : | : | |
| Cycle 3 | Start | : | : | : | : | : | : | : | |
| | End | : | : | : | : | : | : | : | |

| 11.2 | Description | of the | heating | system | and | controller | settings |
|------|-------------|--------|---------|--------|-----|------------|----------|
|------|-------------|--------|---------|--------|-----|------------|----------|

| | | Tick and add your own configuration | | | | |
|--------------------|---------------------------------|---|----------------------------|---------------------------------------|--|--|
| | Arrangement | Without accum. tank | With accum. tank | With accum. tank and zone valve | | |
| Boiler type | 1 - Non-controlled | 1 | 3 | 4 | | |
| | 2 – Pellet | 9 | 10 | 12 | | |
| | 4 – With an AGF flue gas sensor | 17 | 19 | 20 | | |
| Circuits | DHW | YES / NO | YES / NO | YES / NO | | |
| | MC1 | YES / NO | YES / NO | YES / NO | | |
| | MC2 | YES / NO | YES / NO | YES / NO | | |
| Variable input | VE1 | | AGF | AGF | | |
| | VE2 | | | PF | | |
| | VE3 | | PF | | | |
| Variable output | VA1 | | | | | |
| | VA2 | | | Zone valve | | |
| SENS ORS | KSPF | | HYDR.10 / SOLAR | HYDR.12 / SOLAR | | |
| | KVLF | | | | | |
| BUS | Room unit | SDW 10 / 20 SDW 10 / 20 | SDW 10 / 20 SDW 10 / 20 | SDW 10 / 20 SDW 10 / 20 | | |

11.3 Notes

