GT 120 - GTUC 120 - GT 220 - GTUC 220

en

Control panel

DIEMATIC 3 - FM129
DIEMATIC 3 CH - FM133

M000685

Installation instructions

300003765-02

De Dietrich

Contents

1 Symbols used

Caution danger
Risk of injury and damage to equipment. Attention must be paid to the warnings on safety of persons and equipment

Specific information
Information must be kept in mind to maintain comfort

Reference
Refer to another manual or other pages in this instruction manual

DHW: Domestic hot water

2 General

- **Control panel assembly**
  See: Boiler installation instructions.

- **Fitting the boiler sensor**
  See: Boiler installation instructions.

- **Connection of the water circuit for domestic use**
  See: Calorifier instructions.

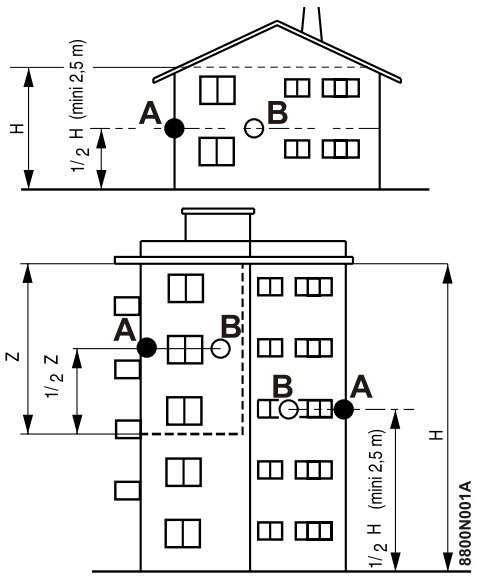
- **Installing options**
  See: Option instructions.

- **Parameter settings and installation configuration**
  See: Control panel technical instructions.

3 Installing the outside sensor

Choose a location:

- on one face of the area to be heated, on the north if possible
- under the influence of meteorological variations
- protected from direct sunlight
- easy to access



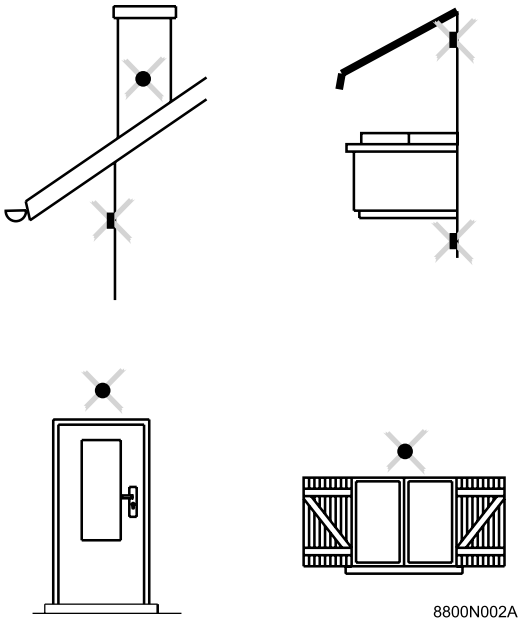
Z: Inhabited area controlled by the sensor

H: Inhabited height controlled by the sensor

A: recommended position on a corner

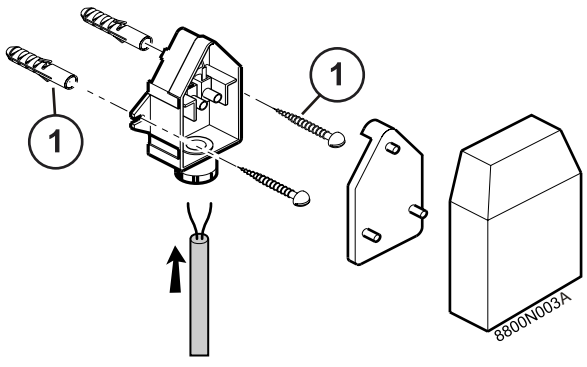
B: Possible position

3.1 Positions to be avoided



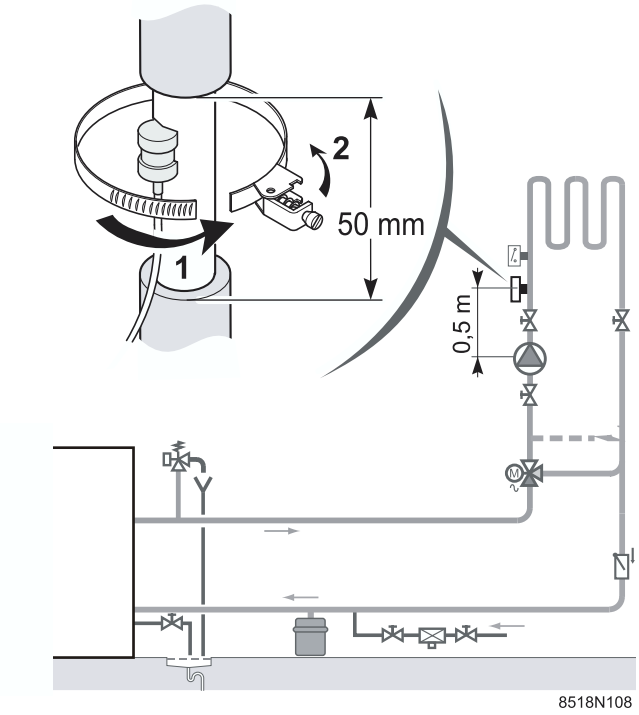
3.2 Installing the outside sensor

① CB Ø 4 wood screw + Inserts (provided)



4 Fitting the flow sensor

■ Heating circuit with mixing valve



The flow sensor with connecting cable (length 2.5 m) and connector plug should be fitted to the outlet circuit pipe concerned and must be connected to the point provided in the control panel as shown hereafter.

The flow sensor after the valve must be positioned around 0.5 m after the 3 way valve or after the heating pump if this is fitted to the outlet.

- Cut the pipe insulation by 50 mm.
- At the point where the sensor is fitted, thoroughly clean the pipes (there must be no trace of paint) and coat them with the ready-to-use contact paste provided in the syringe.
- Secure the sensor with the collar provided for this purpose.

i The flow sensor must not be covered by the insulation around the pipe.

5 Electrical connections

5.1 Important recommendations

The power supply must be cut prior to any intervention on the heating installation (for example, via the appropriate fuse or a general switch)and any restart must be prevented.

Connections must be made by a qualified technician

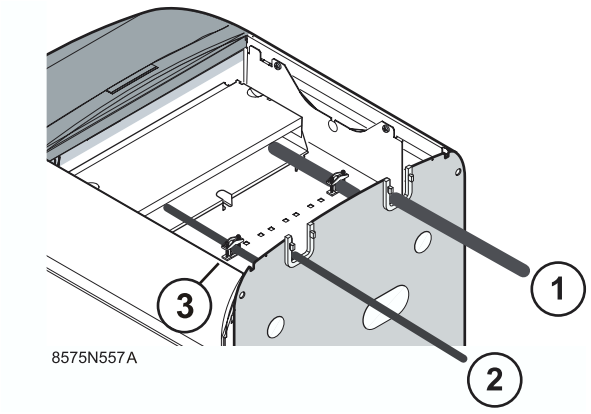
Do not modify the connections inside the control panel.

All connections are made to the terminals on the control panel.

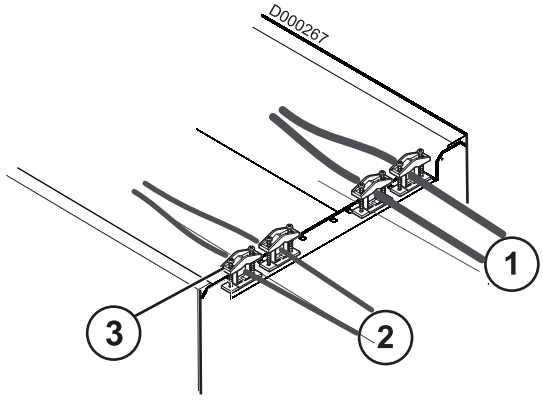
Separate the sensor cables from the 230 V cables.
In the boiler: Use the boiler's 2 grommets:
Use 2 cableways at least 10 cm apart.

Attach the cables to the cable clamps provided for this purpose.

■ GT 120



■ GT 220



① 230 V main supply
For Switzerland: Power supply cable Supplied

② Sensors

③ Cable clamps

5.2 Type of connection

For the 230 V electrical connections, use 3-wire cables with a cross-section of 1,5 mm².

Keep to the polarity shown on the terminals: phase (L), neutral (N) and earth (⏚).

5.3 General

Make the electrical connections of the appliance according to:

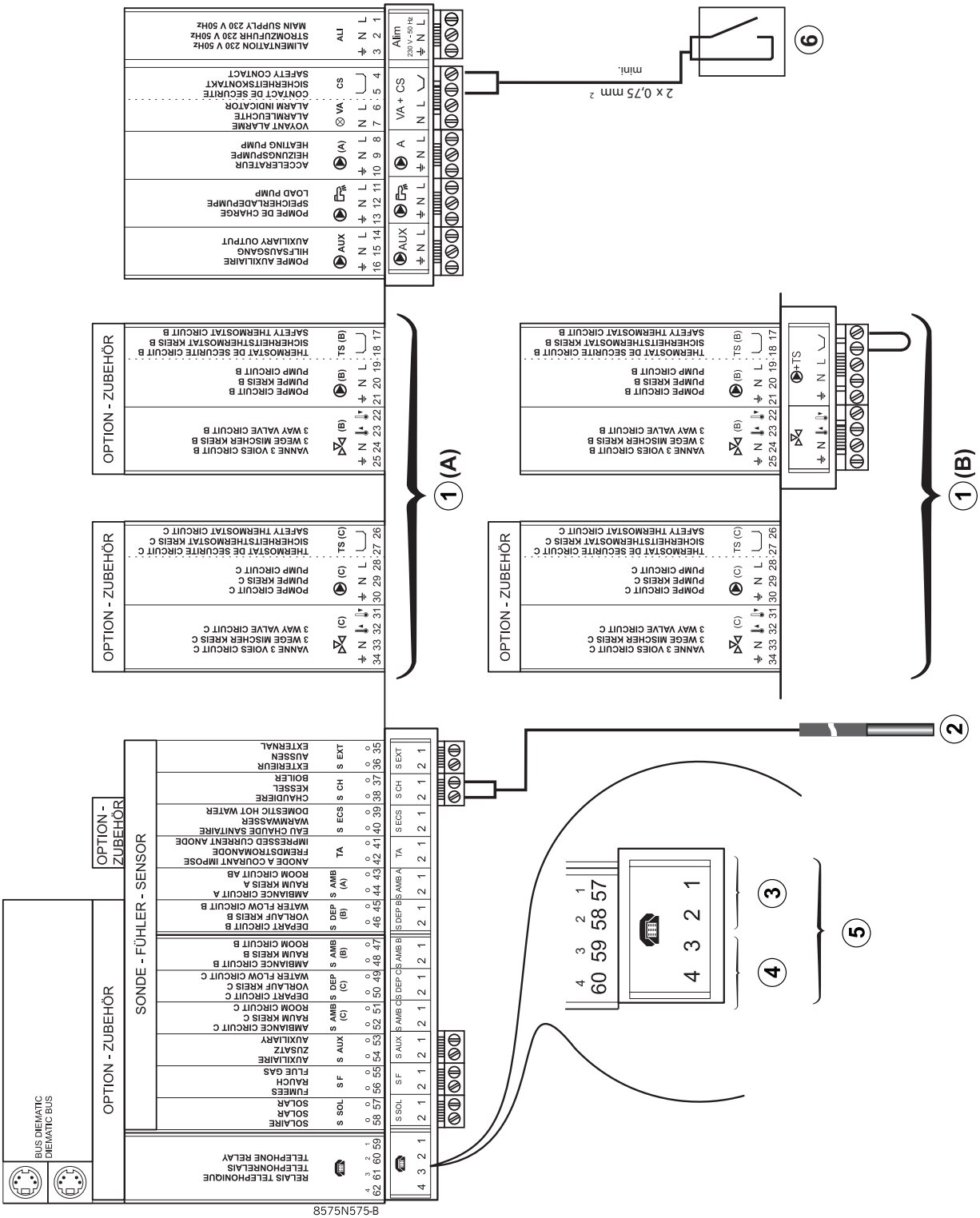
- The instructions of the prevailing standards,
- The instructions on the circuit diagrams provided with the appliance,
- The manufacturer's instructions.

Power the appliance via a circuit which includes a remote omnipolar switch with a gap of more than 3 mm.
Earthing shall comply with standard NFC 15100 (France) or RGBT (Belgium).

The available output per outlet is 450 W (2 A, with cos φ = 0,7) and the inrush current must be lower than 16 A.
If the charge exceeds one of these values, relay the command using a contactor (fitted outside the control panel).

5.4 Terminal block

■ State on delivery



1(A) **All countries except Switzerland:**
To connect the mixing valve PCB + sensor options - See: Instructions for option FM48, AD217

1(B) **For Switzerland:**
To connect the mixing valve PCB + sensor options - See: Instructions for option FM48, AD217

2 Boiler sensor

3 Boiler remote control input

4 Alarm output

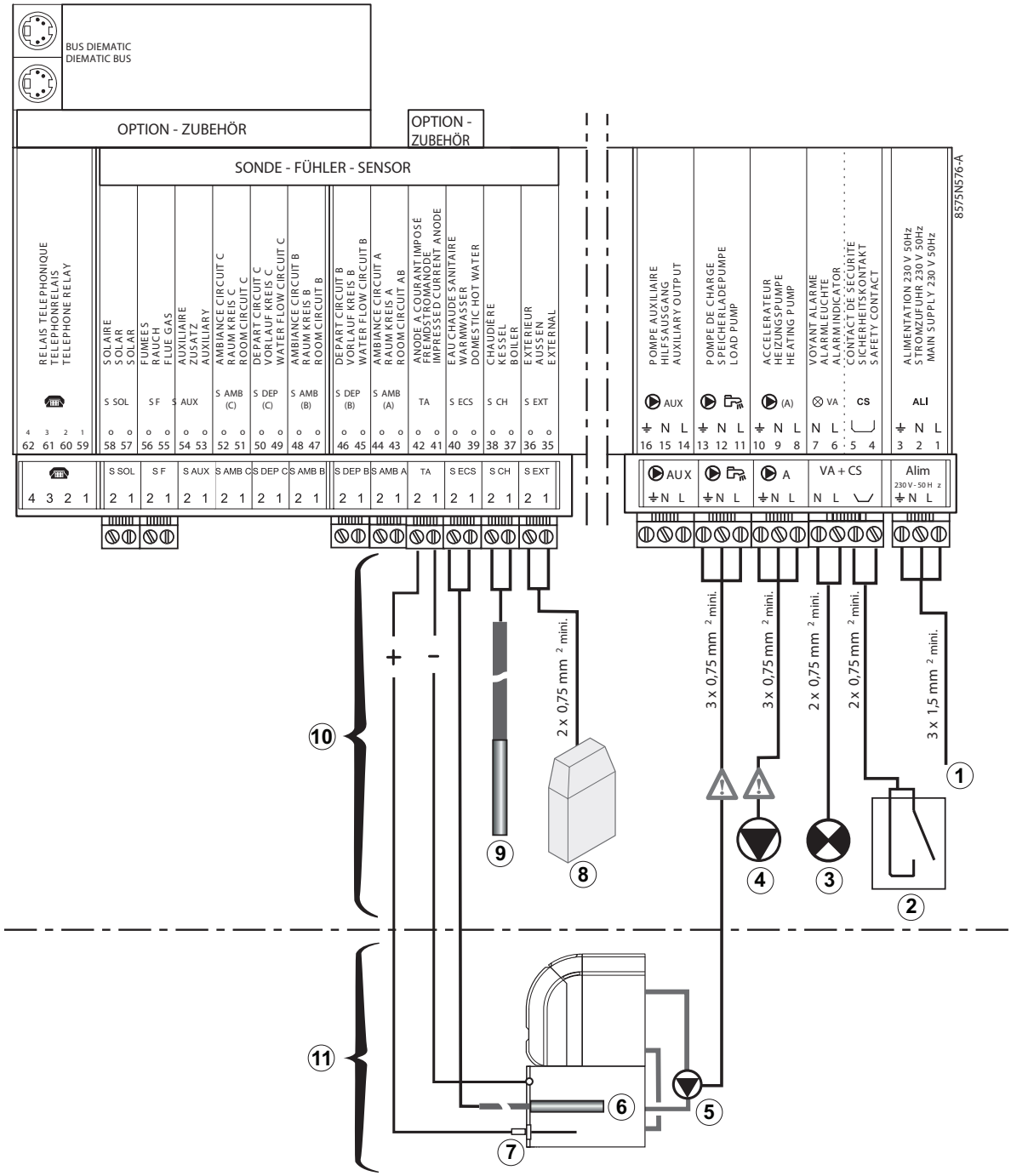
5 Connecting the TELCOM vocal telesurveillance module
See chapter: Connecting the options

6 Flue gas thermostat

5.5 Basic connections

For Switzerland: circuit B

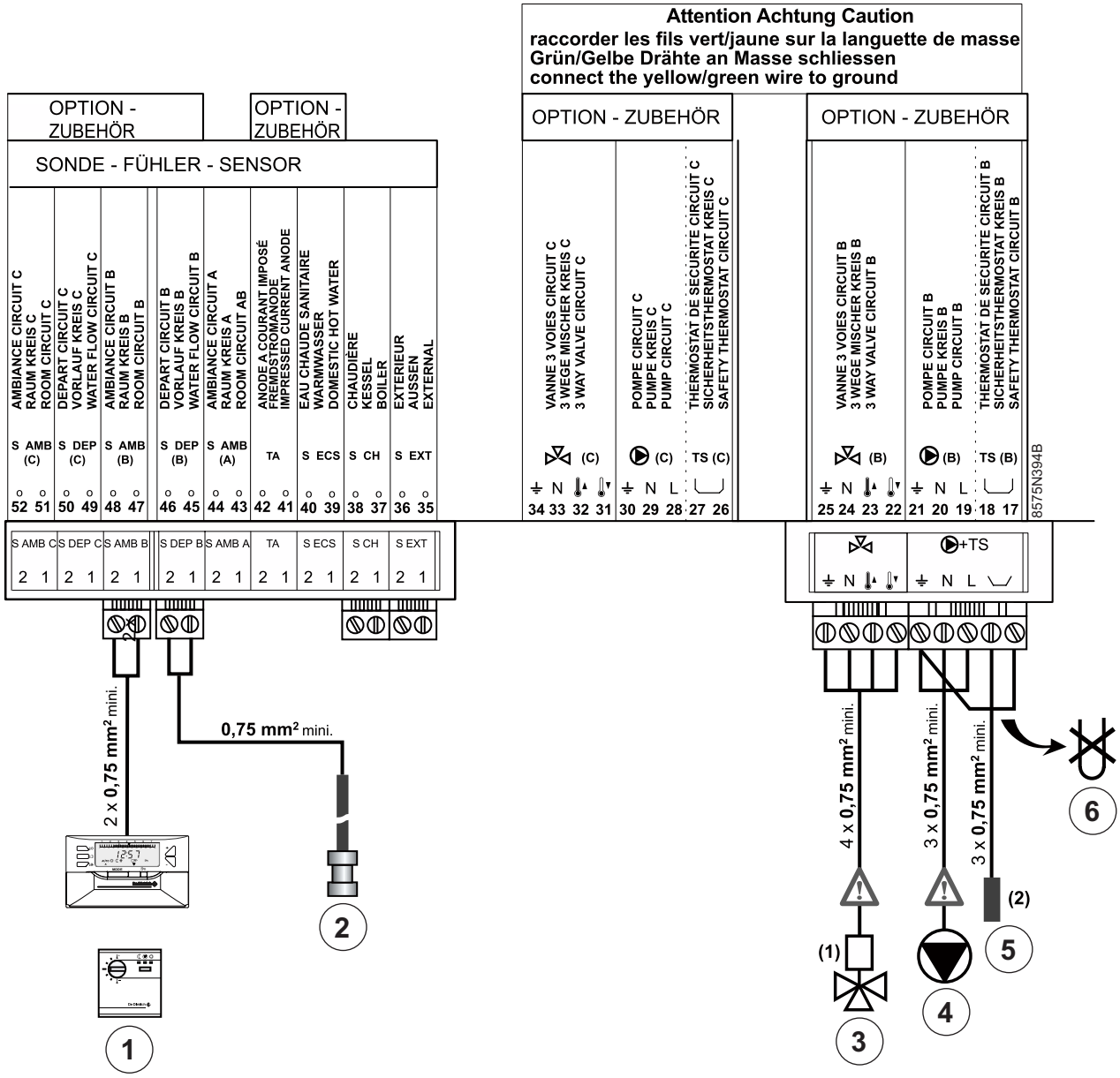
See next page



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Pump circuit A
5 D.H.W. load pump
6 DHW sensor
7 Titanium anode
8 Outside sensor
9 Boiler sensor
10 Boiler with or without accumulator
11 Boiler with accumulator

5.6 Connecting circuit B

Originally for Switzerland, FM48 option for other countries.



1 Remote control (circuit B) (package FM51 or FM52)

2 Flow sensor (circuit B)

3 3-way valve (circuit B)

4 Pump (circuit B)

5 Safety thermostat

6 Remove bridge

(1) If using a two-way motor

Connect open to terminal **23** 🌡, close to terminal **22** 🌡 and neutral to terminal **24 (N)**.

If using a thermal motor

Connect between terminal **23** 🌡 (open) and terminal **2 (N)**.

(2) Safety thermostat

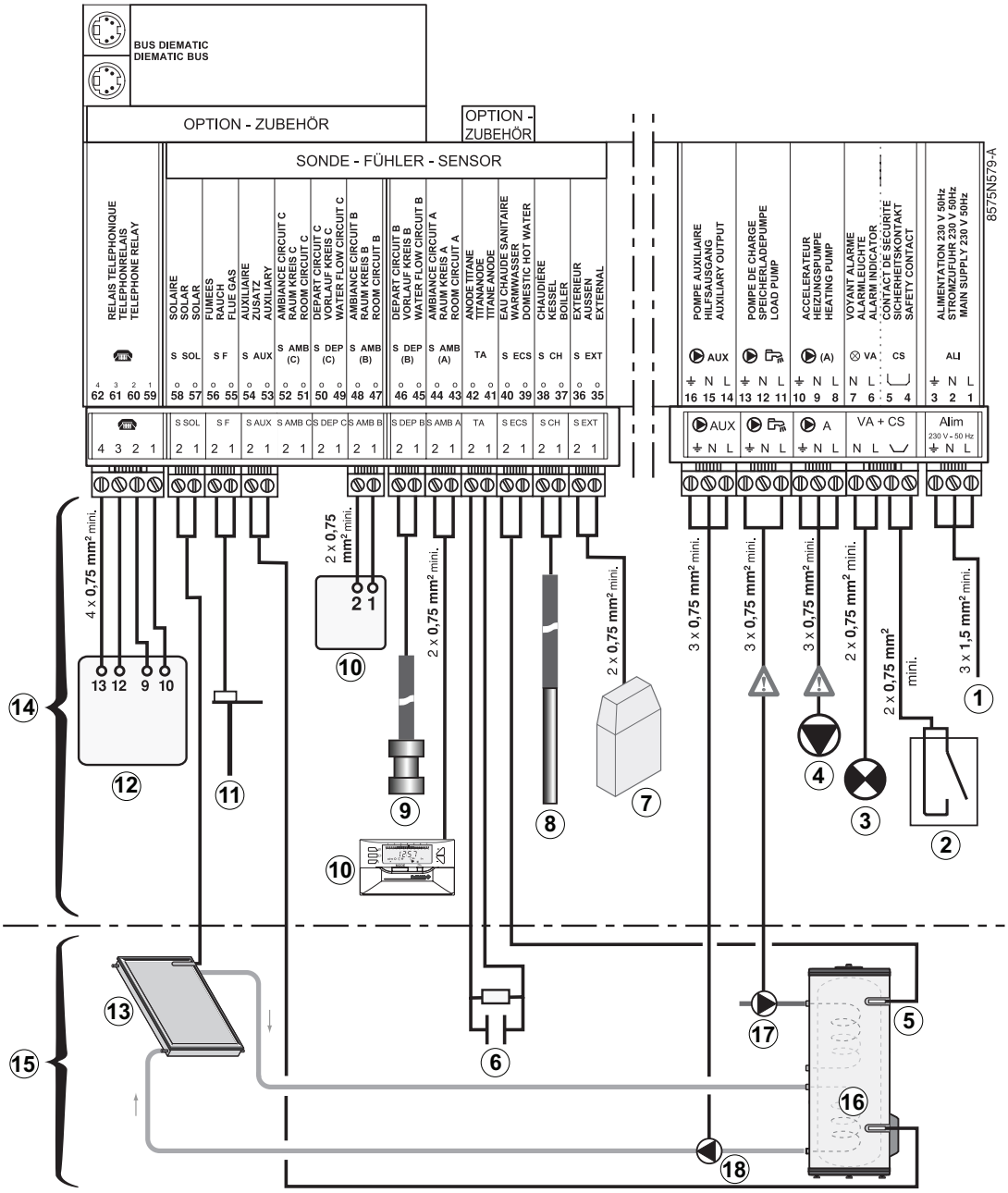
If using underfloor heating, it is imperative that a temperature limit of 50°C is installed and a safety thermostat set to 65°C (cf. NF P 52-303-1) is fitted, which interrupts the operation of the circulating pump in the circuit concerned should overheating occur.

Connect the safety thermostat wires to the 5 pin connector at the point marked TS(B) terminals **17-18** after removing the jumper from terminals **17-18**.

If the safety thermostat is fitted with an earth wire, connect the thermostat to the earth terminal on pump **21**.

5.7 Connecting the options

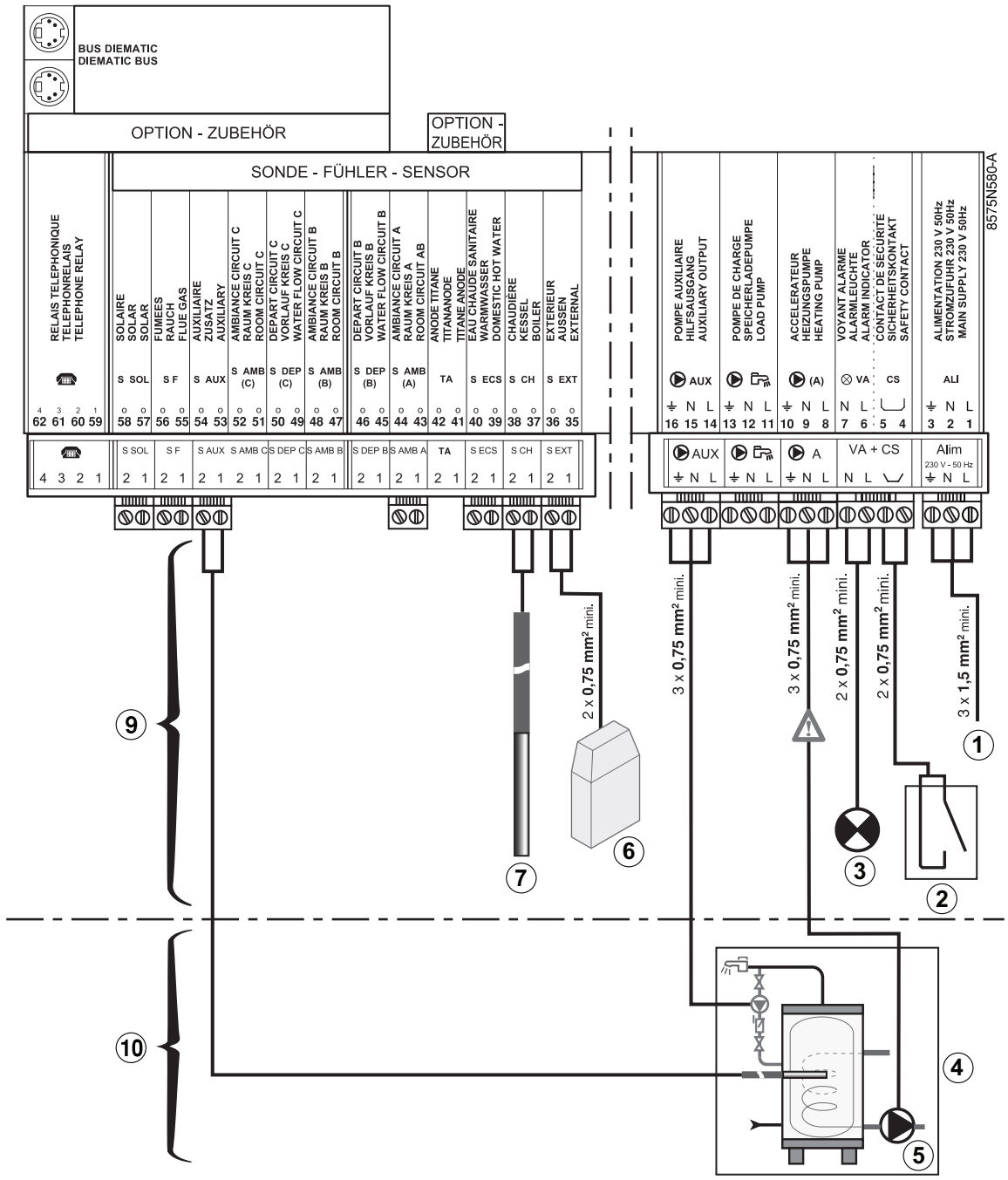
For example: Solar collector, TELCOM vocal telesurveillance module, remote controls for circuits A and B, flue gas sensor.



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Pump circuit A
5 DHW sensor (Package AD212)
6 Titan Active System® simulation connector (package AD212)
7 Outside sensor
8 Boiler sensor
9 Outlet sensor
10 Interactive remote control (package FM51 or FM52)
11 Flue gas sensor
12 TELCOM voice remote monitoring module (depending on its availability in your country)
13 Solar sensor probe
14 Boiler with or without accumulator
15 Boiler with accumulator
16 DHW sensor (Package AD160)
For connection of solar collectors: adjust the **S.AUX** parameter (**# FITTER PARAM.**) to **SOLAR**.
17 D.H.W. load pump
18 Solar load pump

5.8 Connection of a second domestic hot water tank

This connection is possible if circuit A is not used



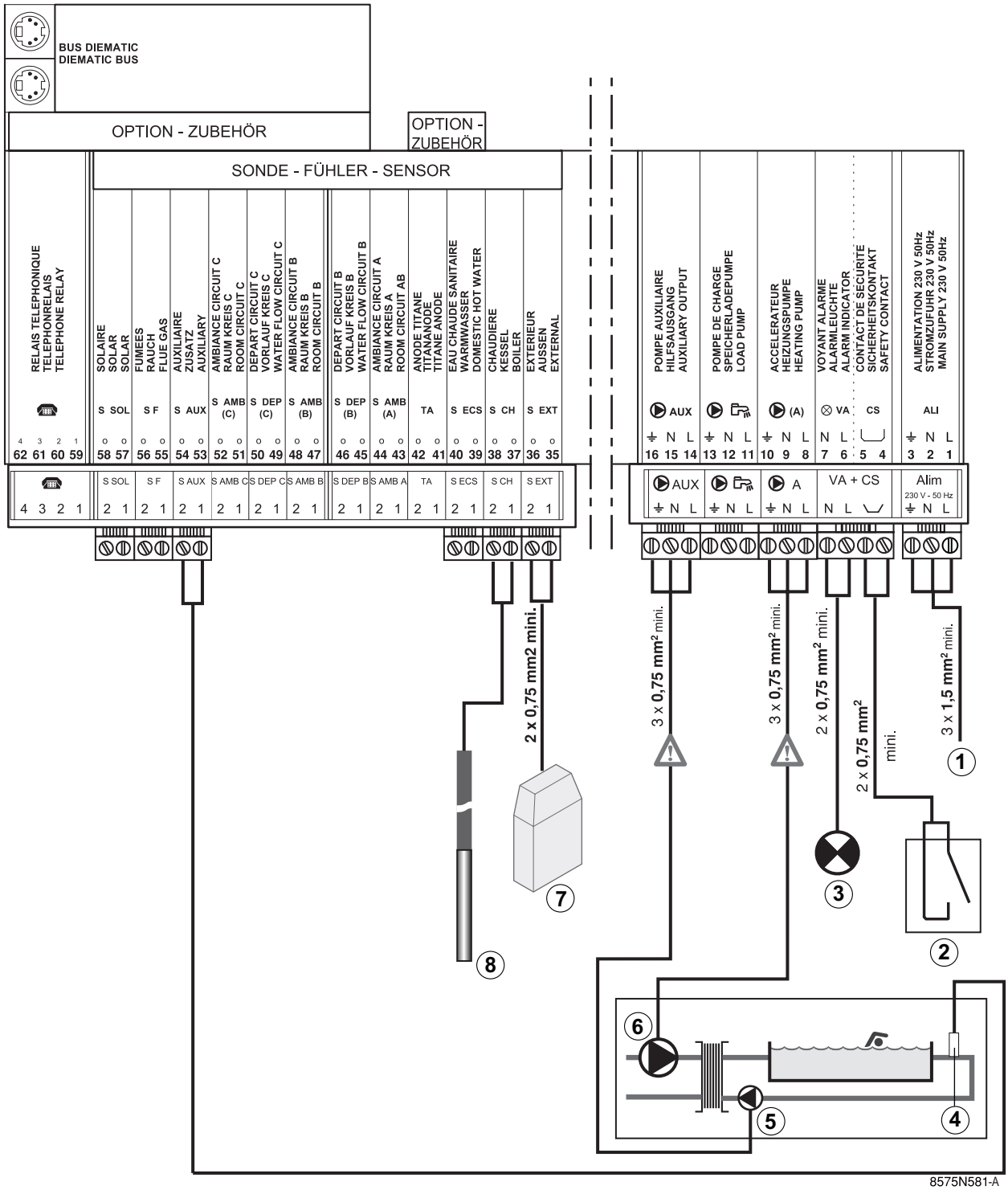
1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 DHW sensor (Package AD212)
5 D.H.W. load pump
6 Outside sensor
7 Boiler sensor
8 Boiler with or without accumulator
9 Boiler with accumulator

If connecting a second DHW tank, use circuit A:

- set the **CIRC.A** parameter (**#. INSTAL PARAM.**) to **DHW**.
- Fit the sensor (package AD 212) into the second DHW tank.
- Connect the sensor to the **S.AUX** input.
- Adjust the **TEMP.DHW A** set temperature using the key 40-80°C range to obtain a domestic hot water calorifier type operation.

5.9 Pool connection

This connection is possible if circuit A is not used



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Swimming pool sensor (Package AD212)
5 Pool secondary pump
6 Primary pump pool
7 Outside sensor
8 Boiler sensor

■ Controlling the pool circuit

The DIEMATIC 3 regulation can be used to control a pool circuit in **two different cases**:

- **Case 1**

The regulation DIEMATIC 3 regulates the primary circuit (boiler / exchanger) and the secondary circuit (exchanger / pool).

- Set the value of **TPC D** to the temperature which corresponds to the needs of the exchanger.
- Set the parameter **S.AUX** (**#FITTER PARAM.**) to **SWIM.P**.
- Set the parameter **CIRC. A:** (**#FITTER PARAM.**) to **SWIM.P**.
- Connect the primary circuit pump (boiler/exchanger) to the pump A outlet. The **TPC J** temperature is then maintained during programme A comfort periods in **summer** and in **winter**.
- Connect the pool sensor (package AD212) to the **S.AUX:** input.
- Set the value of the pool sensor using key in the range 0.5-39°C or to **FF** (Frost Free).
- With an **FF** setting, the primary pump starts up and the secondary pump stays off if the installation's antifreeze function is activated.

- **Case 2**

The pool has already a regulation system that is to be kept. The DIEMATIC 3 control unit only regulates the primary circuit (boiler/ exchanger).

- Set the value of **TPC D** to the temperature which corresponds to the needs of the exchanger.
- Set the **CIRC.A** parameter in **#INSTAL PARAM.** to **POOL**
- Connect the primary circuit pump (boiler/exchanger) to the pump A outlet. The **TPC J** temperature is then maintained during programme A comfort periods in **summer** and in **winter**.

■Hourly programming of the secondary circuit pump

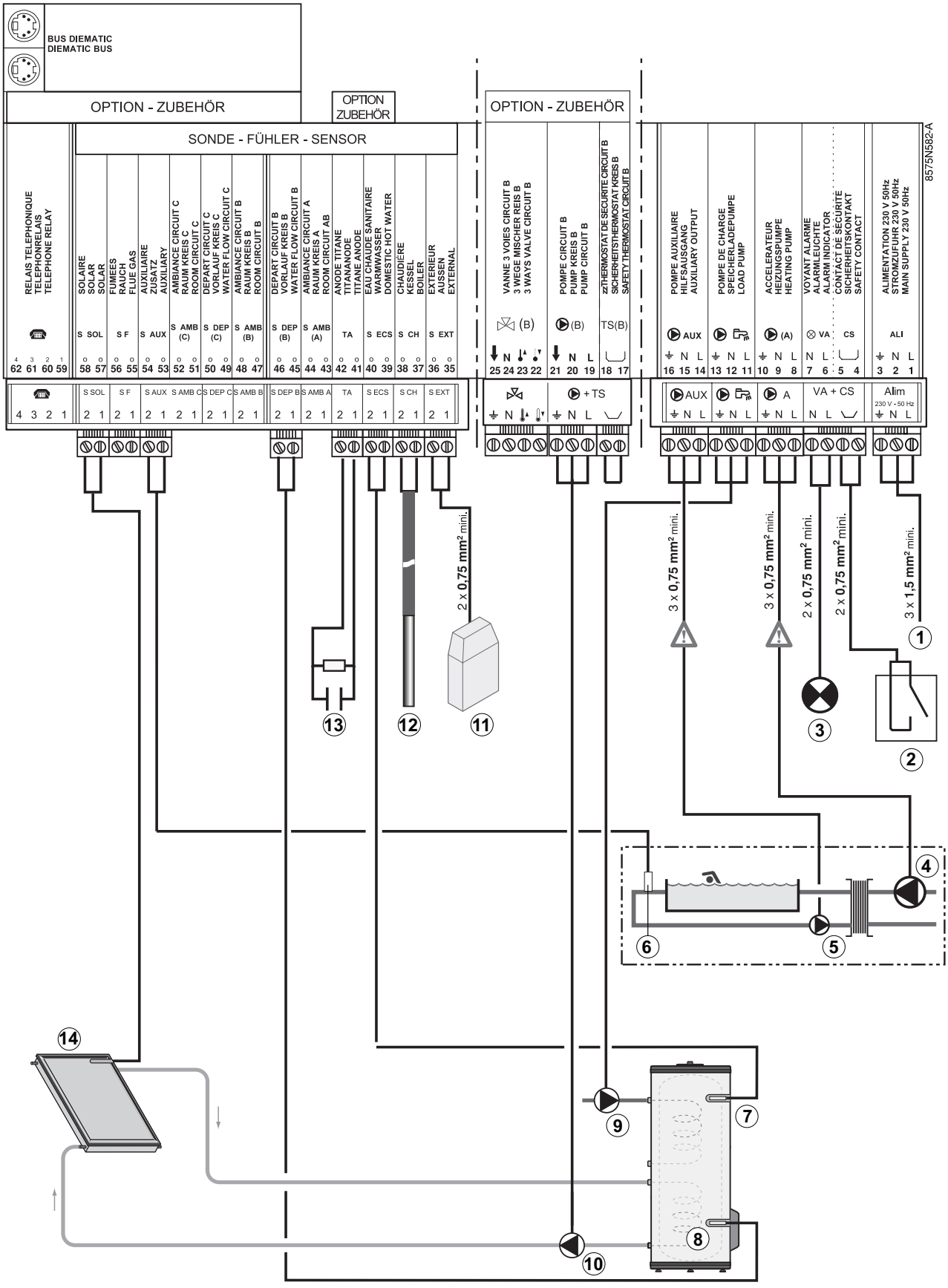
The secondary pump operates during programme A comfort periods in summer and winter alike.

■ Stopping

To prepare your pool for winter, consult your pool specialist.

5.10 Connecting a pool and preparation for solar heated domestic hot water

This connection is possible if circuit A and either circuit B or C are not used.



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Primary pump pool
5 Pool secondary pump
6 Swimming pool sensor (Package AD212)
7 DHW sensor
8 DHW sensor (Package AD212)
9 D.H.W. load pump
10 Solar load pump
11 Outside sensor
12 Boiler sensor
13 Titan Active System® simulation connector (package AD 212)
14 Solar sensor probe

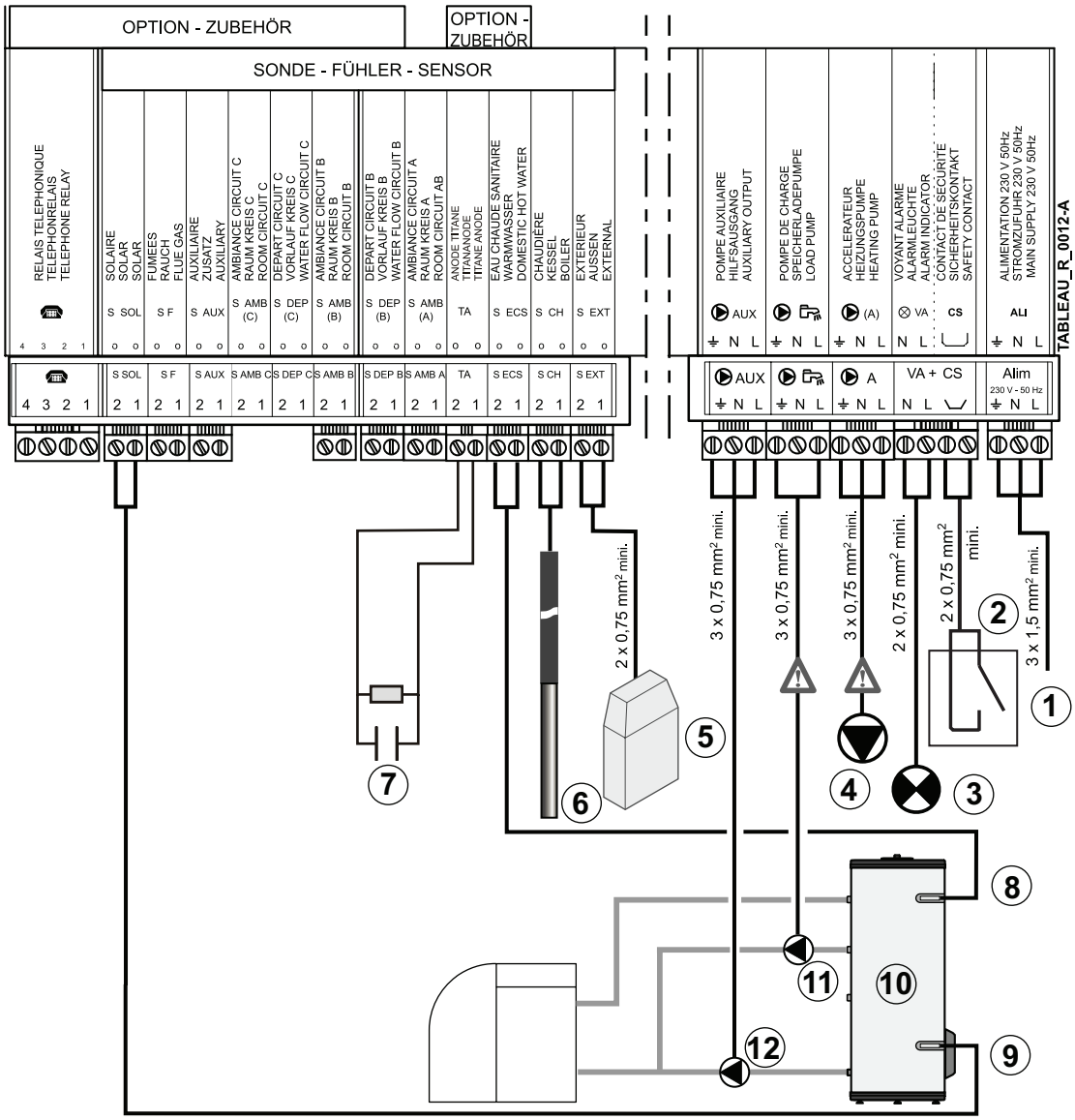
■ Parameter settings

- Fit the mixing valve PCB + sensor option (Package FM 48)
- adjust the **S. AUX** parameter to **SWIM. P.**
- adjust the **CIRC.A** parameter to **SWIM. P.**
- adjust the **CIRC.B** parameter to **SOLAR**

5.11 Connecting one or two circuits with mixer valve

To connect the mixing valve PCB + sensor options - See: Instructions for option FM48
For Switzerland:
1 PCB + sensor for a mixing valve is already prefitted to the control panel.

5.12 Hot water storage tank connection



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Pump circuit A
5 Outside sensor
6 Boiler sensor
7 Titan Active System® simulation connector (package AD212)
8 DHW sensor (Package AD212)
9 Hot water storage tank sensor (Package AD160)
10 Buffer tank
11 D.H.W. load pump
12 Heating load pump

The storage tank handles heating and DHW production.

Package AD160 contains 2 sensors:

- The sensor for the solar panel is used as a storage tank sensor
- The sensor for the storage tank is used as a DHW sensor

■ Parameter settings

Set the parameter **STOR.T.SENS** (**#CONFIGURATION**) to **ON**.

■ Operation

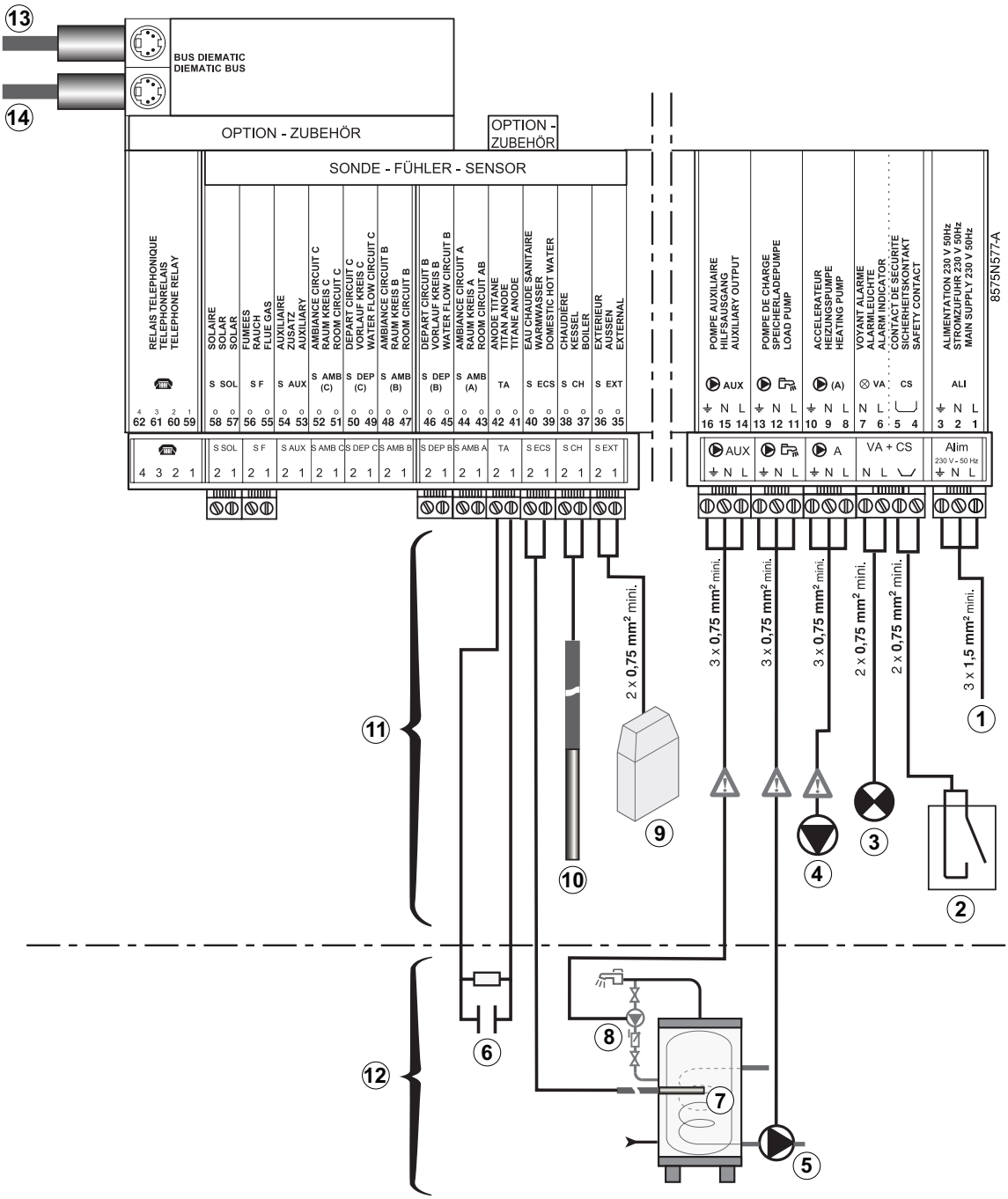
- **In DHW production:**
  Operation is the same as the normal operation. The boiler setting only is equal to the DHW setting +10 K. The heating load pump is off.
- **In heating mode:**
  The burner and the heating load pump:

  -are off if the temperature of the storage tank is higher than the boiler setting.
  -start up if the temperature of the storage tank falls below the boiler setting -6 K.

5.13 Basic connections if the installation is in cascade and when connecting to a regulation DIEMATIC VM

(Without option AD217)

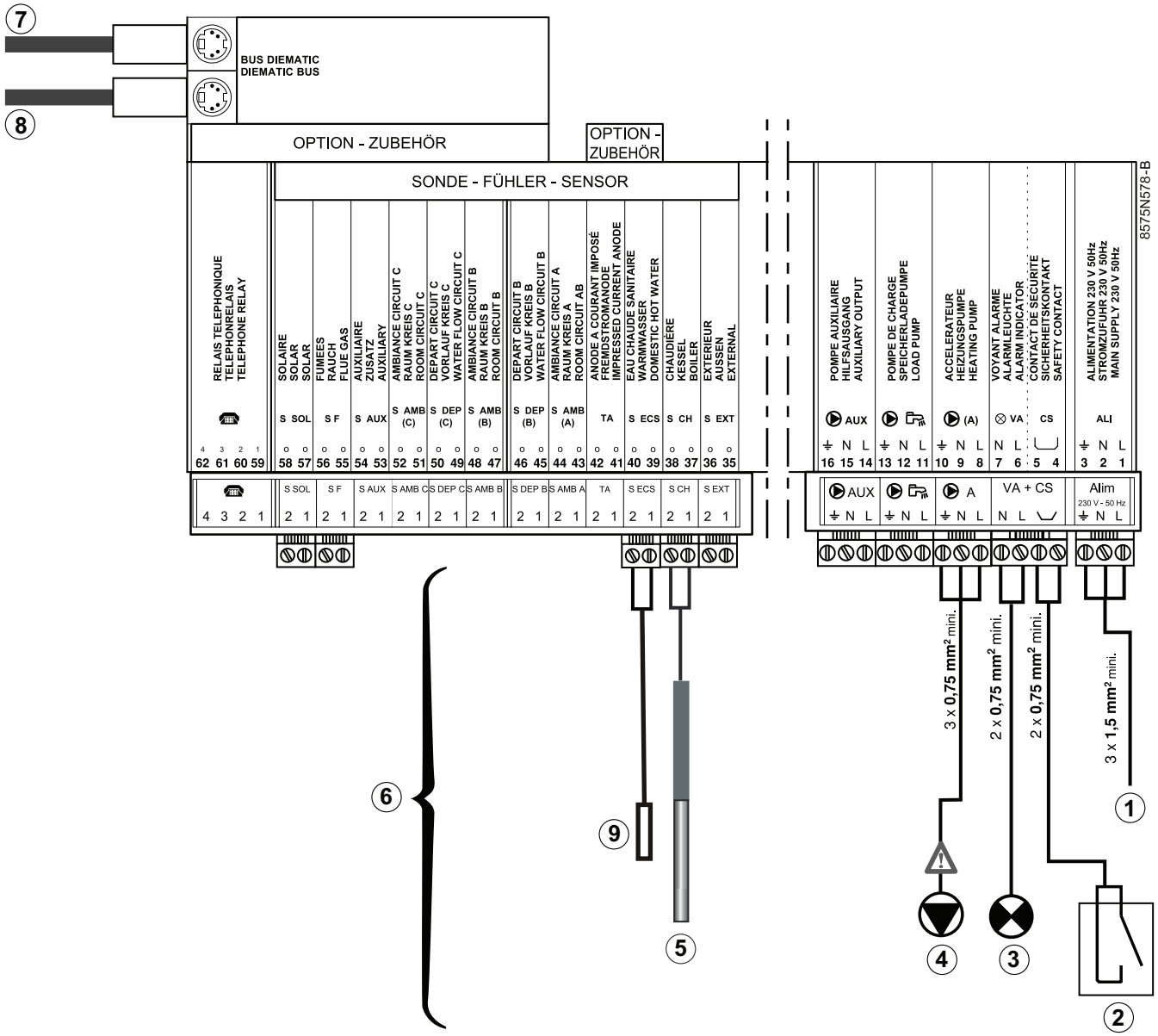
5.13.1 Master boiler 1



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Primary injection pump
5 D.H.W. load pump
6 Titan Active System® simulation connector (package AD 212)
7 DHW sensor
8 D.H.W. loop back pump
9 Outside sensor
10 Boiler sensor
11 Boiler with or without accumulator
12 Boiler with accumulator
13 To the Diematic VM (1) regulation
14 To 2 secondary boiler (1)

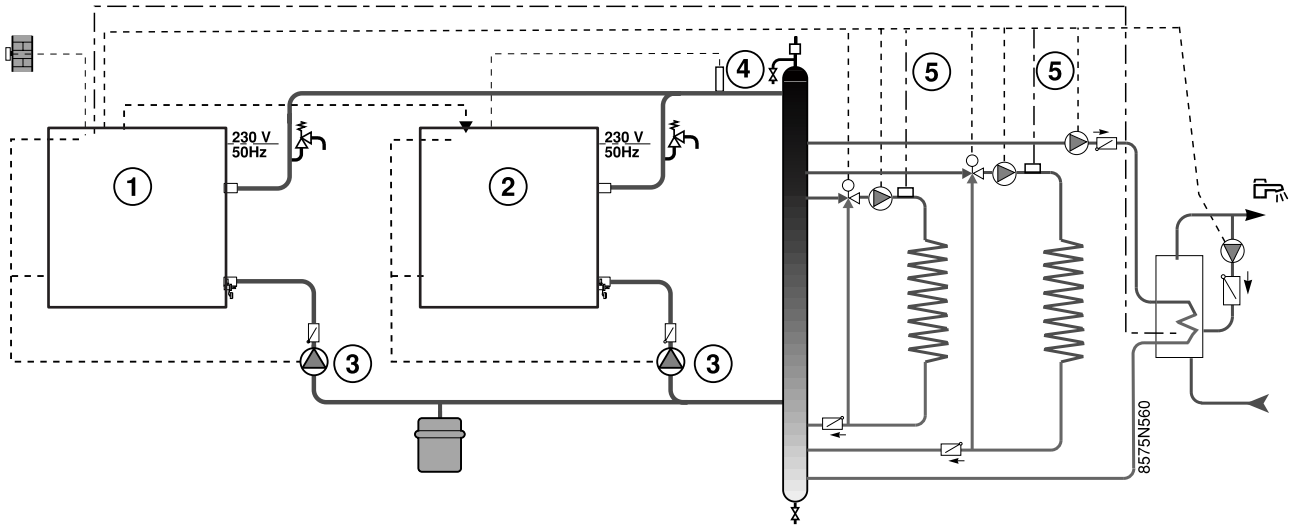
(1) The boiler can be connected to a boiler in cascade or to a DIEMATIC VM using a BUS cable (package AD134 or DB119).

5.13.2 Secondary boiler



1 230 V main supply
2 Flue gas thermostat
3 Burner fault alarm light
4 Primary injection pump
5 Boiler sensor (Follower boiler)
6 Boiler with or without accumulator
7 From the previous cascade boiler
8 Not used
9 Boiler sensor on common output

5.13.3 Cascade



1 Master boiler

2 Secondary boiler

3 Primary injection pump

4 Common outlet sensor to be connected to the S ECS input on boiler ②

5 Mixing valve and circulating pump
To connect the mixing valve PCB + sensor options, See: Instructions for option FM48

To construct the cascade, set the parameter **CASCADE** (**#CONFIGURATION**) on each boiler to 1 and 2 respectively.

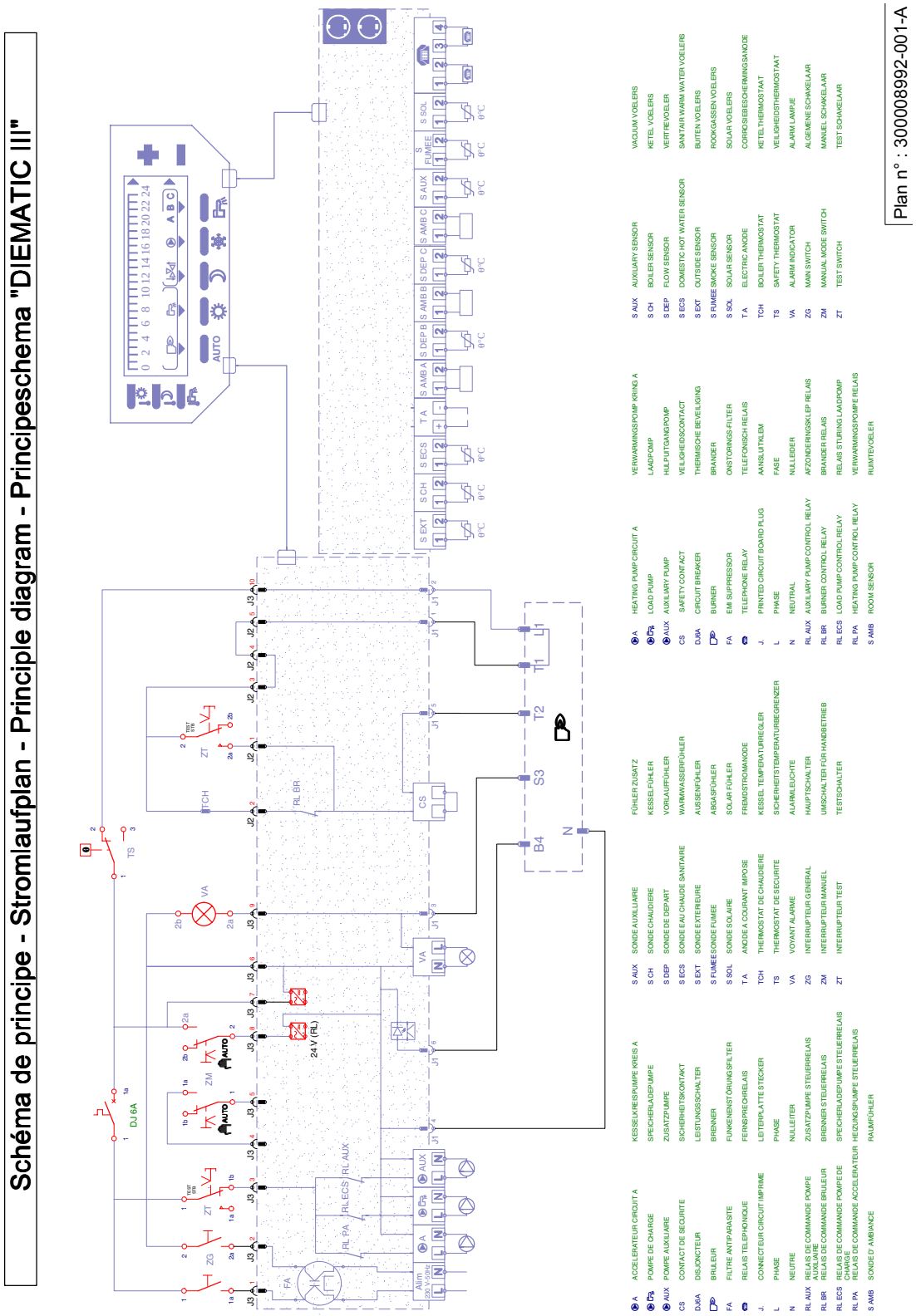
Set the parameter **CIRC. A:** to **PRIM.P.** on boiler ①.

The boilers switch over every 7 days.

If necessary, the startup of the secondary boiler is timed at 4 minutes.

6 Skeleton Diagrams

Schéma de principe - Stromlaufplan - Principle diagram - Principeschema "DIEMATIC III"



A	ACCELERATEUR CIRCUIT A	KESSELKREISPUMPE KREIS A	S AUX	SONDE AUXILIAIRE	FÜHLER ZUSATZ	A	HEATING PUMP CIRCUIT A	VERWARMINGSPOMP KRING A	S AUX	AUXILIARY SENSOR	VACUUM VOELERS
	POMPE DE CHARGE	SPEICHERLADEPUMPE	S CH	SONDE CHAUDIERE	KESSELFÜHLER		LOAD PUMP	LAADPOMP	S CH	BOILER SENSOR	KETEL VOELERS
AUX	POMPE AUXILIAIRE	ZUSATZPUMPE	S DEP	SONDE DE DEPART	VORLAUFFÜHLER	AUX	AUXILIARY PUMP	HULPUITGANGSPOMP	S DEP	FLOW SENSOR	VERT.REVOELER
CS	CONTACT DE SECURITE	SICHERHEITSKONTAKT	S ECS	SONDE EAU CHAUDE SANITAIRE	WARMWASSERFÜHLER	CS	SAFETY CONTACT	VEILIGHEIDSCONTACT	S ECS	DOMESTIC HOT WATER SENSOR	SANITAIR WARM WATER VOELERS
DJ6A	DISJONCTEUR	LEISTUNGSSCHALTER	S EXT	SONDE EXTERIEURE	AUSSENFÜHLER	DJ6A	CIRCUIT BREAKER	THERMISCHE BEVEILIGING	S EXT	OUTSIDE SENSOR	BUITEN VOELERS
	BRULEUR	BRENNER	S FUMEE	SONDE FUMEE	ABGASFÜHLER		BURNER	BRANDER	S FUMEE	SMOKE SENSOR	ROOKGASSEN VOELERS
FA	FILTRE ANTIPARASITE	FUNKENENTSTÖRUNGSFILTER	S SOL	SONDE SOLAIRE	SOLAR FÜHLER	FA	EMI SUPPRESSOR	ONSTORINGS-FILTER	S SOL	SOLAR SENSOR	SOLAR VOELERS
	RELAIS TELEPHONIQUE	FERNSPRECHRELAIS	T A	ANODE A COURANT IMPOSE	FREMDSTROMANODE		TELEPHONE RELAY	TELEFONISCH RELAIS	T A	ELECTRIC ANODE	CORROSIEBESCHERMINGSANODE
	CONNECTEUR CIRCUIT IMPRIME	LEITERPLATTE STECKER	TCH	THERMOSTAT DE CHAUDIERE	KESSEL TEMPERATURREGLER		PRINTED CIRCUIT BOARD PLUG	AANSLUITKLEM	TCH	BOILER THERMOSTAT	KETELTHERMOSTAAT
L	PHASE	PHASE	TS	THERMOSTAT DE SECURITE	SICHERHEITSTEMPERATURBEGRENZER	L	PHASE	FASE	TS	SAFETY THERMOSTAT	VEILIGHEIDSTHERMOSTAAT
N	NEUTRE	NULLEITER	VA	VOYANT ALARME	ALARMLEUCHTE	N	NEUTRAL	NULLEIDER	VA	ALARM INDICATOR	ALARM LAMPJE
RL AUX	RELAIS DE COMMANDE POMPE AUXILIAIRE	ZUSATZPUMPE STEUERRELAIS	ZG	INTERRUPTEUR GENERAL	HAUPTSCHALTER	RL AUX	AUXILIARY PUMP CONTROL RELAY	AFZONDERINGSKLEP RELAIS	ZG	MAIN SWITCH	ALGEMENE SCHAKELAAR
RL BR	RELAIS DE COMMANDE BRULEUR	BRENNER STEUERRELAIS	ZM	INTERRUPTEUR MANUEL	UMSCHALTER FÜR HANDBETRIEB	RL BR	BURNER CONTROL RELAY	BRANDER RELAIS	ZM	MANUAL MODE SWITCH	MANUEL SCHAKELAAR
RL ECS	RELAIS DE COMMANDE POMPE DE CHARGE	SPEICHERLADEPUMPE STEUERRELAIS	ZT	INTERRUPTEUR TEST	TESTSCHALTER	RL ECS	LOAD PUMP CONTROL RELAY	RELAIS STURING LAADPOMP	ZT	TEST SWITCH	TEST SCHAKELAAR
RL PA	RELAIS DE COMMANDE ACCELERATEUR	HEIZUNGSPUMPE STEUERRELAIS				RL PA	HEATING PUMP CONTROL RELAY	VERWARMINGSPOMPE RELAIS			
S AMB	SONDE D' AMBIANCE	RAUMFÜHLER				S AMB	ROOM SENSOR	RUIMTEVOELER			

Plan n° : 300008992-001-A

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