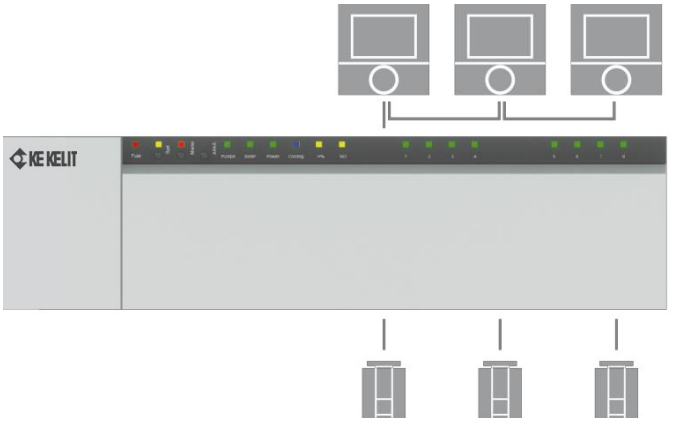
KM695 KELOX wireless receiver 24V

The **KELOX wireless control system** is the intelligent individual room control unit of the future for maximum comfort and energy efficiency for surface temperature control.

The **KM693 KELOX wireless receiver** with 8 zones is the intelligent control unit for centralised information processing and communication with all system components. It records and uses numerous measurement data for individual, energy-efficient temperature control in every room and maximum user comfort. The 868-MHz wireless technology ensures secure, bidirectional communication of the allocated room thermostats, wireless receivers and connected drives with minimal radio pollution at the same time. Adaptations and updates for a changing technological environment take place conveniently via MicroSD card slot.

As an Ethernet version, the system is not only integrated easily into the home network and can be conveniently controlled via PC and/or smartphone via the Internet. The XML interface additionally allows integration into the overriding building control technology and building automation systems. The KELOX wireless controller is therefore Smart Home ready.



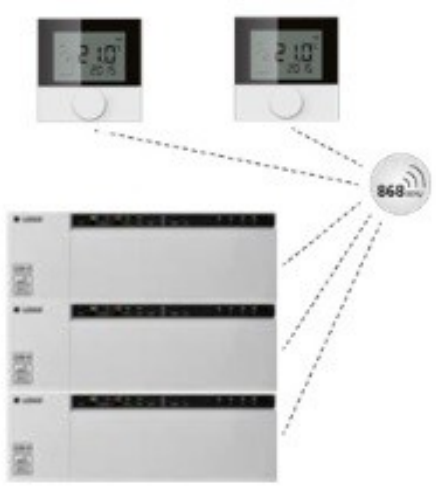
Performance features

- high-quality, modern design
- automatic configuration using plug&play, also for future system upgrades
- easy, intuitive installation, operation and maintenance
- connection of up to 12 KM596 24V thermostat heads (1 to 2 per heating zone)
- direction of operation of the switch outputs configurable (NC: currentless closed or NO: currentless open selectable)
- tried-and-tested cable feed and strain relief
- screw-free plug-in/clip connection technology
- Smart Start function for even more energy-efficient operation
- perfect interaction of up to 7 connection units via syBUS technology
- MicroSD card slot for individual adaptations using MicroSD card via online service
- easy operation, programming, initialisation
- integrated system clock
- Smart Home ready and therefore easily integratable into overriding building automation systems via XML
- easy integration into the home network
- web-based application software for convenient control via PC, smartphone and via the Internet

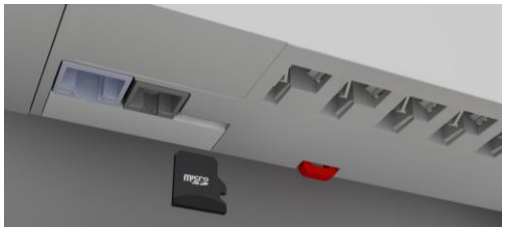
The KE KELIT product quality ensures easy, intuitive installation, operation and maintenance of the entire system.

Function

System functions

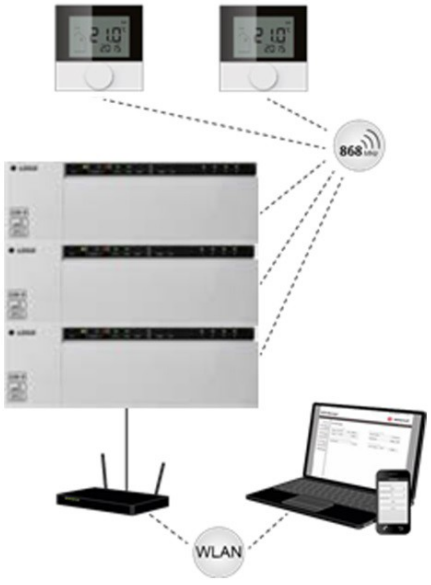


- **Coupling of up to seven wireless receivers**
  - secure communication between the wireless receivers via 868-MHz wireless technology and/or system BUS (syBUS)
  - forwarding of switch-over signals (e.g. heating/cooling) and operating states
  - coupling possible with BUS connection units
- **Bi-directional 868-MHz wireless technology**
  - for secure communication between the room thermostats and wireless receivers
  - large range with minimal radio pollution
  - transmission of status and warning messages to the room thermostats.
- **Minimal wiring effort due to wireless system**
  - optimal new building projects and renovation projects
- **Easy pairing at the push of a button**
  - fast allocation of the room thermostats to the desired zones
- **Programming and control via wireless room thermostat Digital**
  - convenient commissioning of the system without additional tools
  - all functions accessible via menus on the room thermostat
  - Reset to factory setting of the respective zone possible using room thermostat



- **Ready for the future with MicroSD card slot**
  - fast upload, backup and transfer of system parameters
  - upload of time programs, such as working days/resting days, all days the same, special program
  - switch-over of the connection units from Celsius to Fahrenheit
  - parameter setting for NC or NO drives
  - deactivation of the valve and pump protection function

Additional system functions with integration into the network/Internet



- **Integration into home network**
  - fast and easy implementation into the home network
  - systems interfaces for overriding control systems
- **Control via PC/smartphone**
  - convenient parameter-setting, configuration of the system via laptop, smartphone or tablet
  - maximum comfort in every room
- **Remote access to the entire system**
  - convenient remote access to all functions and parameters of the system
  - rendezvous server to create a secure, direct connection via the Internet
- **Maximum convenience due to web application**
  - intuitive web interface for an optimal overview
  - complete control over all functions
- **Smart Home ready**
  - integration into overriding building control technology and building automation systems via XML interface
  - simple communication via an existing IP-based network

Regulation and control functions

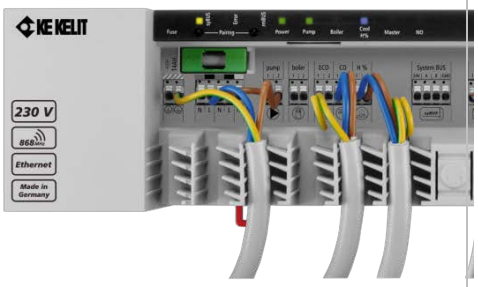
- **Versions in 8 zones**
  - perfect for use in single-family and multi-family homes
  - connection of up to two actuators per zone
  - combining of several heating circuits into large spaces with only one room thermostat
- **Convenient clamping/plug-in technology**
  - fast connection of up to 12 actuators
  - minimal effort for the integration of pump control unit, integration of a moisture sentinel and control of the burner
- **Pilot function for heating and cooling via boiler output**
  - manual switch-over of the entire system between the heating and cooling operating modes
- **Switch-over between heating and cooling via an external signal**
  - Supply of an external signal via potential-free contact
- **Dew point monitoring via potential-free contact**
  - to protect from mould formation and damage to the structure from condensation
- **Integrated pump module including pump protection function**
  - control of the pump via potential-free contact
  - start-up and run-on delay of 2 minutes pre-defined (configurable)
  - cyclical switch-over of the pump to avoid damage during longer idle periods
- **Connector for safety temperature limiter**
  - prevents excessive flow temperatures of the underfloor heating to protect sensitive floors
- **Emergency mode**
  - cyclical control of the drives in a zone, if no signal is received for a longer period of time
  - prevents the affected heating zone from cooling down completely
- **Frost protection function**
  - prevents lines from freezing during periods without temperature control (for example, during extended absence)
- **Valve protection function in all outlets**
  - cyclical control of the drives (configurable)
  - prevents valves from jamming in time periods without temperature control
- **Online service (www.ezr-home.de)**
  - parameter setting of individual system settings and weekly programs
  - worldwide access and control
  - downloading of comprehensive product documentation
- **Customer-specific functions**
  - downloading of specific, individual weekly programs
  - individual programs possible at any time upon request
- **Smart Start function**
  - with self-learning effect
  - automatic ascertainment of the required heating lead times and shut-off delays
  - exact provision of the temperature required by the user at the set time, with as little energy consumption as possible
  - no overheating of rooms

Dimensions

Operation and display

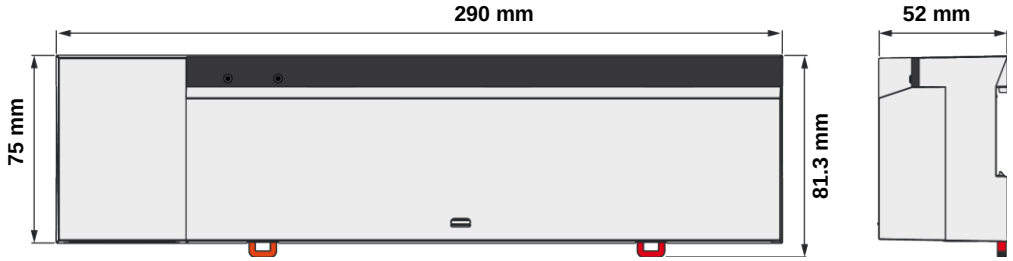
- **Programming and operation using buttons**
  - convenient programming and operation of the connection units using buttons (also always accessible with lid closed)
- **Clearly laid out, always easily visible LED status displays for**
  - Operating state (On/Off)
  - Backup
  - Cooling mode
  - Warning sign in case of condensation
  - Direction of operation of the switch outputs (NO: currentless-open / NC: currentless closed)
  - System pairing
  - System error
  - One status LED per heating zone
  - RBG pairing

Connections and outputs

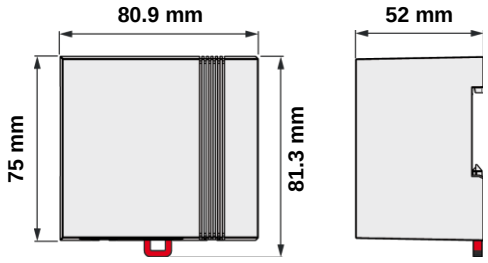


- **Tried-and-tested cable feed and strain relief**
- **Plug-in/clip contacts for solid and flexible wires 0.5 – 1.5 mm²**
- **MicroSD cards slot for update and settings**
- **Inputs:**
  - changeover (CO; potential-free contact)
  - moisture sentinels (potential-free contact)
  - reduction (ECO mode)
  - safety temperature limiter
- **Outputs:**
  - heat generator / changeover
  - pump (also for high-efficiency pumps)
- **Additional connectors:**
  - Actuators
  - Mains connection
  - SystemBus for coupling several connection units
  - Ethernet

Dimensions of KM695 connection unit



Transformer dimensions



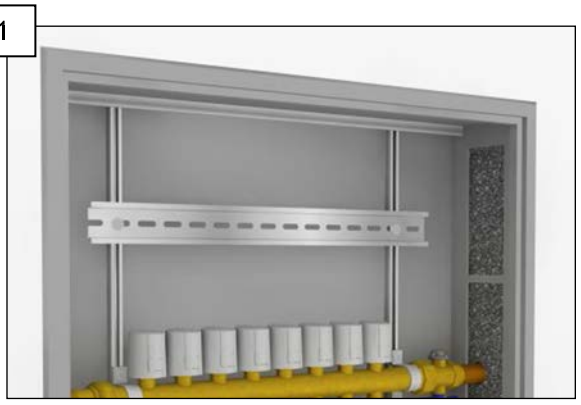
Technical data

Article number	5881360
Max. number of heating zones	8
Operating voltage	24 V / ±20% / 50 Hz / external system transformer
Power consumption in idle mode/ with transformer 20402	1.1 W / 1.4 W
max. power consumption (without pump)	50 W (limited by system transformer)
Fuse protection	5 x 20 mm, T2A
Protection class	II
Degree of protection	IP20
Wireless technology	wireless, 868 MHz SRD band
Max. number of drives	4x2 + 4x1
max. nominal load of all drives	24 W (12 x 2 W or 8 x 3 W or 18 x 1 W)
Switching element execution	silent electronic (Triac) switch
Switching capacity per heating zone	max. 1 A permitted
Overload protection	Output limitation due to system transformer
Pump connection	Contact: 1C (single-pole switching) / no option for wiring through
Lead time - shut-off delay	configurable
Highly-efficient pump	configurable
Switching capacity	8 A at cosj=1 / inductive max. 200 VA
Boiler connection/CO output	Contact 1 A (single-pole, closer)/invertible
Lead time - shut-off delay	Configurable switching capacity 1 A at cosj=1 / inductive max. 200 VA set-back input
Potential-free CO input	switchable via potential-free contact
TPS input	1 input for several sensors (via Open Collector) 1 Connector flying wiring
Overtemperature limiter input	voltage-guided switch input / 24VAC..230VAC tolerant
System bus connector	RS485 with GND and 24 V for supplying ext. components
External antenna	RJ12 socket / 5 m standard wire length, up to 10 m EMC-tested
Ethernet connection	RJ45
Conductor diameter: solid	0.2 to 1.5 mm²
Conductor diameter: fine-wired with ADH with plastic grommet	max. 0.75 mm²
Stripped length	8 to 9 mm
Control mode	PI / 2-point adjustable
Control precision from set point:	±1 K
Regulating oscillation	±0.2 K
Permitted ambient temperature	0 to 60°C
Permitted ambient humidity	5 to 80% non-condensing
Storage/transport temperature	-25°C to +70°C
Standards and regulations	EN60730-1 / EN60730-2-9 / ElektroG, or RoHS conformity
ERP class according to EU 811/2013	1=1 %
Mains connection execution	system transformer with Euro plug
Material	PC+ABS
Colour	RAL7035 (light grey)
Outer dimensions	370 x 52 x 75 mm
Weight	500 g
Weight of system transformer	600 g

Assembly

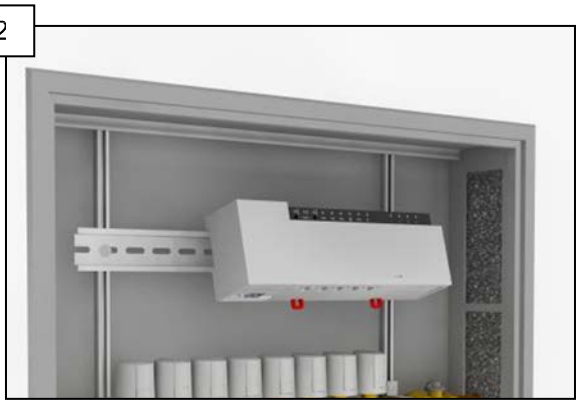
The **KM695 KELOX wireless receiver** can be installed in the heating circuit distributor on a top-hat rail.
ATTENTION! A 230V connection must be available in a distribution box!

1



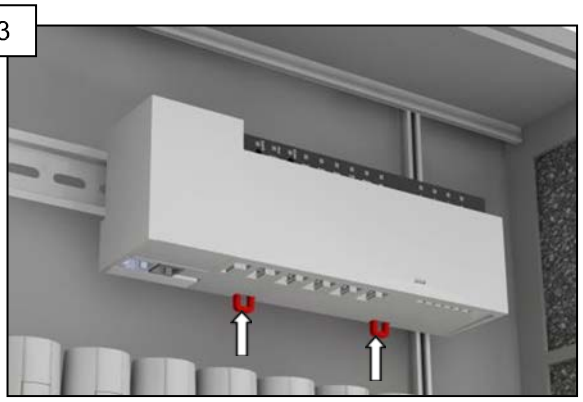
Assemble top-hat rail surface-mounted or in the heating circuit distribution cabinet.

2



Position connection unit on the top-hat rail with a slight tilt and snap it into place.

3

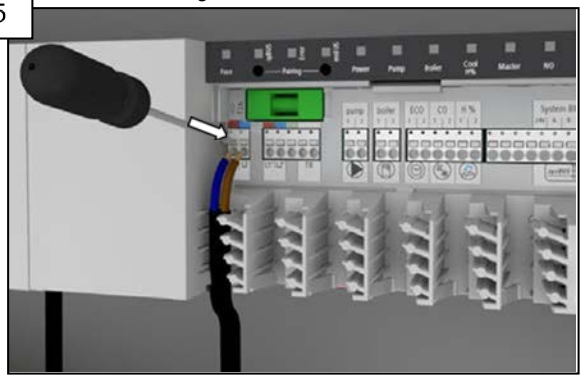


Attach the connection unit securely to the top-hat rail with the locking mechanism.

4

Remove lid with a screwdriver.

5

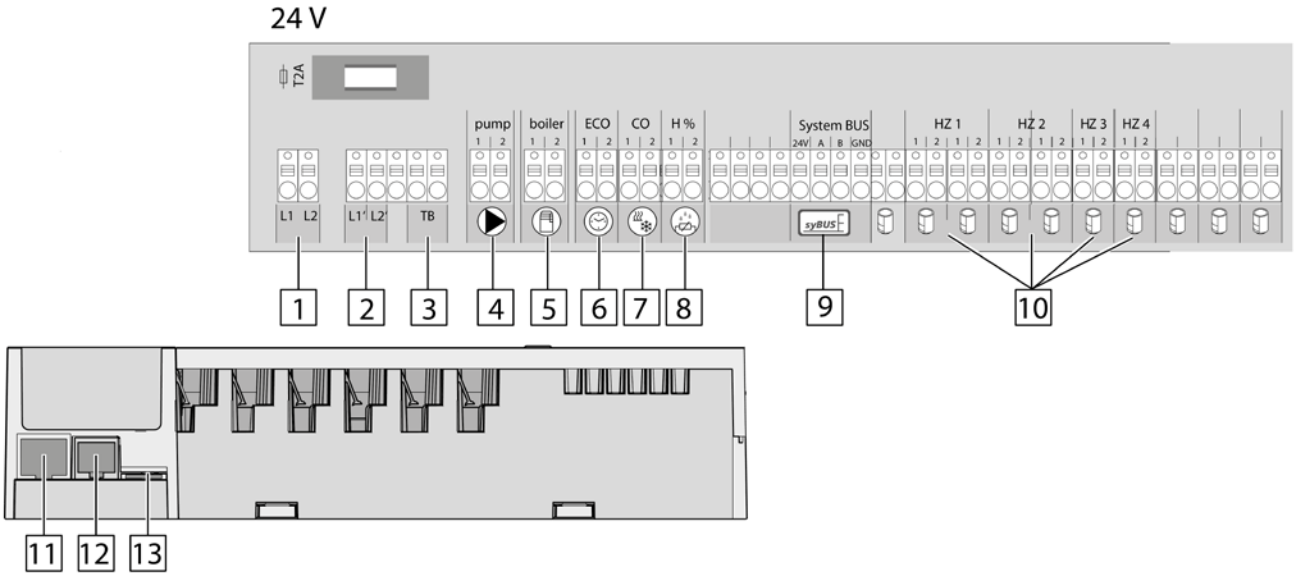


Route the cable through the strain relief into the housing and wire the connection unit within a short time using the clamping/plug-in technology.

6

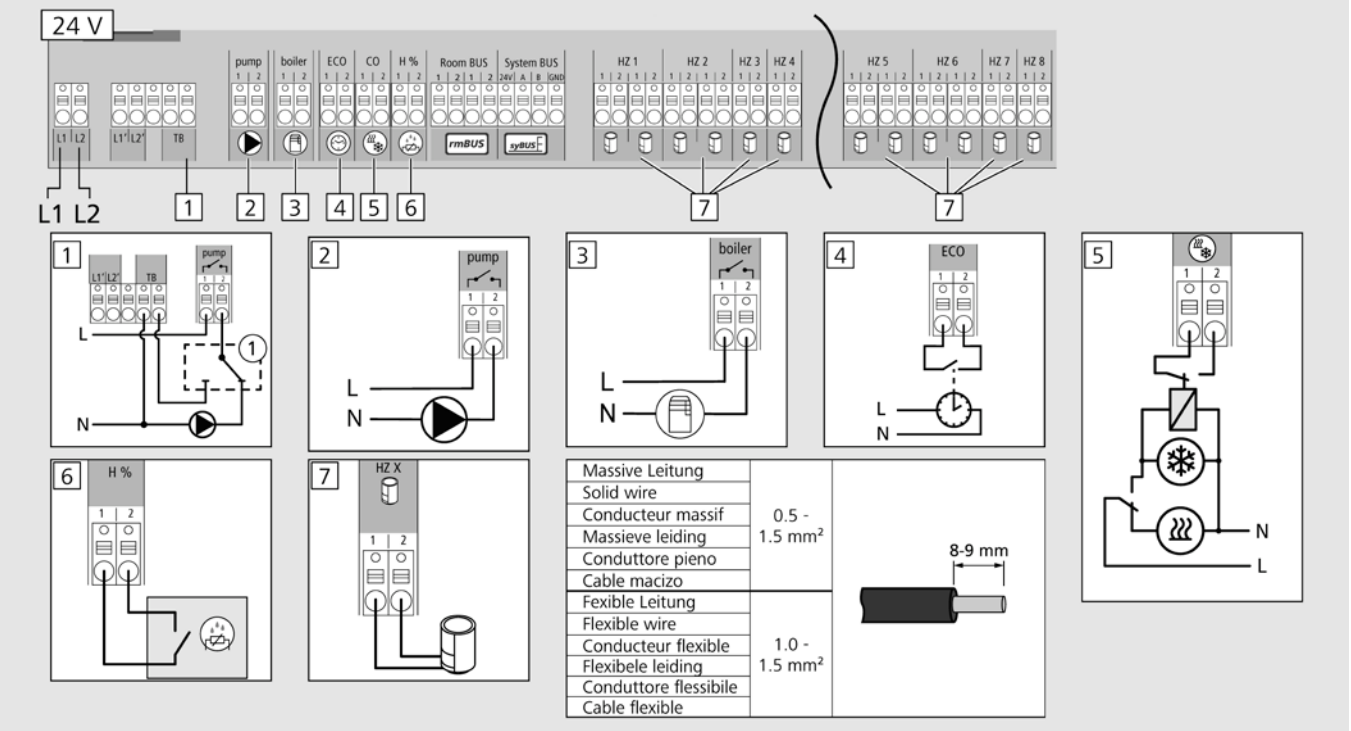
Close lid. The connection unit is now ready for use.

Connectors



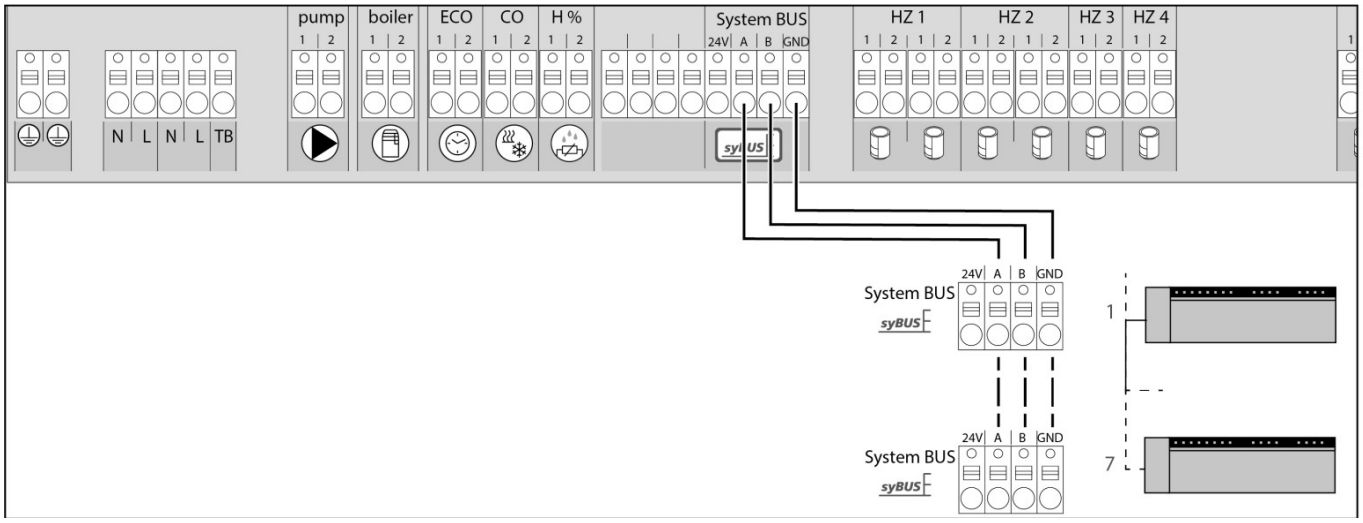
No.	Connector	Function
1	Mains transformer	Connector for system transformer
2	Output 24V	Output for the supply e.g. of a safety temperature limiter (provision on site)
3	Temperature limiter	Connection for temperature limiter provided on site for the protection of sensitive surfaces (optional)
4	Pump	Connector for controlling the pump
5	Boiler	Connector for controlling the boiler/output for CO pilot function
6	ECO	Potential-free input for connecting an external time switch
7	Changeover	Potential-free input (according to SELV) for external changeover signal
8	Dew point monitor	Potential-free input (according to SELV) for dew point monitor
9	syBUS	Connects several base stations for exchanging global system parameters with one another.
10	Actuators	Connectors for thermal actuators
11	RJ45 connector	Ethernet interface for integration of the receiver into the home network
12	RJ12 connector	Connector for active antenna
13	microSD card slot	Enables the import of firmware updates and individual

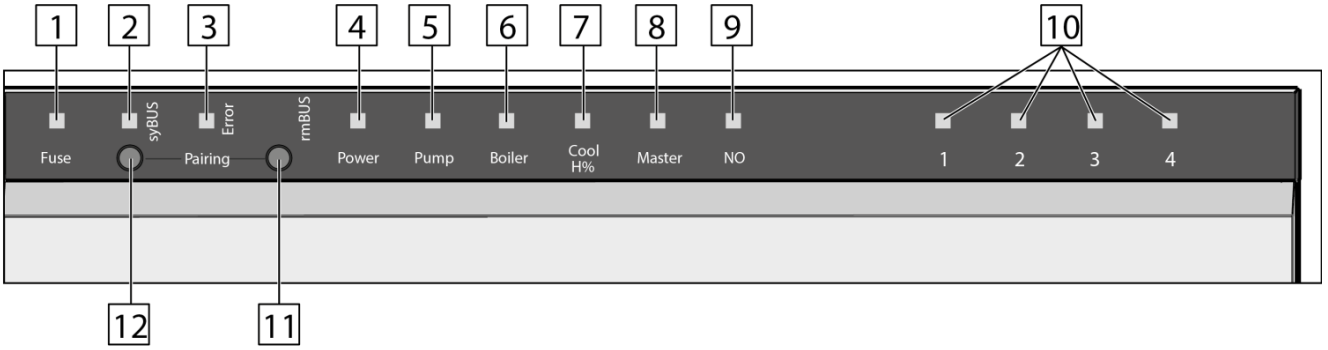
Electrical connection



1. Temperature limiter (STB)
2. Pump
3. Boiler
4. ECO (external time switch)
5. Changeover
6. Dew point monitor
7. Actuators

Electrical connection SystemBUS





No.	Name	LED	Function
1	Fuse	red	Lights up with defective fuse
2	syBUS	yellow	Shows activity of the syBUS, flashes with writing access to microSD card
3	Error	red	Lights up: Safety temperature limiter active
4	Power	green	Lights up: Base station on standby
5	Pump	green	Lights up: Pump control active
6	Boiler	green	Lights up with active boiler controlling when using the boiler relay for boiler control.
7	Cool H%	blue	Lights up: Cooling mode active flashes: Condensation determined
8	Master	yellow	Lights up: Base station configured as master flashes: Base station configured as slave
9	NO	yellow	Lights up: System is configured for NO drives (currentless-open).
10	Heating zones 1 - x	green	Shows the respective activity of the heating/cooling zones
11	rmBUS button	-	Control button for rmBUS functionality
12	syBUS button	-	Control button for syBUS functionality

Additional information at www.kekelit.com/control