

Installation instructions

for contractors



Divicon

Heating/cooling circuit distributor with mixer

Divicon



Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained



Danger

This symbol warns against the risk of injury.

Note

Details identified by the word "Note" contain additional information.



Please note

This symbol warns against the risk of material losses and environmental pollution.

Target group

These instructions are exclusively intended for qualified contractors.


- Work on gas installations may only be carried out by a registered gas fitter.
- Work on electrical equipment may only be carried out by a qualified electrician.

Safety instructions (cont.)

Regulations to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for environmental protection
- Codes of practice of the relevant trade associations
- Relevant country-specific safety regulations

Working on the system

- Where gas is used as the fuel, close the main gas shut-off valve and safeguard it against unintentional reopening.
 - Isolate the system from the power supply, e.g. by removing the separate fuse or by means of a mains isolator, and check that it is no longer live.
 - Safeguard the system against reconnection.
 - Wear suitable personal protective equipment when carrying out any work.
-  **Danger**
Hot surfaces and fluids can lead to burns or scalding.
- Before maintenance and service work, switch off the appliance and let it cool down.
 - Never touch hot surfaces on the boiler, burner, flue system or pipework.

Safety instructions (cont.)

- ! **Please note**
Electronic assemblies can be damaged by electrostatic discharge.
Prior to commencing work, touch earthed objects such as heating or water pipes to discharge static loads.

Repair work

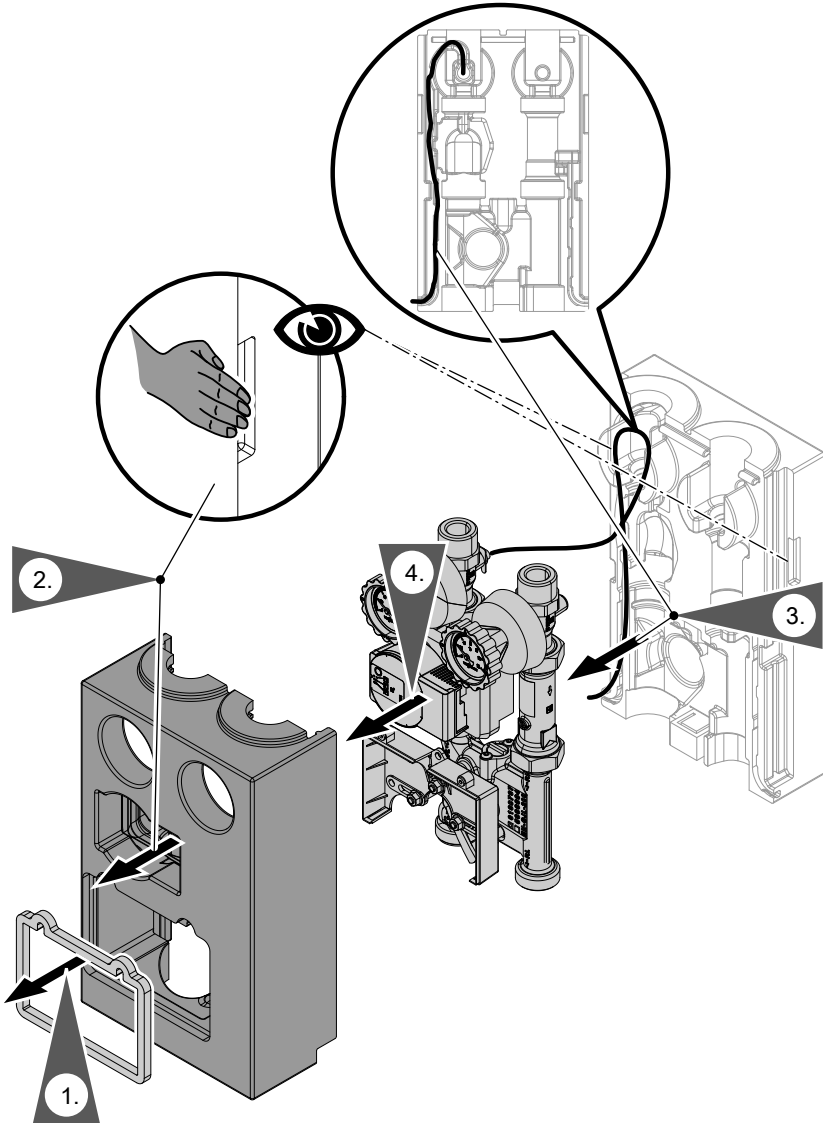
- ! **Please note**
Repairing components that fulfil a safety function can compromise the safe operation of the system.
Replace faulty components only with genuine Viessmann spare parts.

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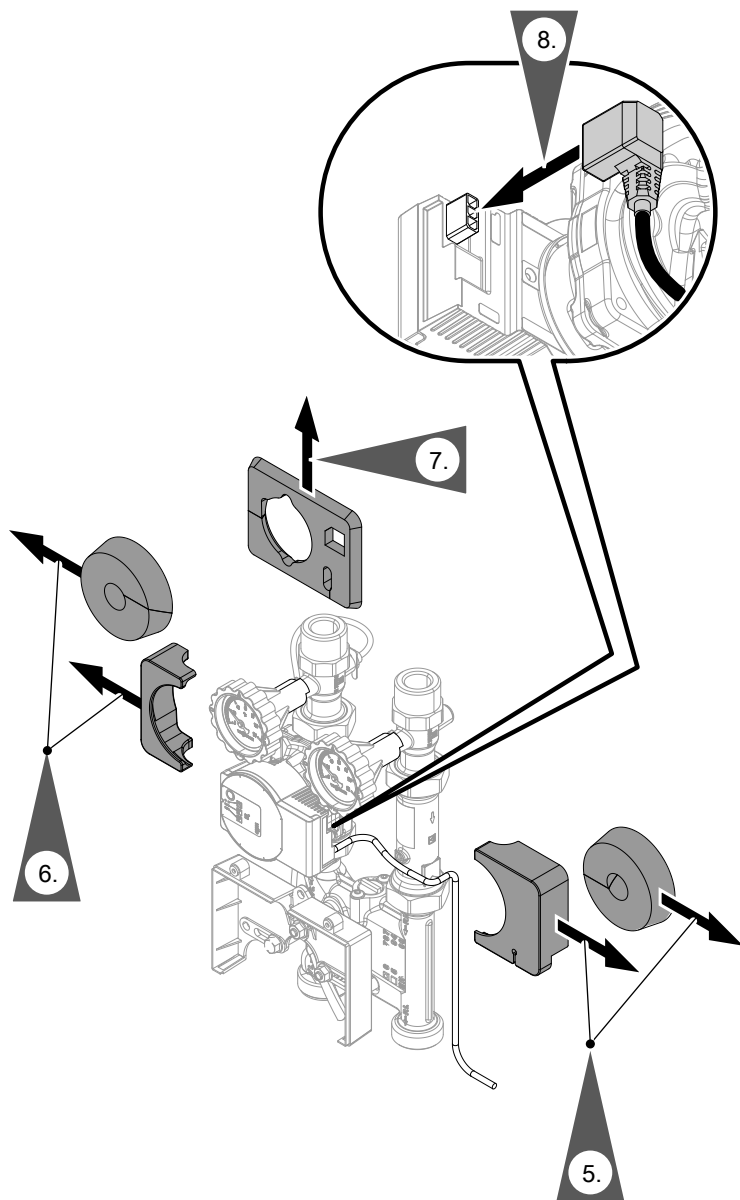
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Preparing for installation

Removing the thermal insulation

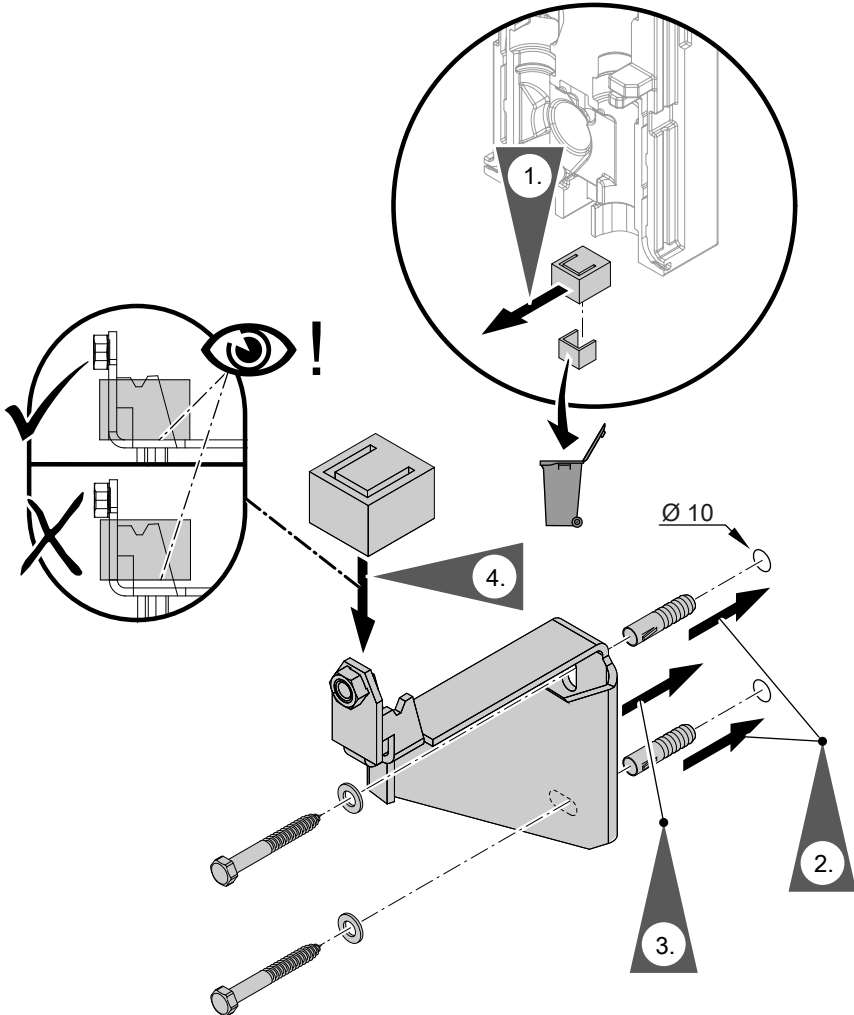


Preparing for installation (cont.)



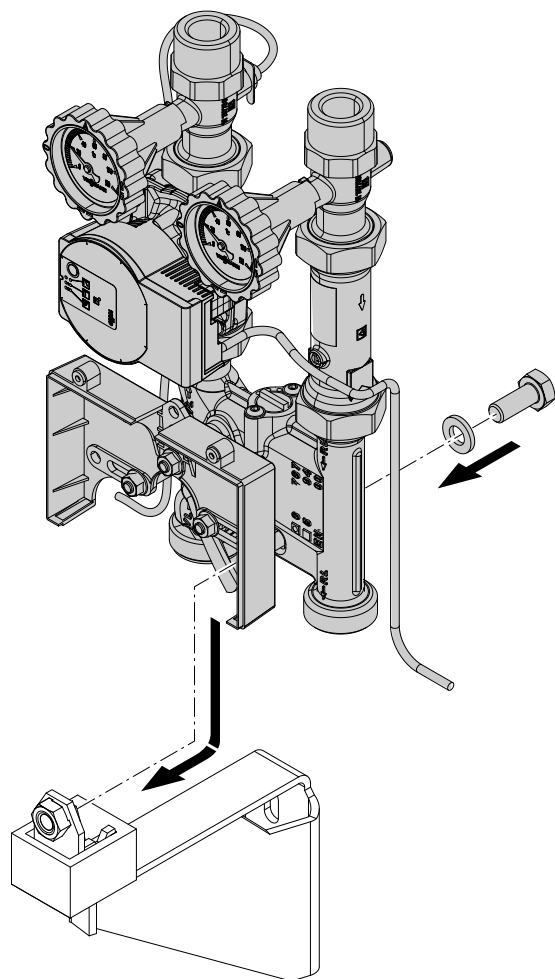
Wall mounting

Fitting the wall mounting bracket



Wall mounting (cont.)

Fitting the Divicon to the wall mounting bracket

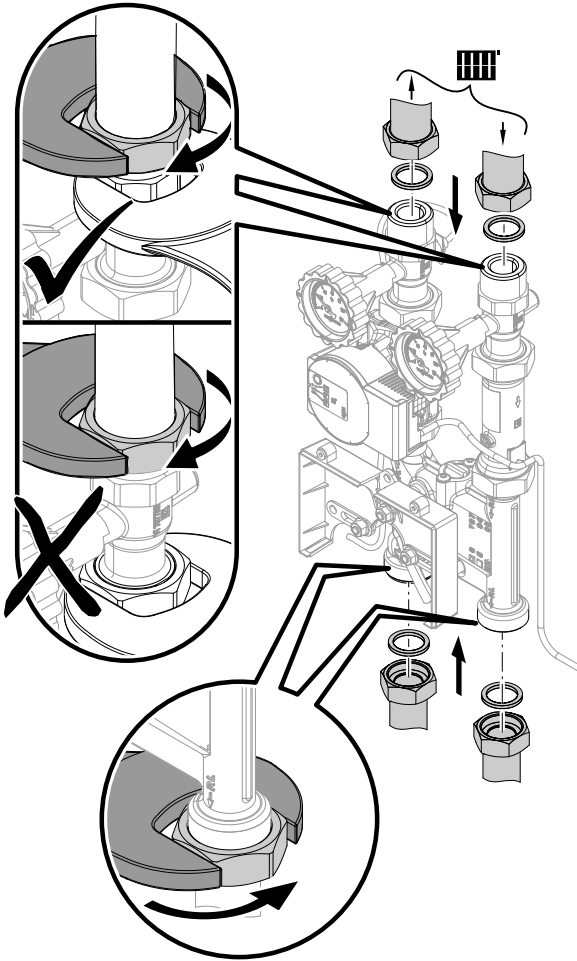


Wall mounting with manifold (accessories): See separate installation instructions for the manifold.

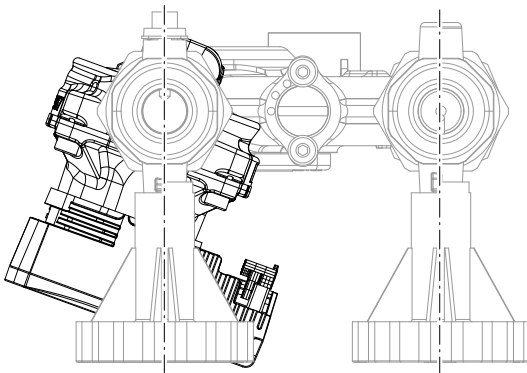
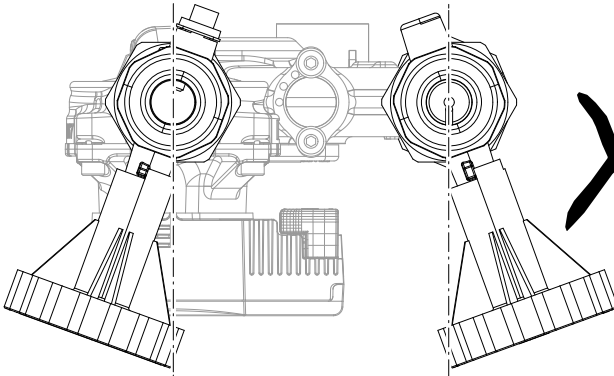
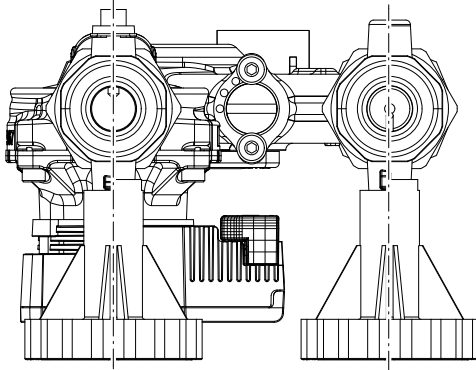


Manifold installation instructions

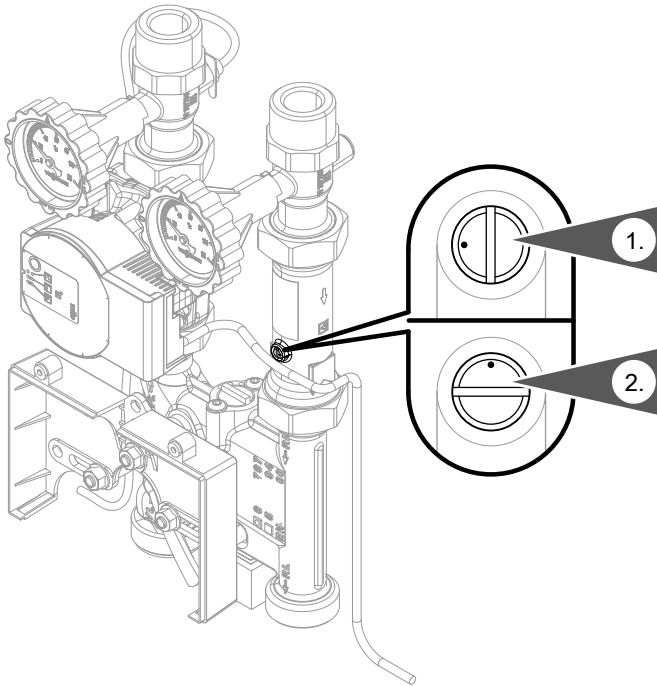
Connecting the heating/cooling circuit



Connecting the heating/cooling circuit (cont.)



Filling the system



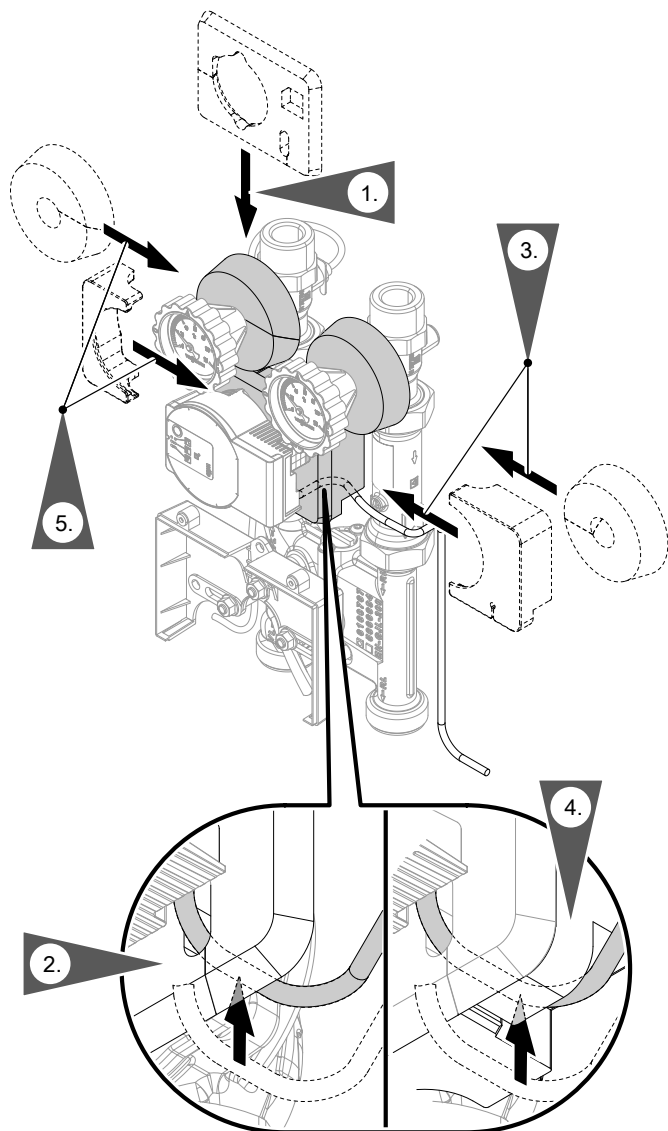
1. For filling (with heating water), open the check valve in the heating return. To do so, move the slot of the screw to a vertical position.
2. For operation, position the slot of the screw in the horizontal position.

Note

Observe the marking on the adjusting screw.

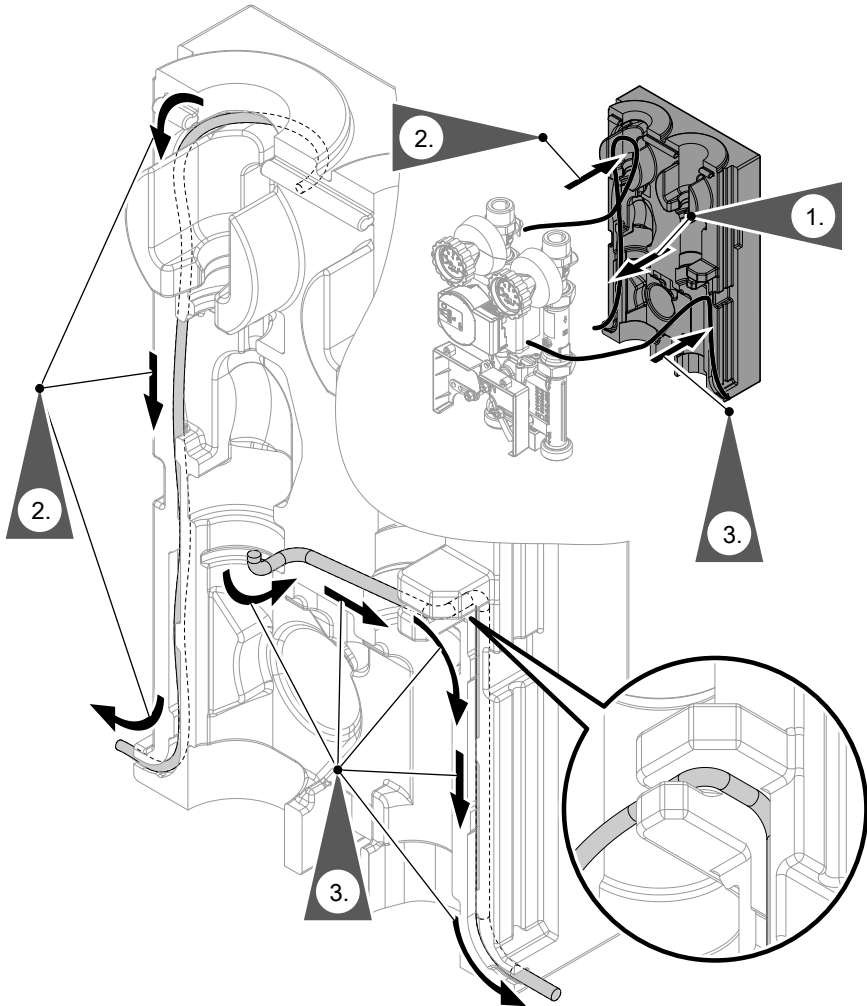
Fitting the mixer and thermal insulation

Fitting the insulating parts on the inside



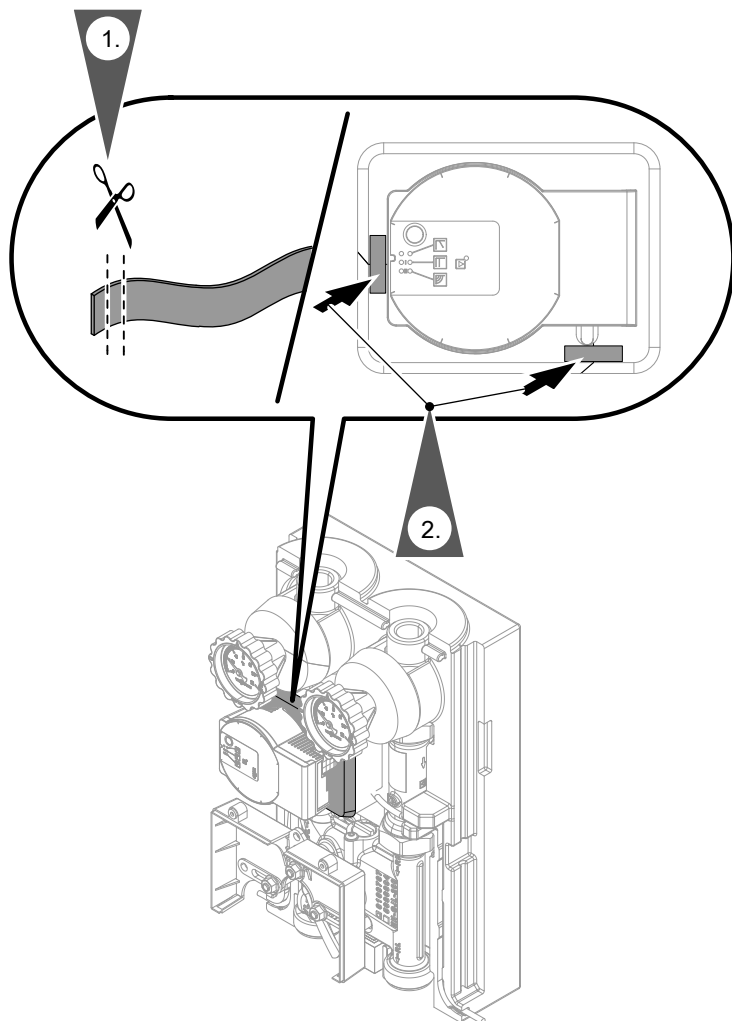
Fitting the mixer and thermal insulation (cont.)

Fitting the insulating parts at the back

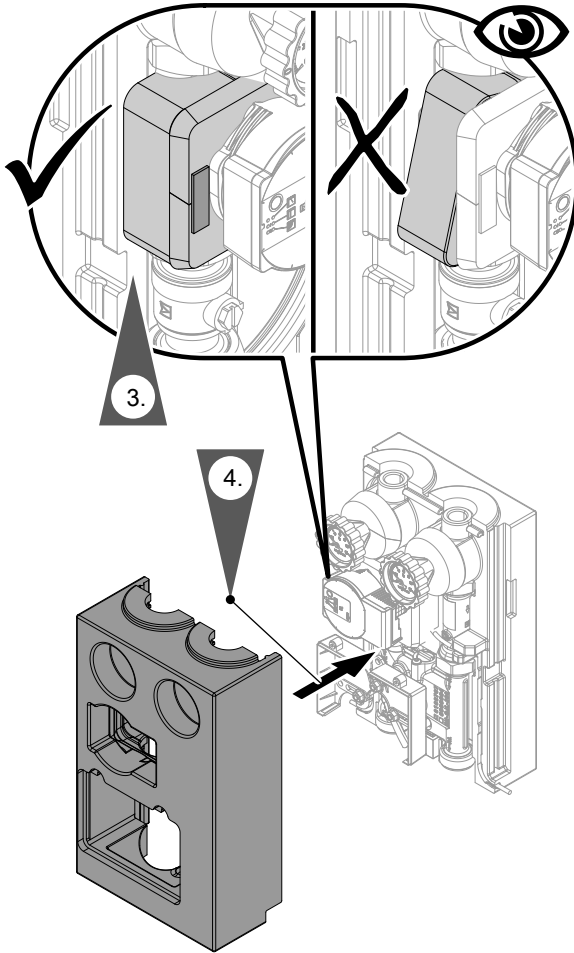


Fitting the mixer and thermal insulation (cont.)

Fitting the insulating parts at the front

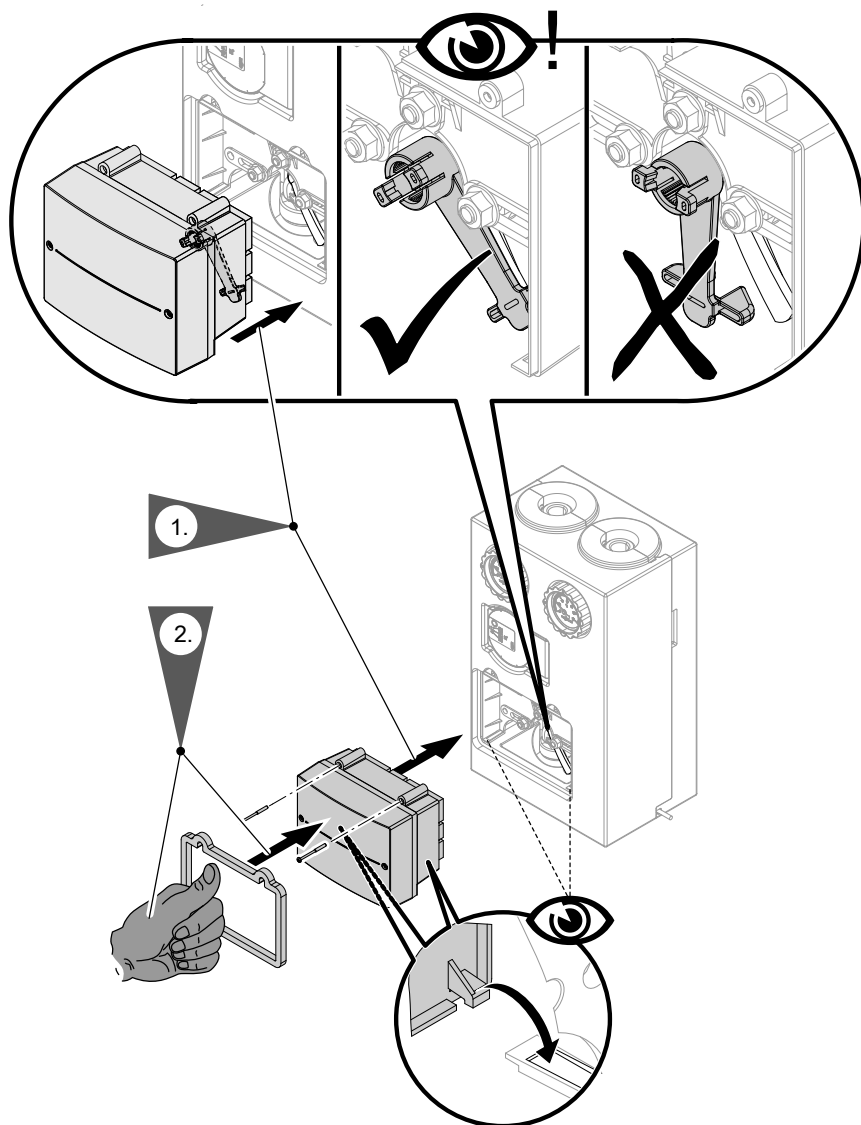


Fitting the mixer and thermal insulation (cont.)

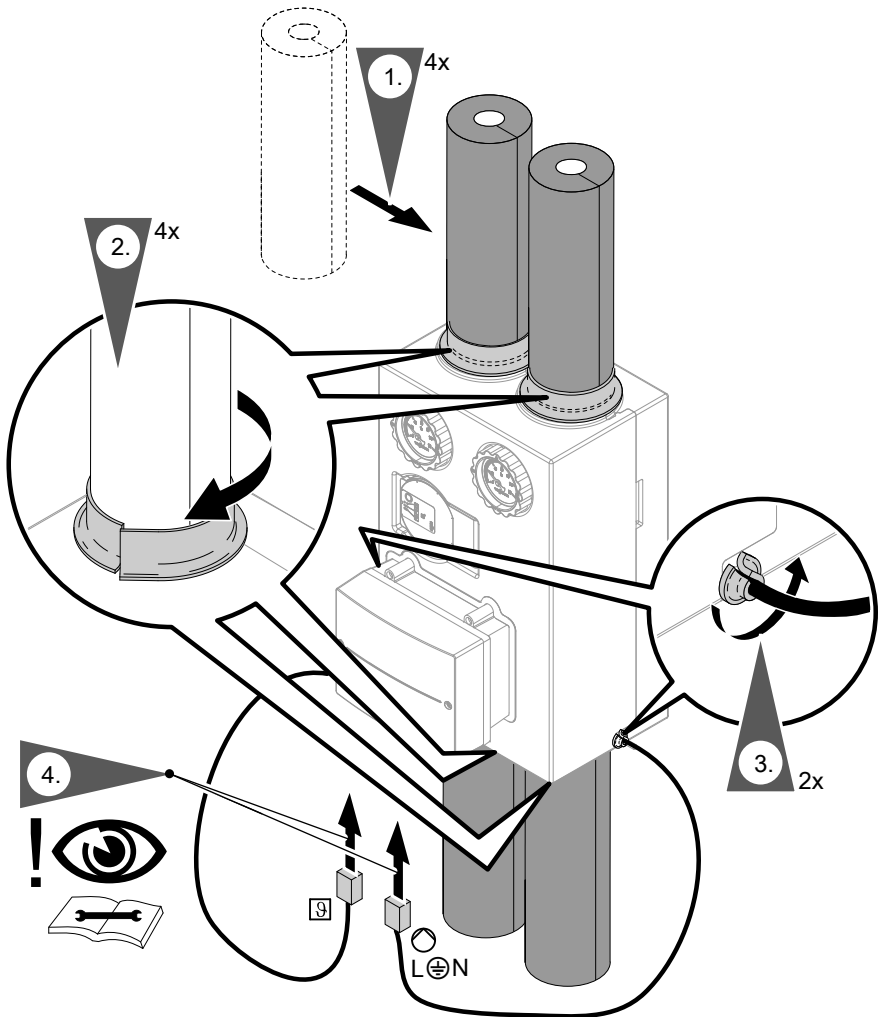


Fitting the mixer and thermal insulation (cont.)

Fitting the mixer



Sealing the thermal insulation



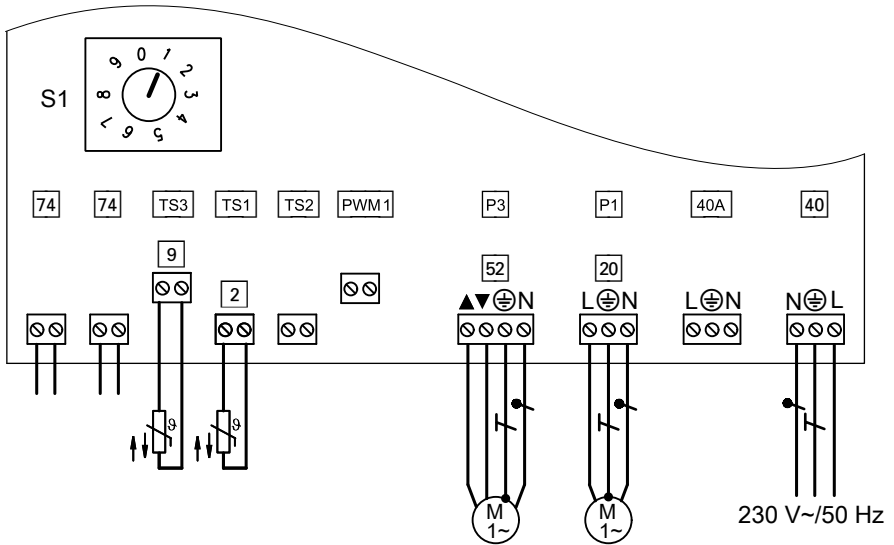
1. Fit the pipe insulation such that it is airtight.
2. Cover the joints between the insulating parts with insulating tape.

Extension kit with mixer PCB

Note

Bundle individual wires from the connecting cables directly below the plugs and secure with cable ties.

Overview of electrical connections



Plug 230 V~

- P1 20 Heating circuit pump
- P3 52 Mixer motor
- 40 Power supply
- 40A Power supply for accessories

LV connections

- PWM1 No function
- S1 Rotary switch for subscriber number addressing
- TS1 2 Flow temperature sensor
- TS2 No function

- TS3 9 Temperature sensor, low loss header (not for heat pumps)

Note

On heat pumps: Connect according to the system scheme: See www.viessmann-schemes.com.

- 74 PlusBus

Extension kit with mixer PCB (cont.)



Please note

Electronic assemblies can be damaged by electrostatic discharge.

Prior to commencing any work, touch earthed objects such as heating or water pipes to discharge static loads.

Note

Apply strain relief to on-site cables.

Seal any unnecessary apertures with cable grommets (not cut open).



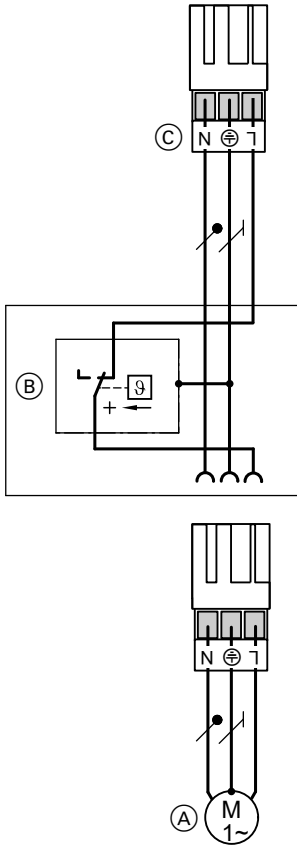
Danger

Incorrect wiring can lead to serious injury from electrical current and result in appliance damage. Take the following measures to prevent wires drifting into the adjacent voltage area:

- Route extra low voltage (ELV) leads < 42 V separately from cables > 42 V/230 V~/400 V~. Secure with cable ties.
- Strip as little of the insulation as possible, directly before the terminals. Bundle the cables close to the corresponding terminals.
- If 2 components are connected to the same terminal, press both cores together in a **single** wire ferrule.
- When connecting external switching contacts and on-site components, observe the insulation requirements of IEC/EN 60335-1.

Extension kit with mixer PCB (cont.)

Connecting the temperature limiter to restrict the maximum temperature (accessories)



- (A) Heating circuit pump
- (B) Temperature limiter
- (C) Plug 20 to mixer extension kit

Electromechanical temperature limiter using the liquid expansion principle

- Switches off the heating circuit pump if the set value is exceeded.
- The flow temperature is only slowly reduced in this situation. It may take several hours before the system restarts again automatically.
- Connection: Screw terminals for 1.5 mm²

Specification

Setting range	30 to 80 °C
Switching differential	
■ Immersion thermostat	Max. 11 K
■ Contact thermostat	Max. 14 K

Extension kit with mixer PCB (cont.)

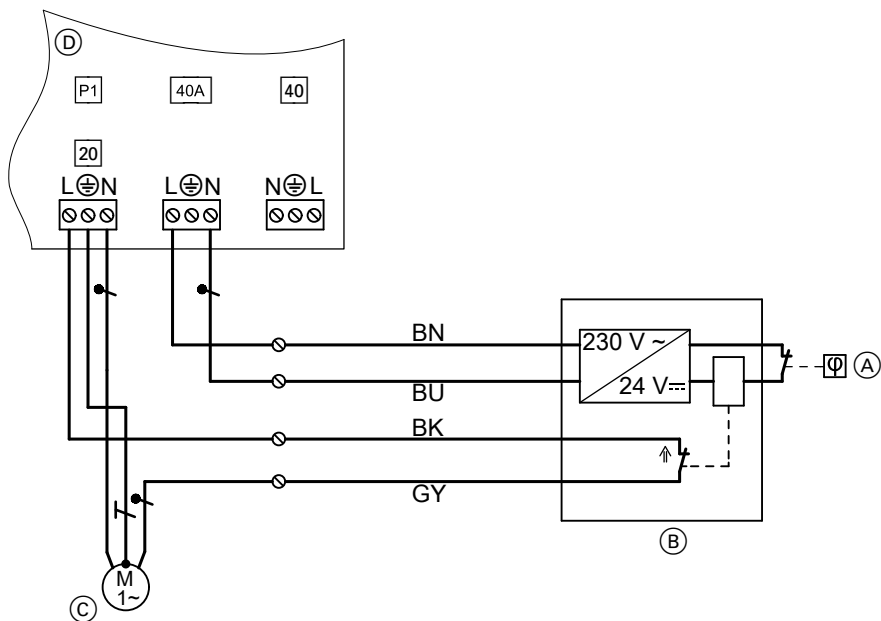
Connecting the contact humidistat

Connecting the 230 V~ contact humidistat to the mixer extension kit

For heat pumps with Viessmann One Base and a buffer cylinder, the "ADIO electronics module" mixer extension kit is always required to connect the contact humidistat.

If a temperature limiter to restrict the maximum temperature and a contact humidistat are installed on a heating/cooling circuit:

Connect the temperature limiter and contact humidistat in series.



- (A) Contact humidistat
- (B) 24 V~ / 230 V~ converter

- (C) Heating/cooling circuit pump
- (D) Mixer extension kit

Extension kit with mixer PCB (cont.)

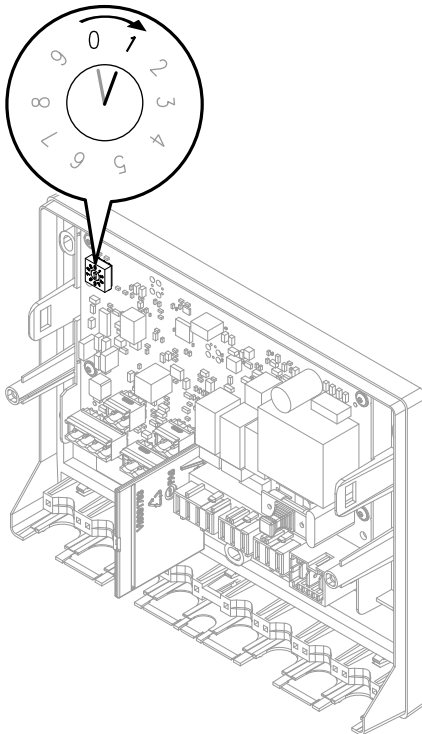
Connecting the 24 V_~ contact humidistat directly to the heat pump

Depending on the heat pump type and system equipment, 1 to 2 contact humidistats can be connected directly to the heat pump:



Heat pump installation and service instructions

Rotary switch S1



If several mixer extension kits are being connected, set rotary switch S1.

Set the rotary switch on each extension kit to a consecutive number:

- Heating/cooling circuit with mixer M2: Rotary switch to 1
- Heating/cooling circuit with mixer M3: Rotary switch to 2
- Heating/cooling circuit with mixer M4: Rotary switch to 3

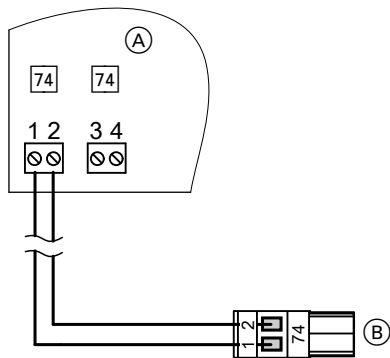
Note

If additional EM-P1 extensions are connected, always set the subscriber numbers for the EM-P1 extensions to consecutive numbers after the mixer extension kits.

Note

On heat pumps: The cooling circuits are assigned via the programming unit or through the ViGuide service app.

Connecting the PlusBus to the heat generator



- (A) Extension (electronics module)
- (B) PlusBus to heat generator

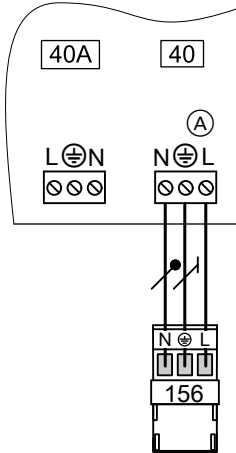
For connection to heat generators with external plug, luster terminals or spring-loaded terminals:
For the bus connection, disconnect plug 74. Connect the wires directly. The wires are interchangeable.



Heat generator installation and service instructions

Power supply

Power supply at heat generator



Example: Power supply with plug 156

- A Extension (electronics module)
- 40 Power supply
- 40A Power supply for further accessories
- 156 Plug for heat generator accessories power supply

Connect the power cable to the extension.

Route the power cable to the heat generator and connect to plug 156.

Observe the fuse protection of the contact (output) on the heat generator.

If the power supply is connected to another accessory, use plug 40A provided.



Heat generator installation and service instructions



Danger

Incorrect core assignment can result in serious injury and damage to the appliance.

Do not interchange cores "L" and "N".

If there is no plug 156 at the heat generator:

- Use a separate power supply. See the following chapter.

Or

-



Heat generator installation and service instructions

Separate power supply

If the power supply for the extension is **not** made at the heat generator.

Extension kit with mixer PCB (cont.)



Danger

Incorrect electrical installations can lead to serious injury from electrical current and result in appliance damage.

Connect the power supply and implement all safety measures (e.g. RCD circuit) in accordance with the following regulations:

- IEC 60364-4-41
- VDE regulations
- TAR medium voltage VDE-AR-N-4110
- Connection conditions of the local grid operator



Danger

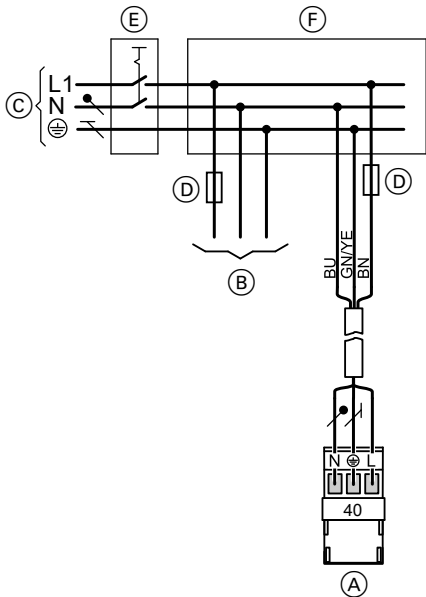
The absence of system component earthing can lead to serious injury from electric current if an electrical fault occurs.

The appliance and pipework must be connected to the equipotential bonding of the building.

Isolators for non-earthed conductors

- The mains isolator (if installed) must simultaneously isolate from the mains all non-earthed conductors with a minimum contact separation of 3 mm.
- If **no** mains isolator is installed, isolate all non-earthed conductors from the power supply by the upstream circuit breaker with a minimum contact separation of 3 mm.

Extension kit with mixer PCB (cont.)



- (A) Power supply for extension (electronics module)
- (B) Power supply for heat generator
- (C) Power supply 1/N/PE, 230 V/50 Hz
- (D) Fuse (max. 16 A)
- (E) Mains isolator, 2-pole, on site
- (F) Junction box (on site)

Connect the power supply in accordance with the diagram.

If the power supply to the appliance is connected with a flexible power cable, ensure that the live conductors are pulled taut before the earth conductor in the event of strain relief failure. The length of the earth conductor wire will depend on the design.



Danger

Incorrect core assignment can result in serious injury and damage to the appliance. Never interchange cores "L" and "N".



Please note

Incorrect phase sequence can cause damage to the appliance. Ensure phase equality with the heat generator power supply.

Colour coding to IEC 60757

BN Brown

BU Blue

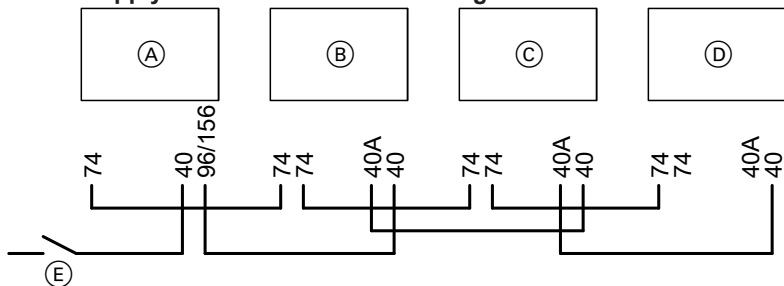
GNYE Green/yellow

Extension kit with mixer PCB (cont.)

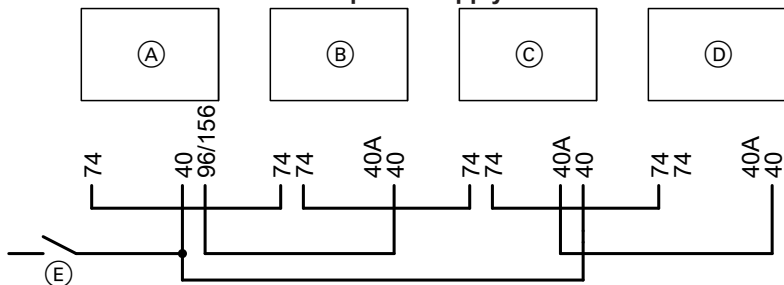
Connecting several accessories

Power supply and PlusBus connection

Power supply to all accessories via heat generator control unit



Some accessories with direct power supply



- | | | | |
|-----|---|--------|--|
| (A) | Heat generator control unit | (E) | ON/OFF switch |
| (B) | Mixer extension kit for heating/
cooling circuit with mixer M2 | 40 (A) | Power supply |
| (C) | Mixer extension kit for heating/
cooling circuit with mixer M3 | 74 | PlusBus |
| (D) | Further accessories | 96/156 | Accessories power supply in
the control unit of the heat
generator |

Extension kit with mixer PCB (cont.)

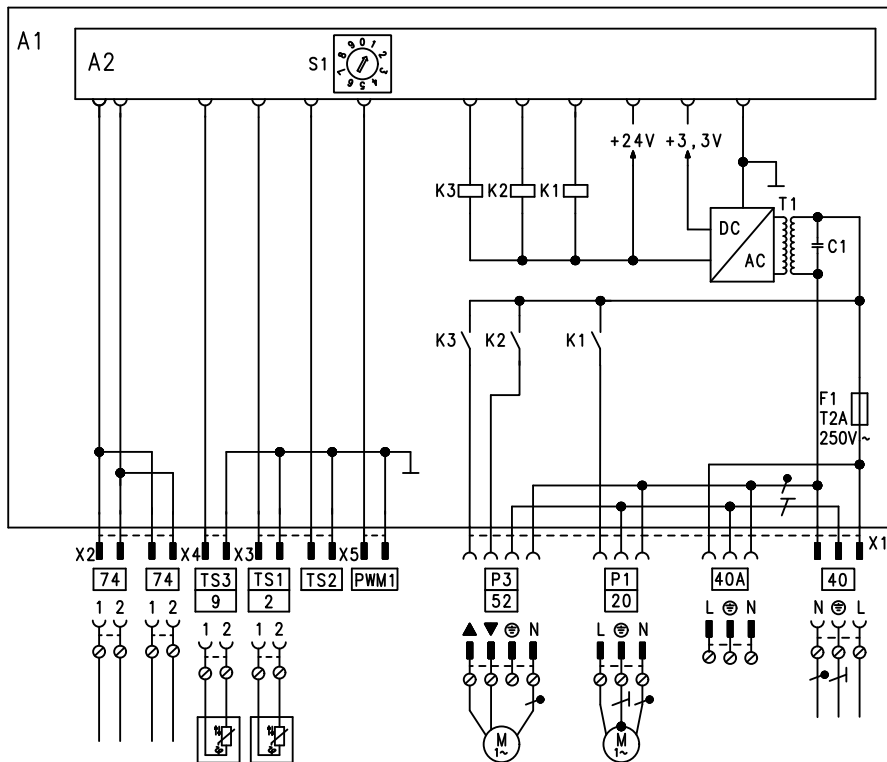
- In the following circumstances, use the output for the accessories only to switch an on-site relay:
An actuator (e.g. circulation pump) with a higher power demand than the fuse rating required for the accessories is connected at the accessories output.
- In the following circumstances, connect one or more accessories directly to the mains supply via an ON/OFF switch:
The max. permissible total current of the control unit for the heat generator is exceeded.
Separate power supply: See the following chapter.

Note

*In this event, the accessories concerned **cannot** be isolated with the ON/OFF switch on the control unit.*

Extension kit with mixer PCB (cont.)

Connection and wiring diagram



A1 Mixer extension kit PCB

A2 Electronics

F1 Fuse

S1 Rotary switch for subscriber number addressing

230 V~ plugs

P1 20 Heating circuit pump

P3 52 Mixer motor

40 230 V/50 Hz power supply

40A Power supply for accessories

TS2 No function

TS3 9 Temperature sensor, low loss header (not for heat pumps)

74 PlusBus connection for connecting to the heat generator and another accessory

Extra low voltage (ELV) plugs

PWM1 No function


TS1 2 Flow temperature sensor

Commissioning

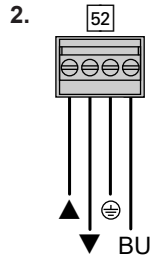


Heat generator installation and service instructions

Changing the rotational direction (if required)

-  **Danger**
An electric shock can be life threatening.
Before opening the boiler, disconnect it from the mains voltage, e.g. at the fuse or mains isolator.

Remove the casing cover (see chapter "Overview of electrical connections").



Switch cores BK ▲ and BK ▼ on plug 52.

- Refit the casing cover.
- Check the rotational direction.

Specification

Rated voltage	230 V~
Rated frequency	50 Hz
Rated current	2 A
Power consumption	5.5 W
Protection class	I
IP rating	IP 20 D to EN 60 529; ensure through design/installation.
Permissible ambient temperature	
■ During operation	0 to 40 °C
■ During storage and transport	-20 to +65 °C
Rated relay output breaking capacity	
■ Heating circuit pump	1 A 230 V~
■ Mixer motor	0.1 A 230 V~

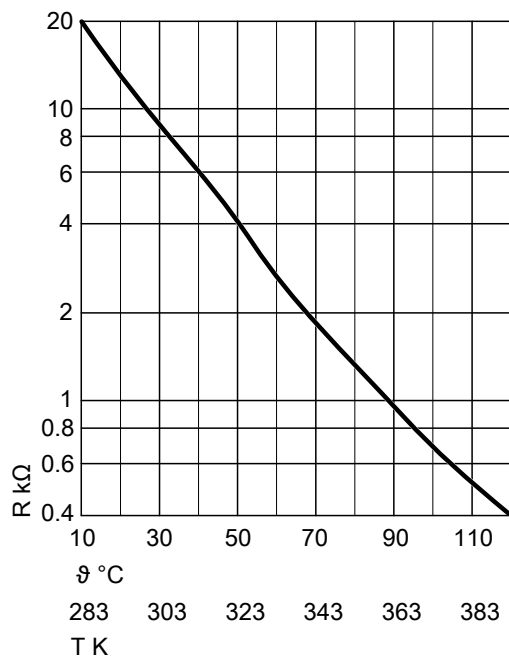
Flow temperature sensor/low loss header temperature sensor (separate accessories)

(Not for heat pumps)

Sensor type	NTC 10 kΩ, at 25 °C
IP rating	IP 53 to EN 60529; ensure through design/installation.
Permissible ambient temperature	
■ Operation	0 to 120 °C
■ Storage and transport	-20 °C to +70 °C

Specification (cont.)

Curve



Declaration of conformity for extension kit

We, Viessmann Climate Solutions SE, D-35108 Allendorf, declare as sole responsible body that the named product complies with the European directives and supplementary national requirements in terms of its design and operational characteristics.

Using the serial number, the Declaration of Conformity can be found on the following website:

www.viessmann.co.uk/eu-conformity





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6176323 Subject to technical modifications.