

# Installation instructions

## for contractors



## Extension EA1

Part no. 7429 151

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### 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.



##### **Please note**

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

##### **Note**

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

Installation, initial start-up, inspection, maintenance and repairs must only be carried out by a competent person (heating engineer/installation contractor).

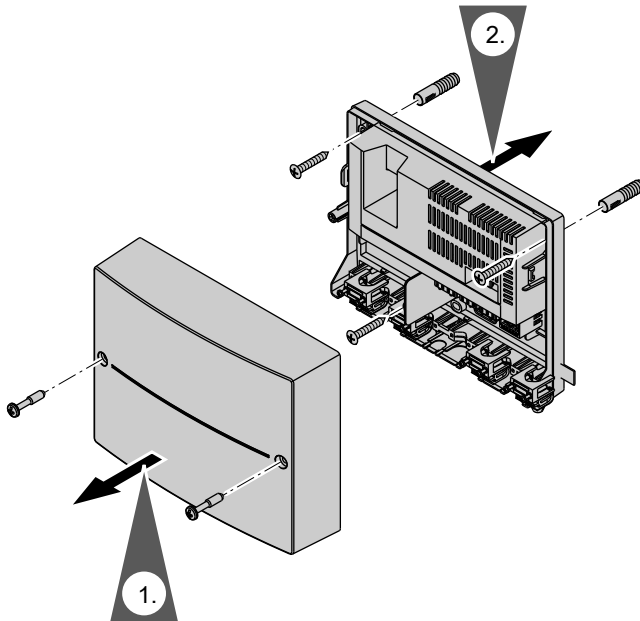
Before working on the equipment/heating system, isolate the power supply (e.g. by removing a separate mains fuse or by means of a mains isolator) and safeguard against unauthorised reconnection.

When using gas as fuel, also close the main gas shut-off valve and safeguard against unauthorised reopening.

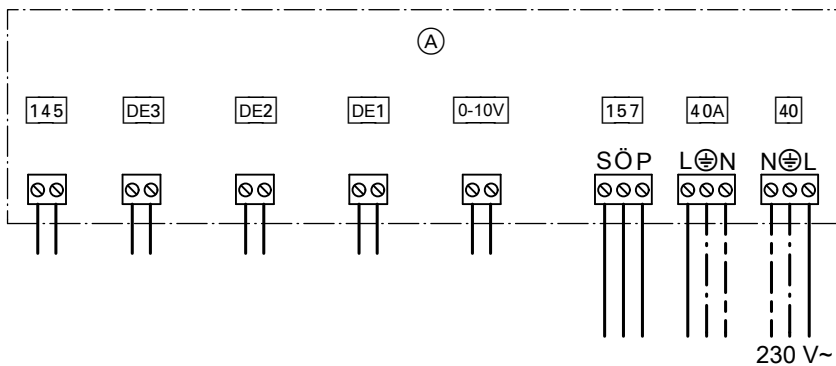
Repairing components which fulfil a safety function can compromise the safe operation of your heating system.

For replacements, use only original spare parts supplied or approved by Viessmann.

## Mounting on the wall



## Overview of electrical connections



DE1 Digital input 1  
 DE2 Digital input 2  
 DE3 Digital input 3

0 - 10 V 0 - 10 V input  
 40 Power supply [terminals]

## Overview of electrical connections (cont.)

- 40**A Power supply terminal for additional accessories
- 157** Central fault message facility/  
Feed pump/DHW circulation pump (zero volt)

- 145** KM BUS to the control unit  
**(A)** Extension EA1



### Please note

Electronic modules can be damaged by electrostatic charges. Before beginning work, touch earthed objects, such as heating or water pipes, to discharge static loads.

### Note

*Apply a strain relief to all on-site cables. Close any unnecessary knockouts with cable grommets (not cut open).*

## Connecting digital inputs

The following functions can be connected differently:

- External heating program changeover for each heating circuit
- External blocking
- External blocking with central fault message
- External demand with set flow temperature

- Central fault message
- Short activation of the DHW circulation pump

The hooked-up contacts must correspond to protection class II.

## Function allocation of inputs DE1 to DE3

Select the input functions via the coding at the boiler control unit:

- DE1: Code 3A
- DE2: Code 3b
- DE3: Code 3C

Subject to function and digital input selected for the respective function, the following codes need to be changed at the boiler control unit:

Function	Setting Codes 3A, 3b, 3C
No function	0
Heating program changeover	1
External demand with set flow temperature	2
External blocking	3



## Connecting digital inputs (cont.)

Function	Setting Codes 3A, 3b, 3C
External blocking with fault message input	4
Fault message input	5
Short operation, DHW circulation pump	6

### Assigning the function heating program changeover to the heating circuits

Assign the function heating program changeover for the respective heating circuit via code d8 at the boiler control unit:

- Changeover via input DE1: Code d8:1
- Changeover via input DE2: Code d8:2
- Changeover via input DE3: Code d8:3
  
- Select the effect of the heating program changeover via code d5:
- Set the duration of the changeover via code F2.

### Effect on the pumps of function External blocking

- Select the effect on the internal boiler circulation pump with code 3E.
- Select the effect on the respective heating circuit pump with code d6.

### Effect on the pumps of function External demand

- Select the effect on the internal boiler circulation pump with code 3F.
- Select the effect on the respective heating circuit pump with code d7.

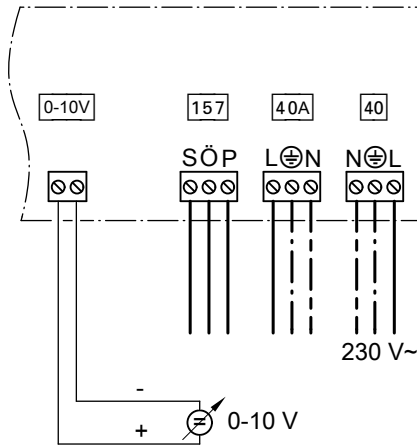
### Runtime of the DHW circulation pump

The runtime is set in code 3d.



Boiler service instructions

## Connecting the analogue input 0 - 10 V



The 0 – 10 V hook-up provides an additional set boiler water temperature:

0 - 1 V taken as "no default set boiler water temperature".

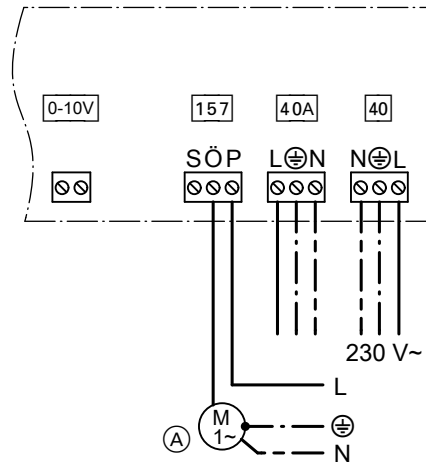
1 V  $\hat{=}$  set value 10 °C

10 V  $\hat{=}$  set value 100 °C

## Connecting a circulation pump or a fault message facility

The following components can be connected to plug **157**:

- Feed pump to substation  
or
- DHW circulation pump  
or
- Fault message facility



(A) Circulation pump or fault message facility

## Connecting a circulation pump or a fault... (cont.)

Rated voltage (max):	230 V
Rated current (max):	2 (1) A~
Recommended connecting cable:	H05VV-F3G 0.75 mm <sup>2</sup> or H05RN-F3G 0.75 mm <sup>2</sup>

### Function assignment

Select the function of output 157 via code 36 at the boiler control unit. If a digital input is used as fault message input, the connected fault message facility is switched on in case a fault occurs.



Boiler service instructions

Contact P-Ö is open if the relay of output 157 is switched.

Contact P-Ö is closed if extension EA1 develops a fault or in case of interrupted communication.

#### **Note**

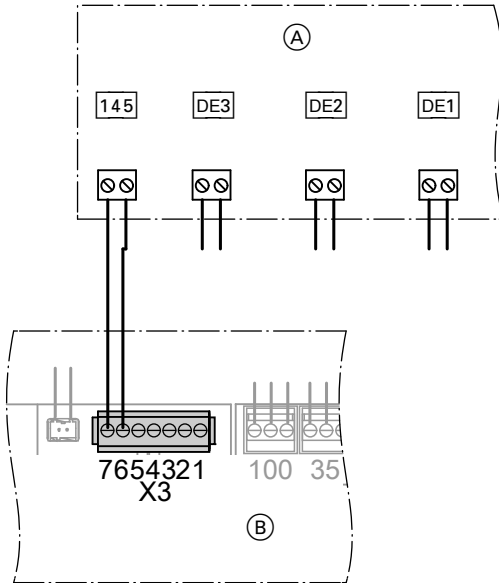
*If a fault message facility is connected, this will be activated briefly when the system starts.*

## Connecting the KM BUS to the boiler control unit

#### **Note**

*Remove plug 145 of the cable supplied before connecting the KM BUS to terminal X3.*

## Connecting the KM BUS to the boiler control unit (cont.)



## Power supply [terminals]

### Connecting to the boiler control unit or additional accessories

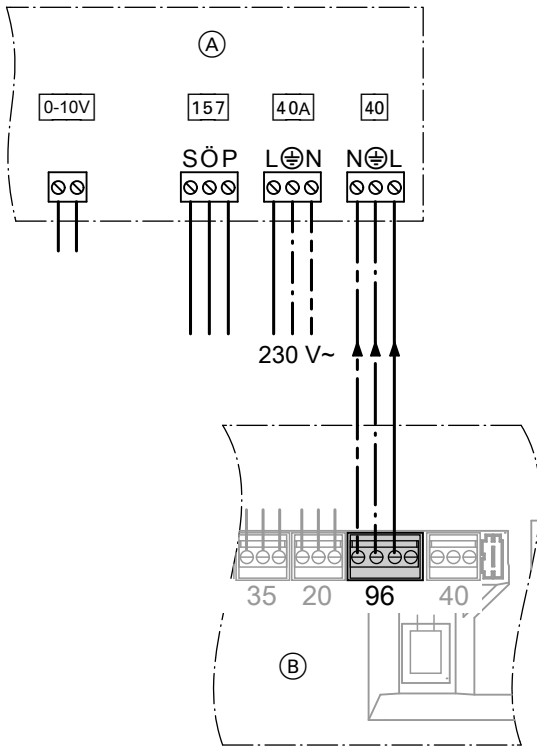


#### **Danger**

Incorrect core termination can cause severe injuries and damage to the equipment.

Never interchange cores "L" and "N".

## Power supply [terminals] (cont.)





## Power supply [terminals] (cont.)

### Connecting directly to the mains power supply



#### Danger

Incorrectly executed electrical installations can lead to injury from electrical current and result in equipment damage.

Make the power connection (see page 2) and implement all earthing measures (e.g. RCD circuit) in accordance with the following regulations:

- IEC 60364-4-41
- VDE requirements
- Requirements specified by your local power supply utility
- Protect the power cable with 16 A max.



#### Danger

The absence of component earthing in the system can lead to serious injury from electrical current if an electrical fault occurs. The equipment and the pipework must be connected to the earth bonding of the house in question.

#### Isolator for non-earthed conductors

- The main isolator (if installed) must simultaneously isolate all non-earthed conductors from the mains with a minimum contact separation of 3 mm.
- If **no** main isolator is installed, all non-earthed cables must be isolated from the mains by the upstream breaker with at least 3 mm contact separation.



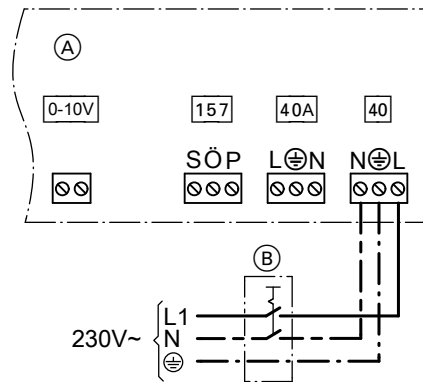
#### Danger

Incorrect core termination can cause severe injuries and damage to the equipment. Never interchange cores "L" and "N".



#### Please note

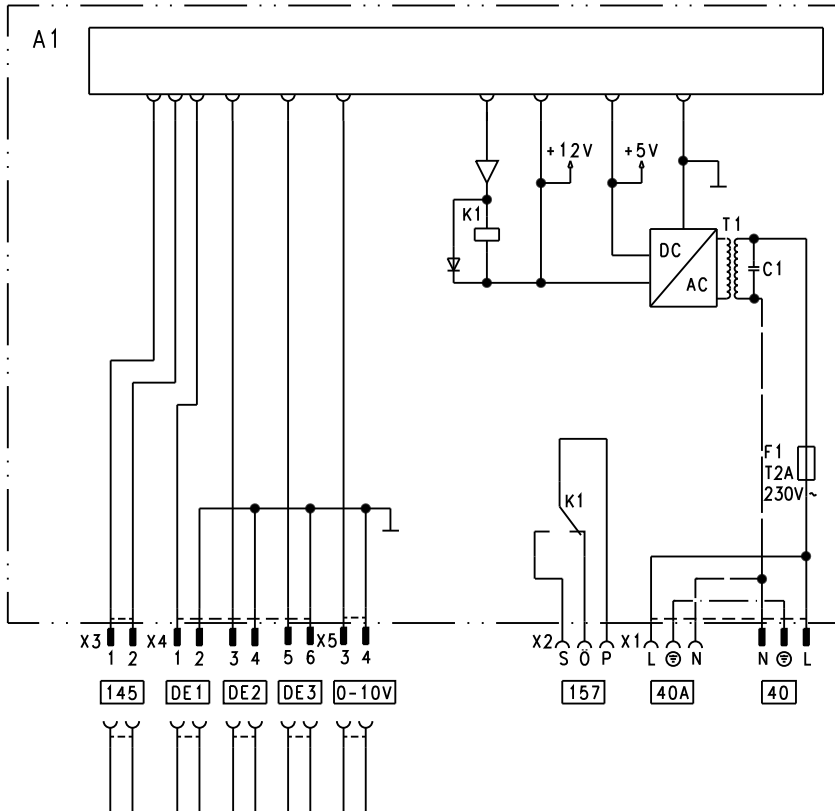
An incorrect phase sequence can cause damage to the unit. Check for phase equality with the power supply connection of the control unit.



(A) Extension EA1

(B) Main isolator (if required)

## Connection and wiring diagram



- DE1 Digital input 1
- DE2 Digital input 2
- DE3 Digital input 3
- 0 - 10 V 0 - 10 V input
- 40 Power supply [terminals]
- 40A Power supply terminal for additional accessories

- 157 Fault message facility/Feed pump/DHW circulation pump (zero volt)
- 145 KM BUS to the control unit Extension EA1
- (A)

## Specification

Rated voltage	230 V~
Rated frequency	50 Hz
Rated current	2 A
Power consumption	1.5 W
Protection class	I
IP rating	IP32 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 breaking capacity, zero volt output <span style="border: 1px solid black; padding: 0 2px;">157</span>	2 (1) A 230 V~

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