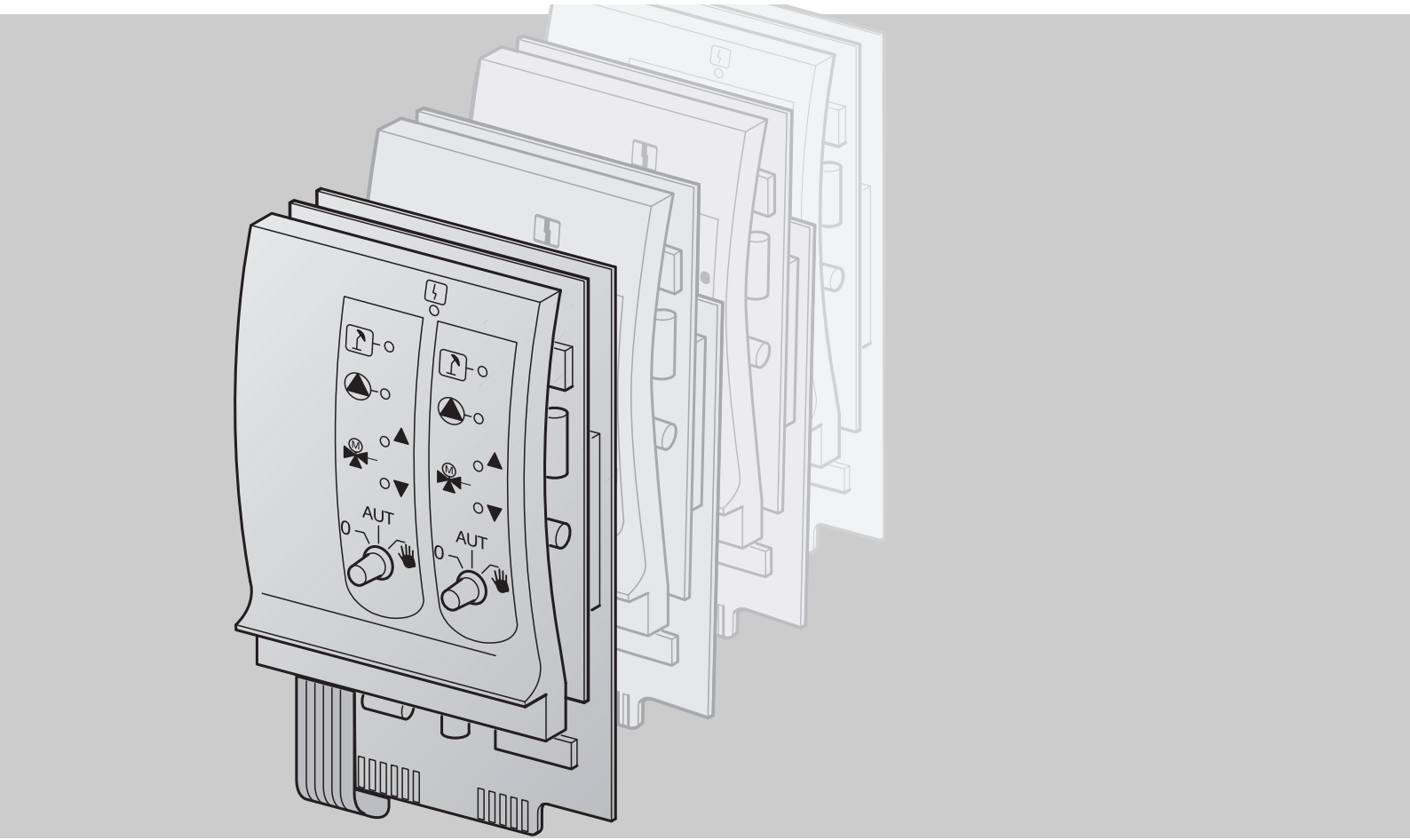
Библиотека СОК

Mounting Instructions

Modules for control units CSM 7x0, CFB 8x0 and CFB 9x0



FM441/CMM 910
FM442/CMM 920
FM443/CMS 910
FM444/CMG 910
FM448/CMB 900-0-10V

FM455/CMC 900
FM457/CMC 920
FM458/CMC 930

6 720 803 029 (2011/08) GB/IE/AU

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1 Introduction

These mounting instructions explain installation of the function modules CMx in the control unit series CSM 7x0, CFB 8x0 and CFB 9x0.

USER INFORMATION

Generally, these installation instructions can also be used for installing other modules, as the procedure is similar.

1.1 Definition of the various modules

Definitions
CM = Controller module
CMx = Function module
NM = Power supply module
ZM = Central or auxiliary module

Tab. 1 Definition of modules

1.2 Modules and their designation

	Designation	Name
Controller module	**CM431**	Controller module
Power supply module	**NM482**	Power supply module
Central module	**ZM422**	Burner control + 1 heating circuit + 1 DHW circuit
	ZM424	Boiler control + 2 heating circuits + 1 DHW circuit
	ZM432	Burner + boiler circuit functions
	ZM433	External heat generation + 1 heating circuit
	ZM434	Burner + boiler circuit functions + 0 - 10 % burner control
	ZM425	Display module
Function module	**FM441/CMM 910**	1 heating circuit + 1 DHW circuit
	FM442/CMM 920	2 heating circuits
	FM443/CMS 910	Solar circuit
	FM444/CMG 910	Alternative heat generator
	FM448/CMB 900-0-10V	Central fault message
	FM455/CMC 900	KSE 1 (only with ZM424) with EMS
	FM456/CMC 910	KSE 2 (cascade – 2 wall mounted boilers) with EMS
	FM457/CMC 920	KSE 4 (cascade – 4 wall mounted boilers) with EMS
	FM458/CMC 930	Strategy + EMS
Auxiliary module	**ZM427/CME 930**	Boiler operating module

Tab. 2 Module designations

2 Safety

2.1 About these instructions

This chapter contains general safety instructions which must be observed when installing the function modules CMx in the control units CSM 7x0, CFB 8x0 and CFB 9x.

Also closely observe further safety instructions in other chapters of these installation instructions. Please read the safety instructions carefully before starting the installation.

If safety instructions are ignored, severe or even fatal injuries may result, as well as material losses and environmental damage.

2.2 Determined use

You can integrate the function modules CMx into the control units CSM 7x0, CFB 8x0 and CFB 9x0.

2.3 Standards and directives

CE

The design and operation of this product conforms to the European Directives and the supplementary national requirements. Its conformity is confirmed by the CE designation.

You may request the declaration of conformity for the product. See rear page for contact details of your local branch or from the relevant Bosch Thermotechnology branch.

2.4 Explanation of the symbols used

Two levels of danger are identified and signalled by the following terms:



RISK OF FATAL INJURY

Identifies possible risks associated with a product that might lead to serious injury or even death if appropriate care is not taken.



RISK OF INJURY / SYSTEM DAMAGE

Identifies potentially dangerous situations, which might lead to medium or slight injuries or to material damage



USER INFORMATION

User tips for the optimum utilisation and adjustment of the appliance plus other useful information.

2.5 Observe this information

The function modules CMx were designed and built according to the state of the art and the recognised safety-related standards.

However, material losses resulting from incorrect installation cannot be completely excluded.

Before installing the CM function modules, read these mounting instructions carefully.



RISK TO LIFE

from electricity.

- The installation, electrical wiring, commissioning, electrical connection, as well as maintenance and repairs must only be carried out by a competent contractor who adheres to all current technical regulations and requirements.
- Regional regulations should be observed in this regard!

Observe the following safety instructions during the installation of the function modules.



RISK TO LIFE

from electricity.

- Ensure that all electrical work is only carried out by an authorised electrician.
- Before opening the control unit: Isolate all poles of the power supply and secure against unintentional reconnection.



RISK TO LIFE

from electricity.

The risk of voltage flashes through unintentional loosening of the cores at the terminals between the 230 V and the LV[1)] must be prevented.

- Therefore fix the wires from each cable away from each other (e.g. with cable ties) or only strip the wire for a very short section.

1) LV-terminal - extra low voltage connection for sensors, volt free connections and BUS.



DAMAGE TO THE APPLIANCE

through electrostatic discharge (ESD).

- Before unpacking the modules touch a radiator or a earthed metal water pipe to discharge any electrostatic charge in your body.



USER INFORMATION

Ensure that a regulation isolator is available to disconnect all poles from the mains power supply. Install an isolator if none is available.



USER INFORMATION

Only use original replacement parts from Bosch Thermotechnology. Bosch Thermotechnology cannot take responsibility for losses caused by the use of parts not supplied by Bosch Thermotechniology.

2.6 Disposal

- Electronic components must not be disposed of with general domestic waste.
  Dispose of old modules correctly through an authorised disposal site.

3 Module assembly for control units CSM 7x0

This section describes the installation of the function modules CMx in the control units CSM 710 and CSM 750.

USER INFORMATION

- Check that all parts have been delivered.
  If this is not the case, contact a Bosch Thermotechnology branch.

3.1 Possible module installations for control units CSM 7x0

	Designation	CMS 7x0	
		CSM 750	CSM 710
Modules	CM431	O	O
	NM482	O	O
	ZM424	O	–
	FM441/CMM 910	–	X
	FM442/CMM 920	X	X
	FM443/CMS 910	X	X
	FM444/CMG 910	X	X
	FM448/CMB 900-0-10V	X	X
	FM455/CMC 900	O	–
	FM457/CMC 920	X	X

Tab. 3 Standard equipment of control units and extension options

O = Standard equipment
X = Accessories
– = Combination/installation not possible

3.2 Arrangement of the modules in the control unit (CSM 7x0)

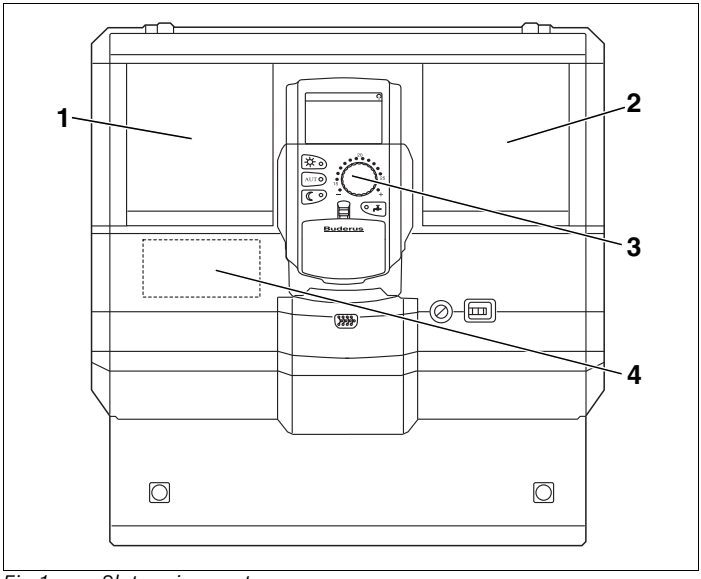


Fig 1 Slot assignment

1 Slot 1

2 Slot 2

3 Slot B behind the programming unit

4 Slot A for function module FM455/CMC 900 (only for CSM 750)

ZM424 and FM455/CMC 900 (only for CSM 750)

The module FM455/CMC 900 always occupies slot A (→ Fig. 1, [4]) and the module ZM424 slot 1 (→ Fig. 1, [1]).

FM457/CMC 920

Control units which contain the function module FM457/CMC 920 should be set as master. (Set as 0 if only one CSM 7x0 used, set as 1 if more than 1 CSM 7x0 used). Make this setting at the CM431 controller module.

3.3 Fitting

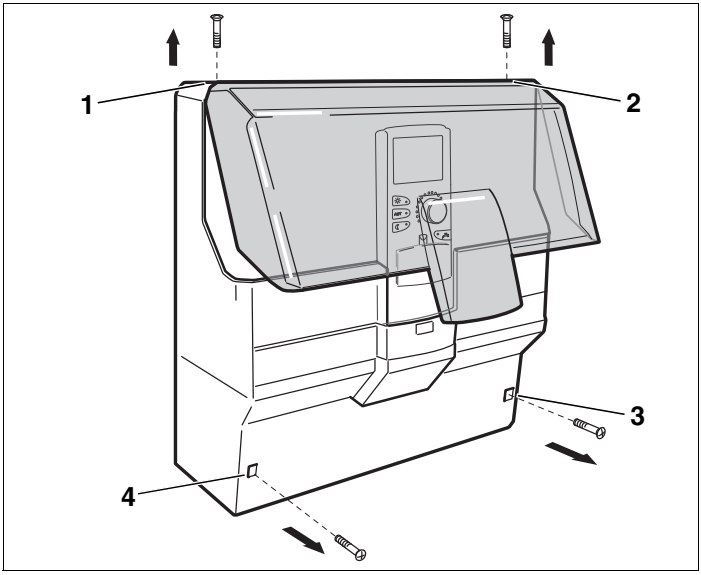


Fig 2 Removing covers

WARNING!

RISK OF FATAL INJURY

due to electrical current when the control unit is open.

- Before opening the control unit:
  Isolate all poles of the power supply and secure against unintentional reconnection.

- Unscrew 2 screws on the upper housing cover (→ Fig. 2, [1] and [2]).
- Remove top casing cover.
- Unscrew 2 screws on the cable cover (→ Fig. 2, [3] and [4]).
- Remove cable cover.

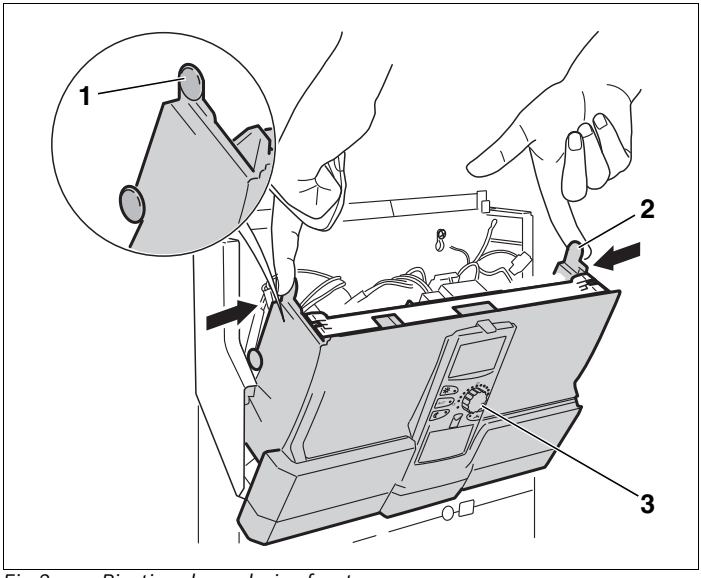


Fig 3 Pivoting down device front

- Press in upper nubs (→ Fig. 3, [1] and [2]) on both sides.
- Fold out forwards the device front with the Programmer (→ Fig. 3, [3]).

USER INFORMATION

Ensure that the cable cover has been removed, otherwise you will not be able to pivot the device front forward.

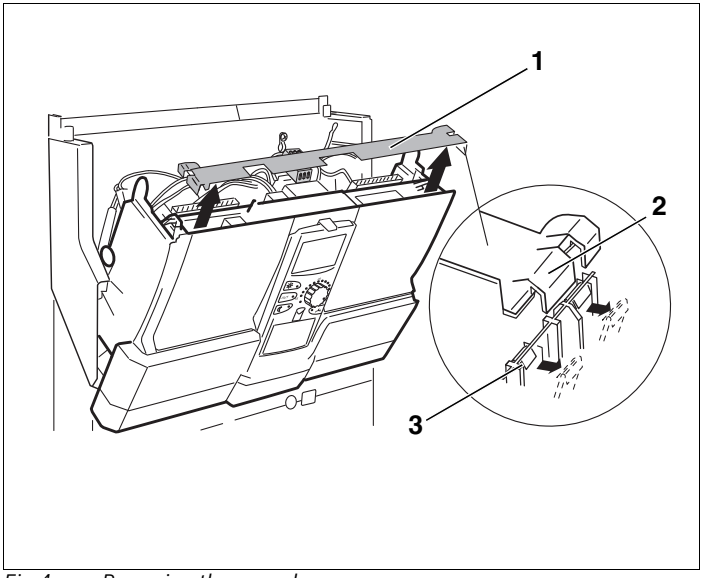


Fig 4 Removing the cross brace

You will need a screwdriver to remove the crossbar (→ Fig. 4, [1]).

- Undo the crossbar on one side. For this push one of the two clips (→ Fig. 4, [3]) outwards with the screwdriver.
- Lift the crossbar on one tab (→ Fig. 4, [2]).
- Push the second clip outwards with the screwdriver.
- Lift crossbar at the second tab.
- Lift crossbar on this side off its retainer.
- Also undo crossbar on the other side.
- Remove crossbar (→ Fig. 4, [1]).

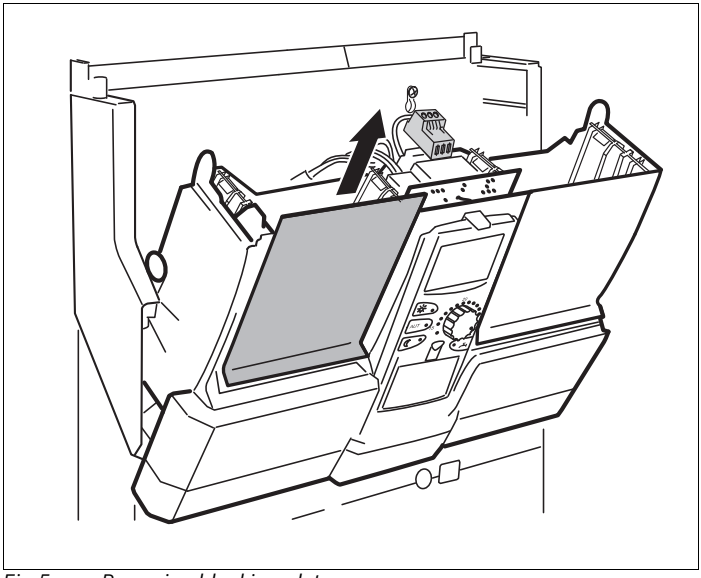


Fig 5 Removing blanking plate

When fitting a new module

- Remove blanking plate from slot 1 (→ Fig. 5) in the control unit.
- Connection cables for sensors and pumps must be laid and provided with terminals before installation of the module (more detailed information can be found in the technical documentation for control units CSM 7x0).

WARNING!	**RISK TO LIFE** through metal jumpers. ● When stripping insulation or cutting cables, ensure that pieces of cable do not fall into the electrical or electronic system.

- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 6, page 14) until it clicks audibly into place.

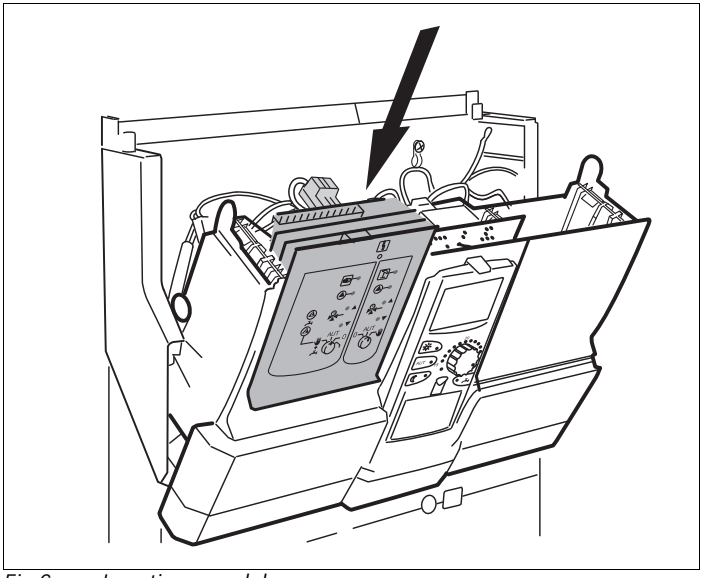


Fig 6 Inserting a module

When removing and replacing a module

- Disconnect leads for the respective module and fix in standby position (more detailed information can be found in the mounting instructions for control units CSM 7x0).
- Pull module out of the control unit.
- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 6) until it clicks audibly into place.

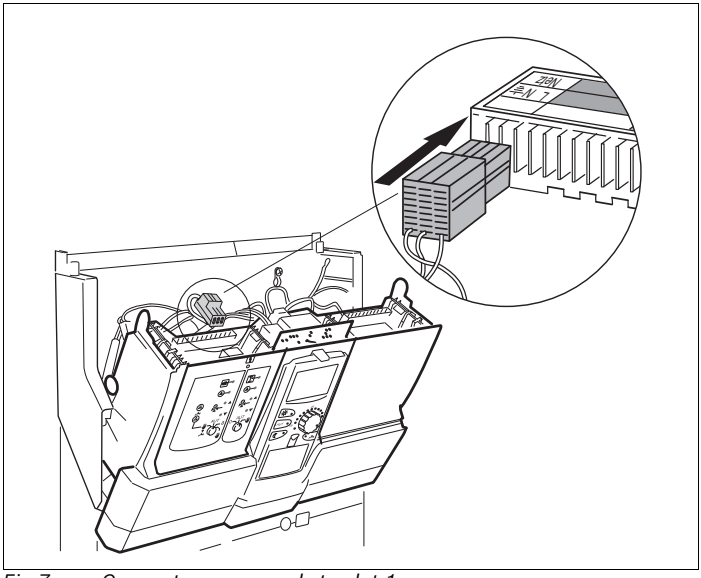


Fig 7 Connect power supply to slot 1

Connecting module power supply to slot 1

- Plug in sensor leads and pump connections at the designated points on the module.
- Plug 230 V module connector into the correct position in the terminal strip (→ Fig. 7).

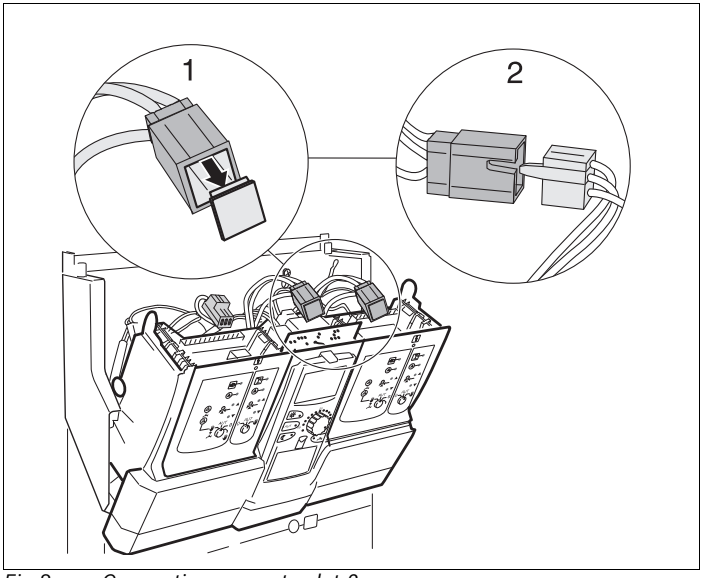


Fig 8 Connecting power to slot 2

Connecting module power supply to slot 2

- Remove dummy plug (→ Fig. 8, [1]) of the three-pole plug (cable loom).
- Plug in 230 V module connecting plug to the three-pole plug (→ Fig. 8, [2]).

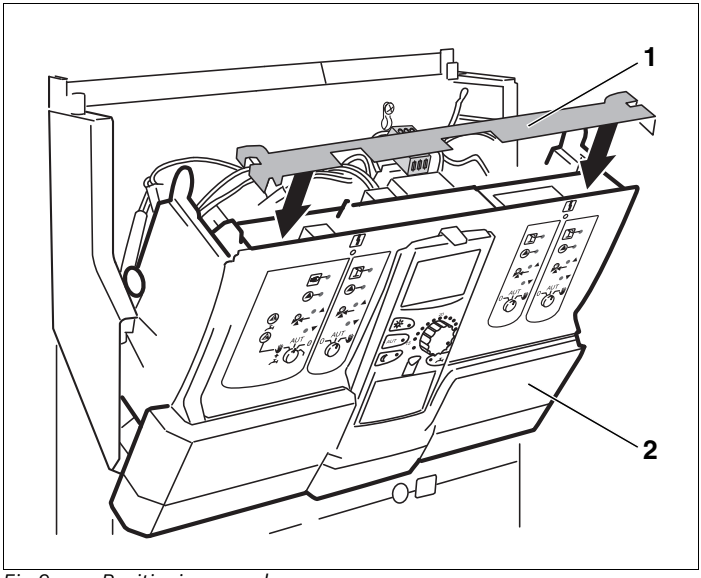


Fig 9 Positioning crossbar

After module installation

- Position crossbar (→ Fig. 9, [1]) in the recesses and click into place.
- Pivot the device front (→ Fig. 9, [2]) back and click into place.

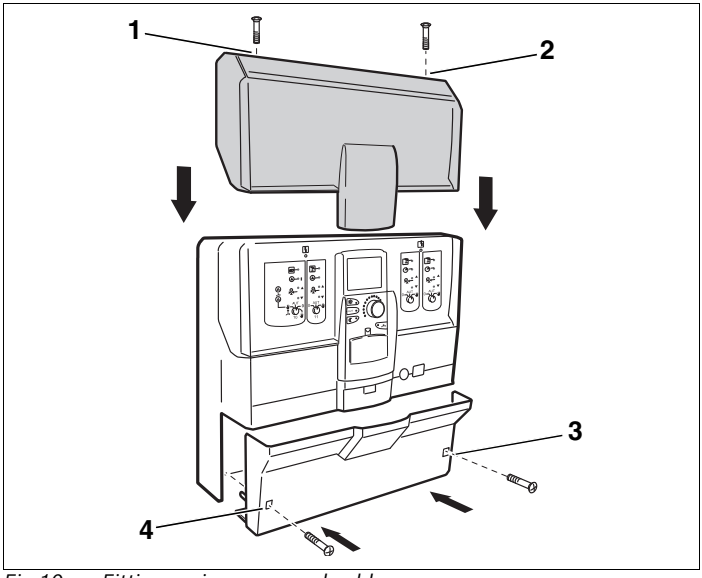


Fig 10 Fitting casing cover and cable cover

- Position top casing cover.
- Replace both screws on the upper housing cover (→ Fig. 10, [1] and [2]).
- If additional cables were routed out of the device, the cable cover may need to be cut out in the lower section.
- Position cable cover.
- Replace both cable cover screws (→ Fig. 10, [3] and [4]).
- Test the module function.
  More detailed information can be found in the operating and servicing instructions for control units CSM 7x0.

3.4 Removing and replacing the function module FM455/CMC 900 (only for CSM 750)

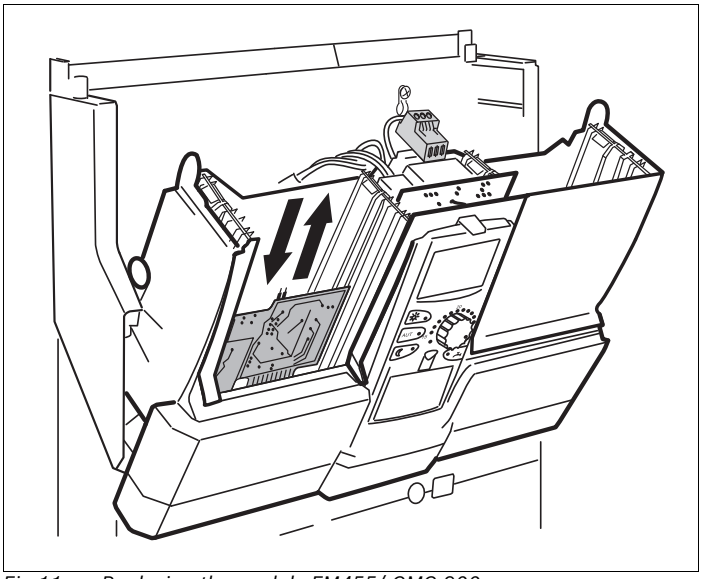


Fig 11 Replacing the module FM455/ CMC 900

If it is necessary to replace the FM455/CMC 900 module, first remove the ZM424 module from slot 1.

- Remove 230 V module connecting plug (→ Fig. 7, page 15) and all the connecting cables of the module ZM424 and fix in standby position.
- Pull out the ZM424 module.
- Pull out the PCB below – the FM455/CMC 900 module (→ Fig. 11).
- Insert new FM455/CMC 900 module.
- Reinsert the ZM424 module by pressing on the sensor strip.
- Reconnect all connecting cables in their original positions.
- Reconnect the 230 V module power supply of the ZM424.

Jumper switch

The jumper switch is used to configure the module:

Position		Function
	open (factory setting)	The module logs on as a new module FM455/CMC 900 or FM457/CMC 920.

USER INFORMATION

The jumper switch must be open if EMS is in use.

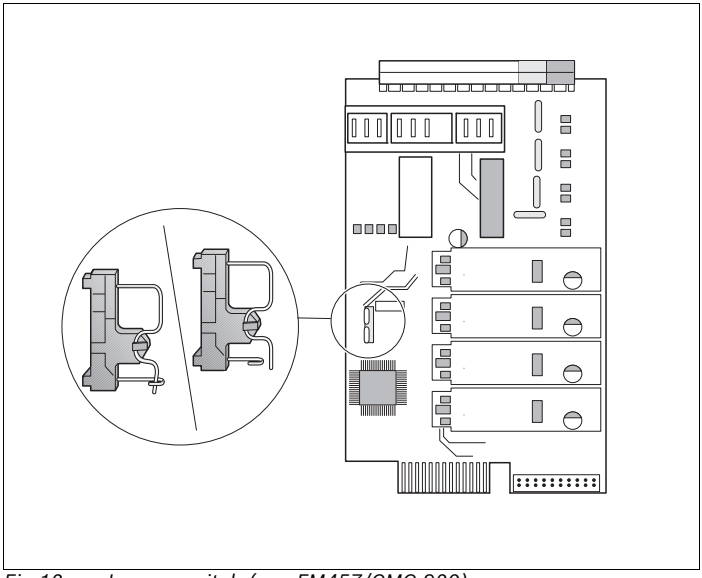


Fig 12 Jumper switch (e.g. FM457/CMC 920)

USER INFORMATION

If there is no 230 V power supply for the module or one of its 230 V components (e.g. plug-in connection has not been made), the relevant components (e.g. pumps) will not be activated.

You **cannot** recognise this error on the module in question since the LED and the control functions work independently of this power supply. Check cable connections thoroughly before re-fitting controller casings.

4 Module mounting for control unit CFB 840

This section describes the installation of the function modules CMx in the control unit CFB 840.

USER INFORMATION

- Check that all parts have been delivered.
  If this is not the case, contact a Bosch Thermotechnology branch.

4.1 Possible module installations for control unit CFB 840

	Designation	CFB 840
Modules	CM431	O
	NM482	O
	ZM422	O
	FM442/CMM 920	X
	FM443/CMS 910	X
	FM444/CMG 910	X
	FM448/CMB 900-0-10V	X
	ZM426	X

Tab. 4 Standard equipment level of the control unit and extension options

O = Standard equipment
X = Accessories
– = Combination/installation not possible

USER INFORMATION

Generally, you can freely select the installation position of the modules.

4.2 Arrangement of modules in the control unit

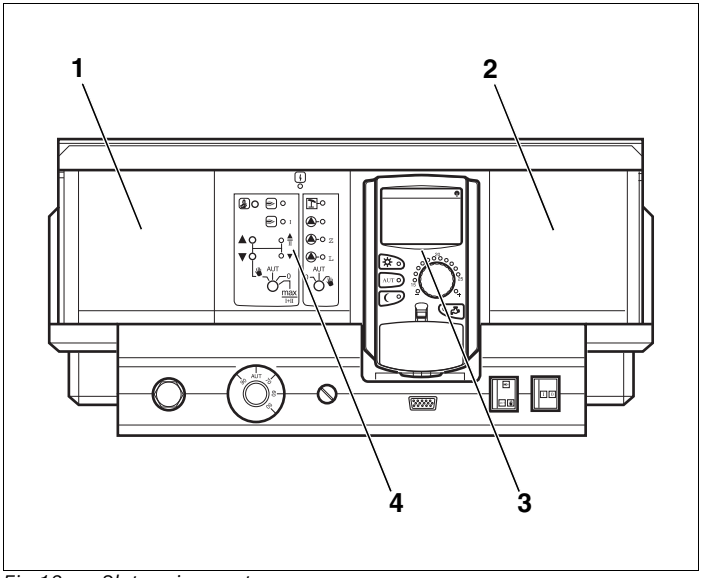


Fig 13 Slot assignment

1 Slot 1 for an additional module

2 Slot 2 for an additional module

3 Slot B behind the Programmer programming unit

4 Slot A for central module ZM422 (standard version)

USER INFORMATION

Slot A (→ Fig. 13, [4]) is firmly occupied by the central module ZM422, and slot B (→ Fig. 13, [3]) is firmly occupied by the controller module CM431 and the programming unit.

Generally, you can assign the additional modules to any free slot (1-2). For this ensure that the power supply leads from module to module. Insert the modules in order from left to right to ensure the heating circuits are logically numbered (slot 1-2).

4.3 Fitting

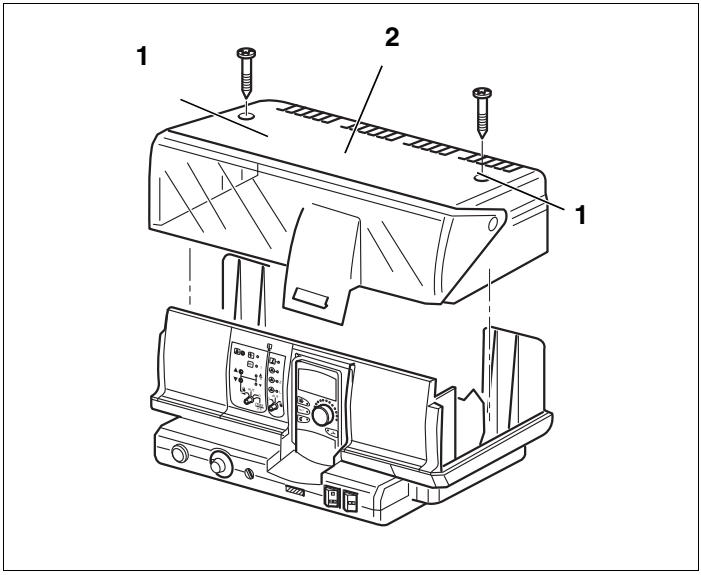


Fig 14 Removing covers

1 Screws
2 Terminal cover



RISK OF FATAL INJURY

due to electrical current when the control unit is open.

- Before opening the control unit:
  Isolate all poles of the power supply and secure against unintentional reconnection.

- Unscrew both screws on the upper side of the appliance (→ Fig. 14, [1]).
- Lift terminal cover (→ Fig. 14, [2]).

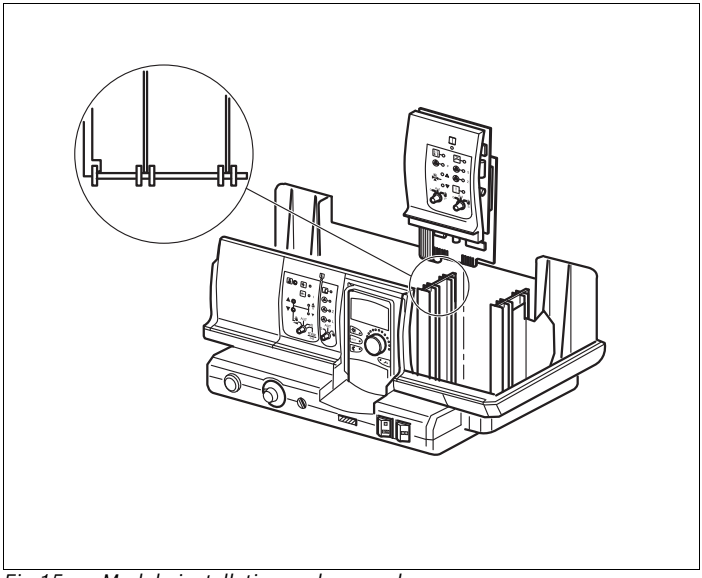


Fig 15 Module installation and removal

When fitting a new module

- Remove blanking plate in control unit.
- Connection cables for sensors or pumps must be routedand provided with terminals before installation of the module (more detailed information can be found in the technical documentation for control units CFB 840).



WARNING!

RISK TO LIFE

through metal jumpers.

- When stripping insulation or cutting cables, ensure that pieces of cable do not fall into the electrical or electronic system.

- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 15) until it clicks audibly into place.

When removing and replacing a module

- Disconnect leads for the respective module and fix in standby position (more detailed information can be found in the mounting instructions for control units CFB 840).
- Pull module out of the control unit.
- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 15, page 24) until it clicks audibly into place.

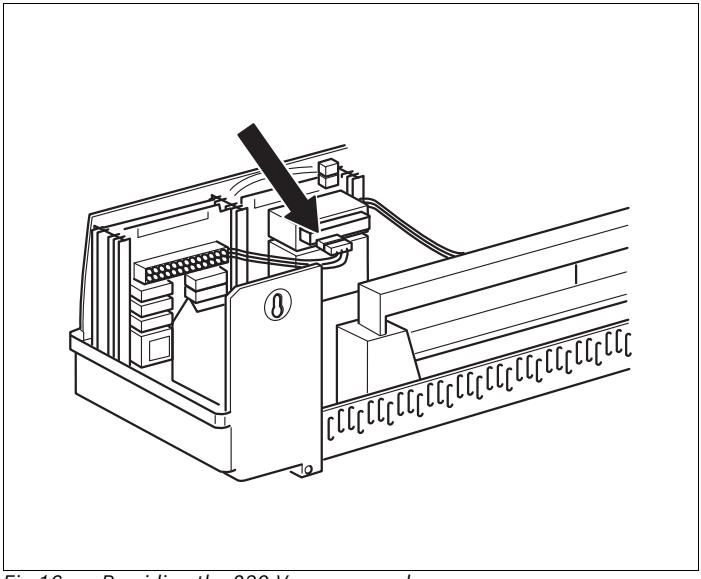


Fig 16 Providing the 230 V power supply

- Plug sensor leads or pump connections into the correct positions on the module.
- Plug the 230 V module connector into the correct position on the terminal strip (for module connection at slot 2, → Fig. 16).

USER INFORMATION

The connector clips are locked to prevent slippage.

- When removing the terminals press the locking tab upwards.

- Position terminal cover and secure with the screws.
- Test the module function.

More detailed information can be found in the operating and servicing instructions for control unit CFB 840.

USER INFORMATION

If there is no 230 V power supply for the module or one of its 230 V components (e.g. plug-in connection has not been made), the relevant components (e.g. pumps) will not be activated.

You **cannot** recognise this error on the module in question since the LED and the control functions work independently of this power supply. Check cable connections thoroughly before re-fitting controller casings.

5 Module assembly for control units CFB 9x0

This section describes as a priority the installation of the function modules CMx in the control units CFB 9x0.

USER INFORMATION

- Check that all parts have been delivered.
  If this is not the case, contact a Bosch Thermotechnology branch.

5.1 Possible module installations for control units CFB 9x0

	Designation	CFB 9x0	
		CFB 930	CFB 910
Modules	CM431	O	O
	NM482	O	O
	ZM432	–	–
	ZM433	–	–
	ZM434	O	O
	FM441/CMM 910	X	X
	FM442/CMM 920	X	X
	FM443/CMS 910	X	X
	FM444/CMG 910	X	X
	FM448/CMB 900-0-10V	X	X
	FM455/CMC 900	–	–
	FM457/CMC 920	–	–
	FM458/CMC 930	X	X

Tab. 5 Standard equipment of control units and extension options

O = Standard equipment
X = Accessories
– = Combination/installation not possible

USER INFORMATION

Generally, you can freely select the installation position of the modules.

USER INFORMATION

The modules FM448/CMB 900-0-10V and FM458/CMC 930 must never be inserted in the same control unit.

If you install both modules (FM448/CMB 900-0-10V and FM458/CMC 930), this leads to an error message on the Programmer display.

USER INFORMATION

The modules FM457/CMC 920 and FM458/CMC 930 must never be inserted in the same control unit.

If you install both modules (FM457/CMC 920 and FM458/CMC 930), this leads to an error message on the Programmer display.

5.2 Arrangement of modules in the control unit

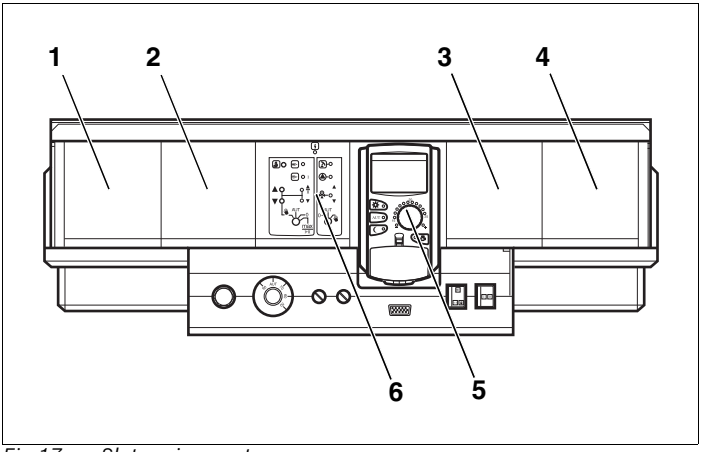


Fig 17 Slot assignment

1 Slot 1 for an additional module
2 Slot 2 for an additional module
3 Slot 3 for an additional module
4 Slot 4 for an additional module
5 Slot B behind the Programmer programming unit
6 Slot A for central module ZM432, ZM434 or ZM437 (standard version)

USER INFORMATION

Slot A (→ Fig. 17, [6]) is firmly occupied with one of the central modules ZM432, ZM433, ZM434 or ZM437, and slot B (→ Fig. 17, [5]) is firmly occupied with the controller module CM431 and the programming unit.

Generally, you can assign the additional modules to any free slot (1-4). Please ensure that the power supply leads connect from one module to the next module. Insert the modules in order from left to right to ensure the heating circuits are logically numbered (slot 1-4).

Example (with the help of the CFB 930)

Heating circuit allocation for two heating circuit modules (FM442/ CMM 920) and one heating circuit and DHW module (FM441/CMM 910):

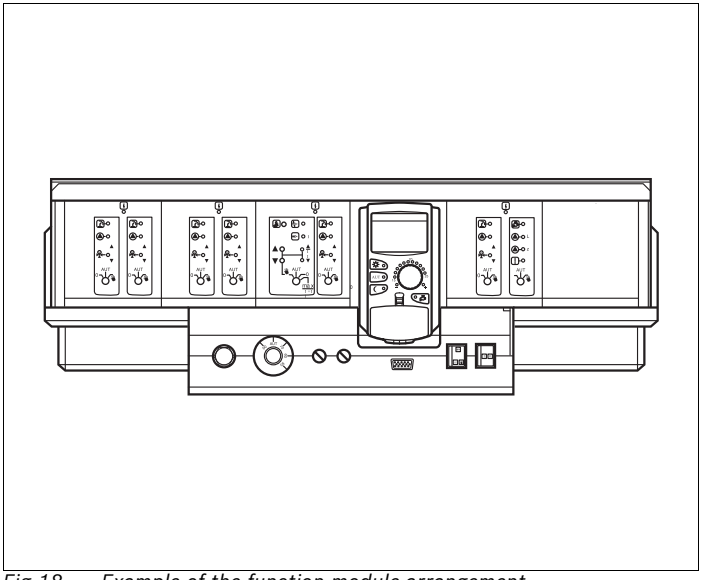


Fig 18 Example of the function module arrangement

Slot 1 FM442/CMM 920	Slot 2 FM442/CMM 920	Slot 3 FM441/CMM 910
Heating circuit 1	Heating circuit 3	Heating circuit 5
Heating circuit 2	Heating circuit 4	DHW circuit

When installing the module FM458/CMC 930, you may need the connecting cable enclosed with the module in order to supply the adjacent modules of the FM458/CMC 930 with mains voltage.

5.3 Fitting

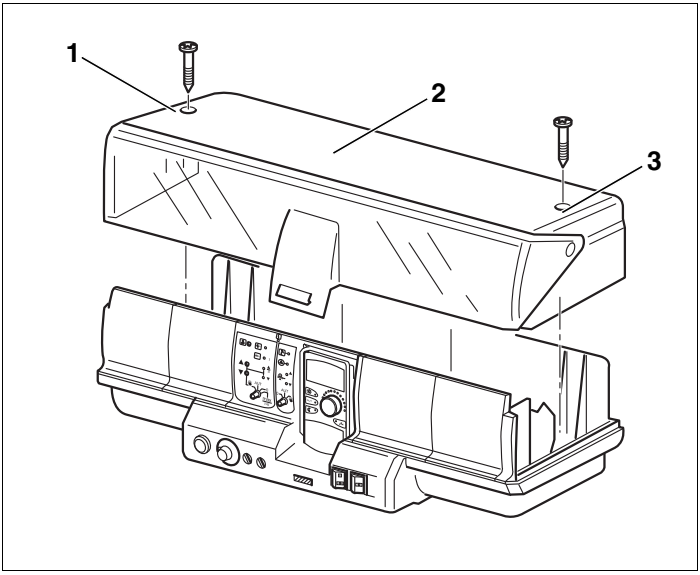


Fig 19 Removing covers

WARNING!

RISK OF FATAL INJURY

due to electrical current when the control unit is open.

- Before opening the control unit:
  Isolate all poles of the power supply and secure against unintentional reconnection.

- Unscrew both screws (→ Fig. 19, [1] and [3]) on the upper side of the appliance.
- Lift off terminal cover (→ Fig. 19, [2]).

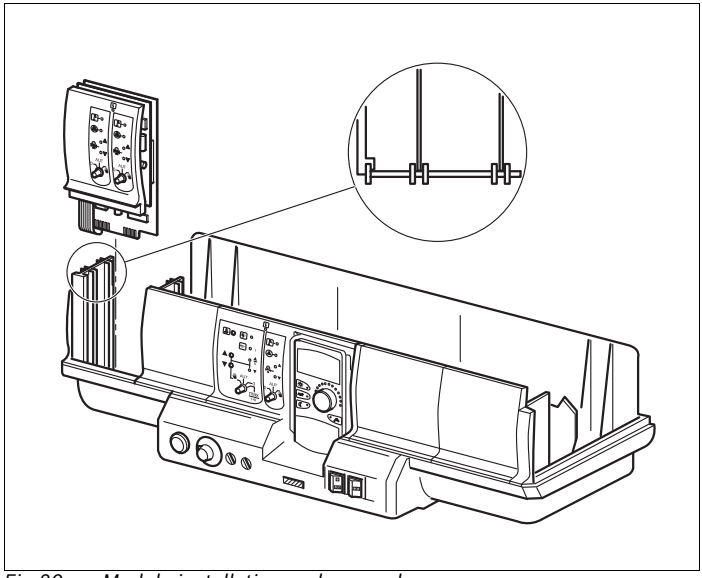


Fig 20 Module installation and removal

When fitting a new module

- Remove blanking plate from slot 1 (→ Fig. 20) in the control unit.
- Connection cables for sensors aor pumps must be routed and provided with terminals before installation of the module (more detailed information can be found in the technical documentation for control units CFB 9x0).

WARNING!	**RISK TO LIFE** through metal jumpers. ● When stripping insulation or cutting cables, ensure that pieces of cable do not fall into the electrical or electronic system.

- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 20) until it clicks audibly into place.

When removing and replacing a module

- Disconnect leads for the respective module and fix in standby position (more detailed information can be found in the mounting instructions for control units CFB 9x0).
- Pull module out of the control unit.
- Push new module from above into the free slot by pressing on the sensor strip (→ Fig. 20, Page 31), until you hear it click into place.

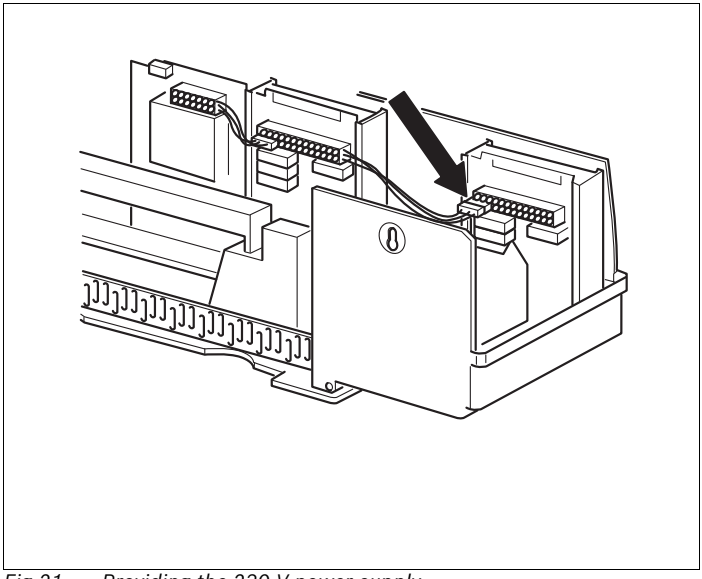


Fig 21 Providing the 230 V power supply

- Connect sensor leads and pump connections to the correct positions on the module.
- Plug the 230 V module connector into the correct position on the terminal strip (for module connection at slot 1, → Fig. 21).

USER INFORMATION

The connector clips are locked to prevent slippage.

- When removing the terminals push the locking tab upwards.

- Position terminal cover and secure with the screws.
- Test the module function.

More detailed information can be found in the operating and servicing instructions for control units CFB 9x0.



USER INFORMATION

If there is no 230 V power supply for the module or one of its 230 V components (e.g. plug-in connection has not be made), the relevant components (e.g. pumps) will not be activated.

You **cannot** recognise this error on the module in question since the LED and the control functions work independently of this power supply. Check cable connections thoroughly before re-fitting controller casings.

Notes

Notes

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