Automation System TROVIS 5500
Room Controller
TROVIS 5572

Mounting and Operating Instructions

EB 5572 EN

Firmware version 1.10

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TROVIS® Electronics from SAMSON

CE

Safety instructions

- The device may only be mounted, started up or operated by trained and experienced personnel familiar with the product.
- Proper shipping and appropriate storage are assumed.

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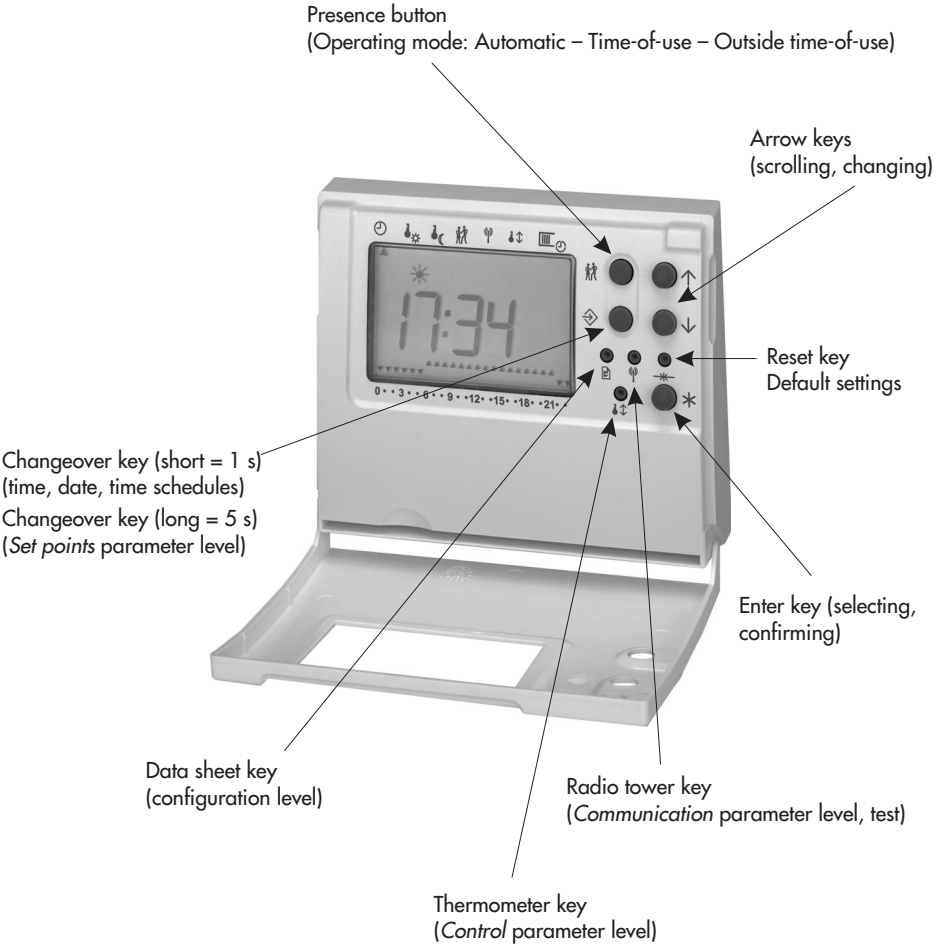

Presence button
(Operating mode: Automatic – Time-of-use – Outside time-of-use)
Arrow keys
(scrolling, changing)
Reset key
Default settings
Changeover key (short = 1 s)
(time, date, time schedules)
Changeover key (long = 5 s)
(*Set points* parameter level)
Enter key (selecting, confirming)
Data sheet key
(configuration level)
Radio tower key
(*Communication* parameter level, test)
Thermometer key
(*Control* parameter level)

1 Operation

The room controller is ready for use after performing the connections (section 6) and start-up (section 2).

1.1 Operating elements

Operating elements when cover is closed

Arrow keys (up and down keys)
Used to select displays and parameters

Manual key
Without any function

Additional operating elements accessible with the cover open

Enter key
Used to confirm a selection or setting

Changeover key
Key pressed for approx. 1 sec.: Open controller time and programmed time schedule
Key pressed for approx. 5 sec.: Open *Set points* parameter level (only after entering key number)

Presence button
Used to select operating mode (Automatic – Time-of-use – Outside of time-of-use)

Note that you require a pointed object such as a ball-point pen in order to press the following recessed keys:

Thermometer key
Used to access *Control* parameter level (only after entering key number)

Radio tower key
Used to access *Communication* parameter level (only after entering key number)

Data sheet key
Used to access configuration level (only after entering key number)

Reset key
Used to reset the room controller to its default settings (delivery state)
(only after entering key number)

1.2 Display

Information on the current operation appears on the display of the controller during use:

Set point	Large reading
Actual temperature	Small reading on the bottom right of the display The actual temperature reading changes in steps of 0.5 °C.
Operating mode	No icon outside of time-of-use ✳ during time-of-use ⌂ in vacation mode
Presence	Arrow points to 🚶 indicating that the automatic operating mode has been interrupted (refer to section 1.5)
Time schedule	▲, ▼ changes in automatic operating mode depending on the programmed time schedule: ▲ Time-of-use · ▼ Outside of time-of-use ▲ ▲ ▲ Continuous time-of-use (automatic operating mode interrupted) ▼ ▼ ▼ Continuously outside of time-of-use (automatic operating mode interrupted)
Communication failure	☎ blinks on the display (only when communication is configured, refer to section 4)
Control station intervention	RC appears on the display (only when communication is configured, refer to section 4)
Frost protection	Actual temperature (small) blinks on the display when – Actual room temperature < 5 °C – Dew-point monitor alarm – Window contact Snow flake icon (blinking) – Actual room temperature < 5 °C Snow flake icon (constant) – Dew-point monitor alarm

1.3 Setting the controller time

The correct time and date needs to be set directly after starting up the controller or after the power supply has been disconnected for more than 24 hours.

How to proceed:

Open the cover.

⇛ Press key briefly (approx 1 s). The time appears on the display.
An arrow on the right of the display at the same level as the changeover key indicates that the time can be changed.

✳ Press this key to enter the editing mode.
The time starts to blink.

↑ ↓ Enter the correct time.

✳ Confirm the time.

↓ Select date setting.

✳ Press this key to enter the editing mode.
The date starts to blink.

↑ ↓ Enter the correct date.

✳ Confirm the date.

↓ Select year setting.

✳ Press this key to enter the editing mode.
The year starts to blink.

↑ ↓ Enter the correct year.

✳ Confirm the year.

⇛ Exit the parameter level.

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

1.4 Programming the time schedule

Three times-of-use can be programmed for each day of the week within which the controller regulates the room temperature to the *Set point for time-of-use*. If a time-of-use is not required, set the start and stop times of this time-of-use to the identical time.

Parameters	WE	Range of values
Times-of-use Mon to Fri	08:00 to 20:00	00:00 to 24:00 h in steps of 15 minutes
Times-of-use Sat and Sun	00:00 to 00:00	00:00 to 24:00 h in steps of 15 minutes

How to proceed:

Open cover.

⇨ Press key briefly (approx 1 s). The time appears on the display.
An arrow on the right of the display at the same level as the changeover key indicates that the time can be changed.

↓ The date appears on the display.

↓ The year appears on the display.

↓ Select time-of-use setting.
The arrow at the top of display points to .
Reading: 1–7 = daily, 1 = Monday, 2 = Tuesday, …, 7 = Sunday

✳ Press this key to enter the editing mode.
The start time of the first time-of-use appears on the display.

↑ ↓ Set the start time (in 15-minute steps).

✳ Confirm the start time.
The stop time of the first time-of-use appears on the display.

↑ ↓ Set the stop time (in 15-minute steps).

✳ Confirm the stop time.
The start time of the second time-of-use appears on the display.

Repeat the instructions highlighted in gray to set the second and third times-of-use. After all the times-of-use have been programmed:

⇨ Exit the parameter level.

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

1.5 Selecting the operating mode (presence button)

Press key repeatedly to cycle through the following operating modes:.
Temporary set point settings (see section 1.6) are reset when the operating mode is changed.

Automatic mode
(✳ during time-of-use, no icon appears outside of time-of-use; ▼ … ▲ … ▼)
Depending on the programmed time schedule, the controller regulates the room temperature to the *Set point for time-of-use* during the time-of-use and to the *Set point for outside of time-of-use* outside of the time-of-use.

Time-of-use (✳ ; ▲ ▲ ▲ ▲ ▲ …)
The controller regulates the room temperature to the *Set point for time-of-use* regardless of the programmed time schedule.

Outside of time-of-use (▼ ▼ ▼ ▼ ▼ …)
The controller regulates the room temperature to the *Set point for outside of time-of-use* regardless of the programmed time schedule.

The duration of the time-of-use and outside of time-of-use operating mode is set in function block F02:

Function	WE	Configuration
Resetting operating mode	1	F02*

* F02 - 0: Operating mode settings for continuous time-of-use/outside of time-of-use
F02 - 1: Operating mode settings for time-of-use/outside of time-of-use that applies until the next time schedule starts when the operating mode changes back to automatic mode

1.6 Changing temperature set points temporarily

During the controller operation, the current set point and the actual temperature appear on the display.

Use the arrow keys to temporarily change the current set point.
The new temporary set point applies until the next time-of-use starts or until the operating mode is changed, however, eight hours at the maximum.

The following maximum set point shifts apply:

- *Set point for time-of-use*: ±3 °C
- *Set point for outside of time-of-use:* +8 °C
- *Set point for vacation mode*: +8 °C

How to proceed:

↑ ↓ Change the set point temporarily in steps of 0.5 °C.

Note:
The temporary set point can also be overwritten by a building control station (GLT) when the communication is active (see section 4).

---

2 Start-up

The changes described in this section concerning controller configuration can only be performed after the valid key number has been entered.

The valid key number is specified on page 27. To prevent unauthorized access to the key number, tear out or blank out the key number.

2.1 Activate/deactivate functions

A function is activated and deactivated by selecting the associated function block.
The function blocks are listed in section 7.1.

How to proceed:

Open cover.

Press the data sheet key.

Enter key number.
The configuration level is opened.

↓ Select the function block.

✳ Enter the editing mode.
Fb : _ _ blinks.

↑ Activate the function block.
Reading: Fb : _ _ ON

or

↓ Deactivate the function block.
Reading: Fb : _ _ OFF

✳ Confirm setting.

Repeat the instructions highlighted in gray to set further function blocks.
On completing the controller configuration:

Exit the configuration level (or, alternatively, by pressing ⇉).

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

2.2 Changing parameters

Depending on the active functions, not all the parameters that are specified in the parameter lists in the appendix are accessible (–> section 7.2).

The parameters are arranged in topics in various parameter levels (PA):

- PA *Set points*: Set points for time-of-use, outside of time-of-use, and vacation mode
- PA *Control*: Control parameters
- PA *Communication*: Device address, Baud rate, sensor calibration, switching inputs and outputs

How to proceed:

Open cover.

Select required parameter level:
- PA *Set points* (press key approx. 5 sec.)
- PA *Control*
- PA *Communication*

Enter the key number.
The parameter level is opened.

- ↓ Select parameter.
- ✳ Enter the editing mode.
  The display starts to blinks.
- ↑ ↓ Set parameter.
- ✳ Confirm setting.

Repeat the instructions highlighted in gray to set other parameters in the opened parameter level. On completing all the parameter settings:

Exit the parameter level. Use corresponding key depending on the parameter level:
- PA *Set points*
- PA *Control*
- PA *Communication*

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

2.3 Calibrating the room sensor

If the temperature displayed on the room controller (current temperature on the bottom right of the display) does not match the actual room temperature, the measured temperature of the room sensor can be changed and reset. On calibration, the currently displayed sensor temperature needs to be changed to match the directly measured room temperature (reference temperature).

Note:
An incorrectly performed calibration leads to the wrong room temperature measurements and results in incorrect control performance. Use a thermometer with a high degree of accuracy on measuring the reference temperature.

How to proceed:

Open cover.

Select *Communication* parameter level.

Enter the key number.
The parameter level is opened.
The device address appears on the display.

↓ The Baud rate appears on the display.

↓ The transmit/receive test appears on the display.

↓ Select correction value for room sensor
Reading: Measured temperature (small); correction value (large)

✳ Enter the editing mode.
The correction value starts to blink.

↑ ↓ Set the temperature difference found.

✳ Confirm the temperature difference.

Exit the parameter level (or, alternatively, by pressing ⇉).

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

2.4 Checking inputs and outputs

The current state of the binary inputs, triacs and analog outputs can be displayed in the *Communication* parameter level. The state of triacs and analog outputs can be changed manually.

How to proceed:

Open cover.

Select *Communication* parameter level.

Enter the key number.
The parameter level is opened

↓ Press key 4 times.
The state of the binary input BE1 appears:
E1 0 /E1 1 (BE1 open/closed)

↓ Press the key once to change to the next input or output:

- Binary input BE2 · Reading: E2 0/E2 1 (BE 2 open/closed)
- Triac 1 · Reading: A1 0/A1 1 (triac 1 open/closed)
- Triac 2 · Reading: A2 0/A2 1 (triac 2 open/closed)
- Analog output AA1 · Reading: AA1 0 to AA1 100 (0 to 10 V voltage)
- Analog output AA2 · Reading: AA2 0 to AA2 100 (0 to 10 V voltage)

Changing triac/analog output state:

The output triac 1 (A1), triac 2 (A2), analog output AA1 or analog output AA2 appear on the controller display.

✳ Enter the editing mode.

↑ Close triac (A_ 1) or raise voltage at the analog output.

or

↓ Open TRIAC (A_ 0) or reduce voltage at the analog output.

Exit the parameter level (or, alternatively, by pressing ⇨).

Note:
If no key is pressed within five minutes, the controller display returns to the set point reading.

2.5 Reset to default settings

All parameters and functions can be reset to their default settings.

How to proceed:

Open cover.

✳ Select default setting menu.

Enter the key number.
The default setting menu is opened.

✳ Enter the editing mode.

↑ Press key.

✳ Confirm the reset.

✳ Exit the default setting menu.

3 Functions

3.1 Heating functions

3.1.1 Window contact

The **window contact** function depends on the state of binary input BE1:

- BE1 = 0: The heating valve is closed.
  The heating valve is opened for five minutes every 20 minutes
- BE1 = 1: Control according to the current operating mode.

3.1.2 Optimization

The controller determines the *Advance heating time* and *Cooling down time* depending on the building characteristics.

The *Advance heating time* is the time required to achieve the room temperature *Set point for time-of-use* already when the time-of-use starts. In optimization mode, heating does not start when the time-of-use starts, but at an earlier point in time instead.

The *Cooling down time* is the time required to achieve the room temperature *Set point for outside of time-of-use* already when the time-of-use ends. In optimization mode, heating does not finish when the outside of time-of-use starts, but at an earlier point in time instead.

Note:
Advance heating time *and* Cooling down time *are restricted by the* Maximum advance heating time *and* Maximum cooling down time *parameters respectively*.

Function	WE	Configuration
Optimization	0	F03 - 1
Parameters	WE	Parameter level / Range of values
Maximum advance heating time	360 min	⇛ PA *Set points* / 0 to 360 min
Maximum cooling down time	120 min	⇛ PA *Set points* / 0 to 120 min

3.1.3 Vacation period

During the programmed *Vacation period* (start and stop), the controller regulates the room temperature to the *Set point for vacation mode*. ⌂ appears on the display.

The **Presence alert** function (section 3.3) is not active during the programmed vacation period.

Parameters	WE	Parameter level / Range of values
Set point for vacation mode	15 °C	PA *Set points* / 5 to 30 °C
Vacation schedule	–	PA *Set points* / –

3.2 Cooling functions

The cooling valve regulates the temperature to the current set point during the time-of-use.

The following applies for outside of time-of-use:

When F04 - 0: No cooling
When F04 - 1: The temperature is regulated to a raised set point. The setback calculated from the set point for outside of time-of-use during heating is interpreted as an increase.

Function	WE	Configuration
Cooling	0	F04*

* F04 - 0: No cooling outside of time-of-use
F04 - 1: Cooling also outside of time-of-use

3.2.1 Window contact

The **Window contact** function depends on the state of binary input BE1:

- BE1 = 0: The cooling valve is closed.
- BE1 = 1: Control according to the current operating mode.

3.2.2 Dew point monitoring

The dew point monitoring uses the binary input BE2:

- BE2 = 0: Temperature regulated to *Set point for outside of time-of-use*.
- BE2 = 1: Cooling is interrupted.

Function	WE	Configuration
Function BE2	0	F01 - 1

3.3 Operating mode override

The adjusted operating mode override is processed by binary input BE2:

- BE2 = 0: Control according to the current operating mode.
- BE2 = 1: The temperature is regulated to *Set point for time-of-use* regardless of the programmed time schedule or operating mode.

Note:
If the vacation mode is set, the setting F01 - 1 has no function; the controller continues to regulate the temperature to Set point for vacation mode.

Function	WE	Configuration
Function BE2	0	F01 - 0

3.4 Summer time/winter time changeover

The time changeover is performed automatically on the last Sunday in March at 02:00 h and on the last Sunday in October at 03:00 h.

Function	WE	Configuration
Summer time/winter time changeover	1	F06 - 1

3.5 Key lock

When this function is active, ↓, ↑, ✳, ⇛ and 🚻 keys do not have any function.
Just the set point and actual temperature appear on the controller display. Changes to the operating mode and time schedule and temporary set point changes cannot be made.

Function	WE	Configuration
Key lock	0	F05 - 1

3.6 Switching outputs

The operating mode of the switching outputs can be selected in the *Control* parameter level.

Note:
Changes to the control signal that are smaller than the value set in Min. control signal parameter *are not processed.*

Parameter	WE	Parameter level / Range of values
Min. control signal	5 %	PA *Control* / 1 to 100 %

Three-point stepping output (heating only)

The control loop functions with a PI control algorithm. The heating valve reacts to pulses which the controller issues when a system deviation exists. In particular, the length of the first pulse depends on the size of the system deviation and the selected *Gain* K_P (the pulse length increases as K_P rises). Pulse length and interval time change continuously until the system deviation is eliminated. The interval between pulses is influenced considerably by the *Reset time* T_N (the interval increases as T_N rises). The *Valve transit time* T_Y indicates how long the valve needs to move through the range from 0 to 100 %.

Parameters	WE	Parameter level / Range of values
Switching outputs function	1	PA *Control* / **Select: 1**
Gain K_P	1.0	PA *Control* / 0.1 to 100
Reset time T_N	180 s	PA *Control* / 0 to 1000 s
Valve transit time T_{Y1}	45 s	PA *Control* / 0 to 1000 s

2 x On/off PPM (heating and cooling)

The control signals applied at the 0 to 10 V output that exceed the value entered in the *Minimum control signal* parameter, are issued as a pulse width modulated signal with the basic frequency $1/T_{Y1}$ (heating) or $1/T_{Y2}$ (cooling).

Parameters	WE	Parameter level / Range of values
Switching outputs function	1	PA *Control* / **Select: 2**
Valve transit time T_{Y1}	45 s	PA *Control* / 0 to 1000 s
Valve transit time T_{Y2}	45 s	PA *Control* / 0 to 1000 s

2 x On-off thermostat (heating and cooling)

The output signal (AA1 heating, AA2 cooling) of the controller is switched on or off.
A control signal is issued when the temperature exceeds or falls below the set point, depending on the controlled variable. If the control signal exceeds the *Min. Control signal*, the on-off thermostat is switched on or off.

Parameter	WE	Parameter level / Range of values
Switching outputs function	1	PA *Control* / **Select: 3**

Triac 1 and triac 2 switched according to the time schedule

Both triacs are switched on together depending on the time schedule or the adjusted operating mode. Both triacs are closed outside of time-of-use.

Parameter	WE	Parameter level / Range of values
Switching outputs function	1	PA *Control* / **Select: 4**

Triac 1 switched according to the time schedule, triac 2 switched according the state of AA2

Triac 1 switches according to the time schedule or adjusted operating mode.

Triac 2 switches on when the control signal for cooling = 100 % and when a system deviation (cooling demand) continues to exist. Triac 2 functions in sequence to the control signal for cooling, for example, to connect additional cooling equipment. When the temperature reaches the set point, triac 2 switches off again.

Parameter	WE	Parameter level / Range of values
Switching outputs function	1	PA *Control* / **Select: 5**

4 Communication

The serial system bus interface RS-485 enables the TROVIS 5572 Room Controller to communicate with a control system (GLT). A complete control system can be implemented using a suitable software to visualize the process and to enable communication.

The operation of the controller requires a constant bus link (data cable). The bus line is designed in an open ring structure to connect individual control equipment. The data cable is connected at the end of the bus line to the control station over a RS-485/RS-232 converter (e.g. CoRe 01).

The bus connection range (cable length) is maximum 1200 m. A maximum of 128 devices can be connected in such a segment. Repeaters must be used (for example, CoRe 01) to regenerate the signal level over long distances or when more than 32 devices are connected to one bus line. A maximum of 246 devices can be addressed and connected to a bus with 8-bit addressing.

CAUTION!
You are required to follow the relevant standards and regulations applicable to lightning and overvoltage protection on installing the controller.

A transmitting and/or receiving test can be initiated in the *Communication* parameter level:

- RC blinking : on the display — Receiving data telegrams from control station (GLT), even when they are intended for other controllers
- ☏: — Controller transmitting to control station (GLT)

Description of the parameters that need to be set:

The *Device address* is used to identify the controller. An address may only be assigned once within a system.

The *Baud rate* indicates the transfer rate between control system and controller in a bus system.

Functions	WE	Configuration
16-bit addressing	0	F07*
* F07 - 0: 8-bit addressing F07 - 1: 16-bit addressing		

Parameters	WE	Parameter level / Range of values
Device address	000	PA *Communication* / 0 to 255 (8 bit) 0 to 999 (16 bit)
Baud rate	19200	PA *Communication* / 19200, 9600
Transmitting/receiving test	–	PA *Communication* / Display: RC/☎

5 Installation

Note:
The room controller must be mounted at a height of 1.50 m.
Make sure that the operation of the room controller is not affected by heat sources (radiators, lights, electrical appliances) or by drafts close to doors or windows.
The room controller should not be covered by curtains or any pieces of furniture.

To mount and wire the room controller, remove the housing from the base.

How to proceed:

1. Press down the tongue on the bottom of the controller and tip the housing section forward to remove it from the base.
2. Screw the base to the wall.
3. Connect the wiring as described in section 6.
4. Push the top of the housing section onto the base and push it down.

6 Electrical connection

NOTICE
*The room controller is operated with a **24 V AC** power supply.*

Terminal assignment

1	Modbus RS-485 (slave)	Connection to the control station (GLT) or to a Modbus master interface
2		
3	0…10 V output 1	
4	0…10 V output 2	
5	GND for 0…10 V outputs	
6	Binary input BE1	
7	Binary input BE2	
8	GND for binary inputs	
9	Power supply 24 V AC	AC 1
10		AC 2 has GND reference
11	Triac output 1	24 V AC, 1 A
12		
13	Triac output 2	24 V AC, 1 A
14		
15	RS-485; Modbus (master)	Connection to Modbus I/O module(s) (1402-0328)
16		

7 Appendix

7.1 Function block list

F	Function block	WE	Description
01	Function BE2	0	F01 - 0: Operating mode override by BE2 F01 - 1: Dew point monitoring
02	Resetting the operating mode	1	F02 - 0: Time-of-use/outside of time-of-use operating mode setting continuous F02 -1 : Time-of-use/outside of time-of-use operating mode setting that applies until the next time schedule starts when the operating mode changes back to automatic mode
03	Optimization	0	F03 - 0: Function is not active F03 - 1: Optimization; calculation of advance heating time or cooling down time in heating mode
04	Cooling	0	F04 - 0: Cooling not active outside of time-of-use F04 - 1: Cooling also active outside of time-of-use
05	Key lock	0	F05 - 0: Function is not active F05 - 1: Keys (except for recessed keys) are locked
06	Summer time/winter time changeover	1	F06 - 0: Function is not active F06 - 1: Automatic time changeover
07	16-bit addressing	0	F07 - 0: 8-bit addressing F07 - 1: 16-bit addressing

7.2 Parameter list

Set points parameter level

	Parameter	WE	Description
01	Set point for time-of-use	21 °C	Adjustment range: 5 to 30 °C
02	Set point for outside of time-of-use	17 °C	Adjustment range: 5 to 30 °C
03	Set point for vacation mode	15 °C	Adjustment range: 5 to 30 °C
04	Maximum advance heating time	360 min	Start value for the calculation: 120 min Can only selected when the optimization function is active (F03 - 1).
05	Maximum cooling down time	120 min	Start value for the calculation: 60 min Can only selected when the optimization function is active (F03 - 1).
06	Vacation schedule	–	

Control parameter level

	Parameter	WE	Description
01	Switching outputs function	1	**Option:** 1: Three-point stepping output 2: 2 x On/off PPM 3: 2 x On/off thermostat 4: Triac 1 and triac 2 switched according to the time schedule 5: Triac 1 switched according to the time schedule; Triac 2 switched acc. to the state of triac 1 and AA2
02	Gain K_P	1.0	Adjustment range: 0.1 to 100
03	Reset time T_N	180 s	Adjustment range: 0 to 1000 s
04	Derivative-action time T_V	0 s	Adjustment range: 0 to 1000 s
05	Valve transit time T_{Y1}	45 s	Adjustment range: 0 to 1000 s
06	Valve transit time T_{Y2}	45 s	Adjustment range: 0 to 1000 s
07	Min. control signal	5.0 %	Adjustment range: 1.0 to 100 %

Communication parameter level

	Parameter	WE	Description
01	Device address	0	Adjustment range: 0 to 255 (8 bit) 0 to 999 (16 bit) 000 = No communication with control station (GLT)
02	Baud rate	19200	Adjustment range: 9600, 19200
03	Transmitting/receiving test		RC blinks on display on receiving any data telegram from the control station(GLT), even if they are intended for other controllers ☎ blinks on display for transmitting to the control station (GLT)
04	Calibrating the room sensor	0.0	Adjustment range: –9.9 to + 9.9 °C (in steps of 0.1 °C)
05	Read/test BE1		Reading: E1 0 (open), E1 1 (closed)
06	Read/test BE2		Reading: E2 0 (open), E2 1 (closed)
07	Read/test triac 1		Reading/Adjustment range: A1 0 (open), A1 1 (closed)
08	Read/test triac 2		Reading/Adjustment range: A2 0 (open), A2 1 (closed)
09	Read/test AA1		Reading/Adjustment range: AA1 0 (0 V) to AA1 100 (10 V)
10	Read/test AA2		Reading/Adjustment range: AA2 0 (0 V) to AA2 100 (10 V)

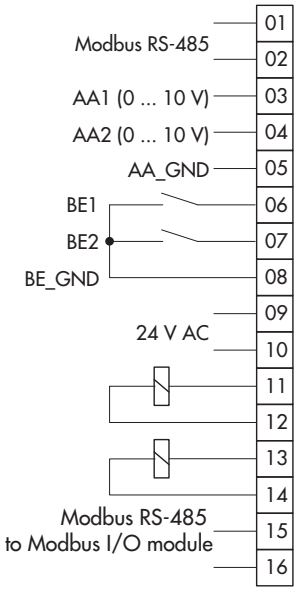
7.3 Technical data

Inputs	1 room sensor (internal) 1 presence button (internal) 2 binary inputs for window contact/dew point and operating mode override
Outputs	2 triac outputs 24 V AC, 1 A 2 outputs 0 to 10 V
Power supply	24 V AC
Interface	Modbus (RS-485)
Environmental conditions	Operation: 0 to 50 °C Storage, transportation: –10 to 60 °C 95 % rH, not condensing
Degree of contamination	2 according to VDE 0110
Noise immunity	According to EN 61000-6-1
Noise emission	According to EN 61000-6-3
Power consumption of room controller	Approx. 0.6 VA
Power consumption of Modbus I/O module(s) (1402-0328)	Approx. 2 VA
Maximum load for analog output	Not smaller than 4.7 kΩ
Dimensions in mm W x H x D	113 x 91 x 30

Key number:	1732

Terminal assignment (refer to section 6)

Note:
*The room controller is operated with **24 V AC**.*



RS-485; Modbus (slave)	Connection to the control station (GLT) or to a Modbus master interface
0 … 10 V output 1	
0 … 10 V output 2	
GND for 0 … 10 V outputs	
Binary input BE1	
Binary inputs BE2	
GND for binary inputs	
Power supply 24 V AC	AC 1
	AC 2 has GND reference
Triac output 1	24 V AC, 1 A
Triac output 2	24 V AC, 1 A
RS-485; Modbus (master)	Connection to Modbus I/O module(s) (1402-0328)

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