

## Installation guide heatcon! System



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The heatcon! system is constantly being further developed. Therefore, the documentation develops dynamically. Please check on <https://ebv-gmbh.eu/downloads/?lang=en> for a newer version of the heatcon! system manual is available.



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## 2 Safety

### 2.1 General Information

Any person charged with working on the device or system, must have read and understood this manual, especially the chapter on “Safety”.

Instruction may be necessary, dependent on the professional qualifications of the persons in question.

The relevant accident prevention regulations and other generally accepted safety regulations must be complied with.

### 2.2 Structure of the warning instructions

Explanation of the warning instructions in this manual:

#### **DANGER**

Brief description of the hazard

The signal word **DANGER** indicates a directly threatening hazard. Non-observation leads to severe injuries or death.

#### **WARNING**

Brief description of the hazard

The signal word **WARNING** indicates a possible hazard. Non-observation may result in severe injuries or death.

#### **CAUTION**

Brief description of the hazard

The signal word **CAUTION** indicates a possible hazard. Non-observation can result in slight or moderate injuries.

#### **ATTENTION**

Brief description

The signal word **Attention** indicates possible property damage. Non-observation can lead to damage to the device or plant.

#### **NOTE**

The signal word **NOTE** indicates further information about the device or its use.

## 2.3 Intended use

The device or system is intended solely for the use described in the section System description on page 7 with supplied and approved components.

Any other use is classified as an improper use. The manufacturer shall not be liable for any damage resulting from this. The user/operator is solely responsible for the risk.

Observance of the information contained in the operating instructions forms part of the intended use.

Hazards can arise from the system if it is not used as intended.

## 2.4 Personnel qualifications

The electrical installation, initial operation and servicing of the device may only be performed by qualified electrical technicians who have been authorised by the operator.

The technicians must have read and understood these operating instructions and follow their procedures.

Requirements to be met by a qualified electrical technician:

- Knowledge of general and special safety and accident prevention regulations.
- Knowledge of the relevant electrical regulations (e.g. DIN VDE 0100 Part 600, DIN VDE 0100-722) plus the relevant national regulations.
- Ability to identify risks and avoid possible hazards.

## 2.5 Safety instructions for operating

### 2.5.1 Hazards due to water temperatures > 60 °C

During operation, there is a risk of scalding at all heating system hot water outlets in the following cases because of hot water temperatures > 60°C:

- Automatic anti-legionella system

If the automatic anti-legionella system is activated, the domestic hot water will automatically be heated up to a temperature of 65 °C in order to kill legionella bacteria in the hot water system on the selected day and at the selected time.

- Manual mode/ Emission measurement

In the manual mode / emission measurement mode the domestic hot water can be heated up to the maximum possible boiler temperature because the burner and all Pumps are switched on and the valves will be completely opened.

Heating and domestic hot water are not temperature controlled in these modes. These modes are especially used by the emission measurement specialist or by the installer in case the controller is defective.

However, the high water temperatures can be avoided if the boiler thermostat is adjusted to a max. boiler temperature of 60 °C.

Observe the following points to prevent scalding:

- Inform all users of the danger.
- Mix enough cold water or switch the domestic hot water loading Pump off manually (if there is a switch at the Pump).

## 2.6 Warranty conditions

Improper use, non-observation of these instructions, use of inadequately qualified personnel and independent changes exclude any liability on the part of the manufacturer for the resulting damage. The manufacturer's warranty becomes void.

### **ATTENTION**

Impairment of device function if incorrect spare parts are used!

If unauthorised parts are used correct functioning is not assured. Use spare parts authorised by customer service.

## 3 System description

### 3.1 General Information

The heatcon! system is designed exclusively for the control of hot water heating and district heating systems including domestic hot water control. These systems should not exceed a flow temperature of 120 °C.

The heatcon! system consists of the following components:

#### **heatcon! EC**

The EC base controller is the main control unit and is installed in or on the energy generator.

#### **heatcon! MMI**

The MMI is a control unit for connecting to the EbV-system bus for operation of the whole system without an Internet browser.

#### **heatcon! RC 130**

The RC room station can be used as a remote-control unit for room groups via the wired h2B bus.

#### **heatcon! EM 100 / 101**

The EM Extension modulee serves as an extension on the inputs and outputs of an EC-Base controller within the system.

#### **heatcon! EM – GBA**

The heatcon! EM - GBA becomes the extended wiring of the heatcon! cascade is used.

#### **heatcon! EM 110 – OT**

The heatcon! EM 110- OT allows the OpenTherm cascade to be connected to a heatcon! EC 1351 pro.

#### **heatapp! App**

The app is installed on mobile devices such as smartphones or tablets (iOS or Android) and is used to control heatcon! systems.

The app is currently available in English, German, Dutch, French and Italian. If the tablet or smartphone is set to “English” the English app displays automatically.

### heatapp! sense-wire (wired room sensor)

heatapp! sense-wire is a wire is a wired temperature sensor for measuring the room temperature. The device is fitted on the wall and connected to the heatcon!. heatapp! sense-wire is used for control of a heating circuit based on the reference room principle.

### heatapp! gateway

heatapp! gateway is the main wireless interface of the system. heatapp! gateway receives and sends information to all heatapp! wireless components, e.g. for control of the radiators (heatapp! drive), underfloor heating system (heatapp! floor) and for room temperature measurement (heatapp! sense) and to all other heatapp! wireless components, functioning as message interface for the heatcon! System.

In this way genuine single room heat regulation with demand Requests is possible in accordance with EN 1523.

### heatapp! single room control

To enable single room control, heatcon! requires system components for measurement and control of the actual temperature.

To do so, the heatcon! system operates the heatapp! wireless components. These communicate via Z-wave wireless with the heatapp! gateway.

The components are selected dependent on the installed heating system.

A few examples:

Heating system	heatapp! radio modules	Description
Wall radiator	heatapp! drive	Wireless actuator for radiators Temperature measurement and temperature control is performed by the heatapp! drive.
Underfloor heating system	heatapp! floor	Zone controllers for underfloor heating systems Temperature measurement via heatapp! sense Temperature control via thermo-electric actuators connected to heatapp! floor
Electrical heat source (e.g. fan heater, infrared heating, etc.)	heatapp! single floor	Wireless switch for 230 V consumers Temperature measurement via heatapp! sense Temperature control via heatapp! single floor



To ensure reliable wireless coverage, heatapp! repeaters may be required.

heatapp! single room control is undergoing continuous development. Therefore, at this point, only a few typical examples are listed.

You can see the full range of heatapp! components under <https://heatapp.de/wie-funktioniert/>.

### **heatapp! connect (remote access)**

heatapp! connect must be activated in the setup wizard of the heatcon! system, if the heating system is to be operated from anywhere. heatapp! connect is a web server and creates the connection when you access your heating with the app while under way.

heatapp! connect does not save any data. All data, access data and passwords are stored at home in the heatcon! EC and are only accessible to authorised users after login. This concept offers maximum data security.

### **heatapp! Installations-Kit for the installer**

The heatcon! system is set up for initial operation using the heatapp! installation kit. It contains a heatapp! USB-LAN adapter and a LAN cable. The installation kit is used to connect the heatcon! EC and the heatapp! gateway with the PC/laptop for initial configuration, so that the user interface can be called in the Internet browser.

### **ALTERNATIVE:**

heatapp! Installations-Stick for the installer

The heatcon! system is set up for initial operation using the heatapp! installation stick.

The heatapp! installation stick creates its own Wi-Fi network for connecting to the heatcon! EC and the heatapp! gateway.

The heatapp! installation stick must be removed after the configuration.

## 3.2 System overview

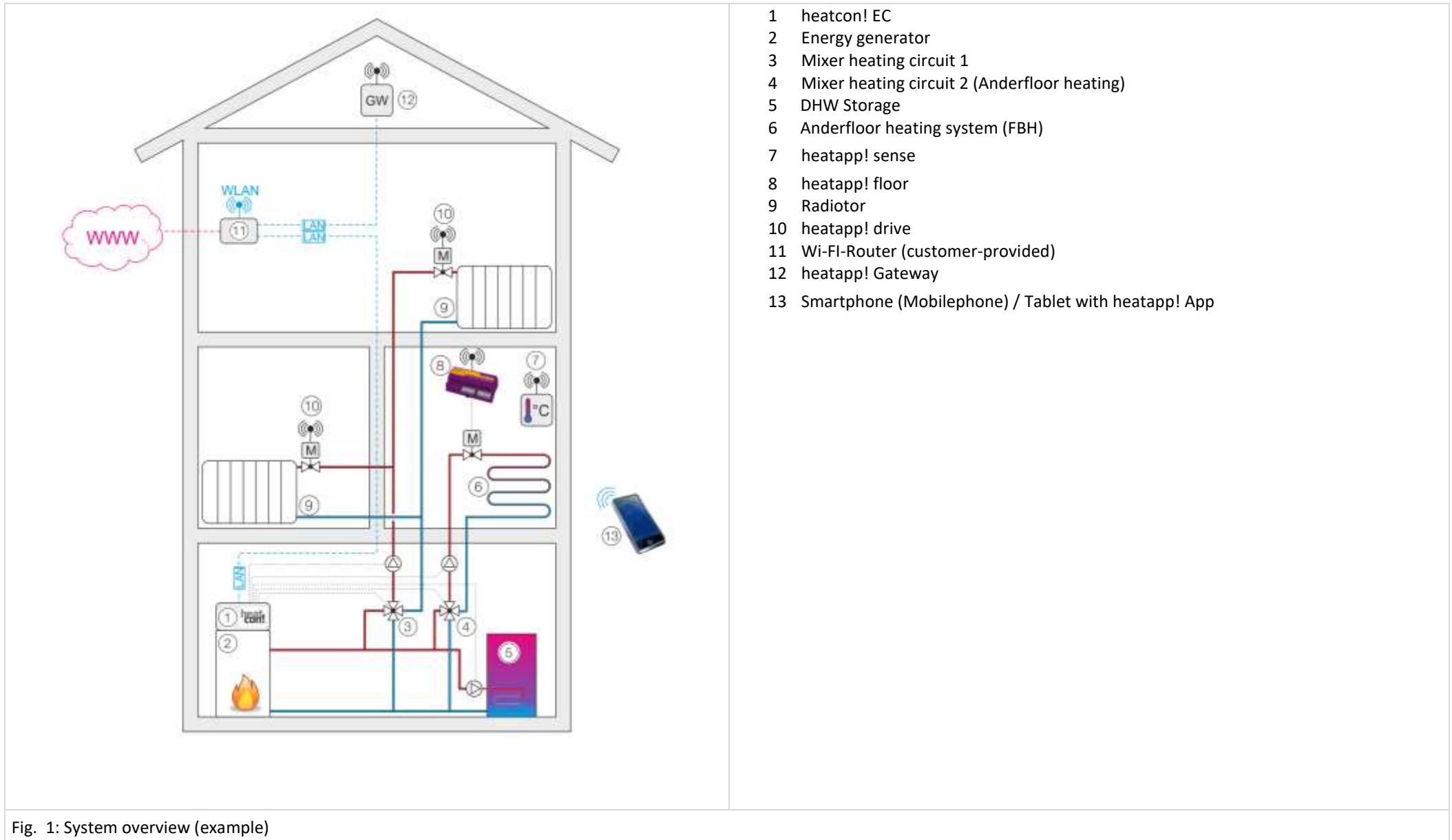


Fig. 1: System overview (example)

### 3.3 System expansion

The heatcon! system can be expanded with the following components:

- Up to 3 heatcon! EC basic controllers.
- Up to 6 heatcon! EM Extension modules (maximum of two Extension modules per heatcon! EC basic controller).
- Up to 4 heatcon! EM 110 - OT Extension modules on every heatcon! EC 1351 pro.
- 1 heatcon! EM - GBA Extension module for extended wiring of the heatcon! Cascade.
- heatcon! RC 130 room station at every heating circuit.
- Expandable with heatapp! wireless single room control for up to 24 rooms.

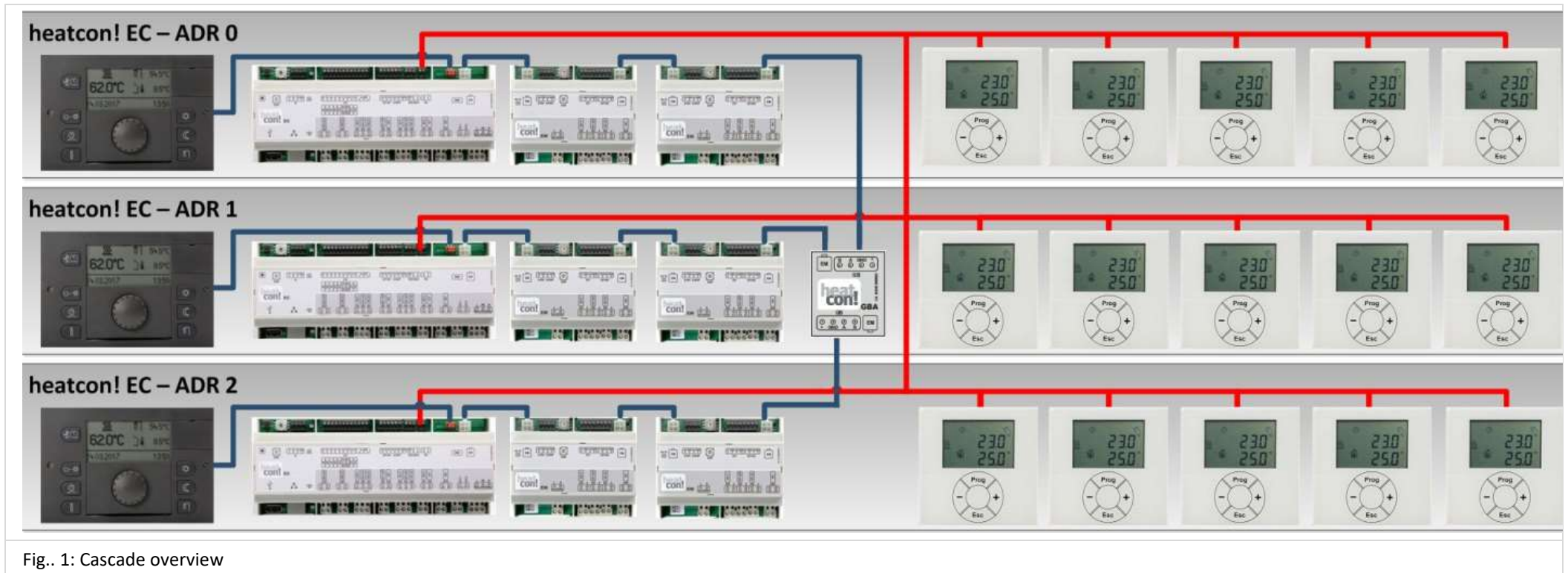
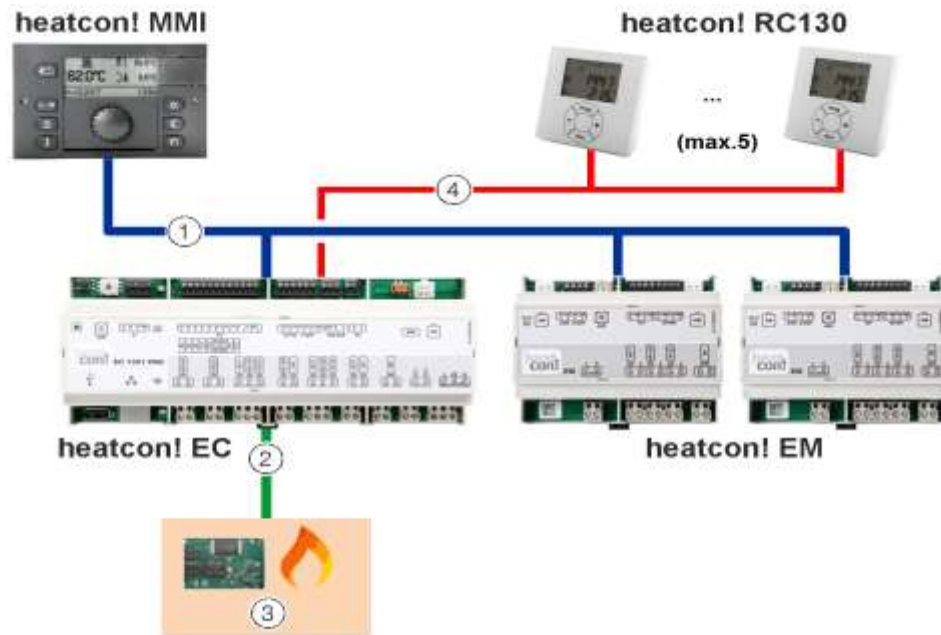


Fig.. 1: Cascade overview

### 3.1 System overview

heatcon! with room station heatcon! RC



heatcon! with single room control heatapp!

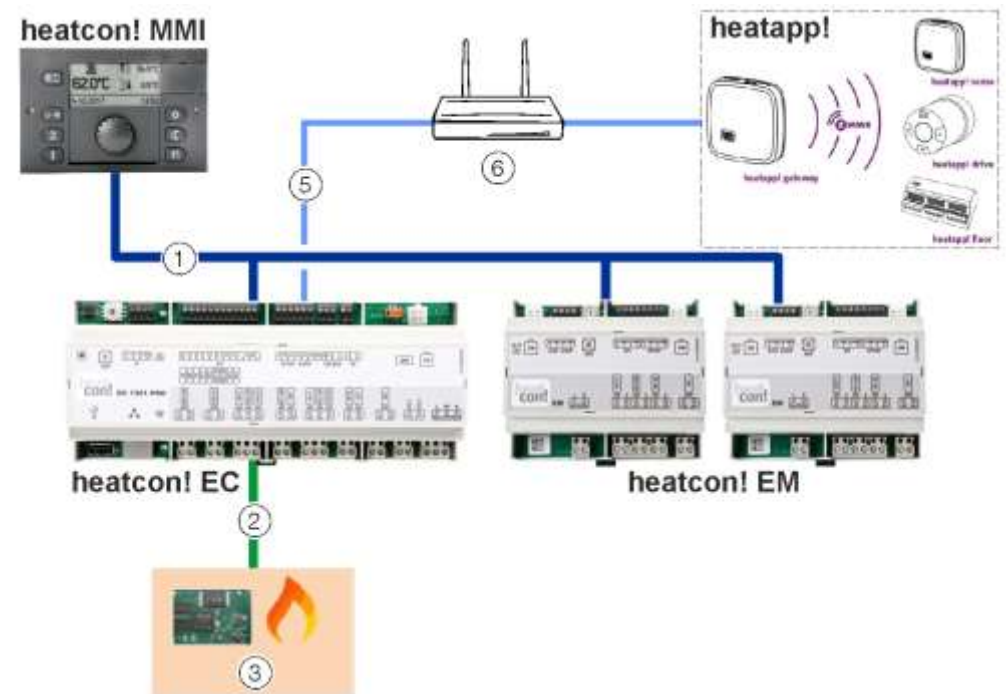
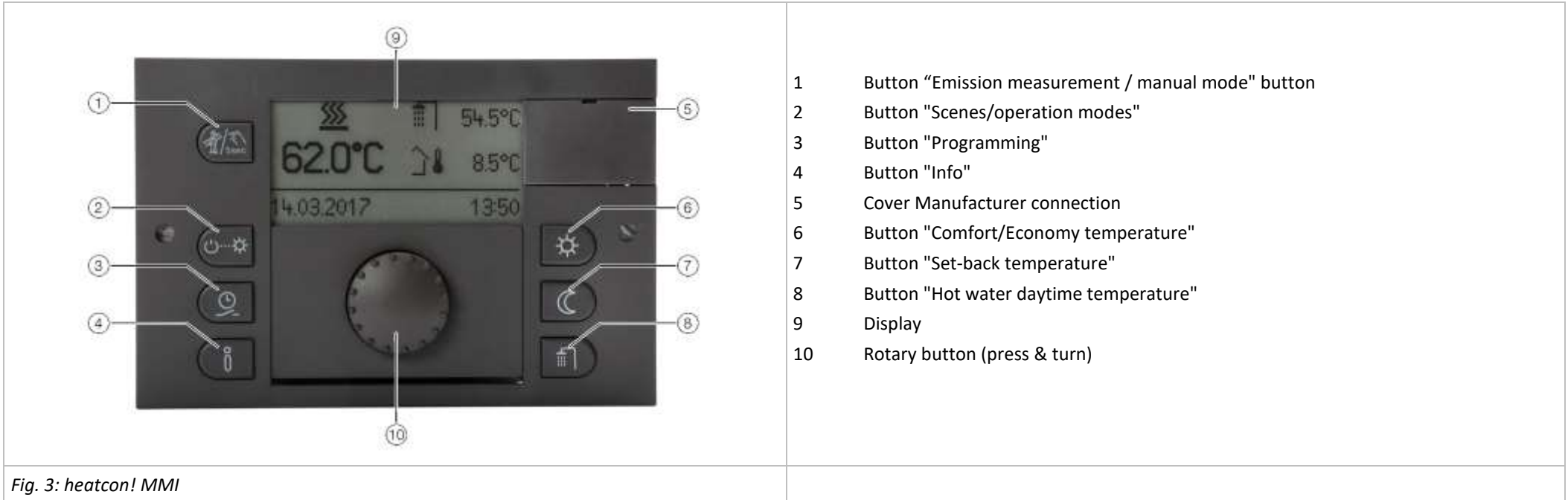


Fig. 2: System overview heatcon!

- 1 EbV system bus
- 2 GEN-Bus (Energy generator)
- 3 Energy generator

- 4 h2B-bus
- 5 Network connection (Ethernet)
- 6 Router

### 3.1 heatcon! MMI



The heatcon! MMI is the control unit for the heatcon! System for operation without an Internet browser. The buttons are used to call the corresponding menus. Navigation through the menus and setting of values is performed using the rotary knob. At each heatcon! EC a heatcon! MMI can be connected.

The assignment is made directly to the desired heatcon! EC.

Connect to:	Address of EC:	MMI-No.:	Operatin on:
EC 1	ADR 0	MMI 1	heatcon-0
EC 2	ADR 1	MMI 2	heatcon-1
EC 3	ADR 2	MMI 3	heatcon-2

#### NOTE

The setup of the heatcon! MMIs must be carried out one after the another, as the address assignment in the bus system is automatic.

### 3.2 heatcon! EC

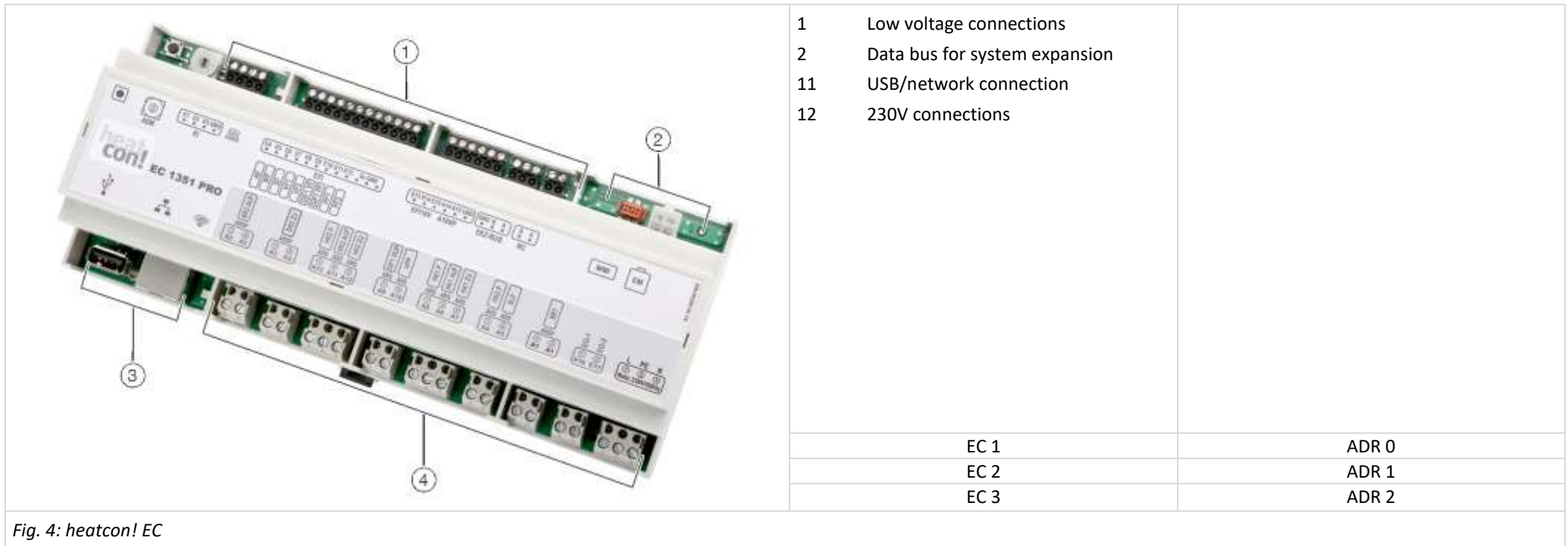


Fig. 4: heatcon! EC

The heatcon! EC is the central control and regulation unit and is installed in or on the energy generator.

All components (Pumps, valves, sensors) of the heating system are connected and controlled here.

The heatcon! EC is connected to the energy generator. The heatcon! EC offers various options here. A direct communication option is available in the heatcon! EC 1321 Pro via an OpenTherm® interface, in the case of a heatcon! 1351 Pro via an RS 485 interface. The other control options of the heatcon! EC to the energy generator are the classic potential-free relay contact or 0-10V control.

Additional data bus connections are available for system expansion.

The heatcon! EC can be used as a mini-cascade. With one heatcon! EC can be used to control and regulate two energy generators in a cascade network.

In the heatcon! EC, the addresses 0 ... 2 can be used with the rotary coding switch. This allows a maximum of 6 energy generators to be connected when using the mini-cascade.

Via the RS 485 communication interface of the heatcon! EC 1351 Pro, up to 8 OpenTherm generators can be connected via the RS 485 communication interface of the heatcon! EM 110 additional modules can be used to cascade up to 8 OpenTherm®-capable automatic units to one heatcon! EC can be cascaded. This means that when using 3 heatcon! EC, a maximum of 24 OpenTherm® capable automats can be cascaded.

**NOTE**

Invalid addresses 3... 15 are interpreted as address setting 0!



### 3.3 heatcon! EM 100 / heatcon! EM 101

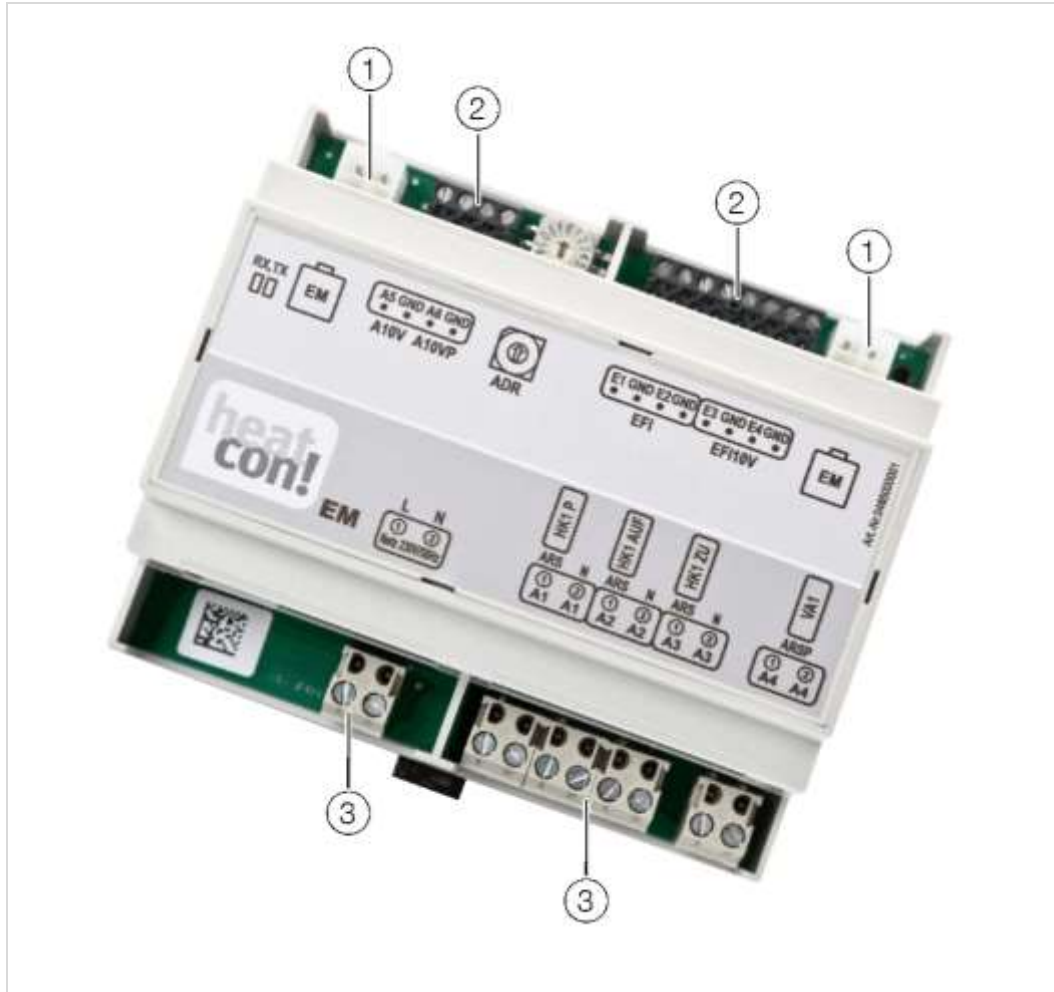
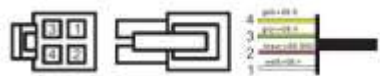


Fig. 5: heatcon! EM 100

- 1 EbV device bus
- 3 230V connections



heatcon! EC  
heatcon! EM 100



heatcon! EM 101

- 4 yellow = GB: B
- 3 green = GB: A
- 2 brown = GB: GND
- 1 white = GB: +



Fig. 6: heatcon! EM 101

- 2 Low voltage connections

The heatcon! EM is an expansion for the inputs and outputs of a heatcon! EC inside the system. The heatcon! EM is offered in two versions: The EM 100 for top hat rail mounting and the EM 101 for wall mounting.

Here other components (Pumps, valves, sensors) of the heating system are connected and controlled.

The heatcon! EM is connected via the EbV-device bus with the heatcon! EC. Every heatcon! EC can be extended with a maximum of 2 heatcon EM.

**NOTE**

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Addresses 6 .... 9 and A ... F on the rotary coding switch have no function!

---

By using up to 2 heatcon! EM, the heatcon! EC

- up to two additional heating circuits
- up to four 0-10V/PWM outputs
- up to two variable potential-free outputs
- can be extended.

The address settings on the EM have the following default functions:

Connect at:	Adress EC:	EM1-No.:	Adress EM:	Function
EC 1	ADR 0	EM1-A	ADR 0	e.g. heating circuit extension 4 on EC 1
EC 1	ADR 0	EM1-B	ADR 1	e.g. heating circuit extension 5 on EC 1
EC 2	ADR 1	EM1-A	ADR 2	e.g. heating circuit extension 4 on EC 2
EC 2	ADR 1	EM1-B	ADR 3	e.g. heating circuit extension 5 on EC 2
EC 3	ADR 2	EM1-A	ADR 4	e.g. heating circuit extension 4 on EC 3
EC 3	ADR 2	EM1-B	ADR 5	e.g. heating circuit extension 5 on EC 3



### 3.4 heatcon! EM 110 – OT



- 1 GEN Bus (Energy generator bus 485)
- 2 Address switch
- 3 OpenTherm Bus

Fig. 7: heatcon! EM 110 - OT

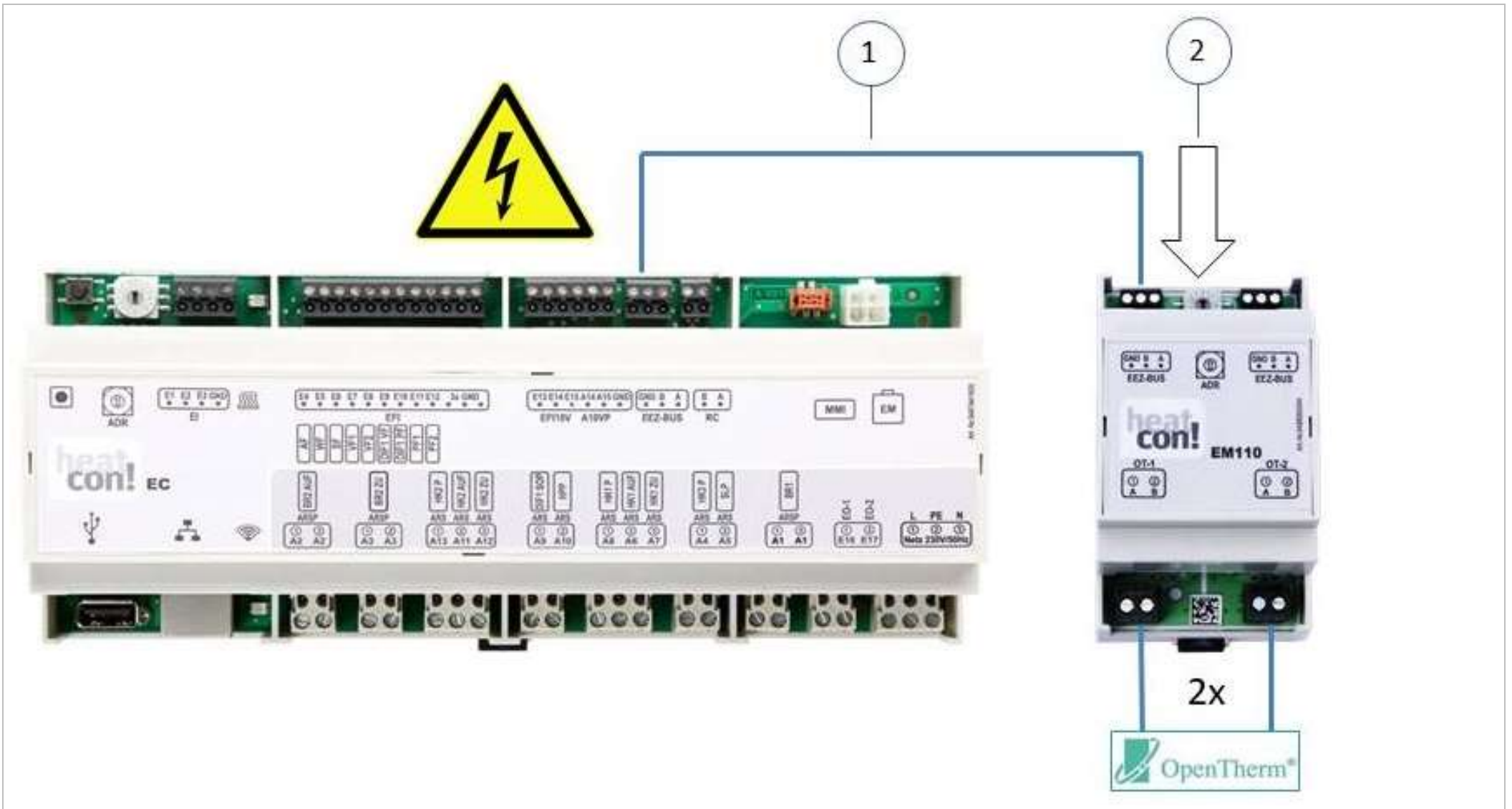


Fig. 8: Connection heatcon! EM 110 - OT to the heatcon! EC

- 1 GEN-Bus
- 2 Adress-switch

Every heatcon! EM 110-OT offers the possibility to connect two OpenTherm machines. On a heatcon! EC 1351pro can connect up to four heatcon! EM 110-OT.

## Addressing

The addressing takes place at the heatcon! EM 110 - OT

EC	Addressing EM 110	No.OT	Address Assignment Automat
EC1	Address 0	OT1 OT2	Adr. 0 Adr. 1
EC1	Address 1	OT3 OT4	Adr. 2 Adr. 3
EC1	Address 2	OT5 OT6	Adr. 4 Adr. 5
EC1	Address 3	OT7 OT8	Adr. 6 Adr. 7
EC2	Address 0	OT9 OT10	Adr. 0 Adr. 1
EC2	Address 1	OT11 OT12	Adr. 2 Adr. 3
EC2	Address 2	OT13 OT14	Adr. 4 Adr. 5
EC2	Address 3	OT15 OT16	Adr. 6 Adr. 7
EC3	Address 0	OT17 OT18	Adr. 0 Adr. 1
EC3	Address 1	OT19 OT20	Adr. 2 Adr. 3
EC3	Address 2	OT21 OT22	Adr. 4 Adr. 5
EC3	Address 3	OT23 OT24	Adr. 6 Adr. 7

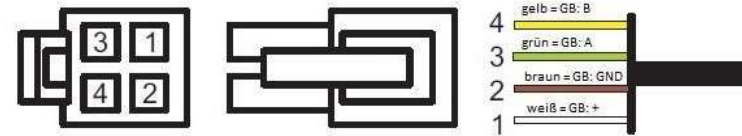
The complete description can be found in the system manual. Download at <https://ebv-gmbh.eu/en/downloads/heatcon!-control-system/>

### 3.5 heatcon! GBA



- 1 Device bus plug contact
- 2 Device bus screw terminals

Pin assignment device bus cable



- 4 yellow = GB: B
- 3 green = GB: A
- 2 brown = GB: GND
- 1 white = GB: +

#### To be used

The heatcon! GBA is required if extended wiring of the devices is necessary.  
 For connecting cascades with more than two heatcon! EC.  
 For larger distances between the heatcon! EC within a cascade.  
 The heatcon! GBA has no amplifier function (repeater).

Fig. 9: heatcon! - GBA

### 3.6 heatcon! RC 130



The **heatcon! RC 130** is used as a remote control for room groups (heating circuits) in the **heatcon!** System. The temporary desired temperature can be set with the + or - keys. The RC 130 is integrated into the heatcon! system by means of addressing and can be assigned to a heatcon! EC and a room group (1 of max. 5) or, with individual room control, a room (1 of max. 24). This assignment is done exclusively at the heatcon! RC 130.

The heatcon! RC 130 is connected via a 2-wire bus with the heatcon! EC.

Each room group in the heatcon! System can be assigned a heatcon! RC 130.

The assignment of the RC130 to the active heating zones (room groups):

Fig. 10: heatcon! RC 130

Connect at:	Adress EC:	RC130-No.:	Adress on RC130:
EC 1	ADR0	1	EC01 RC01
EC 1	ADR0	2	EC01 RC02
EC 1	ADR0	3	EC01 RC03
EC 1	ADR0	4	EC01 RC04
EC 1	ADR0	5	EC01 RC05
EC 2	ADR1	6	EC02 RC01
EC 2	ADR1	7	EC02 RC02
EC 2	ADR1	8	EC02 RC03
EC 2	ADR1	9	EC02 RC04
EC 2	ADR1	10	EC03 RC05
EC 3	ADR2	11	EC03 RC01
EC 3	ADR2	12	EC03 RC02
EC 3	ADR2	13	EC03 RC03
EC 3	ADR2	14	EC03 RC04
EC 3	ADR2	15	EC03 RC05

### 3.1 Single room control heatapp!



Fig. 11: heatapp!

The *heatcon! System* can be expanded with the wireless single room control *heatapp!* to provide single room control for up to 24 rooms.

To do so, the *heatapp! gateway* must be connected via the Ethernet interface with the *heatcon! EC*.

Operation is via a tablet or smartphone using the *heatapp! App*.

For more information about the *heatapp!-System* see <https://ebv-gmbh.eu/en/downloads/heatapp!-system/>

## 4 Initial operation

Initial operation of the heatcon! EC can be started both on the MMI and in the web browser as a smart-home Controller.

### 4.1 Conditions and requirements

Prior to initial use of the controller, the following points must be fulfilled:

- The heating system must be made available in a fully complete state and filled with water to prevent damage to the Pumps by dry running and to the energy generator by overheating.
  - The controller must have been installed in compliance with the operating instructions.
- If an underfloor heating system is connected, then an additional limiting thermostat must be installed in the flow line downstream of the heating circuit Pump to switch off the Pump if the flow temperatures are too high.
- Prior to initial use of the controller all of the above requirements must be checked by a heating specialist.

### 4.2 Inbetriebnahme mit dem Einrichtungsassistent

For the initial setup of the heatcon! system, the system setup wizard is available:

- Setup Wizard in the in the heatcon! MMI
- Setup wizard via PC / laptop / smartphone or tablet

The details of how to set up the heatcon! System is described in chapter Setup wizard in heatcon! MMI and web browser starting on page 30.

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#### NOTE

During initial operation using the setup wizard, the assignment of the electrical inputs and outputs is performed according to the tables in the chapter "Energy generator 1 " on page 26.

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### 4.3 Update heatcon! EC

If the heatcon! EC is connected to the Internet and the installation is done via PC/ Laptop / Smartphone (Mobilephone) or Tablet, the system will ask you to install a potentially available update during the initial setup. Alternatively, from version 2.136080 onwards, updates can be made via USB stick if an Internet connection is not possible or not desired.

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#### NOTE

Updates are provided to introduce new features and fix bugs. Therefore, it is always a good idea to perform an available update.

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At all heatcon! systems, which are not connected to the internet, we recommend to install available updates via USB stick.

OEM partners and specialist companies have access to the available update files via EbV - Support. The update files are encrypted and signed so that the security of your data and the system is always guaranteed. The system checks whether there is a suitable update file on the USB stick. This ensures that only suitable update files are installed. An exchange of the files (the USB update system is available for all heatcon! and heatapp! devices), e.g. by renaming, is therefore impossible.

### 4.3.1 Installation Updates via USB Stick

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#### NOTE

- For the update via USB stick, use an empty USB memory stick with Fat32 formatting.
  - Before update, carry out a data backup in the System Management menu.
- 

Save the update file on the USB stick.

Plug the USB memory stick into the USB port of the heatcon! EC.

The LED signals the update process:

LED flashes cyan (blue)	Update file is read
LED static green or yellow	Update will be installed
LED 5 sec. red and then green	Update failed (e.g. becOffe wrong update file on the USB stick)
LED 5 sec. fuchsia (purple) then red	System is in recovery status

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#### NOTE

Do not disconnect the power supply of the heatcon during the update! EC.

---

The actual update process takes between three and eight minutes. The USB memory stick can then be removed and the system can be set up or, if setup is already complete, normal operation can begin.



## 4.3.2 Assignment of the inputs and outputs

### 4.3.2.1 Overview

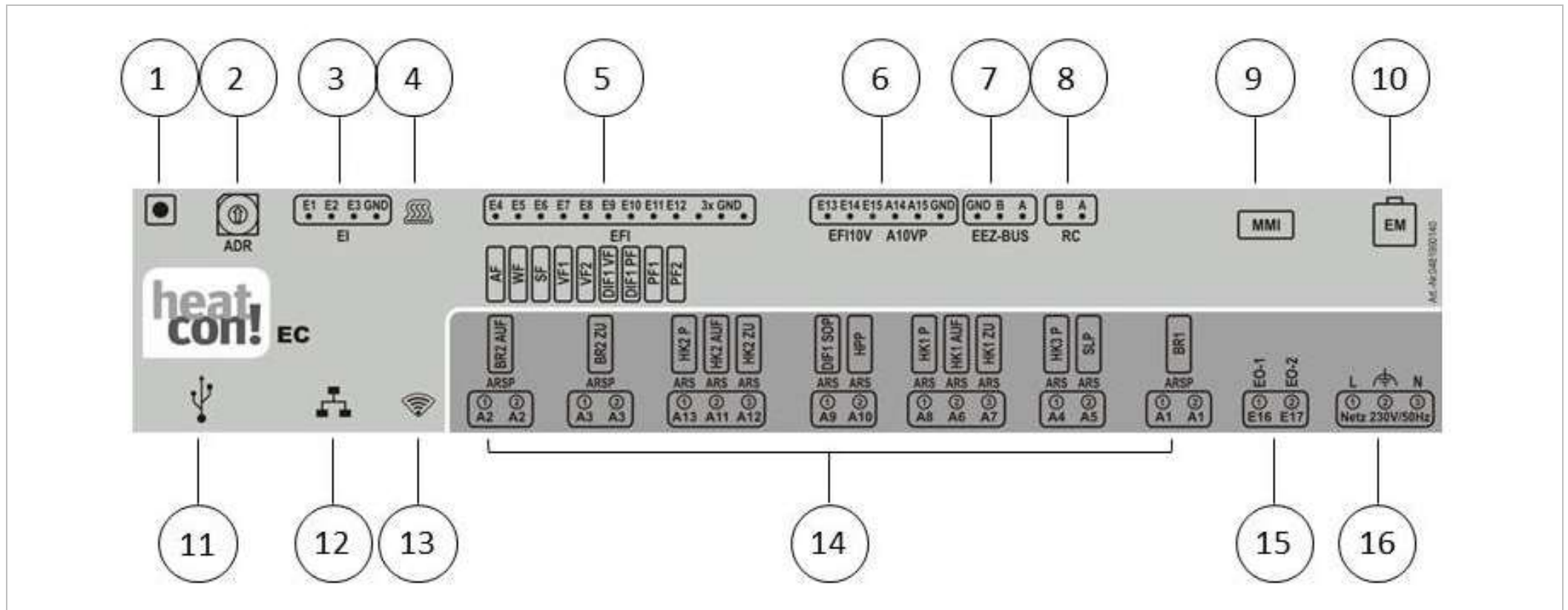


Fig. 12: heatcon! EC - connection assignment

1	Button	9	Connection <i>heatcon! MMI</i>
2	Address selector switch	10	EbV system bus for <i>heatcon! EM</i>
3	Digital inputs	11	USB connection
4	"Control" LED	12	Network connection (Ethernet, RJ45)
5	Temperature sensor inputs	13	"Network" LED
6	Analogue inputs/analogue outputs 0-10V	14	Digital outputs 230V AC
7	Energy generator bus	15	Digital inputs 230V AC
8	Two-wire bus h2B for room stations	16	Power supply

### 4.3.2.2 Energy generator 1

Individual setting	Configuration	Connections
Single-stage burner	Energy generator function ⇔ Single-stage burner	A1 ⇔ BR1 E5 ⇔ WF
Two-stage burner	Energy generator function ⇔ two-stage burner	A1 ⇔ BR1 A2 ⇔ BR2 AUF A3 ⇔ BR2 ZU E5 ⇔ WF
Power Signal on/off	Energy generator function ⇔ moduleating OFF/ON	A1 ⇔ BR1 A2 ⇔ BR2 AUF A3 ⇔ BR2 ZU E5 ⇔ WF
Burner control system (OT/Bus)	Energy generator function ⇔ Control system	EEZ-Bus A/B
Temperatur signal 0-10V	Energy generator function ⇔ Actuator signal 0-10V	A14 ⇔ A10VP E5 ⇔ WF
Release contact	Energy generator function ⇔ Switchcontact	A1 ⇔ BR
Power signal 10V	Energy generator function ⇔ Moduleating 10V	A1 ⇔ BR A14 ⇔ A10VP E5 ⇔ WF

### 4.3.2.3 Energy generator 2

Individual setting*	Configuration	Connections
Single-stage burner	Energy generator function ⇔ Single-stage burner	A2 ⇔ BR1 E13 ⇔ WF
Control system (OT/Bus)	Energy generator function ⇔ Automat	EEZ-Bus A/B
Temperatur signal 0-10V	Energy generator function ⇔ Temperatur signal 0-10V	A15 ⇔ A10VP
Release contact	Energy generator function ⇔ Release contact	A2 ⇔ BR
Power signal 0-10V	Energy generator function ⇔ Modulating 10V	A2 ⇔ BR A15 ⇔ A10VP E13 ⇔ WF
*Adjustability according to GEN1 occupancy		

### 4.3.2.4 Heating buffer

Individual setting	Configuration	Connections
Charge control	Heating buffer-function ⇔ Charge control	A10 ⇔ HPP E11 ⇔ PF1
Discharge control 1	Heating buffer-function ⇔ Discharge control 1	E11 ⇔ PF1
Discharge control 2	Heating buffer-function ⇔ Discharge control 2	E11 ⇔ PF1

### 4.3.2.5 Domestic hot water

Individual setting	Configuration	Connections
Storage pump	Hot water function ⇔ Storage pump	A5 ⇔ SLP E6 ⇔ SF
Circulation pump	Hot water function ⇔ circulation pump.	A5 ⇔ ZKP E6 ⇔ SF
Burner control system (OT/Bus)	Hot water function ⇔ Burner control system	EEZ-Bus A/B
Heating usage	Hot water function ⇔ Heating usage	A5 ⇔ ELH E6 ⇔ SF

#### 4.3.2.6 Heating circuit 1

Individual setting	Configuration	Connections
Direct circuit	Heating circuit 1-function ⇔ Pump	A8 ⇔ HK1P
Mixing circuit	Heating circuit 1-function ⇔ Valve	A8 ⇔ HK1P A6 ⇔ HK1AUF A7 ⇔ HK1ZU E7 ⇔ VF1

#### 4.3.2.7 Heating circuit 2

Individual setting	Configuration	Connections
Direct circuit	Heating circuit 2-function ⇔ Pump	A13 ⇔ HK2P
Mixing circuit	Heating circuit 2-function ⇔ Valve	A13 ⇔ HK2P A11 ⇔ HK2AUF A12 ⇔ HK2ZU E8 ⇔ VF2

#### 4.3.2.8 Heating circuit 3

Individual setting	Configuration	Connections
Direct circuit	Heating circuit 3-function ⇔ Pump	A4 ⇔ HK3P

#### 4.3.2.9 Differential control 1

Individual setting	Configuration	Connections
Solar	Difference 1 -function ⇔ Solar Flow sensor: E9:EFI DHW storage sensor: E10:EFI Pump Relais: A9:ARS	A9 ⇔ SOP E9 ⇔ DIF1:VF E10 ⇔ DIF1:PF
Solid fuel	Difference 1 -function ⇔ Solid fuel Flow sensor: E9:EFI Speicherfühler: E10:EFI Pump Relais: A9:ARS	A9 ⇔ FSP E9 ⇔ DIF1:VF E10 ⇔ DIF1:PF

Individual setting	Configuration	Connections
Difference	Difference 1 -function ⇒ Difference Flow sensor: E9:EFI DHW storage sensor: E10:EFI Pump Relais: A9:ARS	A9    ⇨    DIF1P E9    ⇨    DIF1:VF E10   ⇨    DIF1:PF

**NOTE**

---

As standard, temperature sensor input E9 is configured as the connection for PT1000 temperature sensors.

---

### 4.3.3 Setup wizard in heatcon! MMI and web browser

The Setup Wizard in the heatcon! Systems guides you through the basic settings of the system in just a few steps.

First decide whether the heatcon! EC is to be operated exclusively via the heatcon! MMI or whether a network and Internet connection is desired.

For the network connection, the heatcon! EC is connected to the router via a LAN cable. The initial setup is done via the internet browser of a PC/laptop/tablet or smartphone.

---

#### NOTE

---

No access data are adjusted via heatcon! MMI nor are any network settings made.

If operation is subsequently to take place via the heatapp! App, the first setup must be carried out using a PC/laptop.

---

#### Network

A functioning network in your house or flat is required for installation, an internet connection is not necessary.

If you do not have an internet connection, however, you can only operate heatcon! with your smartphone or tablet from home, not when you are on the move.

You will also not be able to download any updates for heatcon! We therefore strongly recommend connecting the heatcon! system to the internet.

---

Automatic address allocation (DHCP) must be enabled in the network settings of the PC/laptop and no proxy server must be enabled.

---

1. Switch on the power supply for the heatcon! EC.

#### Using the USB LAN adapter:

2. Connect the USB LAN adapter from the installation kit to the heatcon! EC and to the network connection on the PC / laptop:

Insert the USB LAN adapter into the USB port on the heatcon! EC.

Start the PC/laptop. Connect the **USB LAN adapter** to the PC/laptop's network connection.

#### Using the heatapp! installation stick

3. Insert the heatapp! installation stick into the USB port on the heatcon! EC.

The heatapp! installation stick provides its own WLAN network (network name: heatcon! EC[xxxxxx]). The last 6 digits of the MAC ID (see also the type plate of the heatcon! EC) are displayed in the square brackets.

Start the PC / laptop or tablet / smartphone. Connect the device to the WLAN network 'heatcon! EC[xxxxxx]'.

Shortly thereafter, the set-up wizard starts automatically in the browser window of your device. If the set-up wizard does not start automatically, enter the address <http://10.0.0.1> in the address line of the Internet browser.



### Use host name of the heatcon! EC:

Use a PC / laptop that is on the same network as the heatcon! EC. Open the Internet browser and enter **heatapp-ec** in the address line and press the Enter key.

### NOTE

Host name resolution is supported by many routers, but not all. Depending on which router you are using, it may therefore happen that the setup wizard page or the menu of the heatcon! EC menu does not open even though you have entered the host name in the address line of the Internet browser.

In this case, use the IP address of the heatcon! EC or the installation stick or kit to open the menu on the PC.

MMI	Hydraulic function	Internet browser on PC/laptop/tablet/smartphone
 	<p>After switching on the power supply, the assignment of the MMI to the heatcon! EC starts. By default, EC1 with address 0 is selected. After the assignment, the setup wizard starts automatically in heatcon! MMI.</p> <p>Press the rotary button to start the configuration.</p> <p><b>Select language</b></p> <ul style="list-style-type: none"><li>• DE = German</li><li>• GB = English</li><li>• FR = French</li><li>• IT = Italien</li></ul>	<p>Only available on MMI.</p> <p>The individual setting of the language is only carried out on the MMI.</p> <p>The browser language is automatically displayed in the web interface. If this is not available, English is displayed as the default language.</p>

**MMI****Hydraulic function****Internet browser on PC/laptop/tablet/smartphone**

- NL = Dutch
- PL = Polish
- ES = Spain
- TR = Türkish
- RU = Russian
- HR = Croatia

**Welcome to the initial setup**

The initial setup guides you through the menu to adjust the system. Please start by pressing the arrow button on the right side.





Only available in web browser.

### Creating a network connection

- A LAN connection via DHCP is recommended (automatic setup of an Internet connection)
- LAN connection with manual settings (optional)
- Setup of a proxy connection (optional)

After an Internet connection has been created, the *heatcon!* system checks if an update is available.

- If a system update is available, an installation Request appears. If the update is not installed, an initial setup cannot be performed.
- Connection to *heatapp! connect* for remote control of the *heatcon!* system. *heatapp! connect* is required so that the system can subsequently be operated via the app from any location.

login > network > energy generator > rooms > name heating system > user > Date / time

## network

heatcon! ec has to be integrated into the network to allow access. Please chose your network connection.

+ network connection via LAN	192.168.108.115	
+ network connection via WLAN		
+ proxy server configuration		

Internet access available

Apply network configuration

### heatapp! connect

Would you like to operate the heating system from anywhere via Internet? Acitvate the connection to heatapp! connect.

yes connection to heatapp! connect

Connected successfully to heatapp! connect.

### Participation in the continuous improvement process

Allow the system to send anonymous usage data to participate in the continuous improvement process.

no Activate participation in the continuous improvement process

## MMI



## Hydraulic function

### Energy generator 1-function

#### Setting options:

- OFF
- Single-stage burner
- Two-stage burner
- Power Signal on/off
- Control system
- Temperatur signal 0-10V
- Release contact
- Power signal 0-10V

### Energy generator 2-function

Select the energy generator 2 function.  
Availability depends on the setting of energy generator 1.

#### Setting options:

- Off
- Single-stage burner
- Control system
- Temperatur signal 0-10V
- Release contact
- Power signal 0-10V

### Heating buffer-function (buffer storage)

#### Setting options:

- Off
- Charge control
- Discharge control 1
- Discharge control 2

## Internet browser on PC/laptop/tablet/smartphone

The screenshot shows a web-based configuration interface for hydraulic functions. It is divided into three numbered sections:

- 1 energy generator 1**: A dropdown menu for 'type' is open, showing options: off, single-stage burner, two-stage burner, power signal on/off, burner control system (OT/Bus), temperature signal 10V, release contact, and power signal 10V.
- 2 energy generator 2**: A dropdown menu for 'type' is open, showing the same options as in section 1.
- 3 Heating buffer**: A dropdown menu for 'type' is open, showing options: off, charge control, discharge control 1, and discharge control 2. An 'ok' button is visible at the bottom of the dropdown.

Wizard  
Hydraulic  
Hot water mode  
Function  
**Off**

Wizard  
Hydraulic  
Heating circuit  
Function  
**Off**

**Hot water heating****Setting options:**

- Off
- DHW-Storage pump
- DHW circulation pump
- Control system
- Heating usage

**Heating circuit 1...n****Setting options:**

- Off
- Direct circuit
- Mixing circuit  
(Nur bei HC 1 + 2, 4 + 5)

**4****domestic hot water**

Has the domestic hot water to be carried out by the system1

Please select the function for domestic hot water.

domestic hot water

off ▼

off

storage pump

circulation pump

heating usage

ok

**5****Heating circuit 1**

Setting of heat circuit 1

The heat circuit 1 can be activated as mixer unit or a direct heat circuit or can be deactivated.

heating circuit 1

name

off ▼

off

direct circuit


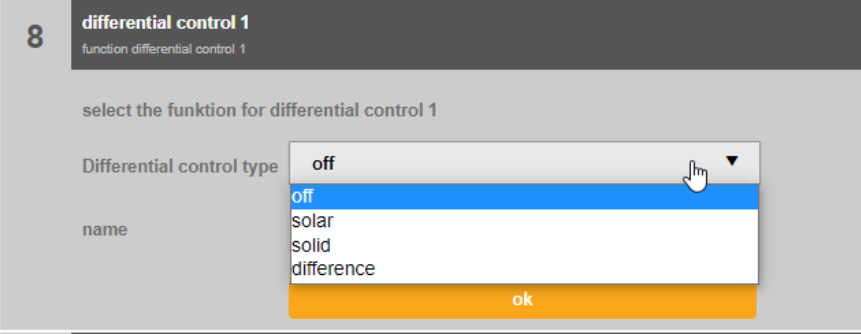
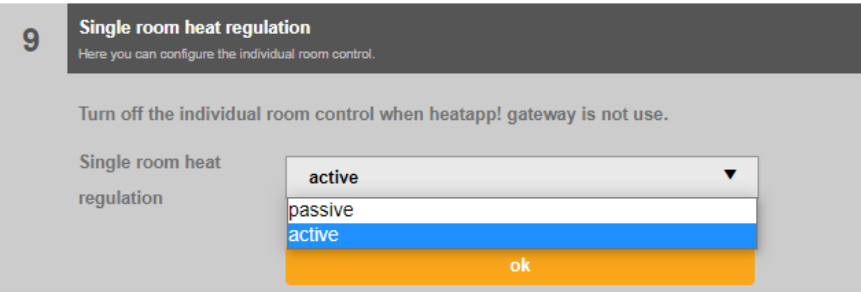
mixer circuit

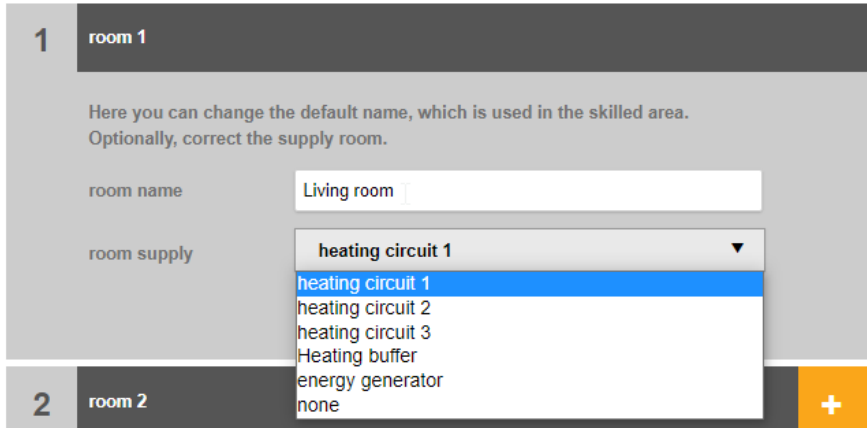
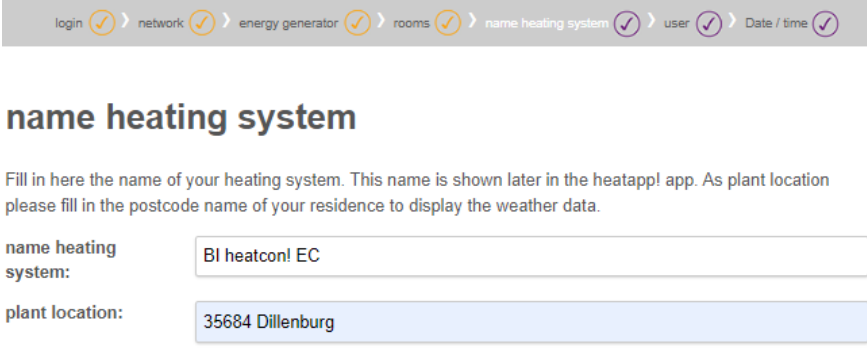
ok

**NOTE**

Only the actual hardware heating circuits are automatically displayed in the setup wizard.

For mixed heating circuits, configure heating circuits 1+2, heating circuit 3 can only be used as an unmixed circuit.

MMI	Hydraulic function	Internet browser on PC/laptop/tablet/smartphone
	<p><b>Differential control</b></p> <p><b>Setting options:</b></p> <ul style="list-style-type: none"> <li>• Off</li> <li>• Solar</li> <li>• Solid fuel</li> <li>• Difference</li> </ul>	
<p><i>Only available in web browser.</i></p>	<p><b>Single room control</b></p> <p>Select whether the connection to the single room control <i>heatapp!</i> is available.</p> <p>If "Off" is selected, a room group is automatically created for each activated heating circuit.</p> <p>If "On" is selected, all rooms to be controlled must be created.</p>	
<p><b>NOTE</b></p>		
<p><b>Without single room control heatapp!:</b></p> <p>A room group is created for each heating circuit. As with a single room control, all the data relevant to the room group such as temperatures, timer programs etc. can be individually adjusted for the room group and do not affect the entire system.</p> <p>The room group setting act immediately on the assigned heating circuit.</p> <p><b>With heatapp! single room control:</b></p> <p>Here you create all rooms that are to be regulated by <i>heatapp!</i> and assign the rooms to the room supply.</p> <p>The room supply controls at which point the requirement is created so that the room is supplied with the necessary heat.</p>		

MMI	Hydraulic function	Internet browser on PC/laptop/tablet/smartphone
<p><i>Only available in web browser.</i></p>	<p><b>Rooms and room groups</b></p> <p>Single room control OFF = Displays the room groups of the activated heating circuits.</p> <p>Single room control ON = Create the rooms to be controlled and their room supply.</p>	
<p><i>Only available in web browser.</i></p>	<p><b>My system</b></p> <p>Allocate a name to your <i>heatcon!</i> system and enter the location (town and postcode). The entered location is used to display the weather data in the <i>heatapp! App</i>.</p>	

Only available in web browser.

### Users

To be able to operate the *heatcon!* system, the users must login to the system with username and password.

Create at least two users with the following user roles:

- Expert for complete access to all settings
- Owner, for customisation and user management

Further users can be added later.

#### NOTE

The username must be at least 5 characters long. Allowed characters are upper case and lower case letters A-Z (a-z), special German characters äöüß, numbers 0-9 and special characters @-\_.

The password must contain at least 5 characters from two of the following character groups: Lower case letters, upper case letters, special characters, numbers.

#### ATTENTION

Use of the *heatcon!* system without access data is not possible either in the app or from

network > energy generator > rooms > name heating system > user > Date / time

### user

To use the heatapp! base, the user must with username and password to login. Register at least two users who have the roles:

- Expert, for full access to all settings
- Owner, for individualisation and user management

Additional users can be added to at a later date.

**Caution:**  
Without login credentials is the use of the heatapp! base not possible!  
Keep the data.

[+ Please create a new user.](#) →

1	<b>verwalter</b> Mr. Verwalter Verwalter user role: owner	→
2	<b>admin</b> Mr. Admin ADMIN user role: expert	→

a PC. Therefore, keep the access data somewhere safe.

1. Select the user role.
2. Enter first and last name of the user.
3. Enter the username.
4. Assign a password for the user.
5. Save the user by clicking on "Create".

Please create a new user. ✕

user role:

Please choose ▼

user name:

title:

Mr. ▼

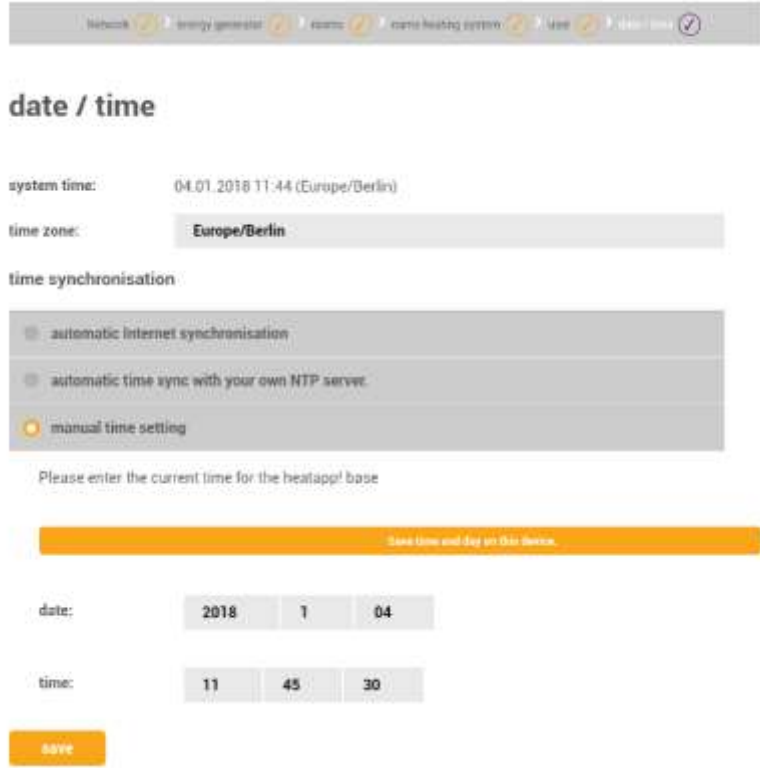
password:

first name:

repeat your password:

name:

create

MMI	Hydraulic function	Internet browser on PC/laptop/tablet/smartphone
<p><i>Only available in web browser.</i></p>	<p><b>Date and time</b> Here you select the time zone for your location (town of residence).</p> <p>You can select between the following variants:</p> <ul style="list-style-type: none"> <li>• Time synchronisation via the Internet</li> <li>• Time synchronisation via an internal NTP server</li> <li>• Manual time setting</li> </ul>	

**Finished!**

The initial setup of the heatcon! system is now complete. All parameters and temperatures are set to the basic settings. Further configuration takes place via the “Expert” menu.



## 5 Operation and extended configuration

### heatcon! ECxxxx PRO operation

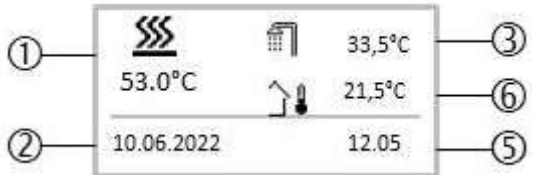

Configuration and operation of the *heatcon! EC PRO* can take place in three ways:

- Configuration and operation via the control unit *heatcon! MMI* (in-situ).
- Configuration and operation via PC (in-situ).
- Configuration and operation via *heatapp! App* installed on a tablet or smartphone. Remote control and remote maintenance via the Internet is possible.

The app accesses the *heatcon! EC PRO* at home. To do this, the *heatcon! EC PRO* must be connected to the router and the WLAN connection on the tablet or smartphone must be set up correctly.

Alternatively, access can also be made externally via a secure connection if *heatapp! connect* is activated.

Operation via the *heatapp! app* or via the internet browser of a PC, tablet or smartphone requires that installation via PC, tablet or smartphone (mobilephone) has also been carried out.




heatcon! MMI	Computer or app operation												
<p data-bbox="73 671 309 699"><b>Basic display (MMI)</b></p>  <table border="1" data-bbox="73 981 1086 1114"> <tr> <td>1</td> <td>Energy generator temperature</td> <td>4</td> <td>Outside temperature</td> </tr> <tr> <td>2</td> <td>Date</td> <td>5</td> <td>Time</td> </tr> <tr> <td>3</td> <td>Hot water temperature</td> <td></td> <td></td> </tr> </table> <p data-bbox="73 1125 1041 1152">After switching on the power supply, the basic display of the <i>heatcon! MMI</i> is displayed.</p> <p data-bbox="73 1165 698 1192">The following temperatures are displayed in the factory:</p> <ul data-bbox="129 1204 533 1305" style="list-style-type: none"> <li>• Energy generator - temperature</li> <li>• Hot water temperature</li> <li>• Outside temperature</li> </ul> <p data-bbox="73 1356 757 1383">The temperatures shown in the basic display can be adjusted.</p>	1	Energy generator temperature	4	Outside temperature	2	Date	5	Time	3	Hot water temperature			<p data-bbox="1106 671 1435 699"><b>Tile view (Internet browser)</b></p>  <p data-bbox="1106 1181 2072 1208">After completing the setup wizard, you will be taken to the tile view of the <i>heatcon! EC</i>.</p> <p data-bbox="1106 1220 1814 1248">There are three important areas for completing the installation:</p> <p data-bbox="1106 1260 1937 1287">Expert = for advanced installation and to retrieve the system's information.</p> <p data-bbox="1106 1300 1825 1327">Establishment protocol = for logging the executed establishment</p> <p data-bbox="1106 1340 2139 1399">System management = for creating a data backup to be able to reset the system to this status if necessary.</p>
1	Energy generator temperature	4	Outside temperature										
2	Date	5	Time										
3	Hot water temperature												

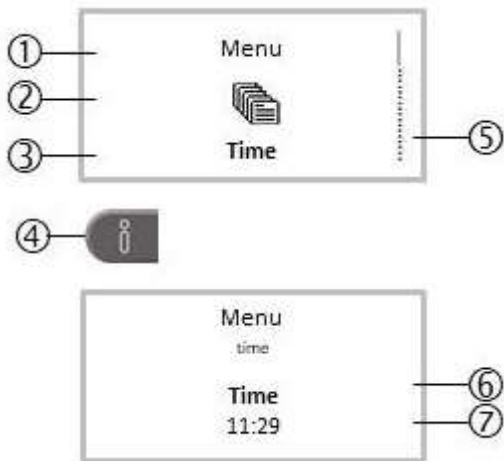
Menu navigation

Operation takes place via the rotary button and the menu buttons on the heatcon! MMI.

Rotary button

The rotary button is used to navigate through the menus and change parameters and values.

Action		Description
Rotation		Navigation through the menus. Setting of parameters and values..
Brief press (1x)		Selecting menus and parameters. Confirmation of parameter inputs.
Long press (>3s)		Calling the main menu.



1	Menu level	5	Scroll-Balken
2	Menu-Symbol	6	Parameter
3	Submenuü	7	Current value
4	Info-Taste		

The Expert menu is divided into different sections and changes depending on the hydraulics and configuration.

Information and changeable parameters are available for each area. These differ depending on the selection of the energy generator.

You can find a complete list of parameters in the system manual (download at <https://ebv-gmbh.eu/en/downloads/heatcon!-control-system/>)



system	>
hot water	>
room group 1 heating circuit 1	>
room group 2 FBH OG	>
room group 3 Wandheizkörper	>
energy generator	>
Heating buffer	>
solar	>
Return flow	>
heating circuit 1 mixer circuit	>
heating circuit 2 mixer circuit	>
heating circuit 3 Direct circuit	>
fault message	>
config	>

**Selecting and changing of menus and parameters**

If the scroll bar is displayed in the menu, there are further selection options in the menu. These are navigated through by turning the rotary button.

If menus/parameters are highlighted in bold, they can be selected by pressing the rotary button.

To change parameters, select the parameters highlighted in bold by pressing the rotary button to edit them.

Now the value of the parameter is highlighted in bold and can be changed by turning the rotary button.




Press the rotary knob to save the setting.

**Function of the Info button**

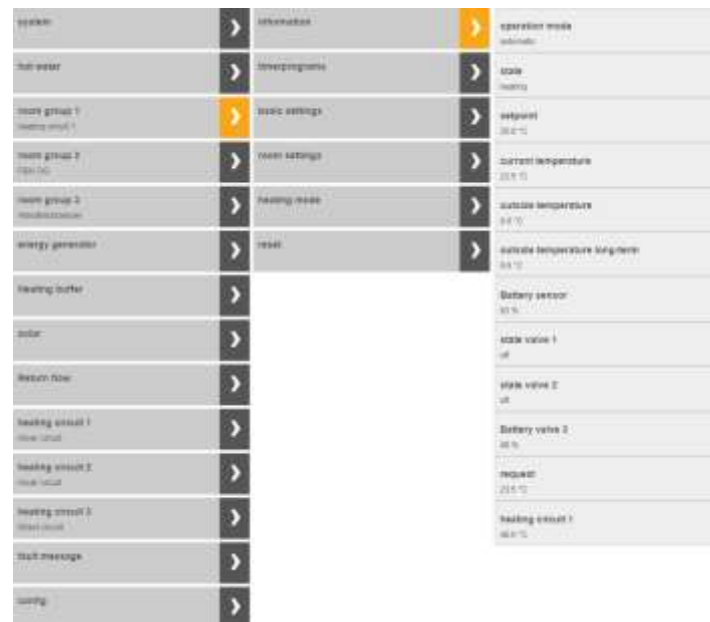
The info button has a special function in menus. Pressing the info button moves backwards through menu levels.

**Speed buttons**

Functions are activated/deactivated via the speed buttons. Certain menus can be called directly to quickly change values.















Button	Description
	Quick press: Start emission measurement. Long press (about 5 seconds): Energy generators manual mode activation.
	Calls the menu "Scenes and operation modes". The Scenes and Operating Modes button has a special function in menus. Pressing the Scenes and Operating Modes button returns the display to the basic view.
	Calls the menu "Cycle times".

Example room group 1: Level information



Heating mode level



heatcon! MMI	Computer or app operation								
<table border="1"> <tr> <td data-bbox="69 145 342 240"></td> <td data-bbox="342 145 1099 240">Calls the menu "Information".</td> </tr> <tr> <td data-bbox="69 240 342 336"></td> <td data-bbox="342 240 1099 336">Calls the menu "Comfort and Economy Temperature".</td> </tr> <tr> <td data-bbox="69 336 342 432"></td> <td data-bbox="342 336 1099 432">Calls the menu "Set-back Temperature".</td> </tr> <tr> <td data-bbox="69 432 342 523"></td> <td data-bbox="342 432 1099 523">Calls the menu "Hot Water".</td> </tr> </table>		Calls the menu "Information".		Calls the menu "Comfort and Economy Temperature".		Calls the menu "Set-back Temperature".		Calls the menu "Hot Water".	
	Calls the menu "Information".								
	Calls the menu "Comfort and Economy Temperature".								
	Calls the menu "Set-back Temperature".								
	Calls the menu "Hot Water".								
Extended installation MMI	Internetbrowser								
<p>Entering the specialist code 1 2 3 4 (access right)</p> <ul style="list-style-type: none"> <li>• Press the rotary knob until Time appears in the display.</li> <li>• Turn to the left until MMI appears and confirm by pressing the rotary knob.</li> <li>• Turn to the right until Access right appears in the display and confirm by pressing.</li> <li>• Enter the specialist code 1 2 3 4 by turning and pressing.</li> </ul> <div data-bbox="100 774 1093 933" style="display: flex; justify-content: space-around; border: 1px solid gray; padding: 5px;"> <div style="border: 1px solid gray; padding: 5px; text-align: center;">       Menu          Time     </div> <div style="border: 1px solid gray; padding: 5px; text-align: center;">       Menu          MMI     </div> <div style="border: 1px solid gray; padding: 5px; text-align: center;">       Menu        MMI        Access right        1234     </div> </div>	<p>If the specialist's access data was entered during login, no additional specialist code is required.</p> <p>If the login is as an owner, click on the "Manufacturer code" button at the bottom right and enter 1234.</p> <div data-bbox="1131 750 1456 821" style="border: 1px solid gray; border-radius: 15px; padding: 5px; text-align: center; background-color: #f0f0f0;"> <b>manufacturer-code</b> </div>								
<p>For further configuration of the Controller, the Configuration menu is called up.</p> <ul style="list-style-type: none"> <li>▪ Enter the specialist code</li> <li>▪ Then press the i key until MMI appears in the display again.</li> <li>▪ Turn to the right until Configuration appears in the display and confirm by pressing.</li> <li>• Select Function to activate further functions or Hardware to configure inputs and outputs.</li> </ul>	<p>For further configuration of the controller, the Configuration menu is called up.</p> <p>Click on "Configuration"</p> <p>Select Function to activate further functions or Hardware to configure inputs and outputs.</p>								

## Einrichtungsprotokoll

Nicht am MMI verfügbar.



In the "Establishment protocol" area an establishment protocol can be generated and sent by e-mail. The establishment protocol contains all the information about your heatcon! **configuration.**

#### Generating the establishment protocol

- A new report is created by tapping on the button "Generate a new establishment protocol".

The establishment protocol is saved in the heatapp! base until a new establishment protocol is generated.


This means that at any time you can access the last generated establishment protocol (button "Display establishment protocol") and / or send a PDF by e-mail (button "Send establishment protocol").

#### Sending an establishment protocol by e-mail

1. Tap on the button "Add a new e-mail address".
2. Enter the new e-mail address to which the establishment protocol is to be sent. You can enter more than one e-mail address.
3. Tap on "Send establishment protocol" to send the establishment protocol.

If the establishment protocol has been sent successfully, a corresponding message is displayed.



Tap button  to return to the "System" menu.

## Systemverwaltung

Nicht am MMI verfügbar.



In the "System management" area, you can update the **heatcon!** system software and perform a data backup.

**Updating the system software**

EbV works constantly to improve the **heatcon!** system. To ensure our customers can benefit from this, we have developed an update system, which means you are always offered the latest version.

You decide whether you want to install the offered update or would prefer to retain the existing version.

A display appears below the current software indicating whether a software update is available.

**Note**

Im lokalen Netzwerk erhalten Sie von der App einen **Hinweis**, wenn ein Update Ihres **heatcon! Systems** vorliegt. Software-Updates werden nur angezeigt, wenn das **heatcon!** System mit dem Internet verbunden ist.

Führen Sie ein Software-Update des **heatcon! System** aus, prüfen Sie bitte, ob die neue Software mit der Software des **heatapp! gateway** kompatibel ist.

Führen Sie ggf. auch ein Software-Update des **heatapp! gateway** aus. Durch das Update der Gerätesoftware per Download über das Internet, können abhängig vom Internettarif des Kunden, zusätzliche Kosten entstehen.

**Attention**

It is not possible to update the MMI 200 via the Internet. An update of the MMI 200 is only necessary in exceptional cases (new functions of the MMI). Please send the MMI 200 to the manufacturer EbV

**Restart system now**

The "**Restart system now**" button triggers a restart.

## Systemverwaltung

Restarting the system deletes the data in "Live View". Monitor data is only retained if it is saved on a USB stick.

**Note**

A restart of the heatcon! system deletes the stored data of the "Live View". If the USB data backup of the monitor is activated, the data on the USB stick will of course be retained and can still be used.

**Reset to factory settings**

The "Reset now" button, resets the device to the factory settings

**Note**

Upon resetting, all set data is irrevocably lost and a new setup is necessary. Please only use this option, if expressly Requested to do so by our customer support or your expert.

**Monitor**

The monitor shows current and historical data of your heating system. If you wish to store the data for more than 24 hours, insert a USB memory stick into the system and activate the storage option.

The system will store the data until the USB memory space is exhausted. The oldest data will then be overwritten automatically.

**Note**

- Before removing the USB memory stick from the system, please disable the option to avoid data loss.
- The data will be overwritten automatically without warning. If you want to keep the data permanently, always make sure that there is enough memory on the USB memory stick.

## Systemverwaltung

**System data backup**

You can perform a data backup using a USB stick. Using this back-up system you can transfer the installation to a new device or after resetting of the system, quickly return to the backed up condition.

1. Insert a USB stick in a free USB port of the heatcon! system.
2. Tapping the "OK" button saves a backup file on the USB stick.

## Restoring the backed-up system data


If you want to restore a **heatcon!** system that is in the delivered condition using a backup from a USB stick, you must first run the setup wizard to recreate the basic settings.

Alternatively, open the setup wizard via PC / Laptop and enter the following link in the address bar to go to the system management page:

With USB-LAN adapter or installation stick: **10.0.0.1/admin/system/index** (USB switch needed)

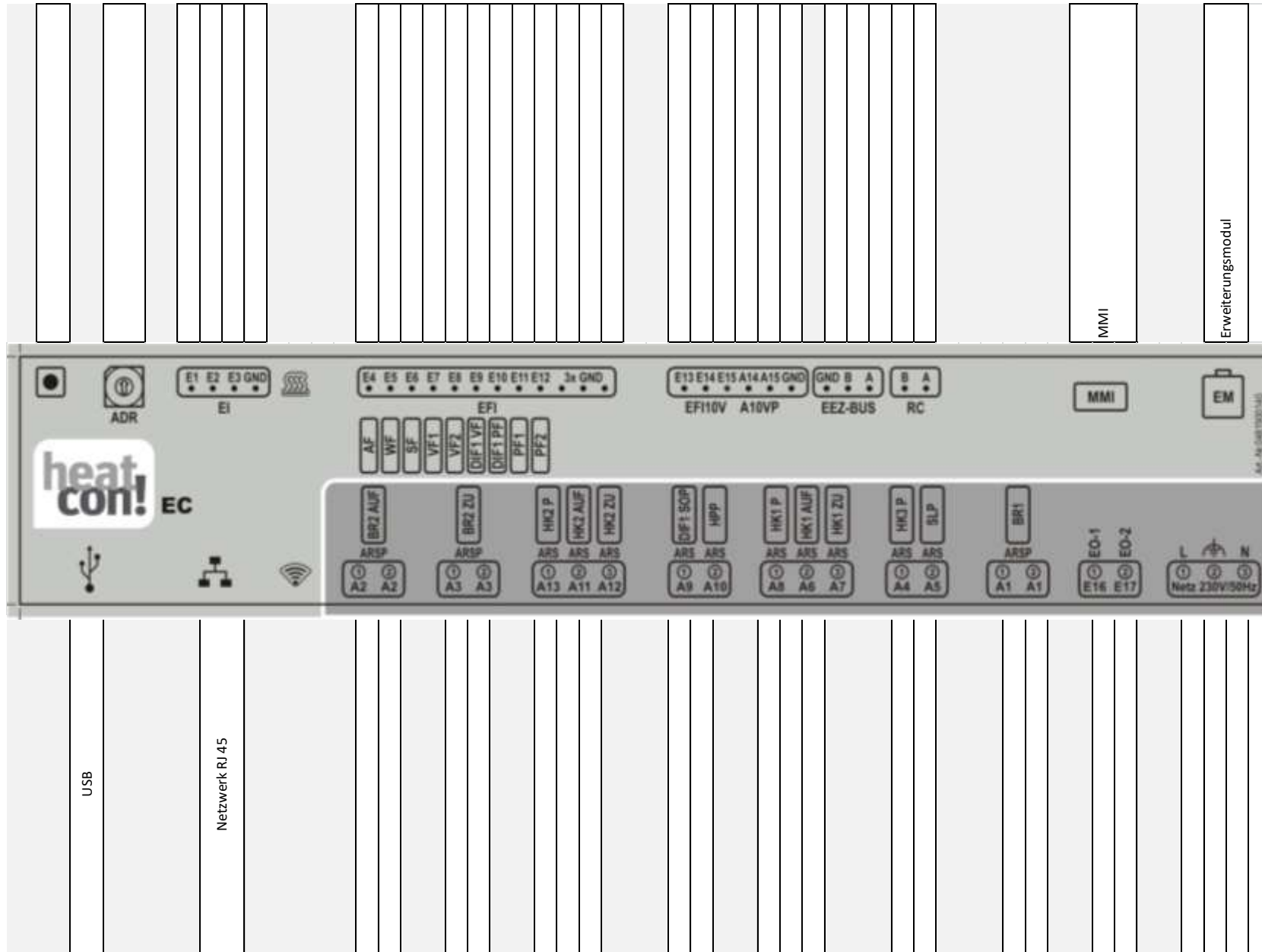
Via the IP address with Computer / Laptop: **IP address/admin/system/index**

1. Insert a USB stick with a data backup file in a free USB port of the heatcon! system.
2. Select the required backup file.
3. Tapping the "Update" button transfers the selected backup to the system.

Tap button  to return to the "System" menu.



## 6 heatcon! EC connections for print and notes



- EI Eingang Impuls
- EFI Eingang Fühler Impuls
- EF10V Eingang Fühler Impuls 10V
- EO Eingang Optokoppler (Wärmemengenzähler)
- ARS Ausgang Relais Schließer
- ARSP Ausgang Relais Schließer potentialfrei
- A10VP Ausgang 10V PWM (Pulsweitenmodulation)
- EEZ Bus Energieerzeugerbus
- RC Room control
- MMI Machine machine interface
- EM Erweiterungsmodul

### Relay contact rating:

- A1 230 V / 6A
- A2-A13 230 V / 2A

## 7 Switching times table

Room	DAY	Switching time 1	Switching time 2	Switching time 3
	Mo			
	Tu			
	We			
	Th			
	Fr			
	Sa			
	Su			
	Mo			
	Tu			
	We			
	Th			
	Fr			
	Sa			
	Su			
	Mo			
	Tu			
	We			
	Th			
	Fr			
	Sa			
	Su			
	Mo			
	Tu			
	We			
	Th			

Room	DAY	Switching time 1	Switching time 2	Switching time 3
	Fr			
	Sa			
	Su			
	Mo			
	Tu			
	We			
	Th			
	Fr			
	Sa			
	Su			
	Mo			
	Tu			
	We			
	Th			
	Fr			
	Sa			
	Su			

## 7.1 Login data

**NOTE** the login data to your *heatcon!* system here:

User level	User name	Password
Expert:	<input type="text"/>	<input type="text"/>
Owner:	<input type="text"/>	<input type="text"/>

When connecting to the single room control *heatapp!* please record the password of the *heatapp! gateway* here:

heatapp! gateway	
Password:	<input type="text"/>

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### NOTE

Create a setup log file and a data backup after completing the installation.

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