

# Storey Controller

**HCE 40**

Installation and Operation



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## Overview

### For your information

Technical terms are explained in the glossary (Page 46). They are identified in the text by an \*.

### Application

The storey controller HCE 40 receives information on the temperature of the room from the setpoint adjusters\*, room temperature sensors of type RF 20 or from the central operating device\* HCM 100. The storey controller uses this information to control the boiler feedback\*, the pump relay and the thermal actuators\* (see "Overview of heating components" Page 50).

The storey controller HCE 40 is hard-wired to setpoint adjusters of type HCU 23 or HCW 23, room temperature sensors of type RF 20 or the central operating device HCM 100.

It has a self-learning controller (fuzzy logic), which automatically adjusts the control parameter according the installation conditions. The desired room temperature is reached quickly and then maintained.

## **Installation procedure**

### **Creating zoning plan**

- Determining which heating circuits\* are controlled by the storey controller.

### **Installing**

- Installing the components of the storey controller HCE 40.

### **Configuring and making electrical connections**

- Setting the storey controller to the actuator type, attaching cables to the respective connections and connect components together.

### **Start-up**

- Assigning room names to the temperature-zones with the central operating device HCM 100 if applicable.

## Creating zoning plan

A temperature zone is an area of the building, e.g. a room, in which the setpoint temperature\* is set with a setpoint adjuster. The storey controller controls all thermal actuators of a temperature zone identically.

5 temperature zones can be set up for each storey controller. 3 actuators can be connected in each of 3 zones, and 2 actuators can be connected in each of the remaining 2 zones.

The total number of actuators which can be controlled by a signal storey controller is limited to 10.

## Determining temperature zones



### Damage caused by equipment from other manufacturers!

#### Caution!

The storey controller was designed for use with components from Honeywell only!

- ▶ Use only H 200 AG (normally closed) or H 200 AO (normally open)-type actuators.
- ▶ Group actuators (by type and location) which are controlled with the storey controller.
- ▶ Group together all actuators which are controlled by a setpoint adjuster in a temperature zone.

## Creating zoning plan

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If more than 5 temperature zones or 10 actuators are present:

- ▶ Determine the number of additional storey controllers required using the following table:

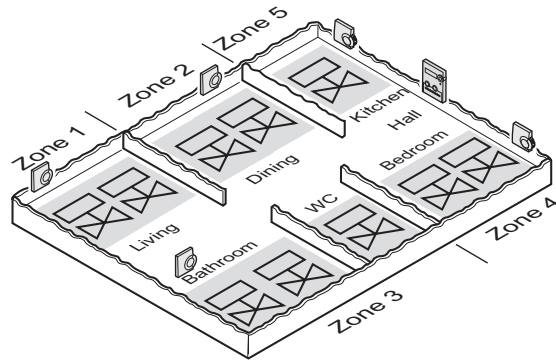
Temperature zones (maximum)	Actuators (maximum)	No. of storey controller
5	10	1
10	20	2
15	30	3

Hint: The example at the end of this section shows zone divisions with corresponding zoning plan.

### Filling out zoning plan

- ▶ Copy the sample zoning plan ("Zoning plan" Page 51) (archive it).
- ▶ Enter the type and installation location of the respective actuator in each temperature zone.
- ▶ Assign a setpoint adjuster or room temperature sensor to each temperature zone.
- ▶ Assign room names if necessary.
- ▶ Hand over the zoning plan to the customer after installation.



**Example of zone divisions**

This example shows:

- A home divided into five temperature zones.
- Bathroom and WC are controlled by one setpoint adjuster. One temperature zone is sufficient for three actuators.
- The maximum number of actuators (10 per storey controller) is used to the full with the storey controller.

## Creating zoning plan

The example yields the following zoning plan:

Temperature zone	Actuator (type, location)	Setpoint adjuster (location)	Room name at operating device
Zone 1	Heating loop 1 (living room)	Living room	"Living"
	Heating loop 2 (living room)		
Zone 2	Heating loop 1 (dining room)	Dining room	"Dining"
	Heating loop 2 (dining room)		
Zone 3	Heating loop 1 (bathroom)	Bathroom and WC	"Bathroom/WC"
	Heating loop 2 (bathroom)		
	Heating loop 3 (WC)		
Zone 4	Heating loop 1 (bedroom)	Bedroom	"Bedroom"
	Heating loop 2 (bedroom)		
Zone 5	Heating loop 1 (kitchen)	Kitchen	"Kitchen"



## Installation



The storey controller is sensitive to excessive temperatures!

- Caution!** ► When selecting the location for operation, ensure that the ambient temperature in that area does not exceed 50 °C.

The storey controller was designed for installation in a distributor box. If insufficient space is available there, select a location free of humidity and moisture.

The storey controller can be installed in one of two ways:

- on the wall
- on DIN rails



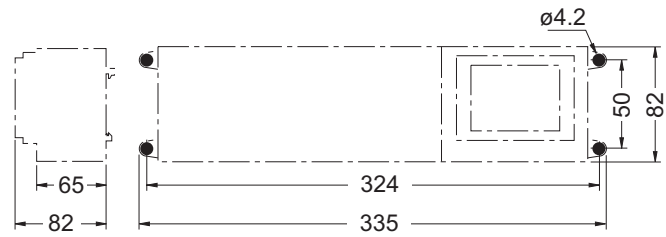
Note the 82 mm installation height of the storey controller!



If the storey controller is installed at a severe angle, the transformer must be on top to allow for better ventilation.

**Wall installation**

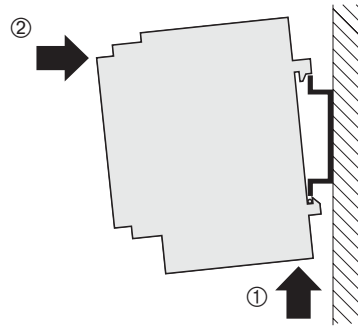
Four 4.2-mm holes for installation are located on the storey controller.

**Dimensions of storey controller in mm**

- ▶ Mark, drill and insert plugs into fastening holes.
- ▶ Screw on the storey controller.

**Installation on DIN rails**

- ▶ Place housing on the DIN rail from below (1).
- ▶ Press upper edge of housing toward the wall until it snaps into place (2).

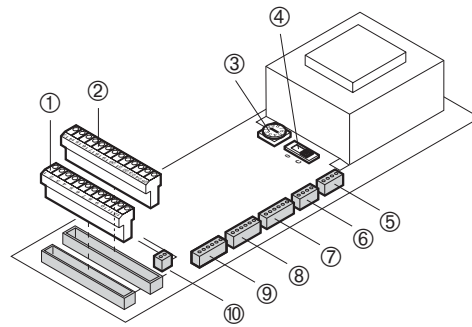


**Installing storey controller components**

- ▶ Install components as described in the accompanying installation instructions.

**Description****Layout of circuit board**




1. Connector (1 to 12)
2. Connector (13 to 25)
3. Switch used to branch out temperature zones (Page 20)
4. Switch used to configure the actuators (Page 22)
5. Connection for temperature zone 5
6. Connection for temperature zone 4
7. Connection for temperature zone 3
8. Connection for temperature zone 2
9. Connection for temperature zone 1
10. Plug-in terminal for connection of a potential-free heating/cooling contact (Page 23)



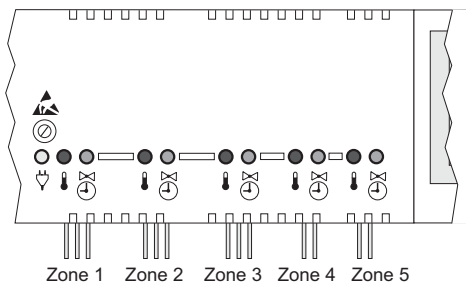
**LED indicators on storey controller**

The LEDs on the storey controller indicate the operating mode of the storey controller and the installed temperature zones.

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 (green)	Normal mode / Power-on indicator
 (red)	Connected setpoint adjuster / Fault indication: wire break or short circuit
 (green)	Position of the actuators / Assignment of temperature zones / Fault indication: Faulty communication with HCM 100


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## Operating modes of storey controller

### Normal mode

In normal mode the green LEDs  provide information on the position of the actuators:

 (green)	Illuminating	Mains voltage connected
	Off	Mains voltage not connected
 (red)	Flashing	Room sensor or setpoint adjuster connection faulty.
  (green)	Illuminating	Thermal actuator opened
	Flashing	Faulty communication with HCM 100
	Off	Thermal actuator closed

The setpoint adjusters HCW 23 or HCU 23 are clearly assigned via the wiring of the temperature zones. The respective red LEDs do not illuminate. If the red LED flashes anyway, the connection to the setpoint adjuster has been interrupted, short circuited or an incorrect resistance value was detected.

**Installation mode**

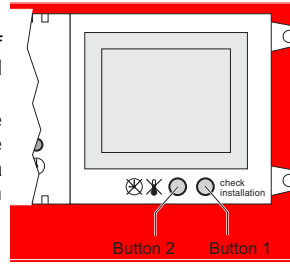
- In installation mode, temperature zones are assigned to the central operating device.  
Refer to Section "Start-up with central operating device" on Page 36.

**Device display (configuration button 1)**

- The device display informs you of the configuration of your storey controller system, i.e. the assignment of setpoint adjusters to the temperature zones of room names at the central operating device.  
Refer to Section "Checking installation" on Page 43.

**Buttons on storey controller**


- Configuration button (1):  
Display of the assignment of temperature zones to the central operating device.  
Selection of the temperature zone which is to be assigned to the central operating device or a setpoint adjuster (see Button functions on Page 18).
- Delete button (2):  
Removing the temperature zone from the central operating device or a setpoint adjuster (see Button functions on Page 18).




**Button functions**


- ▶ Press the configuration button (1) briefly.

*The assignment of the storey controller to the central operating device, setpoint adjusters and room temperature sensors is displayed. The storey controller shows up in the device display.*

*The green LED  illuminates if a temperature zone is assigned to the central operating device.*

*The red LED  illuminates if an RF 20, HCU 23 or HCW 23 is connected. The display returns to normal mode after 60 seconds.*

- ▶ Press the configuration button (1) briefly once more.

*The red LED  of temperature zone 1 flashes. Installation mode is active.*

- ▶ Press the delete button (2).

*The selected temperature zone is removed (the LED flashes).*

## Configuration and electrical connection

- ▶ Unplug the power plug before opening the housing.



### Caution!

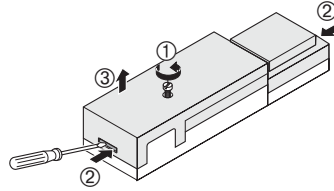
#### Damage to exposed components!

The electronic components of the storey controller can be damaged by static electricity discharge!

- ▶ Do not touch such components.
- ▶ Touch an earthed piece of metal to discharge static electricity from your body.

## Opening housing

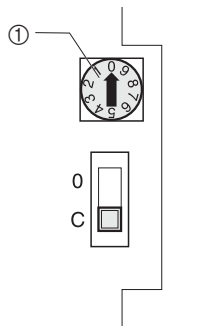
- ▶ Loosen the screw on the front (1).
- ▶ Push both snap locks inward (2).
- ▶ Remove the housing cover from above (3).








### Branching out time programs

**i** You can use the setpoint and temperature input\* of zone one as source for other zones. The branching is be done by the

1. Switch used to assign temperature zones to setpoint and temperature inputs.



- Set the switch according to the following table.

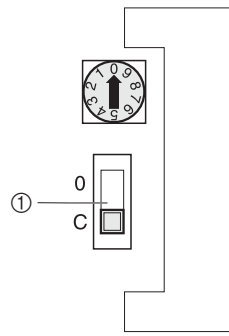
Switch position	Property
	A setpoint and temperature input is assigned to each temperature zone.
	The setpoint and temperature input of temperature zone 1 is also valid for temperature zone 2.
	The setpoint and temperature input of temperature zone 1 is also valid for temperature zones 2 and 3.
	The setpoint and temperature input of temperature zone 1 is also valid for temperature zones 2, 3 and 4.
	The setpoint and temperature input of temperature zone 1 is also valid for temperature zones 2, 3, 4 and 5.

**i** If a room temperature sensor is not connected to a branched out temperature zone, the actual value of temperature zone 1 is used for this area.

### Setting actuator

**i** Only one type of actuator can be connected to a storey controller at a time. If actuators which are open with current and actuators which are closed with current are to be used, two storey controllers with the respective suitable controller



1. Switch used to configure the actuators  
(O = Open, C = Closed)



- Check the type of actuator being used.



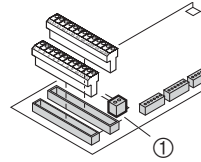
► Set the switch according to the following table.

Switch position	Actuator type	Property
	Normally closed H 200 AG	Opens the heating circuit when the actuator is supplied with current.
	Normally open H 200 AO	Opens the heating circuit when the actuator is not supplied with current.

### Switching between heating/cooling

You can switch between the cooling and heating functions of the storey controller.

- Terminal for the connection of a potential-free switch.  
Switches between heating/cooling (open = heating, closed = cooling)



► Set the potential-free switch in accordance with the desired function.

**Cabling connections****Permissible cable types and lengths**

Cable (designation)	Connection: Storey controller HCE 40 and -	Max. permissible length
JE-Y(St)Y 2×2×0.8	Central operating device HCE 100	56 m
	Setpoint adjuster HCU 23	100 m
	MCR pre-regulator	100 m
	Pump relay HREL 1	100 m
JE-LiYCY 2×2×0.8	Central operating device HCE 100	35 m
	Setpoint adjuster HCU 23	100 m
CY 2×2×0.14	Central operating device HCE 100	10 m
	Setpoint adjuster HCU 23	100 m
Prefabricated cable	Thermal actuators H200 AO and H200 AG	1 m (3 m)
Two-lead cable	Switch used to switch between heating/cooling	100 m

**i** The prefabricated cable of the thermal actuators can be extended from 1 to 3 metres. This cable is available plug-in-ready as type HCV 2.

- Use only cables with wire diameters up to 1.5 mm<sup>2</sup>. We recommend the cable type JE-Y(St)Y 2×2×0.8. Use the accompanying connector types and cables of sufficient length.

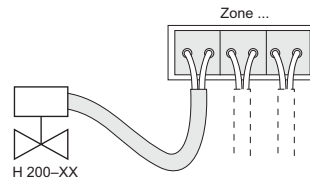
#### **Connecting actuators**

3 actuators can be connected in temperature zones 1 to 3, and 2 actuators can be connected in temperature zones 4 and 5.

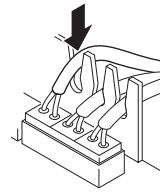
- ▶ Unplug the power plug before connecting the actuators.

- If more than 10 actuators are connected, additional storey controllers must be installed (see Page 6).

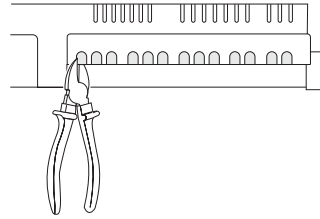
- ▶ Insert the connectors of the actuators into the sockets of the respective temperature zones.



- ▶ Squeeze the cables into the stress relief clamp.

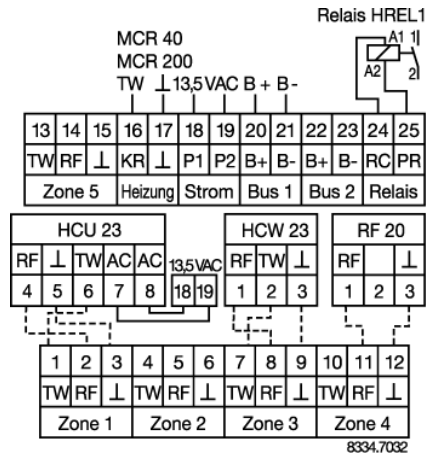


- ▶ Break out the openings for the cables on the housing using a diagonal cutter.



**Zone Allocation**

For device connections, the following zone allocation must be applied:



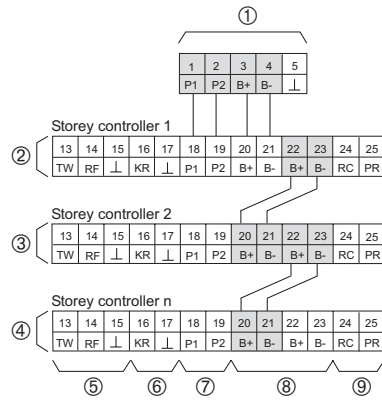
**Connecting central operating device**

The storey controller HCE 40 can control up to 10 actuators. However, no more than 3 actuators may be connected in any one temperature zone.

- ▶ Use cables in accordance with the table on Page 24.
- ▶ Attach the connector of the central operating device to the connector of the storey controller as shown in the following diagram.
  - ❗ If several storey controllers (max. 3) are to be connected to the central operating device, they are to be connected to each other via the bus cable as shown in the diagram on the next page.

1. Central operating device HCM 100
2. Storey controller 1 (connector 13 to 25)
3. Storey controller 2 (connector 13 to 25)
4. Storey controller 3 (connector 13 to 25)
5. Temperature zone 5
6. Boiler feedback
7. Voltage supply 13.8 V AC
8. Bus
9. Pump relay

TW Temperature selector input  
 RF Room temperature sensor input  
 ⊥ Ground



**Connecting setpoint adjusters HCU 23 and HCW 23**

Setpoint adjusters of type HCU 23 and HCW 23 are hard-wired.

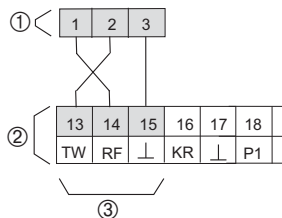
- ▶ Use cables in accordance with the table on Page 24.
- ▶ Attach the connectors of the setpoint adjusters to the connector of the storey controller as shown in the following diagram.

- One setpoint adjuster (max.) can be used with the central operating device HCM 100.
- If you are using only one four-lead cable for the setpoint adjuster HCU 23, you must place a jumper between terminal 19 and a ground connection (e.g. terminal 17). You can connect it to the ground connection of the storey controller (terminal 5).

Setpoint adjuster HCW 23

Example: Connection to temperature zone 5

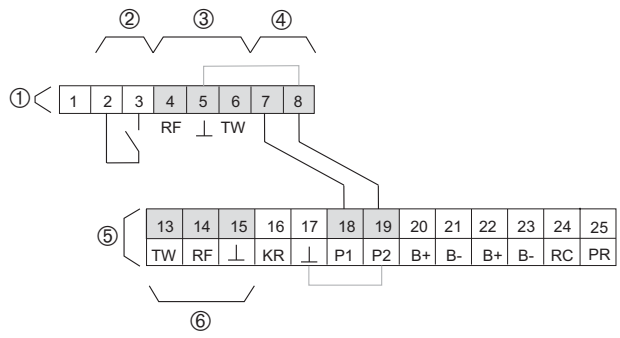
1. Setpoint adjuster HCW 23
2. Storey controller HCE 40 (connector 13 to 25)
3. Temperature zone 5





Setpoint adjuster HCU 23

- |   |   |
|---|---|
| 1. Setpoint adjuster HCU 23                         | 5. Storey controller HCE 40<br>(connector 13 to 25) |
| 2. HAC 30 (window contact)                          | 6. Temperature zone 5                               |
| 3. Connection of the<br>temperature zones 1 to 5    | TW Temperature selector input                       |
| 4. Power supply for the<br>setpoint adjuster HCU 23 | RF Room temperature sensor<br>input                 |
|   | ⊥ Ground  |



**Connecting boiler feedback and pump relay**

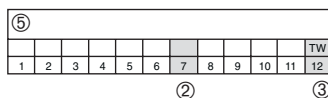
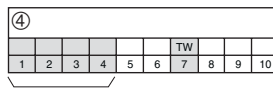
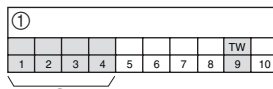
Boiler feedback is possible with controllers MCR 200, MCR 35, MCR 40 and ZG 252N:

Depending on the design, the temperature selector and ground inputs are found on different terminals of the controller MCR 200.

► Connect the inputs in accordance with the accompanying instructions.

With controllers MCR 35 and MCR 40, the temperature selector and ground inputs are found on the following terminals:

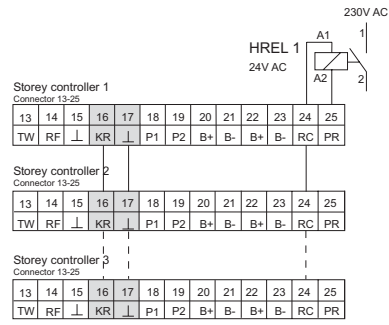
- 1. MCR 35  
Low-voltage side
- 2. Ground input  
HCE 40 terminal 17
- 3. Temp. selector input  
HCE 40 terminal 16
- 4. MCR 40  
Low-voltage side
- 5. ZG 252N  
Low-voltage side
- TW: Temperature selector input



If control cables for heating ("boiler feedback") and for the pump relay are available:

- ▶ Use cables in accordance with the table on Page 24.
- ▶ Connect boiler feedback and pump relay to storey controller as shown in the following diagram.

**Connections of storey controller and pump relay**



**i** You can connect up to 3 storey controllers. The PR connection of the other storey controllers remains open.

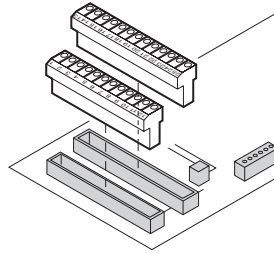
**Connecting setpoint adjuster and room temperature sensor**

Setpoint adjusters of type HCW 23 and HCU 23 and room temperature sensors of type RF 20 are hard-wired.

- ▶ Connect the setpoint adjuster and room temperature sensor in accordance with the accompanying installation instructions.

**Inserting connectors**

- ▶ Insert connectors into the connector strip of the storey controller.




**Closing housing of storey controller**

- ▶ Place cover on housing.
- ▶ Snap left and right snap locks into place.
- ▶ Tighten screw on the front.

**Start-up**

Setpoint adjusters, room temperature sensors or the central operating device are assigned to the temperature zones of the storey controller at start-up. A room name is defined at the central operating device (if present) for each temperature zone.

**Starting up storey controller**

- ▶ Plug in power plug.  
*The mains voltage LED  illuminates.*
- ▶ Start up setpoint adjuster if applicable (see setpoint adjuster instructions).
- ▶ Start up central operating device if applicable (see central operating device instructions).
- ▶ Assign temperature zones if a central operating device is used (see central operating device HCM 100 instructions).
- ▶ Check configuration.

### Start-up with central operating device

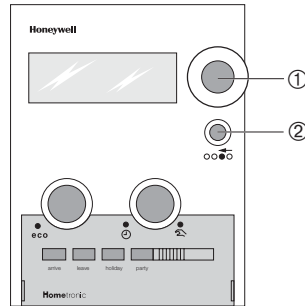
This section covers start-up with the central operating device. Setpoint adjusters and room names are assigned to the individual zones. This section can be ignored if you have not installed a central operating device.

#### Dial button (1)

- ▶ Press Activates the cursor or confirms input.
- ▶ Turn Places the cursor on a name or value in the display.

#### Back button (2)

- ▶ Press Jumps back one menu level. Input is discarded if it was not confirmed with the Dial button.



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**Assigning temperature zones**

- **i** Setpoint adjusters or room temperature sensors which are used are already assigned (fixed) via their wiring.

**Example: Assigning room name LIVING to zone 1**

- ▶ Press the configuration button (1) on the storey controller.  
*Assignment of the storey controller to the central operating device is displayed. The green LED illuminates if a temperature zone is already assigned to the central operating device. The red LED illuminates if a setpoint adjuster or room temperature sensor is connected.*
- **i** If temperature zone 1 is already assigned to the central operating device, the existing assignment is overwritten by a new assignment.
- ▶ Press the configuration button (1) on the storey controller twice.  
*The green LED of the first zone flashes. The storey controller waits for a signal from the central operating device.*

## Start-up

The central operating device is in automatic mode. The display on the central operating device shows the standard display, for example:

- ▶ Press the Dial button.  
*The following text is displayed:*

Works setting
WE 28.07.97 11:15
No Lifestyle active
LIVING 20.0 C

- ▶ Turn the Dial button to the right until "Programming" is selected.

Please check the clock
TU 29.05.01 11:15
No Lifestyle active
LIVING 20.0 C

- ▶ Press the Dial button.  
*The following text is displayed:*

PROGRAMMING
TU 29.05.01 11:15
No Lifestyle active
LIVING 20.0 C

LIFESTYLES
TIME PROGRAMS
SETTINGS
VERSION



- ▶ Select the "Settings" submenu and press the Dial button.  
*The following text is displayed:*
- |                 |
|-----------------|
| INSTALLATION    |
| DE-INSTALLATION |
| SUMMER TIME     |
| PARAMETERS      |
- ▶ Select the "Installation" submenu and press the Dial button.  
*The following text is displayed:*
- |         |
|---------|
| LIVING  |
| DINING  |
| KITCHEN |
| BEDROOM |
- ▶ Turn the Dial button until "LIVING" is selected.
- ▶ Press the Dial button.  
*An \* appears after "LIVING".*
- |          |
|----------|
| LIVING * |
| DINING   |
| KITCHEN  |
| BEDROOM  |
- The LED on the storey controller in temperature zone 1 is extinguished. The name "LIVING" has been assigned to temperature zone 1.*
- ▶ Enter room name in zoning plan.
- ▶ Repeat these steps until a room name is assigned to all temperature zones.

- ▶ Press the configuration button (1) repeatedly until the last LED goes out.

*The storey controller is back in normal mode.*

- If the configuration button is not pressed for longer than three minutes, the storey controller changes to normal mode. The assigned temperature zones remain stored in the storey controller, even after a power failure.

### **Assigning setpoint adjusters of type HCU 23 or HCW 23 to a zone**

Setpoint adjusters and room sensors are assigned (fixed) to the temperature zones due to their wiring. Refer to "Connecting setpoint adjusters HCU 23 and HCW 23" on Page 28.

- If the setpoint adjuster and room sensor are removed, the assignment must be removed as well. See "Removing assignment".

### **Removing assignment**

#### **Removing temperature zone on HCE 40**

If you would like to remove a temperature zone, e.g. if it was assigned accidentally or a setpoint adjuster has been uninstalled and is no longer required, proceed as follows:

- ▶ Press the configuration button (1) repeatedly until the red or green LED of the relevant temperature zone flashes.  
*The red LED of the temperature zone flashes.*
- ▶ Press the delete button (2) until the red or green LED goes out. The temperature zone is removed.

**Deleting assignment of a room name at central operating device**

- ▶ Change to submenu "Settings", as described on Page 39.

*The following text is displayed:*

INSTALLATION
DE-INSTALLATION
SUMMER TIME
PARAMETERS

- ▶ Select the "De-Installation" submenu and press the Dial button.

*A list of the assigned room names (temperature zones) appears in the display:*

LIVING	*
DINING	*
KITCHEN	*
BEDROOM	*

- ▶ Select room name (in this case, LIVING) and press the Dial button.

*The \* symbol after the room name disappears:*

LIVING	
DINING	*
KITCHEN	*
BEDROOM	*

*The assignment is deleted and can be reassigned.*

### Saving settings at central operating device

Before start-up is completed, the settings at the central operating device must be saved.

The method for saving settings is described in the operating instructions of the central operating device.

### Checking installation



#### Configuration

- ▶ Press the configuration button (1) briefly.

*The green LED illuminates if a temperature zone is assigned to the central operating device.*

The storey controller shows up in the device display.


The colours of LEDs 1 to 10 indicate the configuration of the temperature zones.

 (red)	Illuminating	Setpoint adjuster or room temperature sensor connected
	Off	No setpoint adjuster or room temperature sensor assigned
 (green)	Illuminating	Room assigned to HCM 100
	Off	No assignment to HCM 100

### Checking assignment of room names


- ▶ Maximise setpoint temperature at the central operating device (see operating instructions of central operating device).

*The green LED of the assigned temperature zone illuminates.*

 Actuators which are normally closed may experience a delay of 15 minutes.

- ▶ Minimise setpoint temperature at the central operating device (see operating instructions of central operating device).

*The green LED of the assigned temperature zone goes out. The assignment is correct.*

 Actuators which are normally open may experience a delay of 15 minutes.

### Completing start-up

#### Closing open setpoint adjusters


- ▶ Replace cover and snap in both snap locks.

#### Handing over zoning plan

- ▶ Hand over the completed zoning plan and the installation instructions to the customer. Both documents are important, as changes to the system may be made in future.

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**Resetting storey controller to state of delivery**

 All current assignments are lost if the storey controller is reset to the state of delivery.

- ▶ Press the configuration button (1) twice briefly.
- ▶ Press and hold the delete button (2) for approx. 20 seconds until all LEDs illuminate briefly.

*The storey controller is reset to the state of delivery.*

**Note to installer**

After the storey controller has been started up, you should inform your customer about the storey controller system:

- ▶ Familiarise your customer with the operation of the installed components.
- ▶ Explain the manual operation of the components.
- ▶ Point out particular features and extension possibilities of the respective customer installation.

## Appendix

### Glossary

**Setpoint adjuster**

Senses the actual temperature and changes the setpoint temperature. Installed in a user-friendly location in each zone.

**Heating circuit**

Area controlled by an actuator.

**Central operating device**

Central operating device HCM 100 of the storey controller HCE 40.

**Boiler feedback**

The storey controller HCE 40 controls the boiler feedback via an analogue control device from Honeywell. The boiler feedback to Honeywell controllers MCR 200, MCR 35, MCR 40 and ZG 252 could be done via an analogue signal.

**Setpoint temperature**

Room temperature which is to be reached.

**Setpoint and temperature input**

Function of the setpoint adjuster in manual mode.

**Thermal actuator**

Opens and closes a heating circuit. Controlled by the storey controller.

**Time program**


Defined combination of setpoints and switching points at the central operating device.

**Zoning plan**

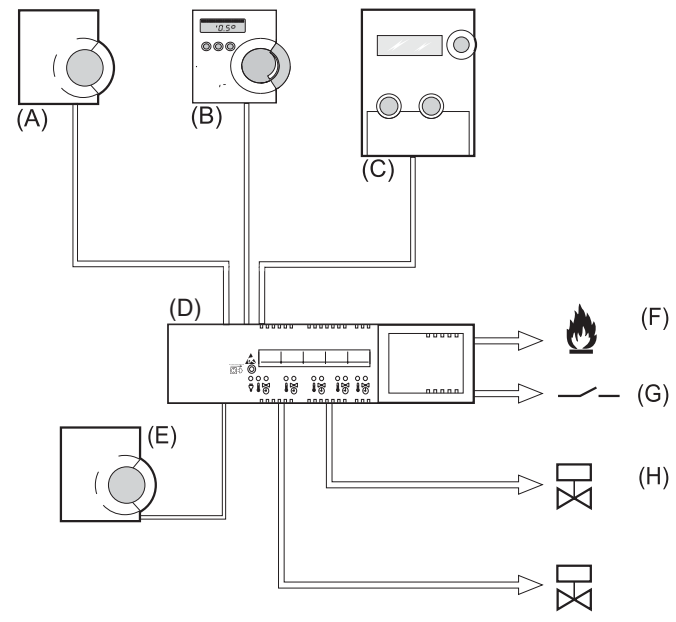
Overview of the temperature zones of the storey controller.



**Help with problems**

<b>Problem</b>	<b>Cause/Solution</b>
LED  does not illuminate when power plug is plugged in.	Mains voltage not connected. ▶ Check whether electricity is available at outlet.
Red LED flashes in normal mode.	Connection of setpoint adjuster or room temperature sensor faulty. ▶ Ensure correct cabling to setpoint adjuster or room temperature sensor. ▶ Check for broken cables or short circuits.
Green LED flashes in normal mode.	Communication with central operating device HCM 100 faulty. ▶ Check whether or not central operating device is installed. ▶ Check whether or not a room name is assigned to zone. ▶ Reassign zone if applicable. ▶ Ensure correct cabling between central operating device HCM 100 and storey controller.

<b>Problem</b>	<b>Cause/Solution</b>
Not all rooms are heated.	<ul style="list-style-type: none"><li>▶ Check heating and inlet temperature.</li><li>▶ Check adjuster on thermal actuator (see "Setting actuator" on Page 22).</li><li>▶ Check actuator for correct operation.</li></ul>
All rooms too cold or all rooms too warm.	<ul style="list-style-type: none"><li>▶ Check fuse (4 A, fast) inside of the controller.</li></ul>
Room name cannot be assigned at central operating device.	<ul style="list-style-type: none"><li>▶ Ensure correct cabling between central operating device HCM 100 and storey controller.</li></ul>
Room controlled incorrectly.	<ul style="list-style-type: none"><li>▶ Check whether adjusting ring of setpoint adjuster is at position 0.</li><li>▶ Check whether adjusting ring can be turned between -12 and +12 with housing cover removed.</li><li>▶ Check whether or not a setpoint adjuster is assigned to room.</li><li>▶ Ensure correct position of selector switch.</li><li>▶ Ensure correct setting (normally open/closed) and connection of actuators.</li></ul>



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**Overview of heating components**

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<b>A</b>	<b>Setpoint adjuster HCW 23</b> Controls the setpoint temperature in each temperature zone via an adjusting ring and integrated room temperature sensor
<b>B</b>	<b>Setpoint adjuster HCU 23</b> Controls the setpoint temperature in each temperature zone via the adjusting ring, integrated room temperature sensor and time program
<b>C</b>	<b>Central operating device HCM 100</b> Central operating device of the storey controller system
<b>D</b>	<b>Storey controller HCE 40</b> Controls actuators of floor heating/radiators; communicates with setpoint adjusters and room temperature sensors
<b>E</b>	<b>Room temperature sensor RF 20 for storey controller</b> Transmits room temperature information to the storey controller
<b>F</b>	<b>Boiler feedback</b>
<b>G</b>	<b>Pump relay HRel 1</b>
<b>H</b>	<b>Thermal actuators</b>

---

**Zoning plan**

<b>Zone</b>	<b>Actuator (type, location)</b>	<b>Setpoint adjuster (location)</b>	<b>Room name</b>
1			
2			
3			
4			
5			

**Distribution limitation**

- max. 5 zones per storey controller
- max. 3 connections per zone
- max. 10 actuators per storey controller
- only one type of thermal actuator per storey controller (open with current or closed with current)
- max. 3 storey controllers of type HCE 40 can be connected to one central operating device HCM 100.
- If a central operating device HCM 100 is installed, maximum one setpoint adjuster HCU 23 can be connected to the storey connector HCE 40.



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This company is certificated to DIN EN ISO  
**9001/14001**

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