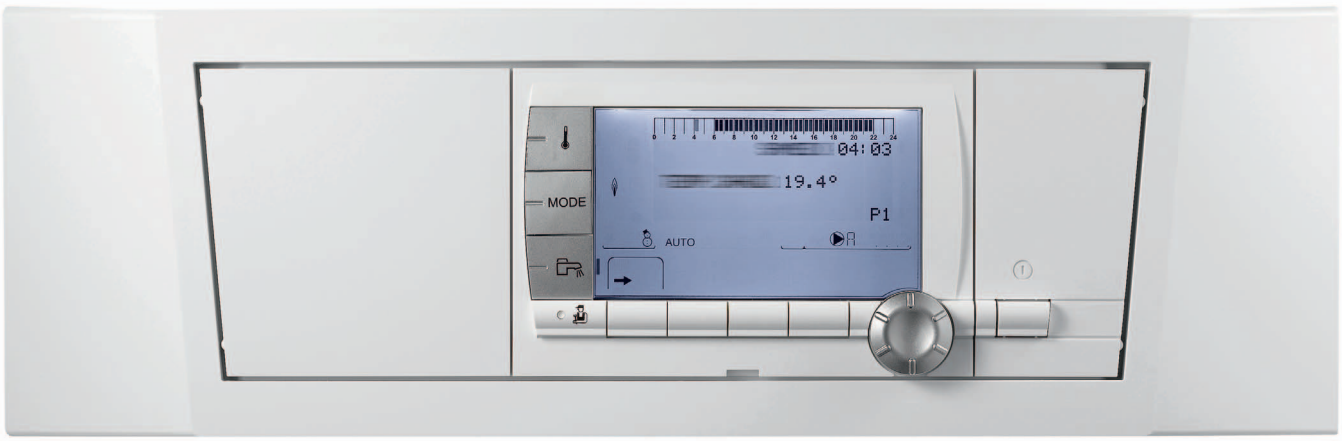
After Sales Service Guide



Control panel DIEMATIC iSystem

For INNOVENS MCA wall-hung gas condensing boilers

Use of this guide is reserved for qualified professionals

Any intervention on the appliance and heating equipment must be carried out by a qualified technician.

Abide by prevailing local regulations.

Used symbols

	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	Reference to other paragraphs in the guide

PRESENTATION

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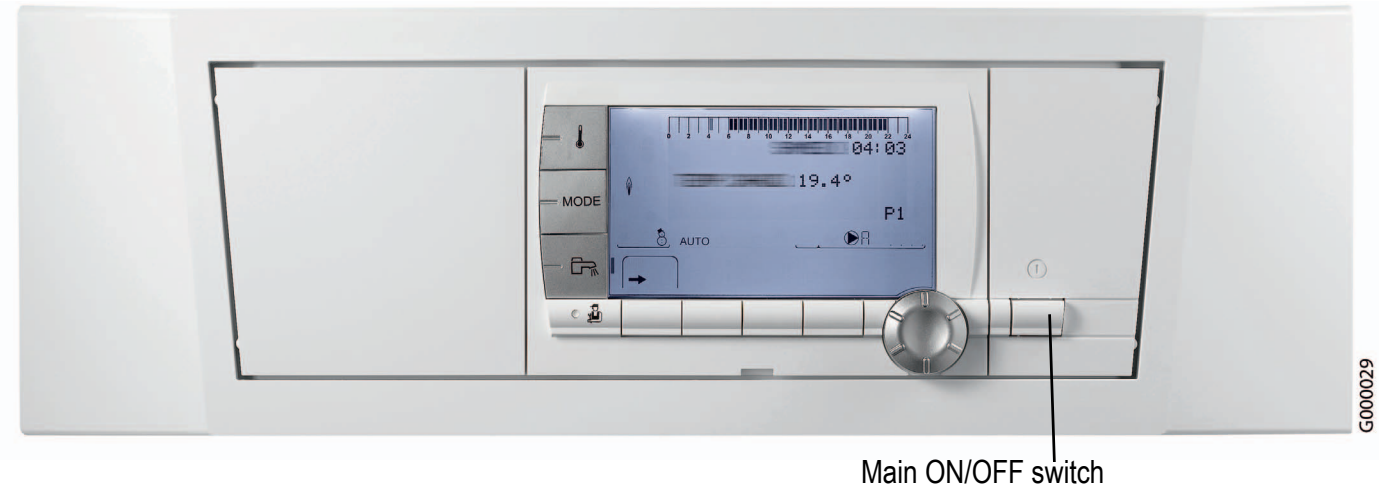
1. Presentation

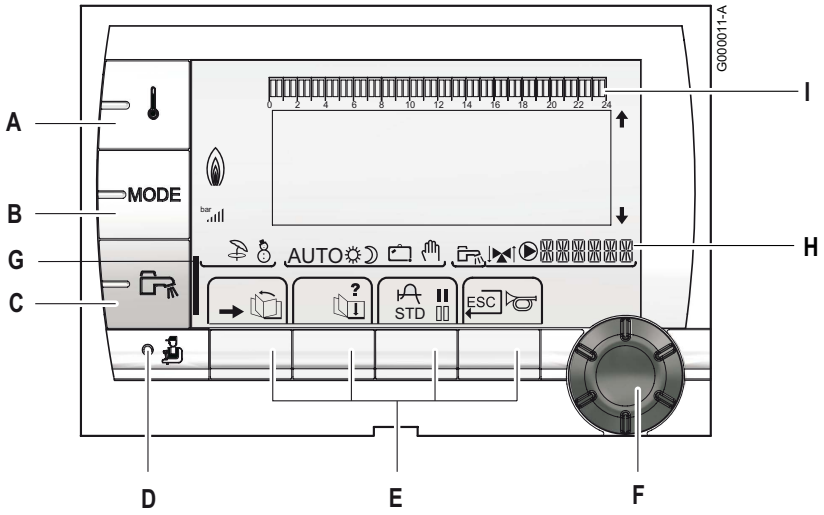


The control panel DIEMATIC iSystem equips the boilers INNOVENS MCA.

The DIEMATIC iSystem control panel is an electronic regulator which can be programmed, and ensures the following functions:

- Boiler temperature control via the modulating burner (in the case of the MCA wall-hung boiler) according to the outside temperature and, if applicable, the room temperature if a CDI4, CDR4 or simplified interactive remote control (available as optional equipment) is connected,
- Command and control of a direct circuit without mixing valve
- Command and control of a first circuit with mixing valve, with the flow sensor option (Option package AD199),
- Command and control of a second mixing valve circuit, with the PCB + flow sensor option (Option package AD249).
  Nota: Each of these 3 heating circuits can be equipped with a CDI4, CDR4 or simplified FM52 remote control (Options).
- Programming and priority control of a DHW circuit, with DHW sensor option (Package AD212),
- Anti-freeze protection for the installation and the environment if the home is empty
- 2 to 10 boilers can be connected in a cascade,
- Option of connecting 1 to 10 DIEMATIC VM control systems
- Management of systems combining various heating generators (boiler + heat pump or boiler + solar system…) This allows the installer to set the parameters for the heating system as a whole.

2. Description of the keys and the display



A Temperature setting key (heating, DHW, swimming pool)

B Operating mode selection key

C DHW override key

D Key to access the parameters reserved for the installer

E Keys on which the function varies as and when selections are made

F Rotary setting button and push button:
- : Turn the rotary button to scroll through the menus or modify a value
- : Press the rotary button to access the menu selected or confirm a value modification

G A bar is displayed when a DHW override is activated:
- Flashing bar: Temporary override
- Steady bar: Permanent override

H Name of the circuit for which the parameters are displayed

I Timer programmes graphic display bar:
- Dark area : Heating period in comfort mode or DHW production enabled
- Light area : Heating period in reduced mode or DHW production not enabled

Symbols

Comfort mode: The symbol is displayed when a DAY override (comfort) is activated
- Flashing symbol: Temporary override
- Steady symbol: Permanent override

Reduced mode: The symbol is displayed when a NIGHT override (reduced) is activated
- Flashing symbol: Temporary override
- Steady symbol: Permanent override

Holiday mode: The symbol is displayed when a HOLIDAY override (antifreeze) is activated
- Flashing symbol: Holiday mode programmed
- Steady symbol: Holiday mode active

Manual mode

The symbol is displayed when domestic hot water production is running

Valve indicator: The symbol is displayed when a 3-way valve is connected
- : Opening the 3-way valve
- : Closing the 3-way valve

The symbol is displayed when the pump is operating

Access to the various menus

Used to scroll through the menus

Used to scroll through the parameters

Used to display the curve of the parameter selected

? The symbol is displayed when help is available

STD Reset of all time programmes

/ Comfort/reduced selection or selection of the days to be programmed

Back to the previous level

ESC Back to the previous level without saving the modifications made

Manual reset

Arrows are displayed when lines are masked higher or lower in the list. Both arrows flash when it is possible to modify a value.

Flame status

Pressure indicator: The symbol is displayed when a water pressure sensor is connected
- Flashing symbol: The quantity of water is insufficient
- Steady symbol: The quantity of water is sufficient.

Water pressure level:
- : 0,9 to 1,1 bar
- : 1,2 to 1,5 bar
- : 1,6 to 1,9 bar
- : 2,0 to 2,3 bar
- : > 2,4 bar

Summer mode: Reheating the domestic hot water remains ensured

WINTER mode: Heating and domestic hot water working

AUTO Operation in automatic mode according to the timer programme

3. Options for the DIEMATIC iSystem control panel

Domestic hot water sensor - Package AD212

The DHW sensor is used for the priority control of the temperature and the programming of domestic hot water production by an accumulation tank.

Outlet sensor after 3-way valve - Package AD199

This sensor is needed to connect the first circuit with mixing valve to a boiler equipped with the DIEMATIC iSystem control panel.

PCB + sensor for a mixing valve - Package AD249

The PCB + sensor option is used to command a mixing valve with electromechanical or electrothermal motor and the associated heating pump. The PCB is installed in the DIEMATIC iSystem control panel and is connected using plug-in connectors. The DIEMATIC iSystem control panel can accommodate 1 PCB + sensor option.

CDI4 interactive remote control - Package AD254

CDR4 interactive radio remote control module (without transmitter / radio receiver) - Package AD253

Boiler radio module (Transmitter/receiver) - Package AD252

The connection of an interactive remote control is used to override all instructions from the DIEMATIC iSystem control panel from the room in which it is installed. The interactive control also enables the self-adaptivity of the heating law for the circuit concerned (one CDI4 or CDR4 per circuit).

In the case of the CDR4, data is transmitted by radio waves from the point of installation to the transmitter / receiver unit (package AD252) located in the vicinity of the boiler.

A simplified remote control with room sensor - Package FM52

The connection of a simplified remote control is used to override certain instructions from the DIEMATIC iSystem control panel from the room in which it is installed:
programme and room temperature set point override. The remote control is used to automatically adapt the heating curve on the circuit concerned (one simplified remote control per circuit).

BUS connection cable (length 12 m package AD134)

The BUS cable is used to interconnect two boilers equipped with the DIEMATIC iSystem control panel in a cascade installation and to connect a DIEMATIC VM control system or a transmitter from a remote management network.

Sensor for storage tank - Package AD250

Includes 1 sensor for managing a storage tank with a boiler equipped with a DIEMATIC iSystem control panel.

Outside radio-controlled temperature sensor - Package AD251

Boiler radio module (Transmitter/receiver) - Package AD252

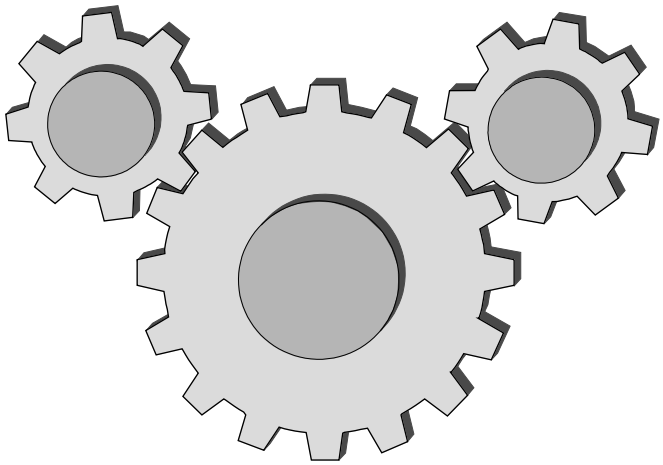
The radio-controlled outside temperature sensor is available as an option for systems in which the installation of the wire-controlled outside temperature sensor delivered with the DIEMATIC iSystem control panel turns out to be too complex.
If this sensor is used with a wire-controlled remote control (AD254 or FM52), the boiler radio module (package AD252) is also needed.
If a boiler radio module is already connected to the DIEMATIC iSystem control panel, it is not necessary to order a second one.

TELCOM voice remote monitoring module - Package AD152

Intended for the control of heating installations by phone, the module handles 2 functions:

1. To inform the user or a person of his choice (4 phone numbers can be programmed) if there are problems with the installation (no mains voltage, burner defect or external alarm)
2. To enable the user to remotely manage the boiler operating mode and two other circuits (e.g.: water heater).
   This module is recommended particularly for second homes, temporarily unoccupied main homes (holidays, etc.), and small collective systems.
   The TELCOM works with all telephones with voice-frequency type dialling on both land lines and mobiles (GSM). Moreover, it comprises a function enabling use with a fax or a phone answering machine, provided that it can be programmed to pick up after the third ring.

OPERATING PRINCIPLE



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1. General description

The DIEMATIC iSystem control panel is an electronic regulator which can be programmed, and ensures the following functions:

- Boiler temperature control via the modulating burner (in the case of the MCA wall-hung boiler) according to the outside temperature and, if applicable, the room temperature if a CDI4, CDR4 or simplified interactive remote control (available as optional equipment) is connected,
- Command and control of a direct circuit without mixing valve
- Command and control of a first circuit with mixing valve, with the flow sensor option (Option package AD199),
- Command and control of a second mixing valve circuit, with the PCB + flow sensor option (Option package AD249).
  Nota: Each of these 3 heating circuits can be equipped with a CDI4, CDR4 or simplified FM52 remote control (Options).
- Programming and priority control of a DHW circuit, with DHW sensor option (Package AD212),
- Anti-freeze protection for the installation and the environment if the home is empty
- 2 to 10 boilers can be connected in a cascade,
- Option of connecting 1 to 10 DIEMATIC VM control systems
- Management of systems combining various heating generators (boiler + heat pump or boiler + solar system…) This allows the installer to set the parameters for the heating system as a whole.

2. Description and operation

2.1 Description of the control equipments - Abbreviations

PCU: Primary Control Unit - PCB for managing burner operation.
The parameters for the PCU board are displayed in specific menus: #PRIMARY LIMITS and #PRIMARY INSTAL.P.
Messages from the PCU board have a code that starts with Bxx.
Defects on the PCU board have a code that starts with Lxx.

PSU : Parameter Storage Unit - Parameter storage for PCBs PCU and SU.
If a PCU or SU board is replaced, it is not necessary to reset the parameters displayed in the #PRIMARY LIMITS and #PRIMARY INSTAL.P menus. These settings are memorised in the PSU board.
If the PSU board is replaced, the parameter settings for the #PRIMARY LIMITS and #PRIMARY INSTAL.P menus should be done again.
The PSU is electrically connected to the PCU but the communication link is also made between PSU and SU.

SCU: Secondary Control Unit - DIEMATIC iSystem control panel PCB.
This board pilots all secondary systems (circuits A, B, C, DHW and AUX) and sends the summary of demands on these circuits to the PCU via the PCU bus.

SU : Safety Unit - Safety PCB (Safety box).

CDI4: Interactive wire-controlled remote control with LCD display.

CDR4: Interactive radio remote control with LCD display.

FM52: Simplified remote control

MCR4 : Boiler radio module

HMI: Display (Human Machine Interface)

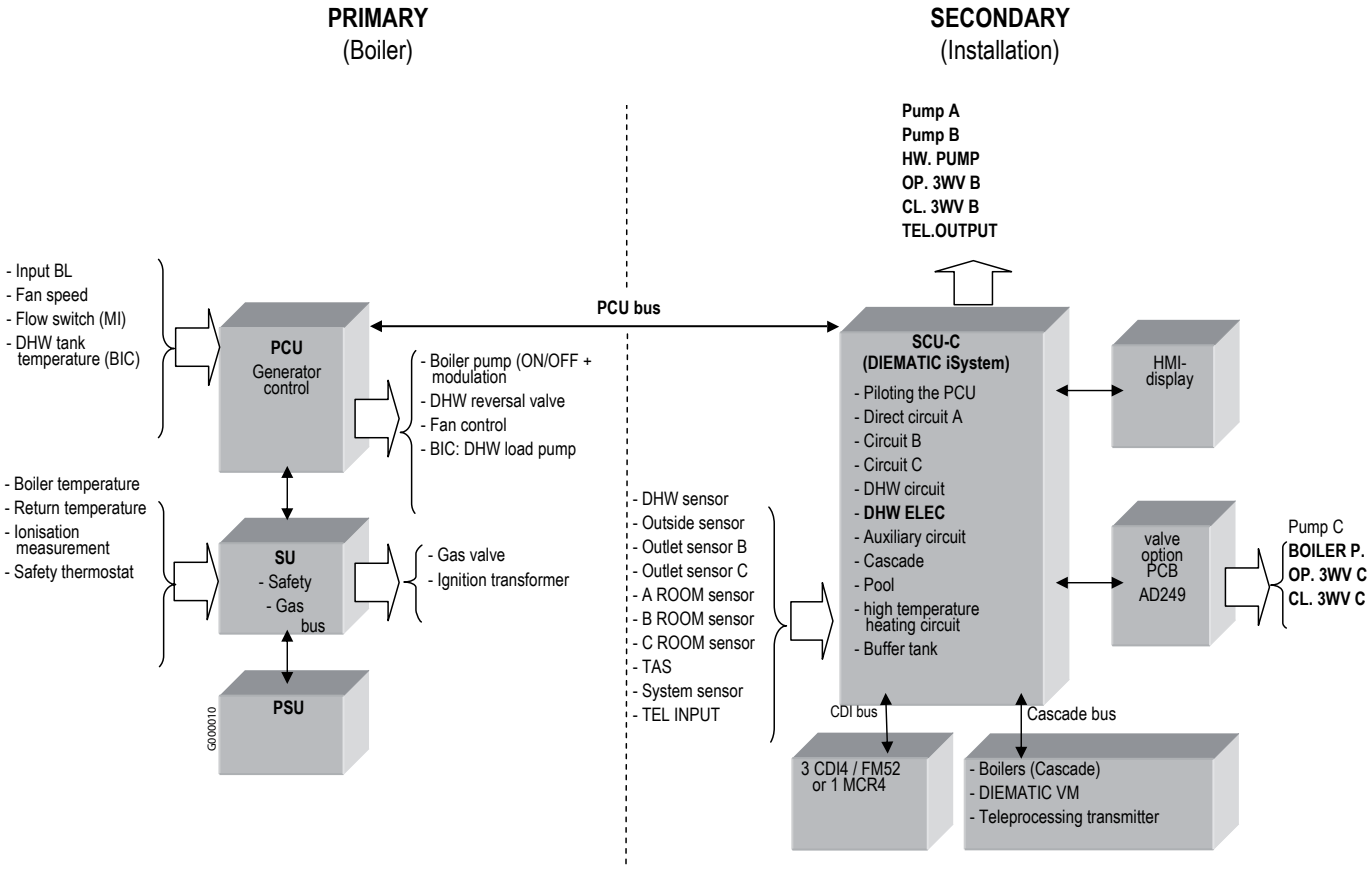
IOBL: Carrier current home automation bus.

2.2 Description of the BUS

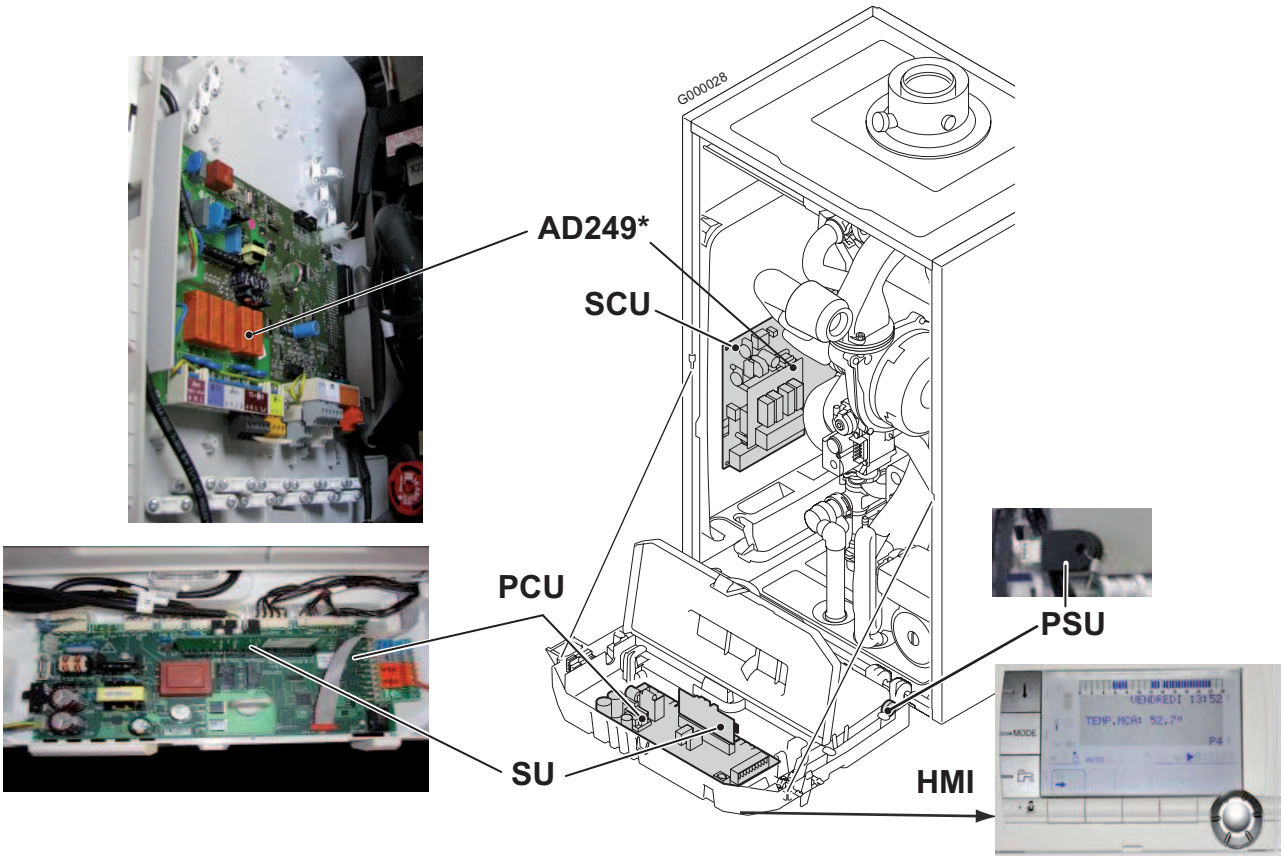
- CDI bus: handles the link between the remote controls and the boiler
- Cascade bus: handles the links in the cascade (DIEMATIC VM regulator, TELCOM telemanagement transmitter)
- PCU bus: used to communicate with the PCU board :
  DIEMATIC iSystem to PCU:
  - Burner on/off command
  - Boiler set point temperature
  - Output capping

  PCU to DIEMATIC iSystem:
  - Measurements
  - Faults (Lxx) / Messages(Bxx)
  - present states (Pump, Gas valve, Flame status,...)
  - Parameters
- IOBL bus (In One By Legrand): Communication on carrier current (works with In One By Legrand products...).

2.3 Functional links

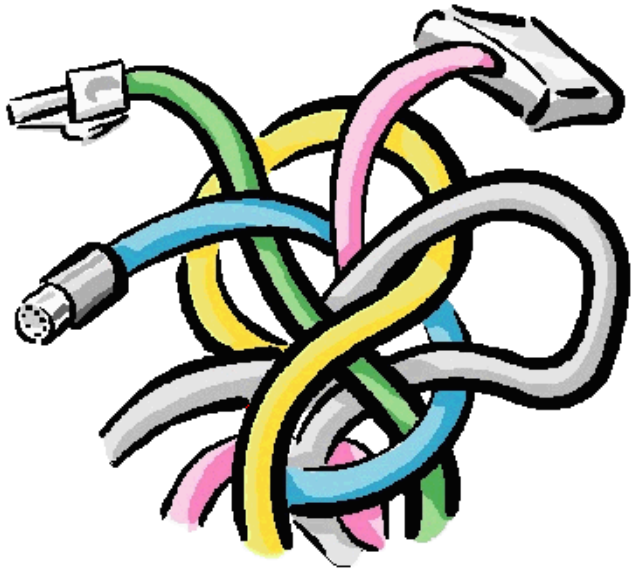


Location of the boards



* Board for 3-way-valve (option)

CONFIGURATION OF THE CIRCUITS



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Installation and connection examples

1. Safety instructions

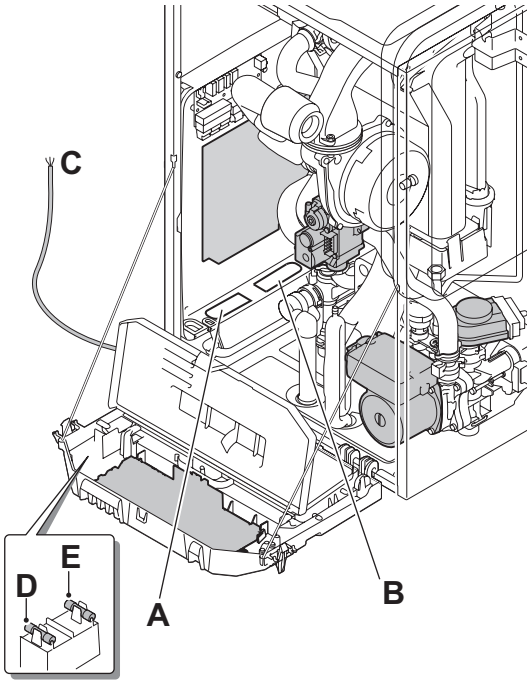
CAUTION

When working on the boiler, always disconnect the boiler from the mains and close the main gas inlet valve.

After maintenance or repair work, check all installations to ensure that there are no leaks.

- The mains supply is made via the cable **C** connected to the mains.
  All other external connections are done on the connection connectors (low voltage).
- The main characteristics of the control unit are described in the table below:

Power supply voltage	230 VAC/50 Hz
Rating of the main fuse F1 (230 VAC)	6.3 AT
Fuse rating F2 (230 VAC)	2 AT
Fan-DC	24 VDC



C002336-E

- **A** Routing of the 230 V cables
- **B** Routing of the sensor cables
- **C** Power supply cable
- **D** 6.3 AT fuse
- **E** 2 AT fuse

CAUTION

The following components of the appliance are at a voltage of 230 V:

- Boiler pump

- Combined gas valve unit

- Inverter valve

- The majority of components in the control panel and the terminal box

- Power supply cable

2. Configuration to be done beforehand

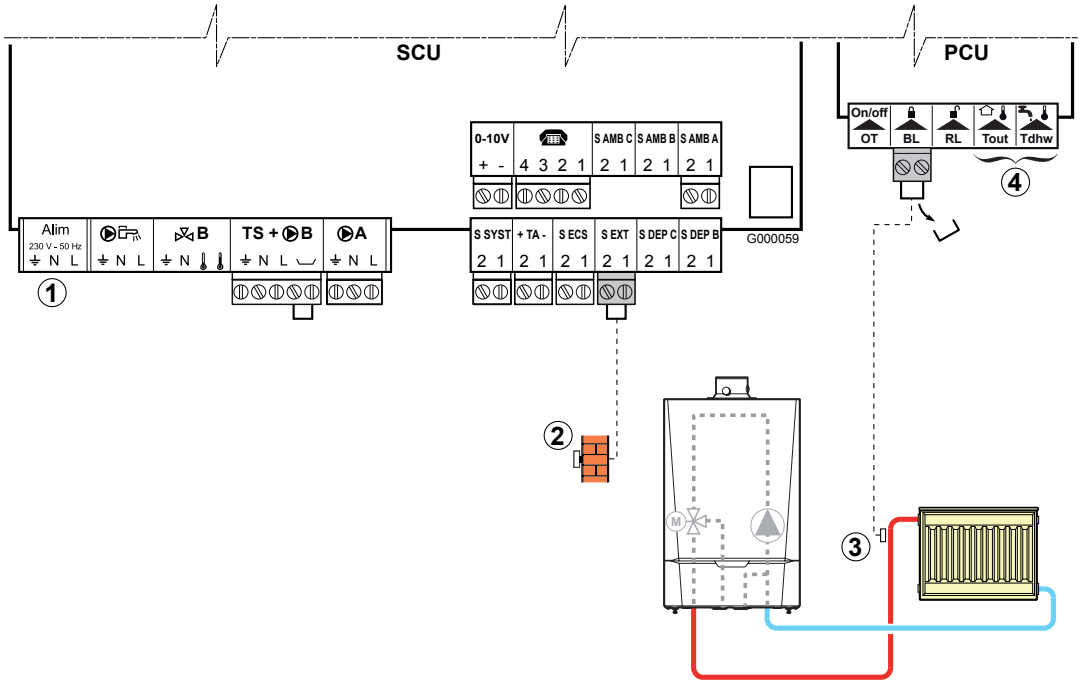
1. **To access all parameters:** first set the **INSTALLATION** parameter to **EXTENDED**.

   In **CLASSIC** mode, only the parameters for a classic installation are displayed.
   The regulator automatically switches back to **CLASSIC** mode after 30 minutes (whether or not a key has been pressed).

Press	Display	Select	Display	Press	Display
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#NAMES OF THE CIRCUITS** **#...**	**#SYSTEM**	**INSTALLATION** **CLASSIC**	▸ Press the rotary button ▸ Turn the rotary button to select the parameter: **INSTALLATION EXTENDED** ▸ Press the rotary button to confirm	**INSTALLATION** **EXTENDED**

2. **To control and adapt all parameters according to the type of installation:**
   the following chapters give the connections and parameter settings to be made.

3. Connecting a direct circuit



- Diagram:
  ① Not used: Do not connect anything to the terminal block.
  ② Connect the outside temperature sensor.
  ③ Connect a safety thermostat if the heating circuit is for underfloor heating.
  Remove the bridge. Connect the wires from the safety thermostat to the connector.
  ④ Not used: Do not connect anything to the terminal block.
- **Parameter settings to be made for this type of installation:** If underfloor heating is connected directly (without mixing valve), set the parameter **IN.BL** as follows:

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	#LANGUAGE #SYSTEM #... #PRIMARY INSTAL.P	#PRIMARY INSTAL.P	BURN.MIN.RUN(1) TIMER GENE P. IN.BL	IN.BL	STOP HEAT TOTAL STOP SAFETY MODE	STOP HEAT

- **Configuration of the outlets should not be modified; the factory setting below is suitable**:

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	DIRECT	"Installer" level	#SYSTEM	CIRC. A:(1)	Keep the factory setting

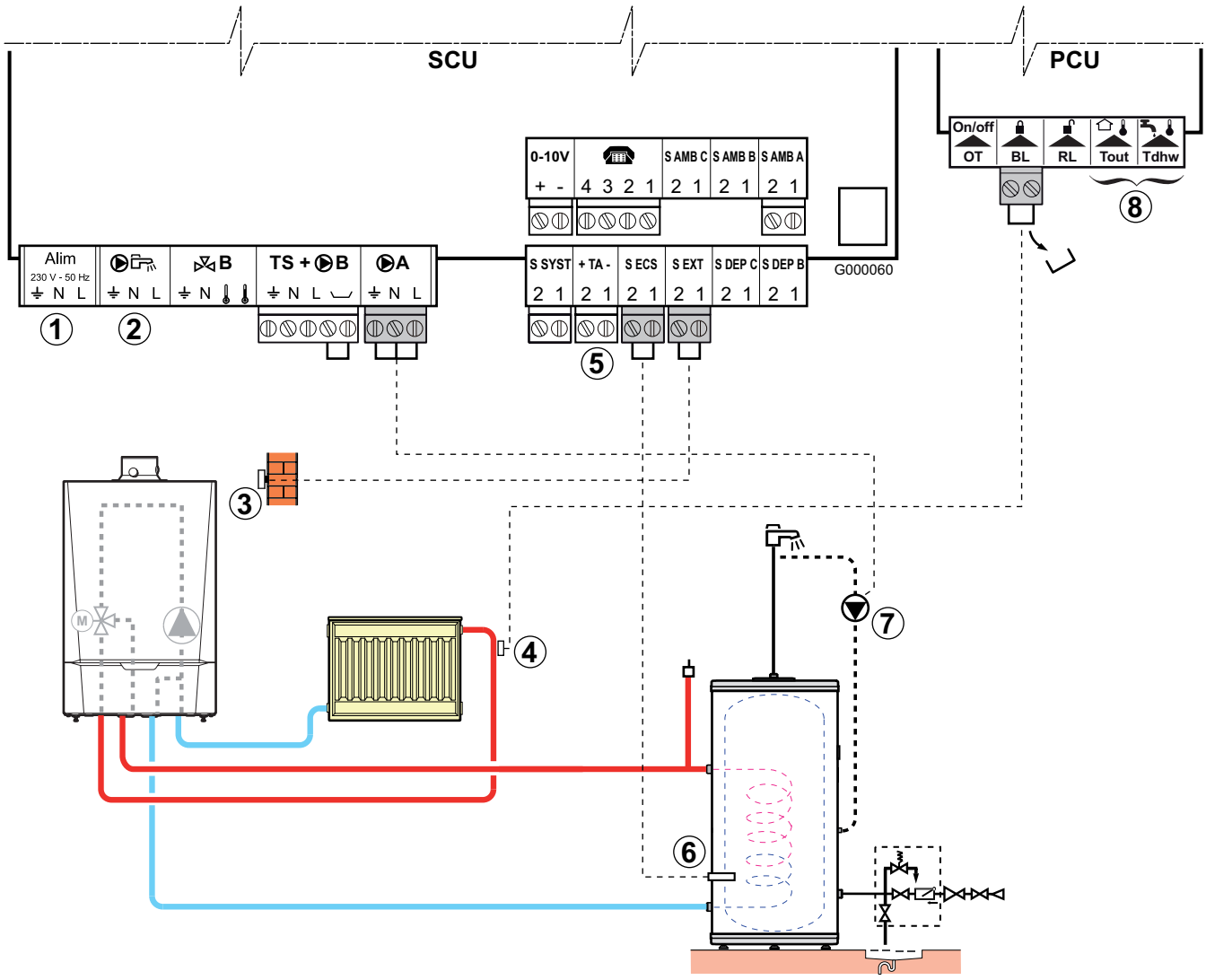
(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

- **The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):**

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	1,5	"Installer" level	#SECONDARY INSTAL.P....	CIRC.CURVE A	If circuit A is for underfloor heating, set the value to 0.7.

For more detailed information on the parameters: See section 4.

4. Connecting a direct heating circuit and a domestic hot water tank



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- Diagram:

① Not used: Do not connect anything to the terminal block.

② ⚠ **CAUTION**: Do not connect anything to the DHW pump outlet as the reversal valve is connected to the PCU PCB in the boiler

③ Connect the outside temperature sensor.

④ Connect a safety thermostat if the heating circuit is for underfloor heating.
Remove the bridge. Connect the wires from the safety thermostat to the connector in the position marked **BL**, after first removing the bridge.

⑤ Connect the DHW tank anode.
⚠ **CAUTION**:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).
- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212)

⑥ Connect the DHW sensor (Package AD212).

⑦ Connect the domestic hot water looping pump (Optional).

⑧ Not used: Do not connect anything to the terminal block.

▸ Parameter settings to be made for this type of installation:

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	#LANGUAGE #SYSTEM #... #PRIMARY INSTAL.P	**Parameter settings for IN.BL to connect the TS to an ④ underfloor heating system**				
		#PRIMARY INSTAL.P	BURN.MIN.RUN(1) TIMER GENE P. IN.BL	IN.BL	STOP HEAT TOTAL STOP SAFETY MODE	TOTAL STOP
		Parameter settings for the ⑦ DHW loop				
		#SYSTEM	INSTALLATION CIRC. A:(1) ... O.PUMP A(1)	O.PUMP A(1) ...	CH.PUMP A ... DHW LOOP ...	DHW LOOP

▸ Configuration of the outlets should not be modified; the factory setting below is suitable:

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	DIRECT	"Installer" level	#SYSTEM	CIRC. A:(1)	Keep the factory setting

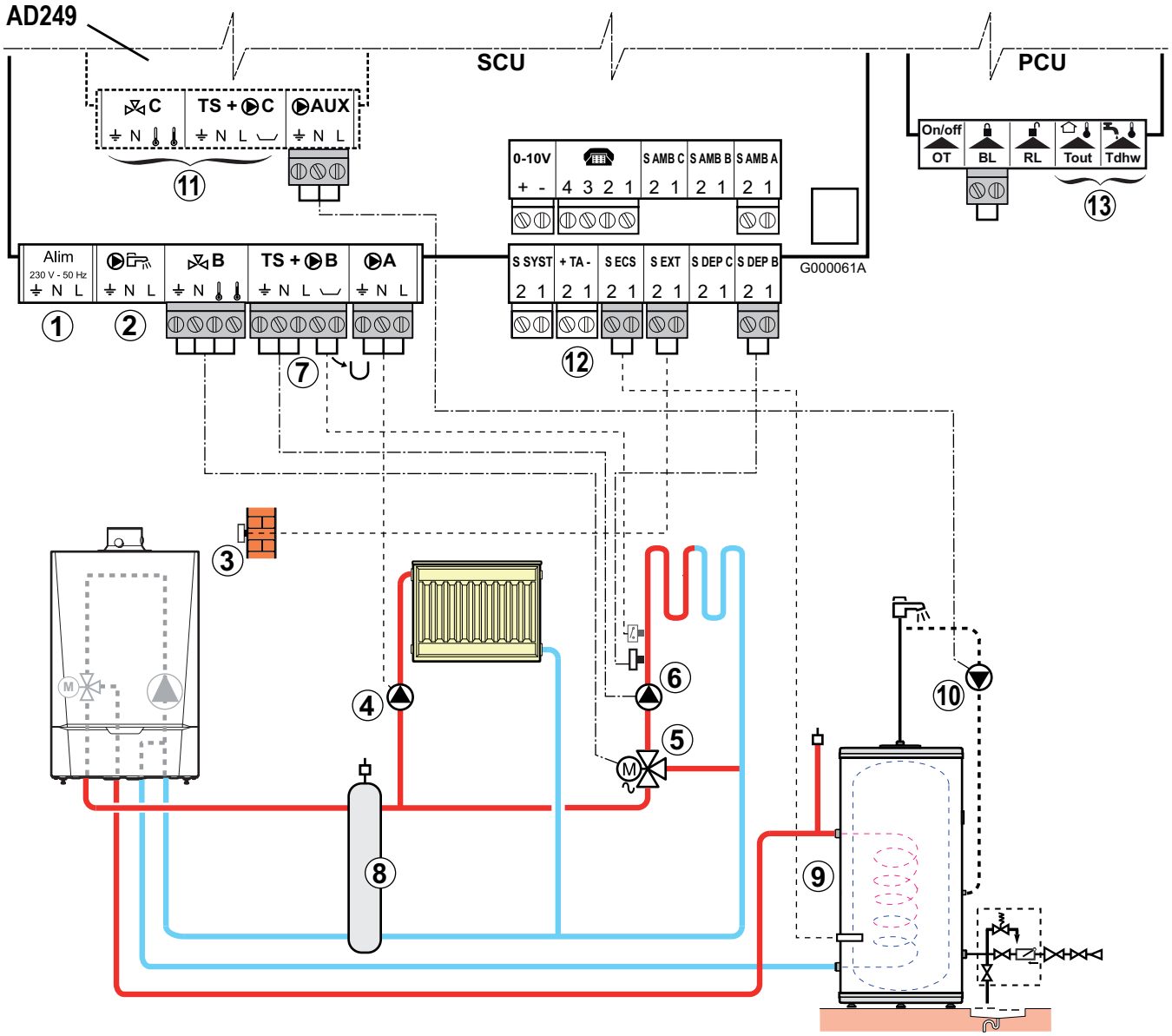
(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

▸ The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	1,5	"Installer" level	#SECONDARY INSTAL.P....	CIRC.CURVE A	If circuit A is for underfloor heating, set the value to 0.7.

i For more detailed information on the parameters: See section 4.

5. Connecting two circuits and a domestic hot water tank before the mixing tank



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- Diagram:

① Not used: Do not connect anything to the terminal block.
② ⚠ **CAUTION**: Do not connect anything to the DHW pump outlet as the reversal valve is connected to the PCU PCB in the boiler
③ Connect the outside temperature sensor.
④ Connect the heating pump (circuit A)
Nota : If underfloor heating is being used, put a safety thermostat in place after the heating pump.
Remove the bridge. Connect the wires from the safety thermostat to the connector in the position marked **BL**, after first removing the bridge.
The safety thermostat will shut down the heating pump in the event of overheating.
⑤ Connect the 3-way valve motor (circuit B) and the circuit B flow sensor (FL S B).
⑥ Connect the heating pump (circuit B).
⑦ Connect a safety thermostat if the heating circuit is for underfloor heating:
Remove the bridge. Connect the wires from the safety thermostat to the connector.
⑧ Low loss header.
⑨ Connect the DHW sensor (Package AD212).

⑩ Connect the domestic hot water loop pump (optional) to the **S.AUX** outlet on the PCB option for mixing valve (Option: Package **AD249**).
⑪ Connection of an additional circuit, with PCB option for mixing valve (Option: Package **AD249**).
⑫ Connect the DHW tank anode.

⚠ **CAUTION**:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).
- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212)

⑬ Not used: Do not connect anything to the terminal block.

- **Parameter settings to be made for this type of installation: Configuration of the outlets should not be modified; the factory settings below are suitable.**

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	**DIRECT**	"Installer" level	**#SYSTEM**	**CIRC. A:**(1)	Keep the factory setting
CIRC. B:(1)	**3WV**	"Installer" level	**#SYSTEM**	**CIRC. B:**(1)	
O.PUMP A(1)	**CH.PUMP A**	"Installer" level	**#SYSTEM**	**O.PUMP A**(1)	
O.DHW:(1)	**RV**	"Installer" level	**#SYSTEM**	**O.DHW:**(1)	
S.AUX:(1)	**DHW LOOP**	"Installer" level	**#SYSTEM**	**S.AUX:**(1)	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

- **The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):**

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	**1,5**	"Installer" level	**#SECONDARY INSTAL.P**....	**CIRC.CURVE A**	**If circuit A is for underfloor heating, set the value to 0.7.**
CIRC.CURVE B	**0,7**	"Installer" level	**#SECONDARY INSTAL.P**....	**CIRC.CURVE B**	

ℹ For more detailed information on the parameters: See section 4.

6. Connecting two circuits and a domestic hot water tank after the mixing tank

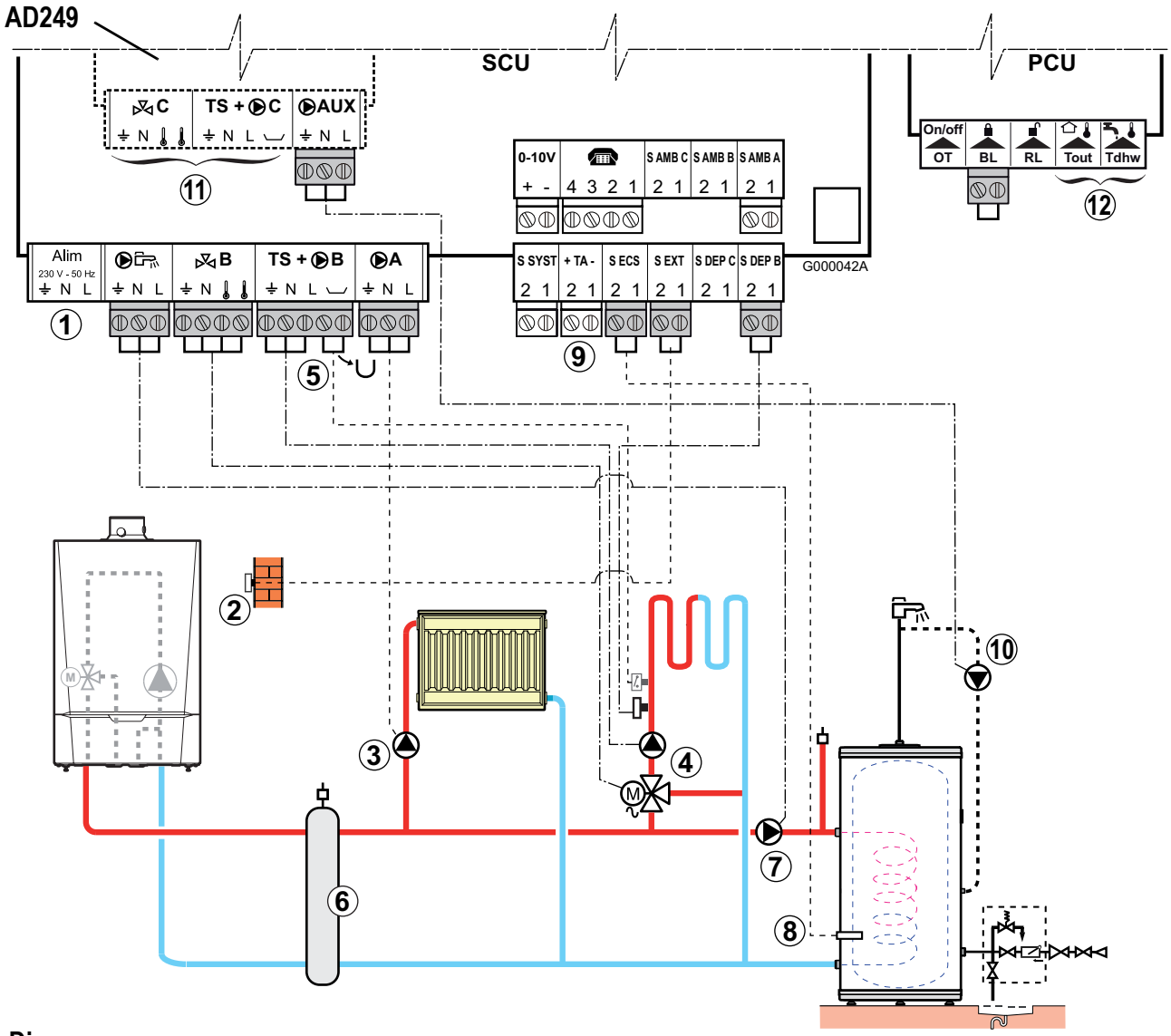

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Diagram:

① Not used: Do not connect anything to the terminal block.
② Connect the outside temperature sensor.
③ Connect the heating pump (circuit A)
Nota : If underfloor heating is being used, put a safety thermostat in place after the heating pump.
Remove the bridge. Connect the wires from the safety thermostat to the connector in the position marked **BL**, after first removing the bridge. The safety thermostat will shut down the heating pump in the event of overheating.
④ Connect the heating pump (circuit B). Connect the 3-way valve motor.
⑤ Connect the safety thermostat for the underfloor heating. Remove the bridge. Connect the wires from the safety thermostat to the connector.
⑥ Low loss header.
⑦ Connect the DHW tank load pump.
⑧ Connect the DHW sensor (Package AD212).
⑨ Connect the DHW tank anode.

⚠ **CAUTION**:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).

- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212).

⑩ Connect the domestic hot water loop pump (optional) to the **S.AUX** outlet on the PCB option for mixing valve (Package AD249).
⑪ Connection of an additional circuit, with PCB option for mixing valve (Package AD249).
⑫ Not used: Do not connect anything to the terminal block.

- **Parameter settings to be made for this type of installation:**

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...**	**#SYSTEM**	**INSTALLATION** **CIRC. A:**(1) **...** **O.DHW:**(1)	**O.DHW:**(1)	**PUMP** **RV**	**PUMP**

- **Configuration of the outlets should not be modified; the factory settings below are suitable:**

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	**DIRECT**	**"Installer" level**	**#SYSTEM**	**CIRC. A:**(1)	Keep the factory setting
CIRC. B:(1)	**3WV**	**"Installer" level**	**#SYSTEM**	**CIRC. B:**(1)	
O.PUMP A(1)	**CH.PUMP A**	**"Installer" level**	**#SYSTEM**	**O.PUMP A**(1)	
S.AUX:(1)	**DHW LOOP**	**"Installer" level**	**#SYSTEM**	**S.AUX:**(1)	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

- **The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):**

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	**1,5**	**"Installer" level**	**#SECONDARY INSTAL.P....**	**CIRC.CURVE A**	**If circuit A is for underfloor heating, set the value to 0.7.**
CIRC.CURVE B	**0,7**	**"Installer" level**	**#SECONDARY INSTAL.P....**	**CIRC.CURVE B**	

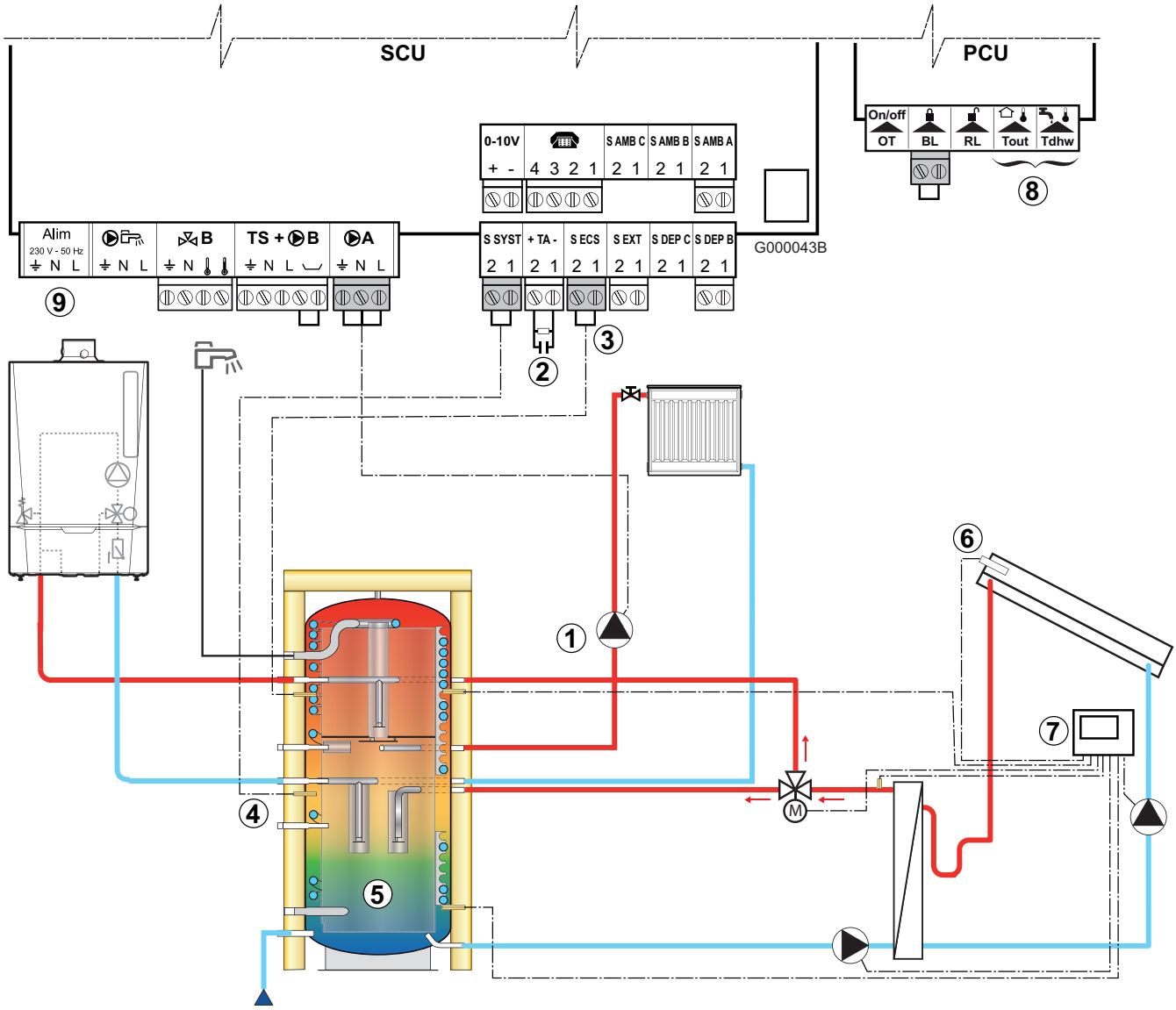
i For more detailed information on the parameters: See section 4.

7. Hot water storage tank connection

7.1 QUADRO DU type storage tank

In this installation example, the storage tank (type QUADRO DU) incorporates a domestic hot water zone.

The boiler starts up systematically to maintain the domestic hot water zone in the storage tank at temperature.



3

- **Diagram:**

① Connect the heating pump (circuit A)
② Connect the DHW tank anode.
⚠ **CAUTION**: If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212)
③ Connect the DHW sensor (Package AD212).
④ Connect the sensor from the storage tank (Package AD250).
⑤ Buffer tank (Type QUADRO).
⑥ Solar sensor probe.
⑦ Connect the solar control system.
⑧ Not used: Do not connect anything to the terminal block.
⑨ Not used: Do not connect anything to the terminal block.

Operating principle

The DHW part is maintained at the DHW set point by the boiler.

The heating zone is maintained at the set temperature calculated according to the outside temperature.

The zone is reheated when the heating buffer temperature sensor ④ falls -6°C below the calculated set temperature.

Reheating in the heating zone stops when the heating buffer temperature rises above the calculated set temperature.

Parameter settings to be made for this type of installation:

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#PRIMARY INSTAL.P**	**#SYSTEM**	**INSTALLATION** **...** **O.DHW:**(1) **...** **I.SYST**(1) **...**	**O.DHW:**(1)	**PUMP** **RV**	**PUMP**
				I.SYST(1)	**SYSTEM STORAGE TANK** **DHW STRAT** **ST.TANK+DHW**	**STORAGE TANK**

Configuration of the outlets should not be modified; the factory settings below are suitable:

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	**DIRECT**	**"Installer" level**	**#SYSTEM**	**CIRC. A:**(1)	Keep the factory setting
O.PUMP A(1)	**CH.PUMP A**	**"Installer" level**	**#SYSTEM**	**O.PUMP A**(1)	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

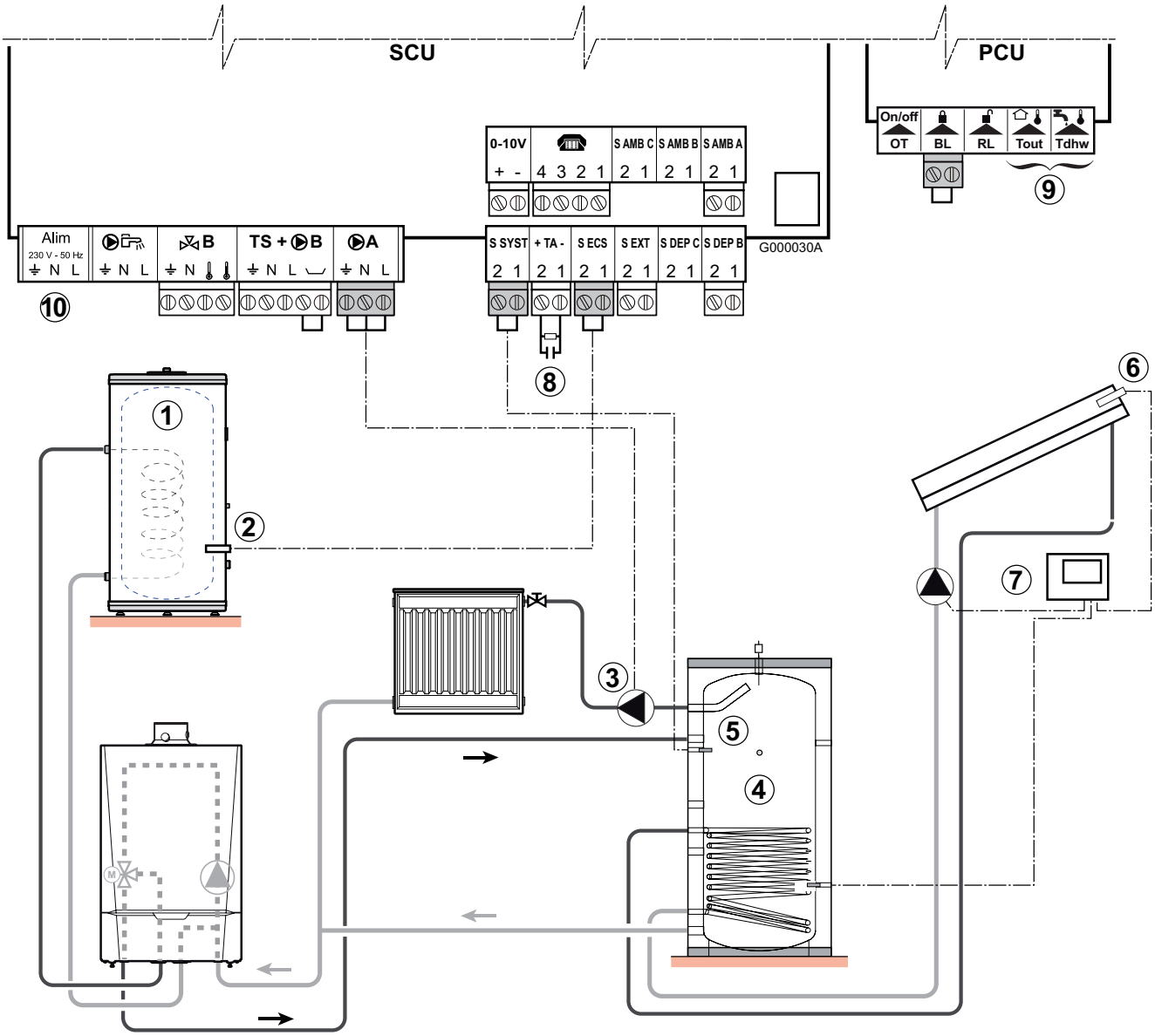
The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	**1,5**	**"Installer" level**	**#SECONDARY INSTAL.P**....	**CIRC.CURVE A**	

For more detailed information on the parameters: See section 4.

7.2 PS type storage tank and DHW tank loaded by the boiler

The boiler starts up systematically to maintain the storage tank or the DHW tank at temperature.



- Diagram:

① Connect a domestic hot water tank if the storage tank ④ is only used for heating.
② Connect the DHW sensor (Package AD212).
③ Connect the heating pump (circuit A)
④ Buffer tank.
⑤ Connect the sensor from the storage tank (Package AD250).
⑥ Solar sensor probe.
⑦ Connect the solar control system.
⑧ Connect the DHW tank anode.

⚠ **CAUTION**:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).
- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212).

⑨ Not used: Do not connect anything to the terminal block.
⑩ Not used: Do not connect anything to the terminal block.

Operating principle

The storage tank is maintained at the DHW set point by the boiler.

The storage tank is maintained at the set point calculated as a function of the outside temperature.

The storage tank is reheated when the heating storage temperature sensor ⑤ falls below the set point calculated -6°C.

Reheating of the storage tank stops when the heating storage temperature falls below the boiler set point calculated.

Parameter settings to be made for this type of installation:

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#PRIMARY INSTAL.P**	**#SYSTEM**	**INSTALLATION** **...** **I.SYST**(1)	**I.SYST**(1)	**SYSTEM STORAGE TANK** **DHW STRAT** **ST.TANK+DHW**	**STORAGE TANK**

Configuration of the outlets should not be modified; the factory settings below are suitable ;

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	**DIRECT**	**"Installer" level**	**#SYSTEM**	**CIRC. A:**(1)	Keep the factory setting
O.PUMP A(1)	**CH.PUMP A**	**"Installer" level**	**#SYSTEM**	**O.PUMP A**(1)	
O.DHW:(1)	**RV**	**"Installer" level**	**#SYSTEM**	**O.DHW:**(1)	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

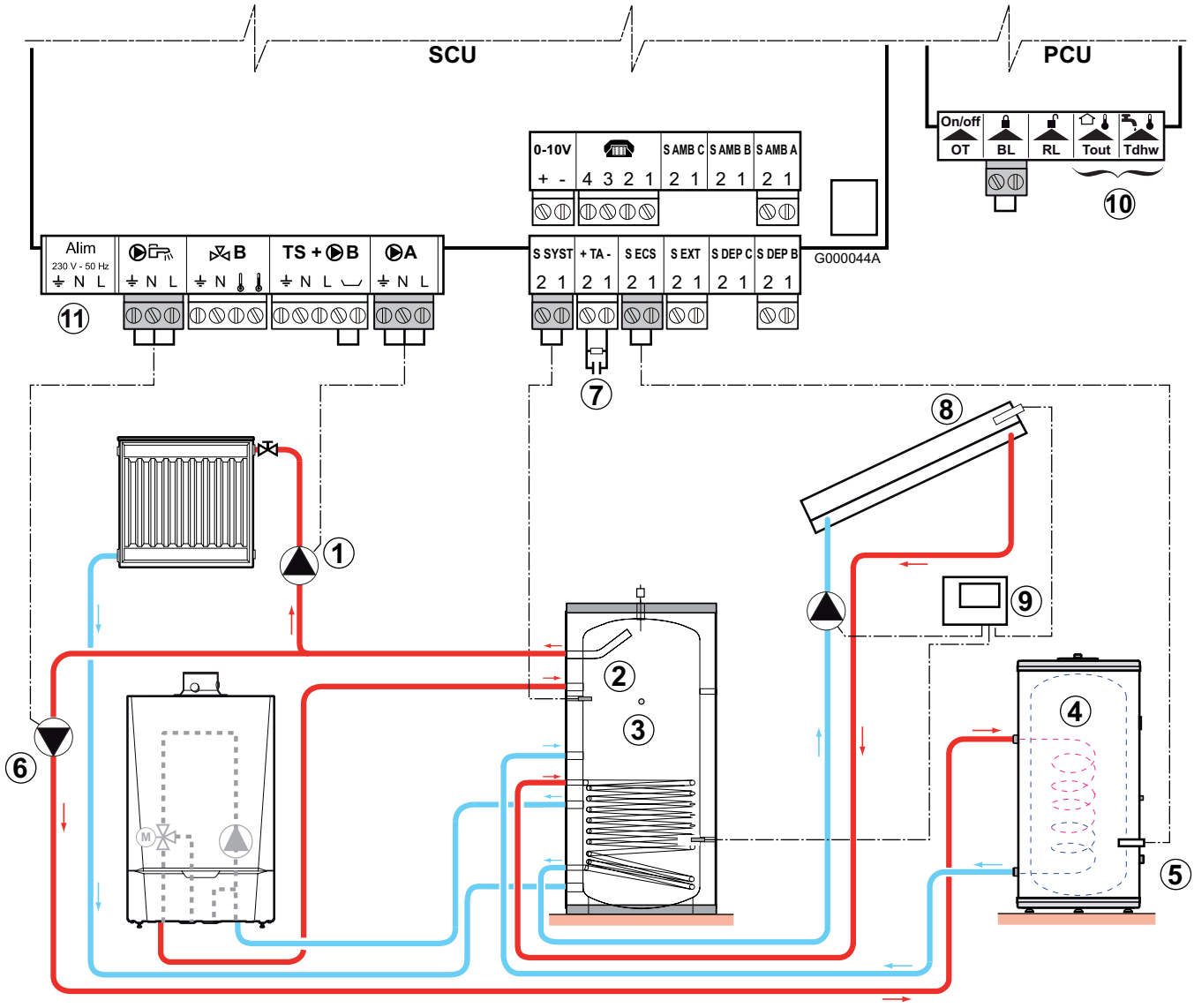
The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	**1,5**	**"Installer" level**	**#SECONDARY INSTAL.P....**	**CIRC.CURVE A**	Adjust if necessary

For more detailed information on the parameters: See section 4.

7.3 PS type storage tank and DHW tank loaded by this storage tank

The boiler only starts up production of domestic hot water if the storage tank is not hot enough to guarantee tank loading.



- Diagram:

① Connect the heating pump (circuit A).
② Connect the sensor from the storage tank (Package AD250)
③ Buffer tank (Type PS)
④ Domestic hot water boiler
⑤ Connect the DHW sensor.
⑥ Connect the DHW tank load pump
⑦ Connect the DHW tank anode.

⚠ **CAUTION**:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).
- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212).

⑧ Solar sensor probe.
⑨ Connect the solar control system.
⑩ Not used: Do not connect anything to the terminal block.
⑪ Not used: Do not connect anything to the terminal block.

Operating principle

The DHW tank is loaded from the storage tank. If, during DHW loading, the temperature of the storage tank falls below the primary DHW set point, the boiler maintains the latter at temperature to guarantee loading of the DHW tank.

The storage tank is maintained at the set point calculated as a function of the outside temperature.

The storage tank is reheated when the heating storage temperature sensor ② falls below the set point calculated -6°C.

Reheating of the storage tank stops when the heating storage temperature falls below the boiler set point calculated.

Parameter settings to be made for this type of installation:

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	#LANGUAGE #SYSTEM #... #PRIMARY INSTAL.P	**Parameter settings for I.SYST for connecting the storage tank sensor**				
		#SYSTEM	INSTALLATION ... I.SYST(1) ...	I.SYST(1)	SYSTEM ... DHW STRAT ST.TANK+DHW	ST.TANK+DHW
		Parameter settings for P.DHW for connecting the DHW tank load pump				
		#SYSTEM	INSTALLATION ... O.DHW:(1) ...	O.DHW:(1)	PUMP RV	PUMP

Configuration of the outlets should not be modified; the factory setting below is suitable:

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC. A:(1)	DIRECT	"Installer" level	#SYSTEM	CIRC. A:(1)	Keep the factory setting

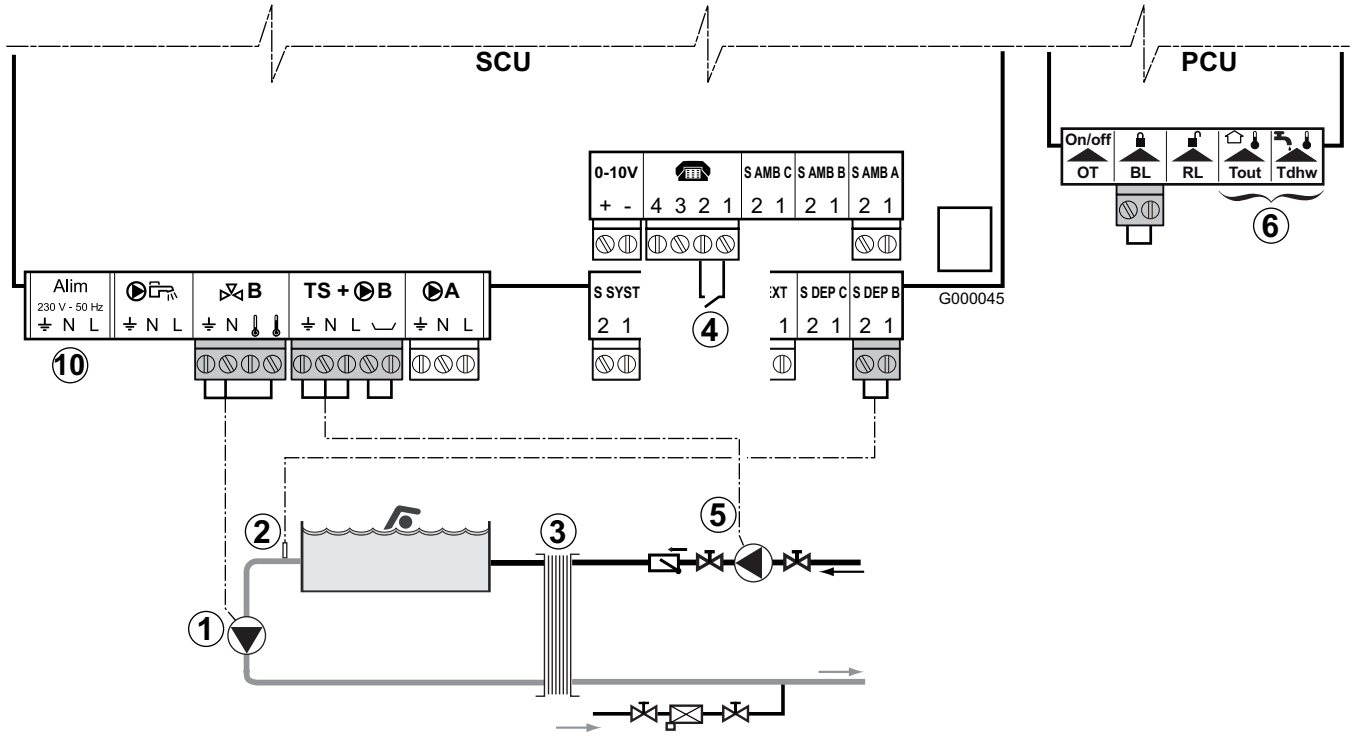
(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

The factory presetting of the other parameters used in this type of installation is suitable but can be customised if necessary (See table below):

Parameter	Factory setting	Access:	Menu	Select	Remarks
CIRC.CURVE A	1,5	"Installer" level	#SECONDARY INSTAL.P....	CIRC.CURVE A	

i For more detailed information on the parameters: See section 4.

8. Pool connection



- Diagram:

① Connect the secondary swimming pool pump.
Remark: if the pump ① is also used for filtration, fit a bypass to the filter.
② Connect the swimming pool sensor.
③ Plate heat exchanger.
④ Pool heating cut-off control.
When the parameter **I.TEL:** is on **0/1 B**, the swimming pool is no longer heated when the contact is open (factory setting), only the antifreeze continues to be active.
The contact direction can still be adjusted by the parameter **CT.TEL**.
⑤ Connect the primary swimming pool pump.
⑥ Not used: Do not connect anything to the terminal block.
⑩ Not used: Do not connect anything to the terminal block.

- **Parameter settings to be made for this type of installation:**

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#PRIMARY INSTAL.P** **#...** **#...** **#...** **#SECONDARY LIMITS** **#...**	**Parameter settings for CIRC. B: for connecting the primary swimming pool pump:**				
		#SYSTEM	**INSTALLATION** **...** **CIRC. B:**(1) **...**	**CIRC. B:**(1)	**3WV** **SWIM.P.** **DIRECT**	**SWIM.P.**
		Parameter settings for I.TEL: for controlling swimming pool heating shutdown:				
		#SYSTEM	**INSTALLATION** **...** **CIRC. B:(1)** **...** **I.TEL:**(1)	**I.TEL:**(1)	**ANTIFR** **...** **0/1 B** **...**	**0/1 B** (2)
		Parameter settings for the temperature MAX. CIRC. B for the needs of the swimming pool exchanger:				
		#SECONDARY LIMITS	**MAX. CIRC. A** **MAX. CIRC. B ...**	**MAX. CIRC. B**	**50 °C**	**Value to be set**

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

(2) See section 4, Parameter: **0/1 B**

■ Controlling the pool circuit

The control system can be used to manage a swimming pool circuit in both cases:

Case 1: The control system regulates the primary circuit (boiler/exchanger) and the secondary circuit (exchanger/pool).

- Connect the primary circuit pump (boiler/exchanger) to the pump **B** outlet. The temperature **MAX.CIRC.B** is then guaranteed during comfort periods on programme **B** in summer and winter alike.
- Connect the pool sensor (package AD212) to the **S OUTL B** input.
- Set the swimming pool sensor set point using key in the range 5 to 39°C.

Case 2: The pool has already a regulation system that is to be kept. The control system only regulates the primary circuit (boiler/exchanger).

- Connect the primary circuit pump (boiler/exchanger) to the pump **B** outlet. The temperature **MAX.CIRC.B** is then guaranteed during comfort periods on programme **B** in summer and winter alike.

■ Hourly programming of the secondary circuit pump

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

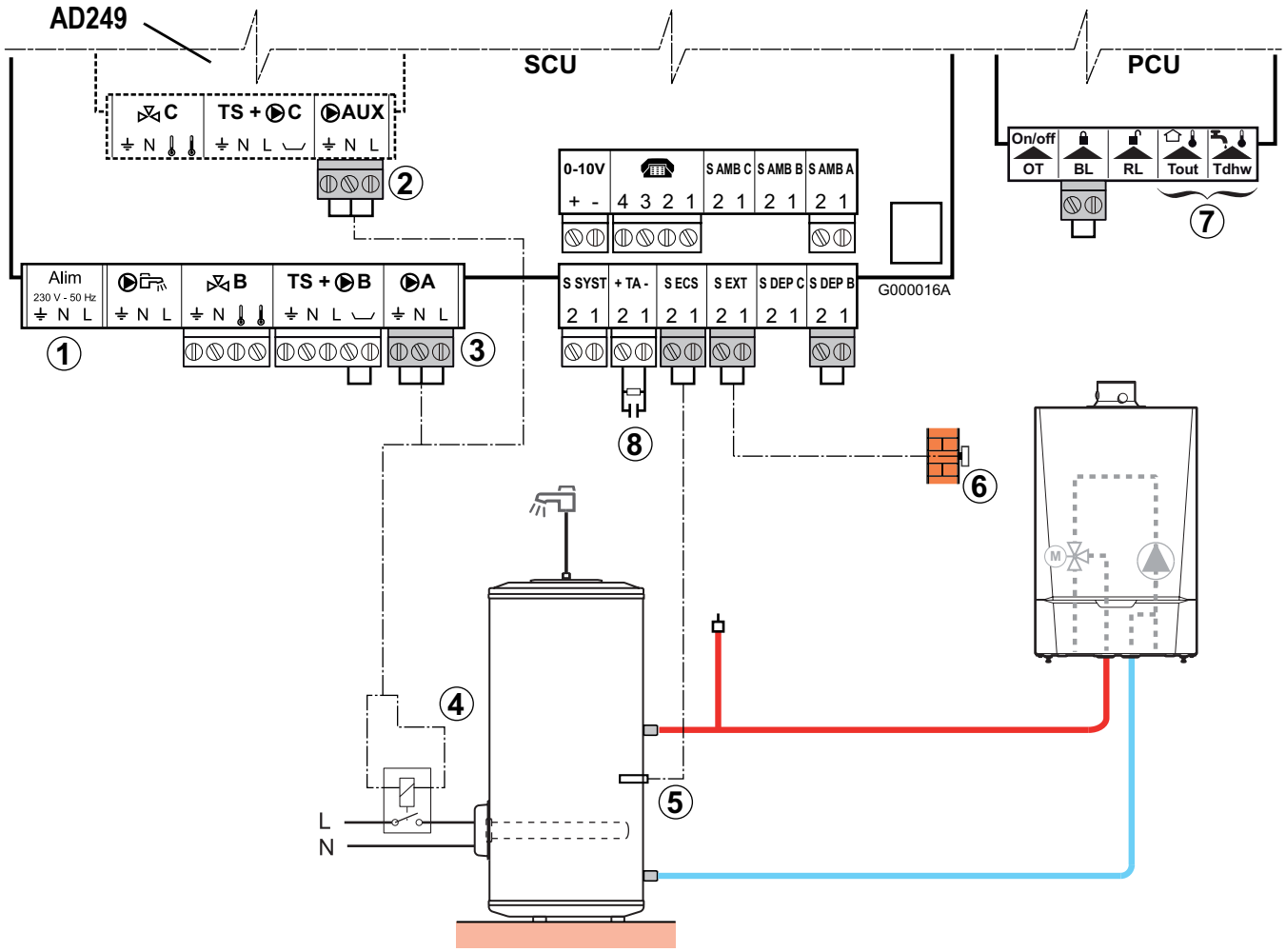
■ Stopping

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

i It is also possible to connect the swimming pool to circuit C by adding the PCB + flow sensor option (Package AD249).

- Make the connection to the terminal blocks marked **C**.
- Set the parameters for circuit **C**.

9. Connecting a mixed tank (DHW)



- Diagram:

① Not used: Do not connect anything to the terminal block.
② Auxiliary outlet - Option of connecting the electric DHW tank with the PCB + flow sensor option (package AD249) or to ③ (circuit A).
③ Option of connecting the electric tank: Outlet circuit A, or to ②).
④ Power control relay to the electrical resistor.
⑤ Connect the DHW sensor (Package AD212).
⑥ Connect the outside temperature sensor.
⑦ Not used: Do not connect anything to the terminal block.
⑧ Connect the DHW tank anode.

⚠ CAUTION:

- If the tank is fitted with a Titan Active System® impressed current anode, connect the anode to the inlet (+ on the anode, - on the tank).
- If the tank is not fitted with an impressed current anode, put the simulation connector in place (delivered with the DHW sensor - package AD212).

Parameter settings to be made for this type of installation:

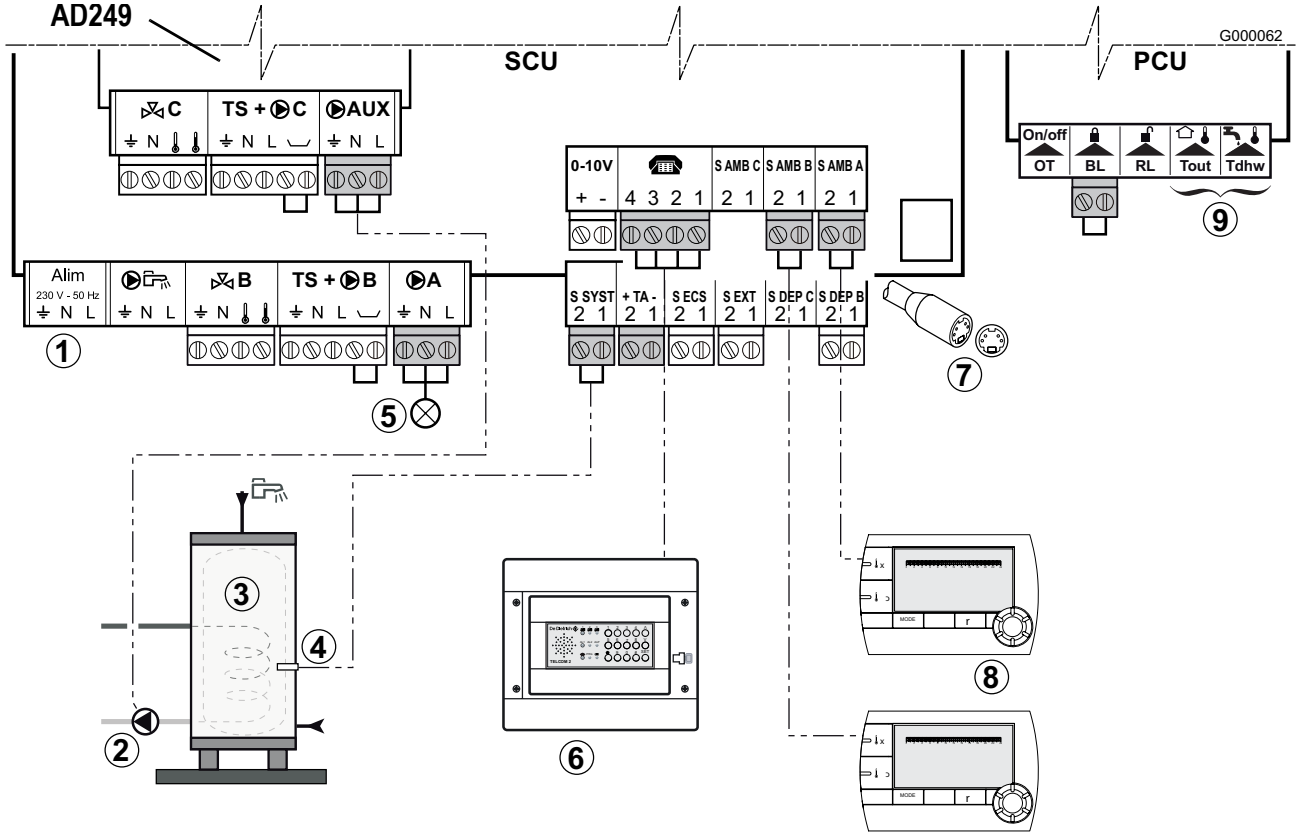
Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#PRIMARY INSTAL.P**	**#SYSTEM**	**INSTALLATION** **CIRC. A:**(1) **...** **S.AUX:**(1) **...**	**CIRC. A:**(1)	**DIRECT** **...** **DHW ELEC**	**DHW ELEC**
				or		
				S.AUX:(1)	**DHW LOOP** **...** **DHW ELEC**	**DHW ELEC**

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

For more detailed information on the parameters: See section 4.

10.Connecting the options

For example: TELCOM remote vocal monitoring module, remote controls for circuits **A** and **B**, second DHW tank.



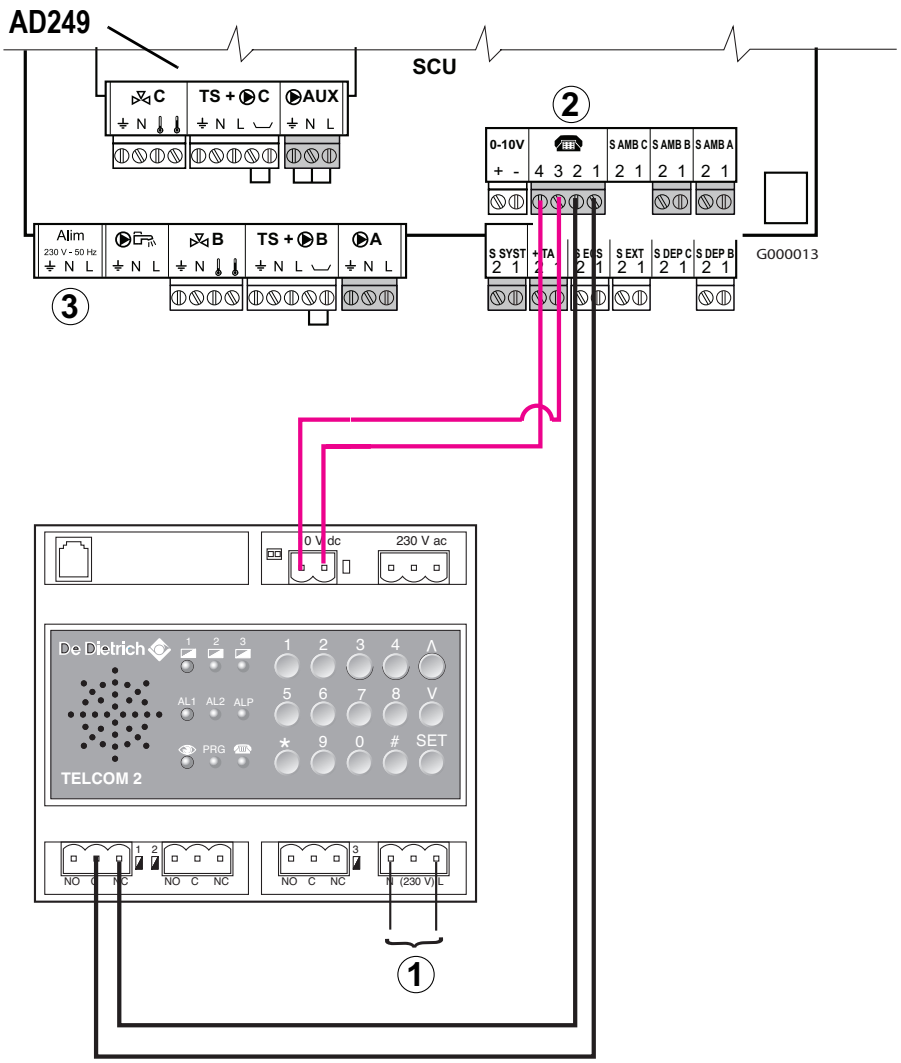
- Diagram:
  - ① Not used: Do not connect anything to the terminal block.
  - ② Connect the load pump to the second tank.
  - ③ Second domestic hot water tank.
  - ④ Connect the DHW sensor from the second tank.
  - ⑤ Alarm indicator.
  - ⑥ Connect the TELCOM remote vocal monitoring module - depending on its availability in your country. See diagram next page.
  - ⑦ Connecting the BUS cascade, VM.
  - ⑧ Connect the remote control(s) (Package AD254/FM52))
  - ⑨ Not used: Do not connect anything to the terminal block.

- **Parameter settings to be made for this type of installation:**

Press	Display	Select	Display	Select	Display	Select
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#PRIMARY INSTAL.P**	**Parameter settings for S.AUX: for connecting a second DHW tank:**				
		#SYSTEM	**INSTALLATION** **...** **S.AUX:**(1) **...**	**S.AUX:**(1)	**DHW LOOP** **...** **DHW** **...**	**DHW**
		Parameter settings for O.PUMP A for alarm report ⑤:				
		#SYSTEM	**INSTALLATION** **...** **O.PUMP A**(1) **...**	**O.PUMP A**(1)	**CH.PUMP A** **...** **FAILURE**	**FAILURE**

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.

Connecting the TELCOM vocal telesurveillance module



① Power supply 230 V AC +10%/-15%
② The telephone outlet, terminals 3 and 4, is a potential-free relay, limited to 24 V.
③ Not used: Do not connect anything to the terminal block.

11.Connection in cascade

11.1 Cascade management principle

The DIEMATIC iSystem control panel can control up to 10 boilers in cascade and manage 10 DIEMATIC VM regulators.

- the common flow temperature sensor (TEMP.SYSTEM parameter) is connected to the S.SYST inlet on the master boiler (number 1)
- a single outside temperature sensor can be connected to the master boiler or one sensor per boiler (zone control system) can be connected.
- the control panels are interconnected using bus cables,
- the 3-way valve circuits in the boilers in the cascade are operable.
- the flow set point is common to all boilers in the cascade.

To form the cascade, set the corresponding parameters in the **#NETWORK** menu (**CASCADE**, **MASTER CONTROLLER**, etc.) for each of the boilers and DIEMATIC VM control system(s) in the cascade as described below.

- With the factory settings (FUNCT parameter on CLASSIC), the boilers automatically swap every 7 days (a new boiler becomes the master)
  It is also possible to swap the boilers manually: in the #SETTING menu, set the PERMUT parameter to the number of the boiler to remain in charge of the cascade.
  The (primary) pump for the boilers is started up whenever a burner demand is present and is stopped after the time delay TIMER GENE P. when the burner demand disappears**.**
  The primary pump on the master boiler continues to operate as long as a heating demand is present on one of the secondary circuits.

- **Operating mode if the FUNCT parameter is set to PARALLEL:**
  If the FUNCT parameter is set to PARALLEL and the outside temperature is lower than the PARALLEL.CASC set point (factory setting: 10°C), all boilers are started up simultaneously when there is a heating demand. If the outside temperature is higher than the PARALLEL.CASC set point, operation is identical to a CLASSIC cascade.

- **Operating mode if the FUNCT parameter is set to CLASSIC:**
  A boiler is added to the cascade when the common flow temperature falls below the set point less 3°C if no boilers are in demand.
  Every 4 minutes (or period equal to the parameter setting INTER STAGE TIMER, factory setting = 4 minutes), the control system analyses the variation in the common flow temperature.
  If this temperature has not increased by more than 6°C in this period of time and the common flow temperature is still lower than the set point by 3°C, a further boiler is added.

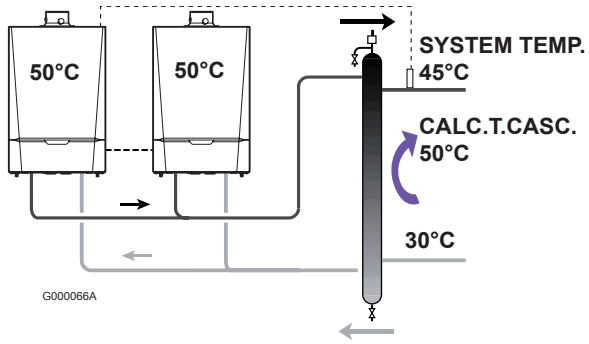
- **Regardless of the setting of the FUNCT parameter (CLASSIC or PARALLEL):**
  A boiler is removed when the common outlet temperature rises +3°C above the set temperature. Every 4 minutes (or period equal to the parameter setting INTER STAGE TIMER, factory setting = 4 minutes), the control system analyses the variation in the common flow temperature.
  If this common flow temperature has not fallen by more than 6°C and the common flow temperature is still higher than the set point by 3°C, a boiler is removed from the cascade.

- **Correcting the set point temperature:**
  The boiler set point temperature (CALC.T. BOILER) is corrected to factor in any variation in temperature due to the mixture in the pressure release cylinder:

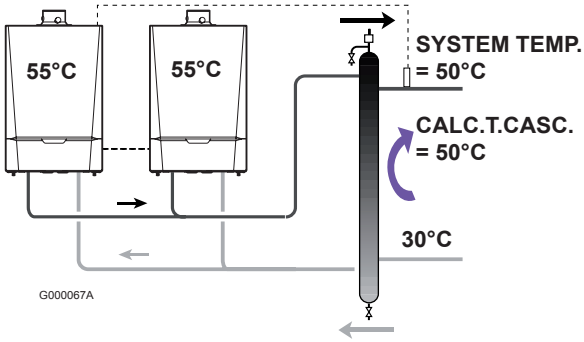
  CALC.T. BOILER = CALC.T.CASC + Correction

  Correction = **CALC.T.CASC** - **SYSTEM TEMP.** (correction limited to +10 / -10°C)

WITHOUT CORRECTION



WITH CORRECTION



For example:

Deposit = 50 °C

SYSTEM TEMP. = 45 °C

Correction = 50 - 45 = 5 °C

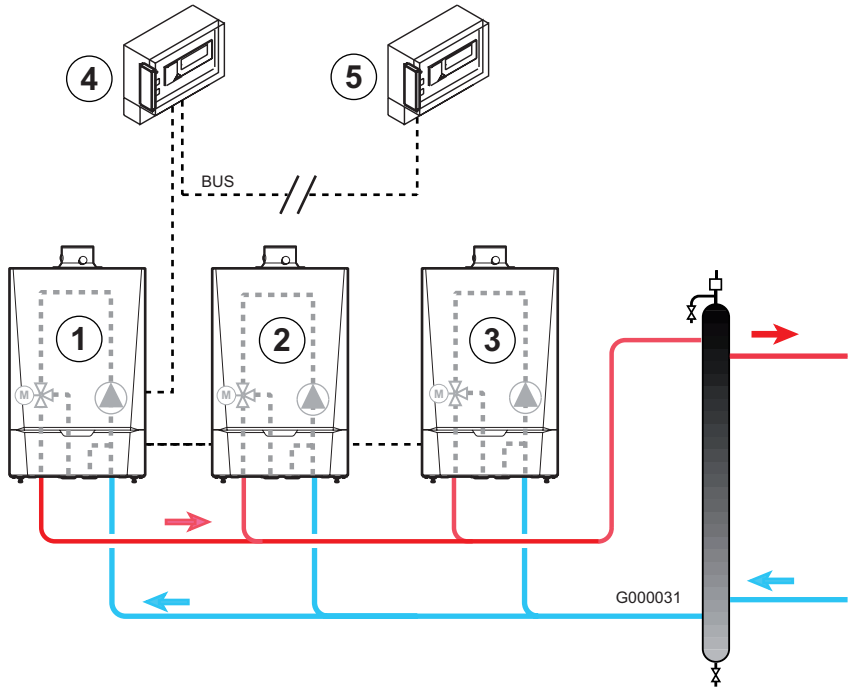
CALC.T. BOILER = 50 + 5 = 55 °C

11.2 Possible checks (on the "master" boiler)

- Access the "After Sales" level, Display menu #PARAMETERS:
- Display the following parameters regarding the cascade:

PERMUT	Number of the active master boiler (cascade pilot).
NB.CASC.:	Number of boilers recognised in the cascade. Used to check the correct parameter setting of the generators in the cascade. Used to check the correct connection of the bus cables.
NB. VM:	Number of DIEMATIC VM control systems recognised in the cascade
STAGE	Number of boilers operating or in demand.

11.3 Parameter settings in the case of a cascade installation



① "Master" boiler
② "Auxiliary" boiler, no. 2
③ "Auxiliary" boiler, no. 3
④ DIEMATIC VM, no. 20 "auxiliary".
⑤ DIEMATIC VM, no. 21 "auxiliary".

Proceed in the following order:

- First set the parameters for the auxiliary boilers (numbers allocated: 2 to 9),
- Set parameters for the DIEMATIC VMs (numbers allocated: 20 to 39) if need be,
- Set the parameters for the "master" boiler (number allocated: 1).

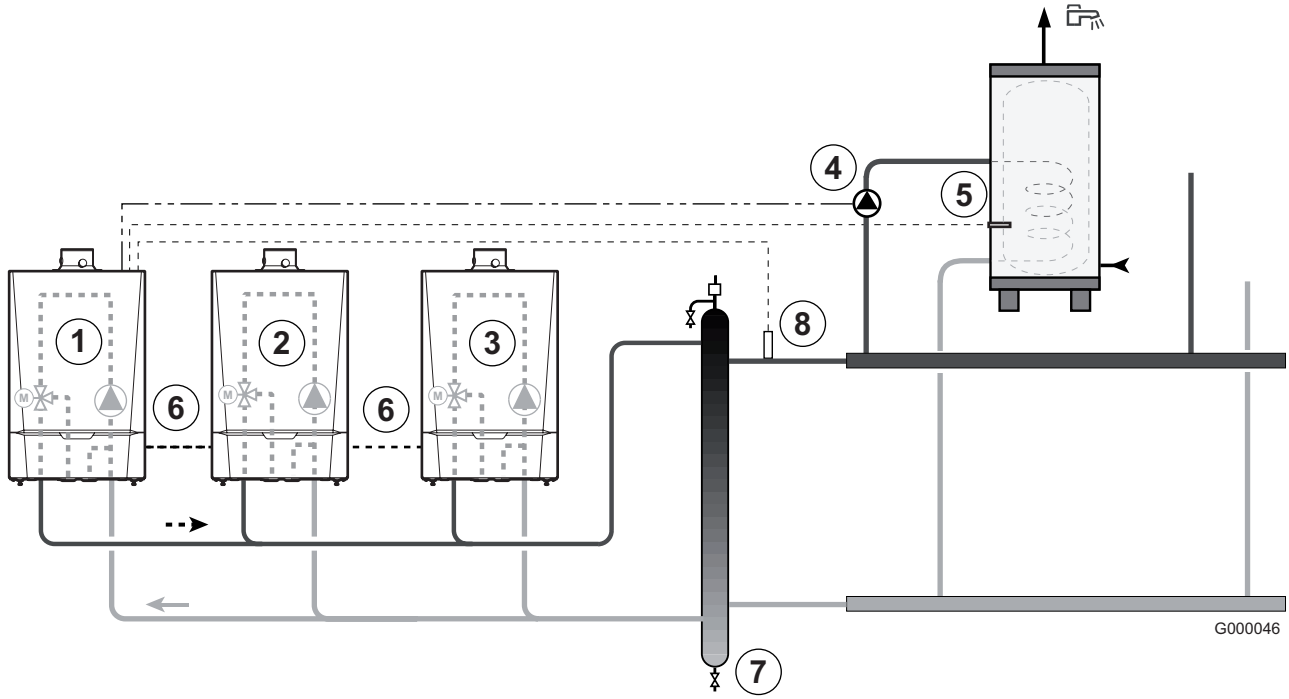
Proceed as follows:

▸ Parameter settings to be made:

Press	Display	Select	Display	Select	Display	Select
Cascade parameter settings on each of the "AUXILIARY" boilers:						
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#NETWORK**(1) **#...** **#...**	**#NETWORK**(1)	**CASCADE:** **MASTER CONTROLLER** **...** **SLAVE NUMBER**	**CASCADE:**	**ON** **OFF**	**ON**
				MASTER CONTROLLER	**ON** **OFF**	**OFF**
				SLAVE NUMBER	**2, 3...**	**2 : Boiler 2** **3 : Boiler 3** **etc.**
Cascade parameter settings on each DIEMATIC VM ("auxiliary".)						
See the instructions supplied with the control unit and any remote control unit used						**20 : DIEMATIC VM no. 1** **21 : DIEMATIC VM no. 2** **etc.**
Cascade parameter settings on the "MASTER" boiler- ①						
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...** **#NETWORK**(1) **#...** **#...** **#...**	**#NETWORK**(1)	**CASCADE:** **MASTER CONTROLLER** **SYSTEM NETWORK** **...**	**CASCADE:**	**ON** **OFF**	**ON**
				MASTER CONTROLLER	**ON** **OFF**	**ON**
				SYSTEM NETWORK	**NB. ELEMENTS.NETWORK** **ADD SLAVE** **ERASE NETWORK**	**ADD SLAVE: save the numbers of the "auxiliary" appliances previously set. The number is memorised each time the rotary button is pressed.**
FUNCT **PARALLEL CASC.** **INTER STAGE TIMER**	Access:**#NETWORK** menu (See section 4, chapter 2.4)					

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.
The regulator automatically switches back to **CLASSIC** mode after 30 minutes (whether or not a key has been pressed).

11.4 DHW tank after the mixing tank



- Diagram:
  ① "Master" boiler (number allocated = 1).
  ② "Auxiliary" boiler (number allocated = 2).
  ③ "Auxiliary" boiler (number allocated = 3).
  ④ D.H.W. load pump.
  ⑤ DHW sensor.
  ⑥ Cable **BUS**.
  ⑦ Low loss header.
  ⑧ Cascade outlet sensor. Connect the sensor to the terminal block E.SYST on the master boiler.

- Parameter settings to be made for this type of installation:

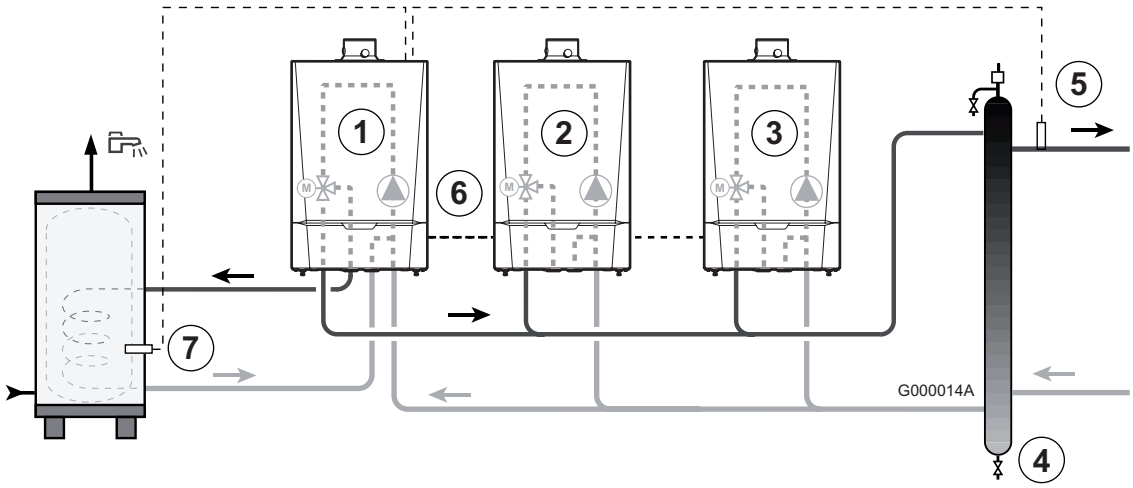
Press	Display	Select	Display	Select	Display	Select
		Parameter settings for P.DHW on the "MASTER" boiler - ①				
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...**	**#SYSTEM**	**INSTALLATION** **...** **O.DHW:**(1) **...**	**O.DHW:**(1)	**PUMP** **RV**	**PUMP**
Cascade parameter settings						
See chapter: 11.3 Parameter settings in the case of a cascade installation (page 44)						

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.
The regulator automatically switches back to **CLASSIC** mode after 30 minutes (whether or not a key has been pressed).

- **Operating principle**

All of the boilers play a part in loading the DHW tank.

11.5 DHW tank on "master" boiler



- Diagram:
  ① "Master" boiler (number allocated = 1).
  ② "Auxiliary" boiler (number allocated = 2).
  ③ "Auxiliary" boiler (number allocated = 3).
  ④ Low loss header.
  ⑤ Cascade outlet sensor. Connect the sensor to the terminal block E.SYST on the master boiler.
  ⑥ Cable **BUS**.
  ⑦ DHW sensor.

- **Parameter settings to be made for this type of installation**:

Press	Display	Select	Display	Select	Display	Select
		Parameter settings for P.DHW on the "MASTER" boiler - ①				
Installer access  for 5 sec.	**#LANGUAGE** **#SYSTEM** **#...**	**#SYSTEM**	**INSTALLATION** **...** **O.DHW:**(1) **...**	**O.DHW:**(1)	**PUMP** **RV**	**RV**
Cascade parameter settings						
See chapter: 11.3 Parameter settings in the case of a cascade installation (page 44)						

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**. To switch to **EXTENDED** mode : See page 22.
The regulator automatically switches back to **CLASSIC** mode after 30 minutes (whether or not a key has been pressed).

- **Operating principle**

DHW tank loading is only handled by boiler ①. The other boilers continue to meet the heating needs.

Boiler ① ("master") operates at high temperature whilst heating can operate at low temperature. To do this, set the **PRIORITY DHW** parameter to **NO** (**#SECONDARY LIMITS** menu) on boiler ①.

LIST OF THE PARAMETERS

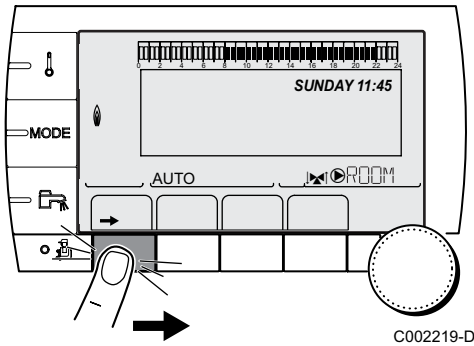
4

G000008

Contents

The DIEMATIC iSystem control system incorporates 3 parameter levels

1. User parameter level



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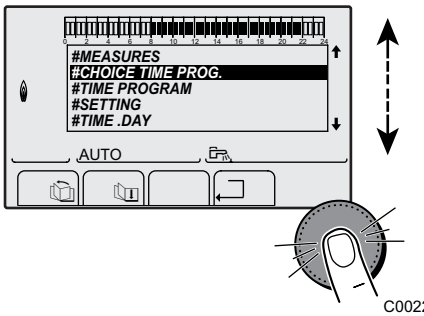


C002220-A-04

1.1 #MEASURES menu

"User" level - #MEASURES menu		
Parameter	**Description**	**Unit**
OUTSIDE TEMP.	Outside temperature	°C
ROOMTEMP. A (1)	Room temperature of circuit A	°C
ROOMTEMP. B (1)	Room temperature of circuit B	°C
ROOMTEMP. C (1)	Room temperature of circuit C	°C
BOILER TEMP.	Water temperature in the boiler	°C
PRESSURE	Water pressure in the installation	bar
WATER TEMP. (1)	Water temperature in the DHW tank	°C
STOR.TANK.TEMP (1)	Water temperature in the storage tank	°C
SWIMMING P.T.B (1)	Water temperature of the swimming pool on circuit B	°C
SWIMMING P.T.C (1)	Water temperature of the swimming pool on circuit C	°C
OUTLET TEMP. B (1) (2)	Temperature of the flow water in circuit B	°C
OUTLET TEMP. C (1) (2)	Temperature of the flow water in circuit C	°C
SYSTEM TEMP. (1)(2)	Temperature of the system flow water if multi-generator	°C
T.DHW BOTTOM (2)	Water temperature in the bottom of the DHW tank	°C
TEMP.TANK AUX (1) (2)	Water temperature in the second DHW tank connected to the AUX circuit	°C
DHW A TEMP. (1)(2)	Water temperature in the second DHW tank connected to circuit A	°C
BACK TEMP (2)	Temperature of the boiler return water	°C
WIND SPEED (2)	Fan rotation speed	rpm
POWER (2)	Instantaneous boiler output (0%: Burner off or running at minimum output)	%
CURRENT (µA) (2)	Ionization current	µA
NB IMPULS. (2)	Number of burner start-ups (not restartable) The meter is incremented by 8 every 8 start-ups	
RUNTIME (2)	Number of burner operation hours (not restartable) The meter is incremented by 2 every 2 hours	h
IN 0-10V (1)(2)	Voltage at input 0-10 V	V
CTRL (2)	Software control number	

(1) The parameter is only displayed for the options, circuits or sensors actually connected
(2) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**

1.2 #CHOICE TIME PROG. menu

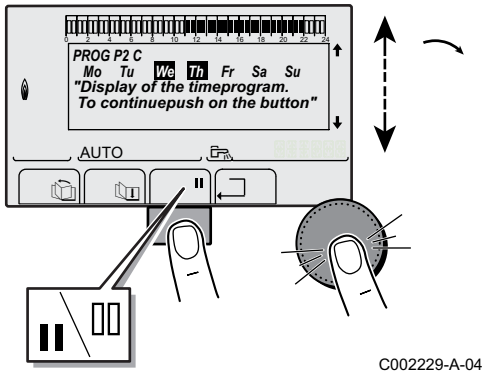
- **For each of the active circuits, assign a timer programme, P1 to P4**

"User" level - #CHOICE TIME PROG. menu		
Parameter	**Adjustment range**	**Description**
CURRENT PROG.A	P1 / P2 / P3 / P4	Comfort programme activated (Circuit A)
CURRENT PROG.B	P1 / P2 / P3 / P4	Comfort programme activated (Circuit B)
CURRENT PROG.C	P1 / P2 / P3 / P4	Comfort programme activated (Circuit C)

1.3 #TIME PROGRAM menu

"User" level - #TIME PROGRAM menu		
Parameter	**Time schedule**	**Description**
TIME PROG.A	PROG P2 A PROG P3 A PROG P4 A	Timer programme for circuit A
TIME PROG.B	PROG P2 B PROG P3 B PROG P4 B	Timer programme for circuit B
TIME PROG.C	PROG P2 C PROG P3 C PROG P4 C	Timer programme for circuit C
TIME PROG.DHW		DHW circuit timer programme
TIME PROG.AUX		Auxiliary circuit timer programme

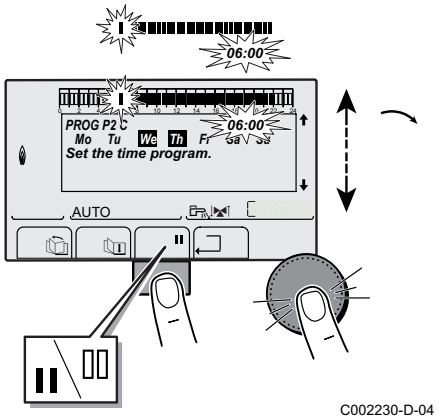
■ **To select to days for which the timer programme is to be modified**



C002229-A-04

- To select a timer programme to be modified.
- Select or deselect the desired days by turning the rotary button:
  - Press the rotary button
  - Press key **II** to select and key **II** to deselect days
  - Turn the button
- When the days desired for the programme have been selected, press the rotary button to confirm.

■ **To modify or define time ranges, in comfort and reduced mode:**



C002230-D-04

- Turn the rotary button to "write" the comfort (**II**) and reduced (**II**) periods in the graphic bar: first press key **II** for the comfort periods and **II** for the reduced periods.
- Press the rotary button to confirm.

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■ **Switch to the following desired period or programme and proceed in the same way.**

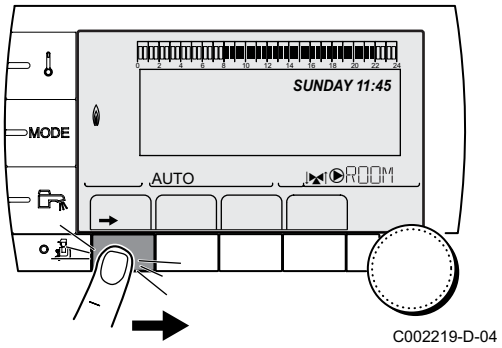
"User" level - #TIME PROGRAM menu					
	Day	**Comfort periods / Filling enabled:**			
		P1 _____	**P2** _____	**P3** _____	**P4** _____
TIME PROG.A	Monday	6:00 to 22:00			
	Tuesday	6:00 to 22:00			
	Wednesday	6:00 to 22:00			
	Thursday	6:00 to 22:00			
	Friday	6:00 to 22:00			
	Saturday	6:00 to 22:00			
	Sunday	6:00 to 22:00			
TIME PROG.B	Monday	6:00 to 22:00			
	Tuesday	6:00 to 22:00			
	Wednesday	6:00 to 22:00			
	Thursday	6:00 to 22:00			
	Friday	6:00 to 22:00			
	Saturday	6:00 to 22:00			
	Sunday	6:00 to 22:00			
TIME PROG.C	Monday	6:00 to 22:00			
	Tuesday	6:00 to 22:00			
	Wednesday	6:00 to 22:00			
	Thursday	6:00 to 22:00			
	Friday	6:00 to 22:00			
	Saturday	6:00 to 22:00			
	Sunday	6:00 to 22:00			
TIME PROG.DHW	Monday				
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
	Saturday				
	Sunday				
TIME PROG.AUX	Monday				
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
	Saturday				
	Sunday				

1.4 #SETTING menu

"User" level - #SETTING menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
CONTRAST DISP.		Used to adjust the display contrast using the rotary button.		
BACK LIGHT	**COMFORT**	The backlight is on during the "comfort" heating periods.	**COMFORT**	
	ECO	The backlight is on for 2 minutes.		
PERMUT(3)	**AUTO**, 1,2, ... 10	**AUTO**: Automatic permutation of the boilers every 7 days 1, 2...: Selection of the boiler which must stay leader of the cascade.	**AUTO**	
SUM/WIN	15 to 30 °C, **NO**	Used to set the outside temperature above which heating will be shut down. - The heating pumps are shut down. - The burner will only start for domestic hot water needs. - In this case the letter E and symbol are displayed. - **NO**: heating is never shut down automatically.	22 °C	
CALIBR. OUT		Outside sensor calibration: Used to correct the outside temperature	Outside temperature	
CALIBR. ROOM A (1)		Calibration of the room sensor on circuit A: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	Room temperature of circuit A	
OFFSET ROOM A (2)	-5.0 to +5.0 °C	Room offset on circuit A: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	0.0	
ANTIFR. ROOM A	0.5 to 20 °C	Room temperature antifreeze activation on circuit A	6 °C	
CALIBR. ROOM B (1)(3)		Calibration of the room sensor on circuit B: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	Room temperature of circuit B	
OFFSET ROOM B (2)(3)	-5.0 to +5.0 °C	Room offset on circuit B: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	0.0	
ANTIFR. ROOM B (3)	0.5 to 20 °C	Room temperature at which the antifreeze mode is activated on circuit B	6 °C	
CALIBR. ROOM C (1)(3)		Calibration of the room sensor on circuit C: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	Room temperature of circuit C	
OFFSET ROOM C (2)(3)	-5.0 to +5.0 °C	Room offset on circuit C: Is used to set a room offset Make this setting 2 hours after switching on, when the room temperature has stabilised	0.0	
ANTIFR. ROOM C (3)	0.5 to 20 °C	Room temperature antifreeze activation on circuit C	6 °C	

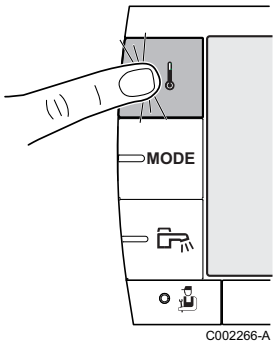
(1) The parameter is only displayed if a room sensor is connected to the circuit concerned
(2) The parameter is only displayed if no room sensors are connected to the circuit concerned
(3) The parameter is only displayed if the circuit concerned is actually connected

1.5 #TIME .DAY menu



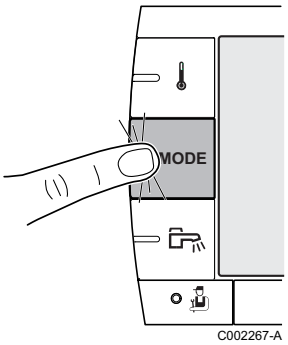
"User" level - #TIME .DAY menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
HOURS	0 to 23	Hours setting		
MINUTE	0 to 59	Minutes setting		
DAY	Monday to Sunday	Setting the day of the week		
DATE	1 to 31	Day setting		
MONTH	January to December	Month setting		
YEAR	2008 to 2099	Year setting		
SUM. TIME:	**AUTO**	automatic switch to summer time on the last Sunday in March and back to winter time on the last Sunday in October.	**AUTO**	
	MANU	for countries where the time change is done on other dates or is not in use.		

1.6 Adjusting the set point temperatures - Key



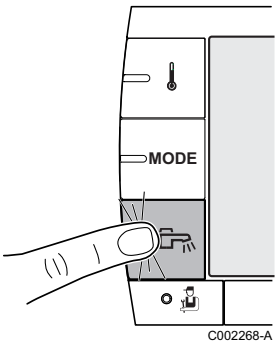
Menu			
Parameter	**Range of adjustment**	**Description**	**Factory setting**
DAY TEMP. A	5 to 30 °C	Desired room temperature in comfort periods on circuit A	20 °C
NIGHT TEMP. A	5 to 30 °C	Desired room temperature in reduced periods on circuit A	16 °C
DAY TEMP. B (1)	5 to 30 °C	Desired room temperature in comfort periods on circuit B	20 °C
NIGHT TEMP. B (1)	5 to 30 °C	Desired room temperature in reduced periods on circuit B	16 °C
DAY TEMP. C (1)	5 to 30 °C	Desired room temperature in comfort periods on circuit C	20 °C
NIGHT TEMP. C (1)	5 to 30 °C	Desired room temperature in reduced periods on circuit C	16 °C
WATER TEMP. (1)	MCA : 10 to 80 °C MCA ... MI: 40 to 65 °C MCA ... BIC: 40 to 65 °C	Desired domestic hot water temperature in the DHW circuit	55 °C
TEMP.TANK AUX (1)	10 to 80 °C	Desired domestic hot water temperature in the auxiliary circuit	55 °C
DHW A TEMP. (1)	10 to 80 °C	Desired domestic hot water temperature in circuit A	55 °C
SWIMMING P.T.B (1)	5 to 39 °C	Desired temperature for swimming pool B	20 °C
SWIMMING P.T.C (1)	5 to 39 °C	Desired temperature for swimming pool C	20 °C
(1) The parameter is only displayed for the options, circuits or sensors actually connected			

1.7 Choosing the operating mode - Key MODE



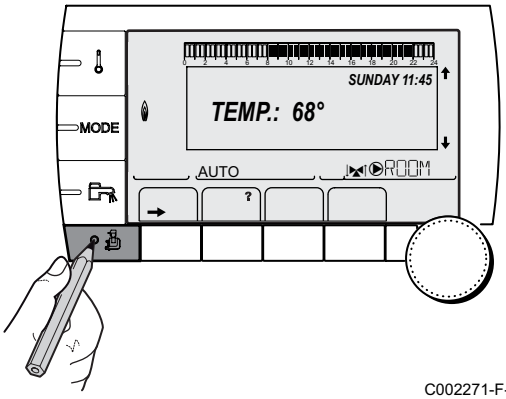
Menu MODE			
Parameter	**Range of adjustment**	**Description**	**Factory setting**
AUTOMATIQUE		The comfort ranges are determined by the timer programme.	
DAY	7/7, xx:xx	Forced comfort mode until the time indicated or all the time (7/7).	Present time + 1 hour
NIGHT	7/7, xx:xx	Forced reduced mode until the time indicated or all the time (7/7).	Present time + 1 hour
HOLIDAYS	7/7, 1 to 365	Number of days' holiday heating OFF: xx:xx(1) Restarting: xx:xx(1)	Present date + 1 day
SUMMER		The heating is off. Domestic hot water continues to be produced.	
MANUEL		The generator operates according to the set point setting. All of the pumps operate. Option of setting the set point by simply turning the rotary button.	
FORCE AUTO	**ON/OFF**	An operating mode override is activated on the remote control (option). To force all circuits to run on **AUTOMATIC** mode, select **YES**.	
(1) The start and end days and the number of days are calculated in relation to each other			

1.8 Domestic hot water production - Key



Menu		
Parameter	**Description**	**Factory setting**
AUTOMATIQUE	The domestic hot water comfort ranges are determined by the timer programme	
COMFORT	Forced domestic hot water comfort mode until the time indicated or all the time (7/7)	Present time+ 1 hour

2. Installer parameter level



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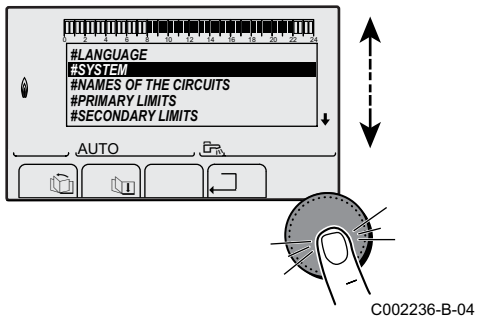


C002236-B-04

2.1 #LANGUAGE menu

"Installer" level - #LANGUAGE menu		
Range of adjustment	**Description**	**Factory setting**
FRANCAIS	Display in French	FRANCAIS
DEUTSCH	Display in German	
ENGLISH	Display in English	
NEDERLANDS	Display in Dutch	
РУССКИЙ	Display in Russian	
POLSKI	Display in Polish	
TURKCE	Display in Turkish	
ITALIANO	Display in Italian	
ESPANOL	Display in Spanish	

4

2.2 #SYSTEM menu

"Installer" level - #SYSTEM menu				
Parameter	**Adjustment range**	**Description**	**Factory setting**	**Customer setting**
INSTALLATION	**CLASSIC**	Displays the parameters of a conventional installation	**CLASSIC**	
	EXTENDED	Displays all parameters		
CIRC. A: (1)(2)	**DIRECT**	Use as a direct heating circuit	**DIRECT**	
	PROGRAM.	Use as an independent programmable outlet		
	H.TEMP	Enables the direct operation of circuit A in summer despite manual or automatic summer shutdown		
	DHW	Connection of a second domestic hot water tank		
	DHW ELEC	Used to control the electrical resistor according to the timer programme on circuit A in summer mode		
	DISAB.	No data for circuit A is displayed		
CIRC. B: (1)	**3WV**	Connecting a circuit with 3-way valve (For example: Underfloor heating)	**3WV**	
	SWIM.P.	Using the circuit for pool management		
	DIRECT	Use of circuit in direct heating circuit		
CIRC. C: (1)	**3WV**	Connecting a circuit with 3-way valve (For example: Underfloor heating)	**3WV**	
	SWIM.P.	Using the circuit for pool management		
	DIRECT	Use of circuit in direct heating circuit		
O.PUMP A (1) (2)	**CH.PUMP A**	Heating pump circuit A: The **PUMP A** outlet is used to control the pump on circuit A	**CH.PUMP A**	
	CIRC.AUX	Used to resume the functions of the **S.AUX** parameter without adding the "PCB + sensor" option(Package AD249). Enables use of the timer programme for the auxiliary circuit.		
	DHW LOOP	Used to control the domestic hot water looping pump according to the DHW timer programme and force its operation during an override		
	PRIMARY PUMP	The outlet **PUMP A** is active if a heating demand is present on the secondary pump		
	ORDER BURNER	The outlet **PUMP A** is active when a burner demand is present		
	FAILURE	The outlet **PUMP A** is active if an error is detected		
O.DHW: (1)	**PUMP**	Using a tank load pump on the DHW PUMP outlet	**RV**	
	RV	Use of a reversal valve for DHW production		
S.AUX: (1)(3)	**DHW LOOP**	Use as a domestic loop pump	**DHW LOOP**	
	PROGRAM.	Use as an independent programmable outlet		
	PRIMARY PUMP	The outlet **AUX PUMP** is active if a heating demand is present on the secondary pump		
	ORDER BURNER	The outlet **AUX PUMP** is active when a burner demand is present		
	DHW	Use of primary circuit of second DHW tank		
	FAILURE	The outlet **AUX PUMP** is active if an error is detected		
	DHW ELEC	Used to control the electrical resistor according to the timer programme on circuit AUX in summer mode		

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) If the pump incorporated in the boiler is used for circuit A (parameter **CIRC.A** set to **DIRECT**), the **O.PUMP A** outlet is free.This outlet can then be used for something other than heating pump A
(3) This parameter is displayed only if the **O.PUMP A** parameter is set to **CIRC.AUX** or if the 3-way valve PCB option is used - Package AD249

(continued)

"Installer" level - #SYSTEM menu				
Parameter	**Adjustment range**	**Description**	**Factory setting**	**Customer setting**
I.SYST (1)	**SYSTEM**	The inlet sensor is used to connect the common flow sensor of a cascade system	**SYSTEM**	
	STORAGE TANK	Hot water storage tank affected to heating only		
	DHW STRAT	Using the DHW tank with 2 sensors (top and bottom)		
	ST.TANK+DHW	Hot water storage tank affected to heating and domestic hot water		
O. TEL: (1)	**FAILURE**	The telephone outlet is closed in the event of failure	**FAILURE**	
	REVISION	The telephone outlet is closed in the event of revision display		
	DEF+REV	The telephone outlet is closed in the event of failure or revision display		
CT.TEL (1)	**CLOSE**	See table below.	**CLOSE**	
	OPEN			
I.TEL: (1)	**ANTIFR**	Start anti-freeze in boiler command	**ANTIFR**	
	0/1 A	ON or OFF contact: A **I.TEL:** can be used as an antifreeze activation inlet on circuit A		
	0/1 B	ON or OFF contact: B **I.TEL:** can be used as an antifreeze activation inlet on circuit B		
	0/1 C	ON or OFF contact: C **I.TEL:** can be used as an antifreeze activation inlet on circuit C		
	0/1 DHW	ON or OFF contact: **DHW** **I.TEL:** can be used as an antifreeze activation inlet on circuit ECS		
	0/1 AUX	See table below.		

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) If the pump incorporated in the boiler is used for circuit A (parameter **CIRC.A** set to **DIRECT**), the **O.PUMP A** outlet is free.This outlet can then be used for something other than heating pump A
(3) This parameter is displayed only if the **O.PUMP A** parameter is set to **CIRC.AUX** or if the 3-way valve PCB option is used - Package AD249

■ **Influence of the parameter setting CT.TEL on the I.TEL contact**

KT.TEL: setting:		**CLOSE**	**OPEN**
Operation according to the **I.TEL:** parameter settings and the status of the **I.TEL:** contact	**ANTIFR**	**- Contact closed:** The antifreeze mode is active on all boiler circuits. **- Contact open:** The mode selected on the boiler is active.	**- Contact closed:** The mode selected on the boiler is active. **- Contact open:** The antifreeze mode is active on all boiler circuits.
	0/1 A **0/1 B** **0/1 C**	**- Contact closed:** The mode selected on the circuit is active. **- Contact open:** The antifreeze mode is active on the circuit concerned.	**- Contact closed:** The antifreeze mode is active on the circuit concerned. **- Contact open:** The mode selected on the circuit is active.
	0/1 DHW	**- Contact closed:** The mode selected on the DHW circuit is active. **- Contact open:** The antifreeze mode is active for the DHW circuit.	**- Contact closed:** The antifreeze mode is active for the DHW circuit. **- Contact open:** The mode selected on the DHW circuit is active.
	0/1 AUX	Contact closed: - The ⏵**AUX** outlet is active - The boiler operates at a set point temperature equal to **BOILER MAX** Contact open: - The ⏵**AUX** outlet is deactivated after the time delay **H.PUMP DELAY** has passed - The boiler operates with a set point temperature as a function of the outside temperature	Contact closed: - The ⏵**AUX** outlet is deactivated after the time delay **H.PUMP DELAY** has passed - The boiler operates with a set point temperature as a function of the outside temperature Contact open: - The ⏵**AUX** outlet is active - The boiler operates at a set point temperature equal to **BOILER MAX**

2.3 #NAMES OF THE CIRCUITS menu

This menu is used to customise the name of the various circuits and generator(s) according to the customer's wishes.

We recommend making a note of the names chosen for each circuit or generator.

"Installer" level - #NAMES OF THE CIRCUITS menu		
Parameter	**Description**	**Name given by the customer**
CIRC. A:	Circuit A	
CIRC. B:	Circuit B	
CIRC. C:	Circuit C	
CIRC.AUX	Auxiliary circuit	
CIRC.DHW	Domestic hot water circuit	
GENE	Generator	

2.4 #NETWORK menu

Only displayed in "extended installation" mode

"Installer" level - #NETWORK menu(1)				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
CASCADE:	**ON** / **NO**	**ON**: System in cascade	**NO**	
MASTER CONTROLLER (2)	**ON** / **NO**	Configure this control system as master on the bus	**ON**	
SYSTEM NETWORK (2)		Specific menu: Enlist generators or VMs in cascade mode (See section 3, Chapter: "Connection in cascade")		
FUNCT (2)	**CLASSIC**	Operation in cascade:Successive triggering of the various boilers in the cascade according to requirements	**CLASSIC**	
	PARALLEL	Functioning in parallel cascade: If the outside temperature is lower than the value **PARALLEL.CASC**, all of the boilers are started up at the same time		
PARALLEL CASC. (3)	-10 to 20 °C	Outside temperature triggering all stages in parallel mode	10 °C	
INTER STAGE TIMER (2)	1 to 30 min	Time delay for starting up or shutting down generators.	4 mn	
SLAVE NUMBER (2)	2 to 10	Set the network address for each secondary generator	2	
3WW PLC		Specific menu (Not used)		
InOne SCENARIO		Specific menu: Configure the InOne scenarios to be managed by the SCU PCB		
REMOVE DEVICE		Choose the device to be removed by turning the rotary button and pressing to confirm		

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) The parameter is only displayed if **CASCADE** is set to **YES**
(3) The parameter is only displayed if **FUNCT** is set to **PARALLEL**

2.5 #PRIMARY LIMITS menu

"Installer" level - #PRIMARY LIMITS menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
BOILER MAX	20 to 90 °C	Maximum boiler temperature	75 °C	
MAX.R.HEAT(%) (1)	0-100%	Maximum boiler output during heating	100%	
MAX.DHW(%) (1)(2)	0-100%	Maximum boiler output in DHW	100%	
MIN.VENT. (1)	1000-5000 rpm	Minimum ventilator speed	Depending on the model: See table below.	
MAX.VENT.BOIL (1)	1000-7000 rpm	Maximum fan speed setting in heating	Depending on the model: See table below.	
MAX.VENT.DHW (1)	1000-7000 rpm	Maximum fan speed setting in domestic hot water	Depending on the model: See table below.	
START SP. (1)	1000-5000 rpm	Optimum start-up speed setting	Depending on the model: See table below.	
MAX.PUMP SPEED (1)	20-100%	Maximum pump speed	Depending on the model: See table below.	
MIN.PUMP SPEED (1)	20-100%	Minimum pump speed	Depending on the model: See table below.	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) The parameter is only displayed if **P.DHW** is set to **PUMP**

■ Recommended Settings - All countries except: Belgium, Poland

Gas type	Parameter	Unit	MCA 10[(1)]	MCA 15	MCA 25	MCA 25/28 MI
Gas H (G20)	MIN.VENT.	rpm	1800*	1800*	1800*	1800*
	MAX.VENT.BOIL	rpm	3300*	4500*	5600*	4600*
	MAX.VENT.DHW	rpm	3300*	4500*	5600*	6200*
	START SP.	rpm	3300*	3700*	3000*	3000*
Gas L (G25)	MIN.VENT.	rpm	1800	1800	1800	1800
	MAX.VENT.BOIL	rpm	3200	4400	5300	4300
	MAX.VENT.DHW	rpm	3200	4400	5300	5900
	START SP.	rpm	3200	3700	3000	3000
Propane (G31)	MIN.VENT.	rpm	2200	2200	1800	1800
	MAX.VENT.BOIL	rpm	3200	4400	5300	4300
	MAX.VENT.DHW	rpm	3200	4400	5300	5900
	START SP.	rpm	3200	3700	3000	3000
Propane air (G230) (Italy)	MIN.VENT.	rpm	2100	2100	1800	1800
	MAX.VENT.BOIL	rpm	3200	4200	4900	4100
	MAX.VENT.DHW	rpm	3200	4200	4900	5400
	START SP.	rpm	3200	3700	3000	3000
All types of gas	MAX.PUMP SPEED	%	60	60	60	60
	MIN.PUMP SPEED	%	20	20	20	20

* Factory setting

(1) Model available only in the following countries: Italy, Slovenia.

Gas type	Parameter	Unit	MCA 25/28 BIC	MCA 35
Gas H (G20)	MIN.VENT.	rpm	1800*	1700*
	MAX.VENT.BOIL	rpm	4600*	6200*
	MAX.VENT.DHW	rpm	6300*	6200*
	START SP.	rpm	3000*	4000*
Gas L (G25)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	5900	6200
	START SP.	rpm	3000	4000
Propane (G31)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	5900	6200
	START SP.	rpm	3000	4000
Propane air (G230) (Italy)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4100	6200
	MAX.VENT.DHW	rpm	5400	6200
	START SP.	rpm	3000	4000
All types of gas	MAX.PUMP SPEED	%	60	60
	MIN.PUMP SPEED	%	20	20

* Factory setting

■ Recommended Settings - Belgium

Gas type	Parameter	Unit	MCA 15	MCA 25	MCA 25/28 MI
Gas H (G20)	MIN.VENT.	rpm	1800*	1800*	1800*
	MAX.VENT.BOIL	rpm	4500*	5200*	4200*
	MAX.VENT.DHW	rpm	4500*	5200*	5800*
	START SP.	rpm	3700*	3000*	3000*
Gas L (G25)	MIN.VENT.	rpm	1800	1800	1800
	MAX.VENT.BOIL	rpm	4500	4200	4200
	MAX.VENT.DHW	rpm	4500	5800	5800
	START SP.	rpm	3700	3000	3000
Propane (G31)	MIN.VENT.	rpm	2200	1800	1800
	MAX.VENT.BOIL	rpm	4400	5300	4300
	MAX.VENT.DHW	rpm	4400	5300	5900
	START SP.	rpm	3700	3000	3000
All types of gas	MAX.PUMP SPEED	%	60	60	60
	MIN.PUMP SPEED	%	20	20	20

* Factory setting

Gas type	Parameter	Unit	MCA 25/28 BIC	MCA 35
Gas H (G20)	MIN.VENT.	rpm	1800*	1700*
	MAX.VENT.BOIL	rpm	4200*	6200*
	MAX.VENT.DHW	rpm	5800*	6200*
	START SP.	rpm	3000*	4000*
Gas L (G25)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4200	5400
	MAX.VENT.DHW	rpm	5800	6800
	START SP.	rpm	3000	4000
Propane (G31)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	5900	6200
	START SP.	rpm	3000	4000
All types of gas	MAX.PUMP SPEED	%	60	60
	MIN.PUMP SPEED	%	20	20

* Factory setting

■ Recommended Settings - Poland

Gas type	Parameter	Unit	MCA 15	MCA 25	MCA 25/28 MI
Gas H (G20)	MIN.VENT.	rpm	1800*	1800*	1800*
	MAX.VENT.BOIL	rpm	4500*	5600*	4600*
	MAX.VENT.DHW	rpm	4500*	5600*	6200*
	START SP.	rpm	3700*	3000*	3000*
Gas Lw (G27)	MIN.VENT.	rpm	1800	1800	1800
	MAX.VENT.BOIL	rpm	4400	5300	4300
	MAX.VENT.DHW	rpm	4400	5300	6000
	START SP.	rpm	3700	3000	3000
Gas Ls (G2.350)	MIN.VENT.	rpm	1800	1800	1800
	MAX.VENT.BOIL	rpm	4400	5300	4300
	MAX.VENT.DHW	rpm	4400	5300	6000
	START SP.	rpm	3700	3000	3000
Propane (G31)	MIN.VENT.	rpm	2200	1800	1800
	MAX.VENT.BOIL	rpm	4400	5300	4300
	MAX.VENT.DHW	rpm	4400	5300	5900
	START SP.	rpm	3700	3000	3000
All types of gas	MAX.PUMP SPEED	%	60	60	60
	MIN.PUMP SPEED	%	20	20	20

* Factory setting

Gas type	Parameter	Unit	MCA 25/28 BIC	MCA 35
Gas H (G20)	MIN.VENT.	rpm	1800*	1700*
	MAX.VENT.BOIL	rpm	4600*	6200*
	MAX.VENT.DHW	rpm	6300*	6200*
	START SP.	rpm	3000*	4000*
Gas Lw (G27)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	6000	6200
	START SP.	rpm	3000	4000
Gas Ls (G2.350)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	6000	6200
	START SP.	rpm	3000	4000
Propane (G31)	MIN.VENT.	rpm	1800	1700
	MAX.VENT.BOIL	rpm	4300	6200
	MAX.VENT.DHW	rpm	5900	6200
	START SP.	rpm	3000	4000
All types of gas	MAX.PUMP SPEED	%	60	60
	MIN.PUMP SPEED	%	20	20

* Factory setting

2.6 #SECONDARY LIMITS menu

"Installer" level - #SECONDARY LIMITS menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
MAX.CIRC.A	20 to 95 °C	Maximum temperature (Circuit A) See comments below	75 °C	
MAX.CIRC.B	20 to 95 °C	Maximum temperature (Circuit B) See comments below	50 °C	
MAX.CIRC.C	20 to 95 °C	Maximum temperature (Circuit C) See comments below	50 °C	
OUT.ANTIFREEZE	-8 to +10 °C	Outside temperature that activates holiday mode. Below this temperature the pumps are permanently on and the minimum temperatures for each circuit are respected. When **NIGHT : STOP** is set, the reduced temperature is maintained in each circuit (**#SECONDARY INSTAL.P** menu).	+3 °C	
HCZP D A (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Daytime mode (Circuit A)	**OFF**	
HCZP N A (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Nighttime mode (Circuit A)	**OFF**	
HCZP D B (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Daytime mode (Circuit B)	**OFF**	
HCZP N B (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Nighttime mode (Circuit B)	**OFF**	
HCZP D C (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Daytime mode (Circuit C)	**OFF**	
HCZP N C (1)(2)	**OFF**, 20 to 90 °C	Curve base temperature in Nighttime mode (Circuit C)	**OFF**	

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**

(2) The parameter can be set to the heating curve by pressing key .

■ MAX.CIRC...

> ⚠ **If using underfloor heating, do not modify the factory setting (50 °C). Regulations require a safety system independent of the control unit, with manual reset, which cuts the heat supply to the underfloor heating when the temperature of the fluid reaches 65°C (France: DTU 65.14).**

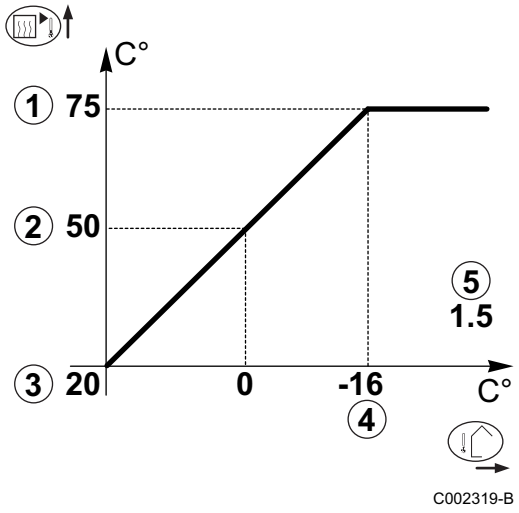
To meet this requirement, a safety thermostat must be electrically connected to the TS contact on the pump connector.

■ BCT parameter

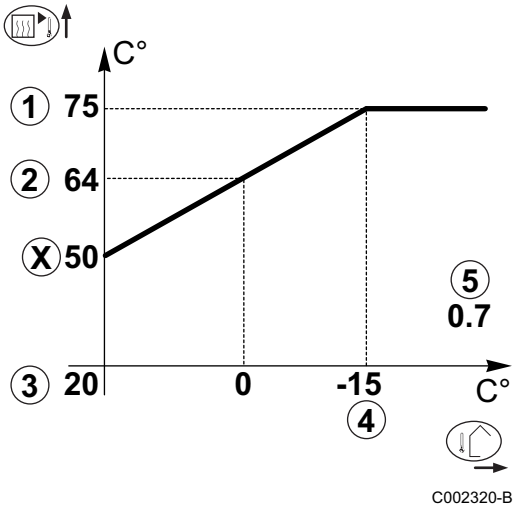
The BCT (Base heat Curve Temperature) allows a minimum operating temperature to be imposed on the heating circuit (this temperature may be constant if the circuit gradient is nil).

i When you modify the heating curve, ② and ⑤ are recalculated and repositioned automatically.

Heating curve without BCT



Heating curve with BCT



① Maximum temperature of the circuit
② Water temperature in the circuit for an outside temperature of 0°C
③ **DAY** set point on the circuit
④ Outside temperature for which the maximum water temperature in the circuit is reached
⑤ Value of the heating curve
This value corresponds to the parameter **HEAT.CURV.**
X Value set for **BCT** parameter

4

2.7 #PRIMARY INSTAL.P menu

"Installer" level - #PRIMARY INSTAL.P menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
BURN.MIN.RUN (1)(2)	0 to 180 seconds	Setting the burner minimum operation time (In heating mode)	30 seconds	
TIMER GENE P. (2)	1 to 30 minutes	Maximum post-operation duration of the generator pump	4 minutes	
IN.BL (2)	**STOP HEAT**	Configuration of the PCU BL inlet: If the contact is open, the heating is off. If the parameter **P.DHW** is set to VI, DHW production nevertheless remains functional. Automatic restart when the contact closes.	**TOTAL STOP**	
	TOTAL STOP	Configuration of the PCU BL inlet: If the contact is open, heating and DHW production are off. Automatic restart when the contact closes.		
	SAFETY MODE	Configuration of the PCU BL inlet: If the contact is open, the boiler goes into safety lockout. The boiler needs to be reset to restart.		
(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED** (2) The parameter can be set to the heating curve by pressing key				

2.8 #SECONDARY INSTAL.P menu

"Installer" level - #SECONDARY INSTAL.P menu				
Parameter	**Range of adjustment**	**Description**	**Factory setting**	**Customer setting**
BUILD. INERTIA (1)(3)	0 (10 hours) to 10 (50 hours)	Characterisation of building's inertia: 0 for a building with low thermal inertia. 3 for a building with normal thermal inertia. 10 for a building with high thermal inertia. **Modification of the factory setting is only useful in exceptional cases.**	3 (22 hours)	
CIRC.CURVE A	0 to 4	Heating curve of the circuit A See comments below	1.5	
ROOM INFL. A	0 to 10	Influence of room sensor A See comments below	3	
CIRC.CURVE B	0 to 4	Heating curve of the circuit B See comments below	0.7	
ROOM INFL. B	0 to 10	Influence of room sensor B See comments below	3	
CIRC.CURVE C	0 to 4	Heating curve of the circuit C See comments below	0.7	
ROOM INFL. C	0 to 10	Influence of room sensor C See comments below	3	
SCREED DRYING	**NO, B, C, B+C**	Drying the floor See comments below	**NO**	
START DRYING TEMP(2)	20 to 50 °C	Screed drying start temperature	20 °C	
STOP DRYING TEMP(2)	20 to 50 °C	Screed drying stop temperature	20 °C	
NUMB. DAYS DRY.(2)	0 to 99		0	
NIGHT	**DEC.**	The lower temperature is maintained (Night mode) See comments below	**DEC.**	
	STOP	The boiler is stopped (Night mode) See comments below		
IN 0-10V	**OFF** / **ON**	Activating the control at 0-10 V See comments below	**OFF**	
VMIN/OFF 0-10V (3)	0 to 10 V	Voltage corresponding to the instruction set minimum	0.5 V	
VMAX 0-10V (3)	0 to 10 V	Voltage corresponding to the instruction set maximum	9.5 V	
CONS.MIN 0-10V (3)	10 to 70 °C	Instruction minimum set temperature	20 °C	
CONS.MAX 0-10V (3)	10 to 100 °C	Maximum set temperature	80 °C	
BAND WIDTH	4 to 16 K	Control unit bandwidth for the 3-way valves. Option of increasing the bandwidth if the valves are rapid or of reducing it if they are slow.	**12 K**	
BOIL/3WV SHIFT	0 to 16 K	Minimum temperature difference between the boiler and the valves	**4 K**	
H. PUMP DELAY	0 to 15 minutes	Timing of the shutdown of the heating pumps. The timing of heating pump shutdown prevents the boiler overheating.	**4 minutes**	

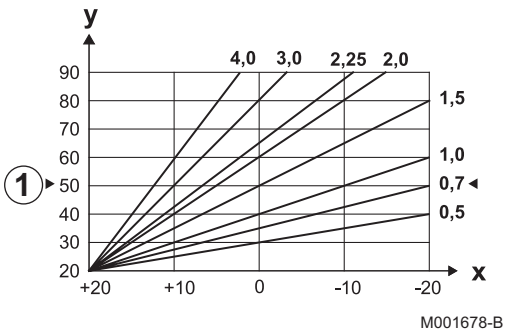
(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) The parameter is only displayed if **SCREED DRYING** is other than **OFF**
(3) The parameter is only displayed if **IN 0-10V** is set to **ON**.
(4) If a reversal valve is connected, DHW priority will always be total regardless of the setting.

(continued)

"Installer" level - #SECONDARY INSTAL.P menu				
Parameter	**Adjustment range**	**Description**	**Factory setting**	**Customer setting**
HW. PUMP DELAY	0 to 15 minutes	Timing of the shutdown of the domestic hot water pump. The timing of the domestic hot water load pump shutdown prevents the boiler and the heating circuits overheating (Only if a load pump is used).	**2 minutes**	
ADAPT	**ON**	Automatic adaptation of the heating curves for each circuit with a room sensor with an influence of >0.	**ON**	
	OFF	The heating curves can only be modified manually.		
PRIORITY DHW(4)	**TOTAL**	Interruption of pool heating and reheating during domestic hot water production.	**TOTAL**	
	SLIDING	Domestic hot water production and heating on the valve circuits if the available output is sufficient and the hydraulic connection allows.		
	NO	Heating and domestic hot water production in parallel if the hydraulic connection allows. ⚠ Risk of overheating in the direct circuit.		
PRIM.TEMP.DHW	50 to 90 °C	Boiler temperature setting if producing domestic hot water	75 °C	
LEG PROTEC		The "anti legionella" function acts to prevent the development of legionella in the dhw tank, these bacteria are responsible for legionellosis.	**OFF**	
	OFF	Anti-legionella function not activated		
	DAILY	The tank is overheated every day from 4:00 o'clock to 5:00 o'clock		
	WEEKLY	The tank is overheated every Saturday from 4:00 o'clock to 5:00 o'clock		

(1) The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**
(2) The parameter is only displayed if **SCREED DRYING** is other than **OFF**
(3) The parameter is only displayed if **IN 0-10V** is set to **ON**.
(4) If a reversal valve is connected, DHW priority will always be total regardless of the setting.

■ CIRC. CURVE ...: Heating curve circuit A, B or C



x Outside temperature (°C)
y Water flow temperature (°C)
① Maximum temperature of heating circuit B - C

■ ROOM S.INFL

Used to adjust the influence of the room sensor on the water temperature for the circuit concerned.

0	No influence (remote control fitted in a location with no influence)
1	Slight influence
3	Average influence (recommended)
10	Room thermostat type operation

■ SCREED DRYING:

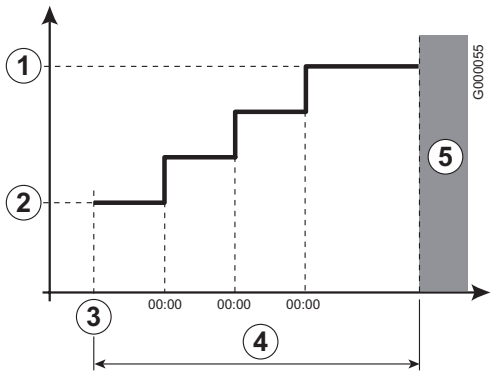
Used to force a constant flow temperature or a train to accelerate screed drying on underfloor heating. The setting for these temperatures must follow the screed-layer's recommendations.

Activation of this parameter (setting other than **OFF**) forces the permanent display of **SCREED DRYING** and deactivates all other control system functions.

When floor drying is active on a circuit, all other circuits (e.g. DHW) are shut down.

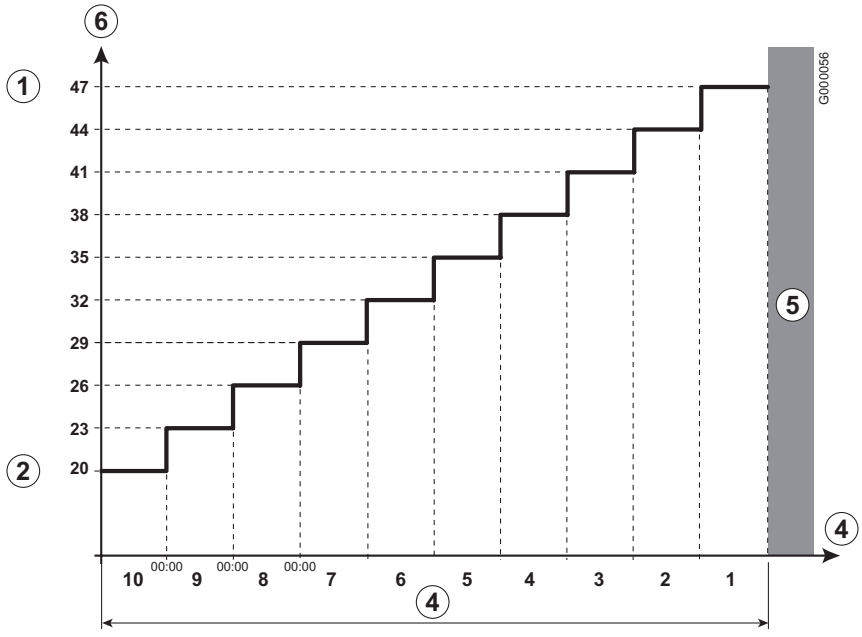
The use of this function is only possible on circuits B and C.

Every day at midnight (00:00): the set point (**START DRYING TEMP**) is recalculated and the remaining number of days (**NB DAYS DRYING**) is decremented.



① **STOP DRYING TEMP**
② **START DRYING TEMP**
③ Today
④ **NUMB. DAYS DRY.**
⑤ Normal regulation (End of drying)

For example:



① **STOP DRYING TEMP** **47 °C**
② **START DRYING TEMP** **20 °C**
④ **NUMB. DAYS DRY.** **10 days**
⑤ Normal regulation (End of drying)
⑥ Heating temperature setting (°C)

4

■ NIGHT

This parameter is displayed if at least one circuit does not include a room sensor.

For circuits without a room sensor:

▸**NIGHT :DEC.** (Reduced)

The reduced temperature is maintained during reduced periods. The circuit pump operates constantly.

▸**NIGHT :STOP**(Stop)

Heating is shut down during reduced periods. When installation antifreeze is active, the reduced temperature is maintained during reduced periods.

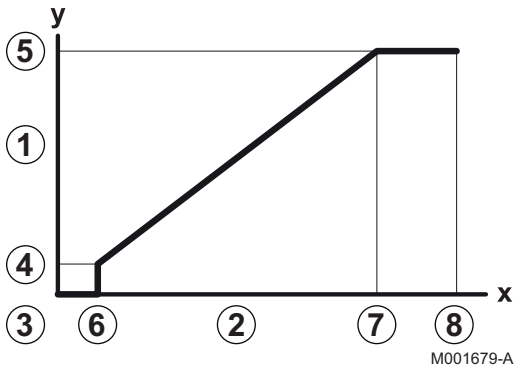
For circuits with a room sensor:

- ▸When the room temperature is lower than the room sensor set point: The reduced temperature is maintained during reduced periods. The circuit pump operates constantly.
- ▸When the room temperature is higher than the room sensor set point: Heating is shut down during reduced periods. When installation antifreeze is active, the reduced temperature is maintained during reduced periods.

■ Function 0-10 V

This function controls the boiler using an external system that includes a 0-10 V output connected to the 0-10 V input. This control imposes an instruction set temperature on the boiler.

It will be necessary to ensure that the parameter **BOILER MAX** is higher than **CONS.MAX 0-10V**.

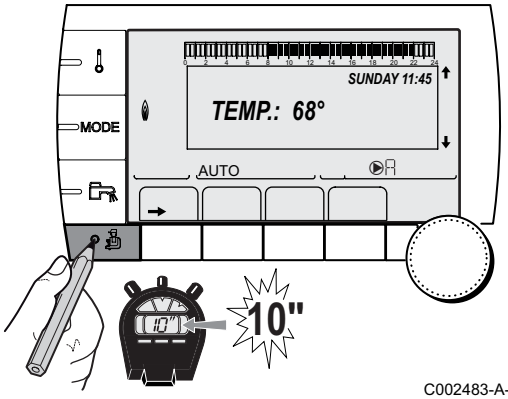


1 Instruction set outlet temperature (°C)
2 Power input signal (V) - DC
3 0 V
4 **CONS.MIN 0-10V**
5 **CONS.MAX 0-10V**
6 **VMIN/OFF 0-10V**
7 **VMAX 0-10V**
8 10 V
x Voltage at input
y Boiler temperature

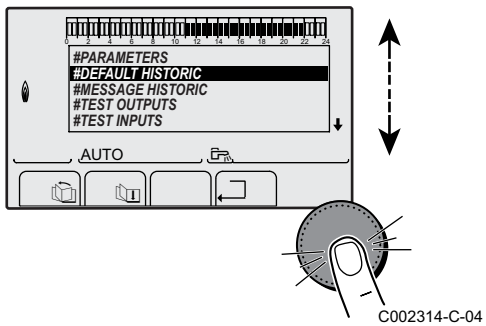
If the input voltage is less than **VMIN/OFF 0-10V**, the boiler is off.

The boiler temperature setting corresponds strictly to the 0-10 V input. The secondary boiler circuits continue to operate but have no impact on the water temperature in the boiler. If using the 0-10 V input and a secondary boiler circuit, the external regulator providing this 0-10 V power supply must always request a temperature at least equal to the needs of the secondary circuit.

3. Technical support level and configuration



C002483-A-04



C002314-C-04

Access: Key ➔ then for 5 seconds or: key, for 10 seconds.

3.1 #PARAMETERS menu

"After Sales" level - #PARAMETERS menu	
Parameter	**Description**
PERMUT	Master boiler active
STAGE	Number of boilers requesting heating
NB.CASC.:	Number of boilers recognised in the cascade
NB. VM:	Number of DIEMATIC VM control systems recognised in the cascade
POWER %	Current output of the boiler
PERCENT PUMP	Modulating pump command
SPEED FAN (1)	Fan rotation speed
SETPOINT FAN	Fan rotation speed desired
MEAN OUTSIDE T	Average outside temperature
CALC.T. BOILER	Temperature calculated by the boiler
BOILER. T. (1)	Measurement of the boiler flow sensor
CALCULATED T. A	Calculated temperature for circuit A
CALCULATED T. B	Calculated temperature for circuit B
CALCULATED T. C	Calculated temperature for circuit C
OUTLET TEMP. B (1)	Temperature of the flow water in circuit B
OUTLET TEMP. C (1)	Temperature of the flow water in circuit C
OUTSIDE TEMP. (1)	Outside temperature
ROOMTEMP. A (1)	Room temperature of circuit A
ROOMTEMP. B (1)	Room temperature of circuit B
ROOMTEMP. C (1)	Room temperature of circuit C
WATER TEMP. (1)	Water temperature in the DHW tank
(1) The parameter can be displayed by pressing key .	

(continued)

"After Sales" level - #PARAMETERS menu	
Parameter	**Description**
IN 0-10V (1)	Voltage at input 0-10 V
BACK TEMP (1)	Temperature of the boiler return water
CURRENT (1)	Ionization current
PRESSURE (1)	Water pressure in the installation
STOR.TANK.TEMP (1)	Water temperature in the storage tank
SYSTEM TEMP. (1)	Temperature of the system flow water if multi-generator
T.DHW BOTTOM (1)	Water temperature in the bottom of the DHW tank
DHW A TEMP. (1)	Water temperature in the second DHW tank connected to circuit A
TEMP.TANK AUX (1)	Water temperature in the second DHW tank connected to the AUX circuit
KNOB A	Position of temperature setting button on room sensor A
KNOB B	Position of temperature setting button on room sensor B
KNOB C	Position of temperature setting button on room sensor C
OFFSET ADAP A	Parallel trigger calculated for circuit A
OFFSET ADAP B	Parallel trigger calculated for circuit B
OFFSET ADAP C	Parallel trigger calculated for circuit C
(1) The parameter can be displayed by pressing key .	

3.2 #DEFAULT HISTORIC menu

This menu gives the list of the most recent errors that have occurred in the appliance (up to 10 errors).

3.3 #MESSAGE HISTORIC menu

This menu gives the list of the most recent messages that have appeated in the appliance (up to 10 messages).

3.4 #TEST OUTPUTS menu

"After Sales" level - #TEST OUTPUTS menu		
Parameter	**Range of adjustment**	**Description**
P. CIRC. A	**ON / NO**	Stop/start pump circuit A
P. CIRC. B	**ON / NO**	Stop/start pump circuit B
P. CIRC. C	**ON / NO**	Stop/start pump circuit C
AUX.CIRC.	**ON / NO**	On/Off auxiliary outlet
HW. PUMP	**ON / NO**	Stop/start domestic hot water pump
3WV B	**REST**	No command
	OPEN:	Opening 3-way valve circuit B
	CLOSE:	Closure 3-way valve circuit B
3WV C	**REST**	No command
	OPEN:	Opening 3-way valve circuit C
	CLOSE:	Closure 3-way valve circuit C
TEL.OUTPUT	**ON / NO**	On/Off telephone relay outlet

3.5 #TEST INPUTS menu

"After Sales" level - #TEST INPUTS menu		
Parameter	**State**	**Description**
PHONE REM.		Bridge on telephone input (1 = presence, 0 = absence)
FLAME		Flame presence test (1 = presence, 0 = absence)
VALVE	**OP/CL**	Opening the valve Closing the valve
FAILURE	**ON**	Error display
	OFF	No error
SEQ.		Control system sequence. ☞ See table below.
BOILER		Index of the generator in the system
TYPE		Generator type
VER.ROM		Version of the PCU PCB programme
VERS.PARAM PCU		Version of the PCU PCB parameters
MC.VERSION		Version of the boiler radio module programme
OUTSI.S.VERSION		Version of the radio outside temperature sensor programme
R.CTRL A	**ON**	Presence of a remote control A
	OFF	No remote control A
R.CTRL B	**ON**	Presence of a remote control B
	OFF	No remote control B
R.CTRL C	**ON**	Presence of a remote control C
	OFF	No remote control C
ID MC IOBL		Identifying number of the IOBL boiler module
IOBL.VERSION		IOBL version of the SCU PCB
CALIBRA.CLOCK		Clock calibration

Control system sequence

Control system sequence		
Status OK	**Sub-status**	**Operation**
0	0	Boiler stopped
1	1	Anti-short cycle activated
	2	Open isolating valve
	3	Start-up of the boiler pump
	4	Awaiting burner start-up
2	10	Open gas valve (external)
	11	Fan start-up
	13	The fan switches to the burner start-up speed
	14	Check RL signal (Function not active)
	15	Burner on switch request
	17	Pre-ignition
	18	Ignition
	19	Check flame presence
	20	Awaiting further action to unsuccessful ignition
3 / 4	30	Burner lit and free modulation on the boiler instruction
	31	Burner lit and free modulation on a limited instruction, equal to a return temperature of +30°C
	32	Burner lit and free modulation on the boiler set point but restricted on the control panel See menu #PRIMARY LIMITS: "Professional" settings
	33	Burner lit and descending modulation following too large a rise in temperature on the exchanger (4 K in 10 seconds)
	34	Burner lit and minimum modulation following too large a rise in temperature on the exhanger (7 K in 10 seconds)
	35	Burner off following too large a rise in temperature on the exchanger (9 K in 10 seconds)
	36	Burner lit and ascending modulation to guarantee a correct ionization current
	37	Heating: Burner lit and minimum modulation after a burner start-up lasting 30 seconds DHW production: Burner lit and minimum modulation after a burner start-up lasting 100 seconds
	38	Burner lit and modulation fixed higher than the minimum after burner start-up lasting 30 seconds, if the burner was off for more than 2 hours or after powering up
5	40	The burner will stop
	41	The fan switches to post-sweeping speed on the burner
	42	The external gas valve closes
	43	Post-sweeping
	44	Stop fan
6	60	Post-operation of the boiler pump
	61	Stop boiler pump
	62	Close isolating valve
	63	Start anti short cycle
8	0	Awaiting burner start-up
	1	Anti-short cycle activated
9	--	Blockage detected
10	--	Lock-out
16	--	Bleed
17	--	Antifreeze protection

3.6 #CONFIGURATION menu

"After Sales" level - #CONFIGURATION menu		
Parameter	**Range of adjustment**	**Description**
MODE:	**MONO/ ALL.CIRC.**	To chose if the exemption made for one remote control applies to a single circuit (**MONO**) or if it must be transmitted to a group of circuits (**ALL CIRC**)
TYPE		Generator type (Refer to the original rating plate)
AUTODETECTION	**OFF/ON**	System reset if error **L38** is displayed
TAS	**OFF/ON**	Activation of the Titan Active System® function
IOBL	**OFF/ON**	Activation of the IOBL function

3.7 #SUPPORT menu

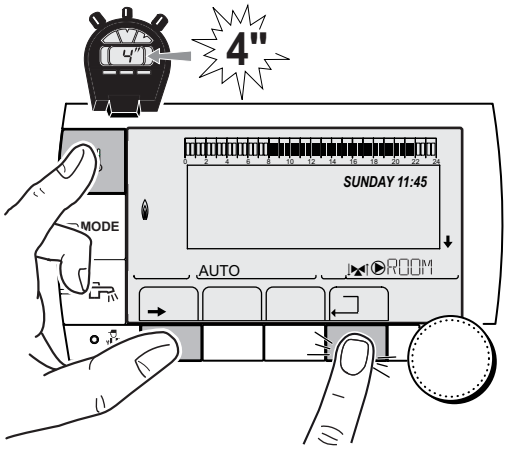
This menu is used to fill in the contact details (name and phone number) of the company or the professional that the user can contact if needed (Inspection, Fault finding...).

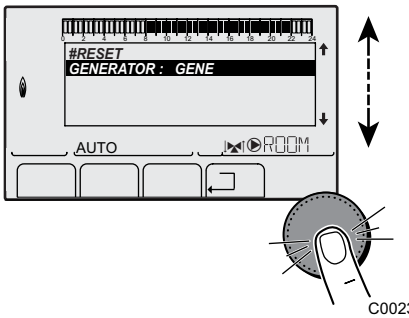
3.8 #REVISION menu

This menu is used to fill in the date of the next service or maintenance operation on the appliance.

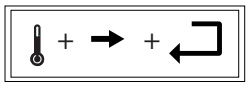
"After Sales" level - #REVISION menu		
Parameter	**Range of adjustment**	**Description**
TYPE	**NO**	Factory setting No message indicating that maintenance is necessary
	MANU	Recommended setting Signals that maintenance is necessary on the date selected. Set the date using the parameters below.
	AUTO	⚠ Not applicable. Do not select this setting.
REVISION HOUR(1)	0 to 23	Time at which the **REVISION** display appears
REV. YEAR(1)	2008 to 2099	Year in which the **REVISION** display appears
REVIS. MONTH(1)	1 to 12	Month in which the **REVISION** display appears
REVISION DATE(1)	1 to 31	Day on which the **REVISION** display appears
(1) The parameter is only displayed if **MANU** is configured.		

4. Reset procedure (RESET)





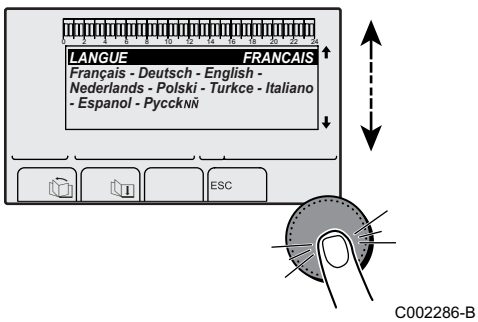
C002301-C-04



C002296-B-04

1 Press key 🌡,→ and ⮐ simultaneously for 4 seconds
2 The menu **#RESET** is displayed
3 Select the generator desired
4 To set the following parameters

#RESET menu			
Choice of generator	**Parameter**		**Description**
GENERATOR	**RESET**	**TOTAL**	Performs a TOTAL RESET of all parameters
		EXCEPT PROG.	Performs a parameter RESET but retains the timer programmes
		PROG.	Performs a RESET on the timer programmes but retains the parameters
		IOBL	Resets the system's network connections
		SENSOR SCU	Performs a RESET of the generator sensors connected
		ROOM SENSOR	Performs a RESET of the room sensors connected

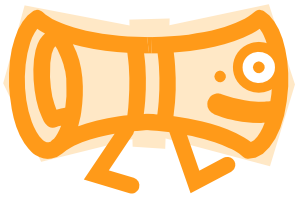


C002286-B

After reset (**TOTAL RESET** and **RESET EXCEPT PROG.**), the control system goes back to the display of the language choice after a few seconds.

- Select the desired language by turning the rotary button
- To confirm, press the rotary button.

LIST OF THE MESSAGES AND DEFECTS



5

CONTENTS

5

1. Messages (Code type Bxx or Mxx)

In case of problem, a message displays and the boiler is temporarily blocked. In this case, the display gives a code of blocking (code **Bxx**).

The boiler starts up again autonomously when the reason for the blocking has been removed.

Messages	Code	Description	Checking / solution
BL.PSU ERROR	**B00**	The PSU PCB is incorrectly configured	Parameter error on the PSU PCB ▸ Set the type of generator again in the menu **#CONFIGURATION** (Refer to the original rating plate)
BL.MAX BOILER	**B01**	Maximum flow temperature exceeded	The water flow in the installation is insufficient ▸ Check the circulation (direction, pump, valves)
BL.HEATING SPEED	**B02**	The increase in flow temperature has exceeded its maximum limit	The water flow in the installation is insufficient ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
			Sensor error ▸ Check that the sensors are operating correctly ▸ Check whether the boiler sensor has been correctly fitted
BL.DT OUTL RET.	**B07**	Maximum difference between the flow and return temperature exceeded	The water flow in the installation is insufficient ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
			Sensor error ▸ Check that the sensors are operating correctly ▸ Check whether the boiler sensor has been correctly fitted
BL.RL OPEN	**B08**	The **RL** inlet on the PCU PCB terminal block is open	Parameter error ▸ Set the type of generator again in the menu **#CONFIGURATION** (Refer to the original rating plate)
			Bad connection ▸ Check the wiring
BL.INV. L/N	**B09**	Set the type of generator again in the menu **#CONFIGURATION** (Refer to the original rating plate)	
BL INPUT OPEN	**B10 B11**	The **BL** inlet on the PCU PCB terminal block is open	The contact connected to the **BL** inlet is open ▸ Check the contact on the **BL** inlet
			Parameter error ▸ Check the parameter **IN.BL**
			Bad connection ▸ Check the wiring
BL. PCU COM	**B13**	Communication error with the SCU PCB	Bad connection ▸ Check the wiring
			SCU PCB not installed in the boiler ▸ Install an SCU PCB
BL.WATER MIS.	**B14**	The water pressure is lower than 0,8 bar	Not enough water in the circuit ▸ Top up the installation with water
BL.GAS PRESS	**B15**	Gas pressure too low	Incorrect setting of the gas pressure switch on the SCU PCB ▸ Check that the gas valve is correctly opened ▸ Checking the gas supply pressure ▸ Check whether the gas pressure control system has been correctly fitted ▸ Replace the gas pressure control system if need be

Messages	Code	Description	Checking / solution
BL.BAD SU	**B16**	The SU PCB is not recognised	Wrong SU PCB for this boiler ▸ Replace the SU PCB
BL.PCU ERROR	**B17**	The parameters saved on the PCU PCB are impaired	Parameter error on the PCU PCB ▸ Replace the PCU PCB
BL.BAD PSU	**B18**	The PSU PCB is not recognised	Wrong PSU PCB for this boiler ▸ Replace the PSU PCB
BL.NO CONFIG	**B19**	The boiler has not been configured	The PSU PCB has been changed ▸ Set the type of generator again in the menu **#CONFIGURATION** (Refer to the original rating plate)
BL. COM SU	**B21**	Communication error between the PCU and SU PCBs	Bad connection ▸ Check that the SU PCB has been correctly put in place on the PCU PCB ▸ Replace the SU PCB
BL.FLAME LOS	**B22**	No flame during operation	No ionization current ▸ Degas the gas conduit ▸ Check that the gas valve is correctly opened ▸ Check the supply pressure ▸ Check the operation and setting of the gas valve unit ▸ Check that the air inlet and flue gas discharge flues are not blocked ▸ Check that the flues gases are not being sucked back in
BL.SU ERROR	**B25**	Internal error on the SU PCB	▸ Replace the SU PCB
REVISION	**M04**	A service is required	The date programmed for the service has been reached ▸ Carry out maintenance on the boiler ▸ To clear the inspection, programme another date in the menu **#REVISION** or set the parameter **REVISION TYPE** to **OFF**
REVISION A	**M05**	An A, B or C service is required	The date programmed for the service has been reached ▸ Carry out maintenance on the boiler ▸ To clear the inspection, press key ☞
REVISION B	**M06**		
REVISION C	**M07**		
DISGAS	**M20**	A boiler vent cycle is underway	Switching the boiler on ▸ Wait 3 minutes
FL.DRY.B XX DAYS		Floor drying is active **XX** DAYS = Number of days' floor drying remaining.	Floor drying is underway. Heating on the circuits not concerned is shut down. ▸ Wait for the number of days shown to change to 0 ▸ Set the parameter **SCREED DRYING** to **OFF**
FL.DRY.C XX DAYS			
FL.DRY.B+C XX DAYS			

2. Faults (Code type Lxx or Dxx)

If an error is signalled on the appliance, the appliance is locked and the corresponding code is shown in a flashing display window.

List of errors:

Faults	Code	Cause of the error	Description	Checking / solution
PSU FAIL	**L00**	PCU	PSU PCB not connected	Bad connection ▸ Check the wiring between the PCU and PSU PCBs
				PSU PCB faulty ▸ Replace the PSU PCB
PSU PARAM FAIL	**L01**	PCU	The safety parameters are incorrect	Bad connection ▸ Check the wiring between the PCU and PSU PCBs
				PSU PCB faulty ▸ Replace the PSU PCB
DEF.OUTLET S.	**L02**	PCU	The boiler flow sensor has short-circuited	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
DEF.OUTLET S.	**L03**	PCU	The boiler flow sensor is on an open circuit	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
DEF.OUTLET S.	**L04**	PCU	Boiler temperature too low	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
STB OUTLET	**L05**	PCU	Boiler temperature too high	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
BACK S.FAILURE	**L06**	PCU	The return temperature sensor has short-circuited	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
BACK S.FAILURE	**L07**	PCU	The return temperature sensor is on an open circuit	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
BACK S.FAILURE	**L08**	PCU	Return temperature too low	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
STB BACK	**L09**	PCU	Return temperature too high	Bad connection ▸ Check the wiring between the PCU PCB and the sensor ▸ Check that the SU PCB is correctly in place ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
DEP-RET<MIN	**L10**	PCU	Difference between the flow and return temperatures insufficient	Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				Bad connection ▸ Check that the sensor has been correctly fitted
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body ▸ Check that the heating pump is operating correctly

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
DEP-RET>MAX	**L11**	PCU	Difference between the flow and return temperatures too great	Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
				Bad connection ▸ Check that the sensor has been correctly fitted
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body ▸ Check that the heating pump is operating correctly
STB OPEN	**L12**	PCU	Maximum boiler temperature exceeded (STB thermostat maximum)	Bad connection ▸ Check the wiring between the PCU PCB and the STB ▸ Check that the SU PCB is correctly in place ▸ Check the electrical continuity of the STB ▸ Check whether the STB has been correctly fitted
				Sensor fault ▸ Replace the STB if necessary
				No water circulation ▸ Vent the air in the heating system ▸ Check the circulation (direction, pump, valves) ▸ Check the water pressure ▸ Check the cleanliness of the heating body
BURNER FAILURE	**L14**	PCU	5 burner start-up failures	Absence of ignition arch ▸ Check the wiring between the PCU PCB and the ignition transformer ▸ Check that the SU PCB is correctly in place ▸ Check the ionisation/ignition electrode ▸ Check the earthing ▸ SU PCB faulty: Change the PCB
				Presence of the ignition arc but no flame formation ▸ Vent the gas flues ▸ Check that the gas valve is correctly opened ▸ Checking the gas supply pressure ▸ Check the operation and setting of the gas valve unit ▸ Check that the air inlet and flue gas discharge flues are not blocked ▸ Check the wiring on the gas valve unit ▸ SU PCB faulty: Change the PCB
				Presence of the flame but insufficient ionization (<3 µA) ▸ Check that the gas valve is correctly opened ▸ Checking the gas supply pressure ▸ Check the ionisation/ignition electrode ▸ Check the earthing ▸ Check the wiring on the ionisation/ignition electrode

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
PARASIT FLAME	**L16**	PCU	Detection of a parasite flame	Ionisation current present when there should not be a flame Ignition transformer defective ▸ Check the ionisation/ignition electrode
				Gas valve defective ▸ Check the gas valve and replace if necessary
				The burner remains very hot: CO_2 too high ▸ Set the CO_2
VALVE FAIL	**L17**	PCU	Problem on the gas valve	Bad connection ▸ Check the wiring between the PCU PCB and the gas valve ▸ Check that the SU PCB is correctly in place
				SU PCB faulty ▸ Inspect the SU PCB and replace it if need be
FAN FAILURE	**L34**	PCU	The fan is not running at the right speed	Bad connection ▸ Check the wiring between the PCU PCB and the fan
				Fan defective ▸ Check for adequate draw on the chimney connection ▸ Replace the fan if need be
BACK>BOIL FAIL	**L35**	PCU	Flow and return reversed	Bad connection ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensors ▸ Replace the sensor if necessary
				Water circulation direction reversed ▸ Check the circulation (direction, pump, valves)
I-CURRENT FAIL	**L36**	PCU	The flame went out more than 5 times in 24 hours while the burner was operating	No ionization current ▸ Degas the gas conduit ▸ Check that the gas valve is correctly opened ▸ Checking the gas supply pressure ▸ Check the operation and setting of the gas valve unit ▸ Check that the air inlet and flue gas discharge flues are not blocked ▸ Check that the flues gases are not being sucked back in
SU COM.FAIL	**L37**	PCU	Communication failure with the SU PCB	Bad connection ▸ Check whether the SU PCB has been correctly fitted into the connector on the PCU PCB ▸ Change the SU PCB
PCU COM.FAIL	**L38**	PCU	Communication failure between the PCU and SCU PCBs	Bad connection ▸ Check the wiring between the PCU and SCU PCBs ▸ Run an **AUTODETECTION** in the menu **#CONFIGURATION**
				SCU PCB not connected or faulty ▸ Replace the SCU PCB

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
BL OPEN FAIL	**L39**	PCU	The **BL** inlet opened for a short time	Bad connection ▸ Check the wiring
				External cause ▸ Check the device connected to the **BL** contact
				Parameter incorrectly set ▸ Check the parameter **IN.BL**
TEST.HRU.FAIL	**L40**	PCU	HRU/URC unit test error	Bad connection ▸ Check the wiring
				External cause ▸ Suppress the external cause
				Parameter incorrectly set ▸ Check the parameters
DEF.WATER MIS.	**L250**	PCU	The water pressure is too low	Hydraulic circuit incorrectly vented Water leak Measurement error ▸ Top up with more water if necessary ▸ Reset the boiler
MANOMETRE FAIL	**L251**	PCU	Pressure gauge fault	Wiring problem The manometer is defective Sensor pcb defective ▸ Check the wiring between the PCU PCB and the pressure gauge ▸ Check whether the pressure gauge has been correctly fitted ▸ Replace the pressure gauge if need be
OUTL S.B FAIL. **OUTL S.C FAIL.**	**D03** **D04**	SCU	Sensor fault flow circuit B Sensor fault flow circuit C Remarks: The circuit pump is running. The 3-way valve motor on the circuit is no longer powered and can be adjusted manually.	Bad connection ▸ Check whether the sensor is connected: ☞ See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
OUTSI.S.FAIL.	**D05**	SCU	Fault external sensor Remarks: The boiler operates on **BOILER MAX** temperature. The valve setting is no longer ensured but monitoring the maximum temperature of the circuit after the valve is ensured. Valves may be manually operated. Reheating the domestic hot water remains ensured.	Bad connection ▸ Check whether the sensor is connected: ☞ See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary

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(continued)

Faults	Code	Cause of the error	Description	Checking / solution
AUX.SENS.FAIL.	**D07**	SCU	Auxiliary sensor failure	Bad connection ▸ Check whether the sensor is connected:  See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
DHW S.FAILURE	**D09**	SCU	Domestic hot water sensor failure Remarks: Heating of domestic hot water is no longer ensured. The load pump operates. The load temperature of the dhw tank is the same as the boiler.	Bad connection ▸ Check whether the sensor is connected:  See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
ROOM S.A FAIL. **ROOM S.B FAIL.** **ROOM S.C FAIL.**	**D11** **D12** **D13**	SCU	Fault room temperature sensor A Fault room temperature sensor B Fault room temperature sensor C Remark: The circuit concerned operates without any influence from the room sensor.	Bad connection ▸ Check whether the sensor is connected:  See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
MC COM.FAIL	**D14**	SCU	Communication failure between the SCU PCB and the boiler radio module	Bad connection ▸ Check the link and the connectors Boiler module failure ▸ Change the boiler module
ST.TANK S.FAIL	**D15**	SCU	Storage tank sensor failure Remark: The hot water storage tank reheating operation is no longer assured.	Bad connection ▸ Check whether the sensor is connected:  See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
SWIM.P.B. S.FAIL **SWIM.P.C. S.FAIL**	**D16** **D16**	SCU	Swimming pool sensor failure circuit B Swimming pool sensor failure circuit C Remark: Pool reheating is independent of its temperature.	Bad connection ▸ Check whether the sensor is connected: ☞ See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
DHW 2 S.FAIL	**D17**	SCU	Sensor failure tank 2	Bad connection ▸ Check whether the sensor is connected: ☞ See chapter: "Deletion of sensors from the memory in the SCU PCB", page 9 ▸ Check the link and the connectors ▸ Check that the sensor has been correctly fitted
				Sensor fault ▸ Check the Ohmic value of the sensor ▸ Replace the sensor if necessary
PCU COM. FAIL	**D27**	SCU	Communication failure between the SCU and PCU PCBs ▸ Check the wiring between the SCU and PCU PCBs ▸ Check that the PCU PCB is powered up (green LED on or flashing) ▸ Change the PCU PCB	
IOBL.3WV B DEF	**D29**	SCU	Communication failure between the SCU PCB and the V3V module	The V3V module is switched off ▸ Check that the 3WV module is powered up (Green LED LIT) The V3V module and the SCU PCB are not connected to the same live terminal ▸ Check that the 3WV module and the SCU PCB are on the same live terminal or that a live coupler is installed The V3V module has been removed
IOBL.3WV C DEF	**D30**	SCU	Communication failure between the SCU PCB and the V3V module	The V3V module is switched off ▸ Check that the 3WV module is powered up (Green LED LIT) The V3V module and the SCU PCB are not connected to the same live terminal ▸ Check that the 3WV module and the SCU PCB are on the same live terminal or that a live coupler is installed The V3V module has been removed
COM.IOBL FAIL.	**D31**	SCU	The IOBL function is no longer active	Problem on the SCU PCB ▸ If the IOBL function is not used, deactivate the IOBL function in the menu **#CONFIGURATION** ▸ If the IOBL function is used, change the SCU PCB and re-pair the devices (IOBL 3WV module, Interscenario switch)

(continued)

Faults	Code	Cause of the error	Description	Checking / solution
5 RESET:ON/OFF	**D32**	SCU	5 resets done in less than an hour ▸ Switch the boiler off and switch back on	
TA-S SHORT-CIR	**D37**	SCU	The Titan Active System® is short-circuited ▸ Check that the connection cable between the SCU PCB and the anode is not short-circuited ▸ Check that the anode is not short-circuited Remarks: Domestic hot water production has stopped but can nonetheless be restarted using key . The tank is no longer protected. If: A tank without Titan Active System® is connected to the boiler: Check that the Titan Active System® simulation connector (delivered with package AD212) is fitted to the sensor card.	
TA-S DISCONNEC	**D38**	SCU	The Titan Active System® is on an open circuit ▸ Check that the connection cable between the SCU PCB and the anode is not severed ▸ Check that the anode is not broken Remarks: Domestic hot water production has stopped but can nonetheless be restarted using key . The tank is no longer protected. If: A tank without Titan Active System® is connected to the boiler: Check that the Titan Active System® simulation connector (delivered with package AD212) is fitted to the sensor card.	

3. Deletion of sensors from the memory in the SCU PCB

The configuration of the sensors is memorised by the SCU PCB.

If a sensor error appears whilst the corresponding sensor is not connected or has been voluntarily removed, please delete the sensor from the memory in the SCU PCB.

- Press key **?** repeatedly until **"Do you want to delete this sensor?"** is displayed
- Select **YES** by turning the rotary button and press to confirm.

4. Deleting the IOBL 3WV modules from the memory in the SCU PCB

The configuration of the IOBL 3WV modules is memorised by the SCU PCB.

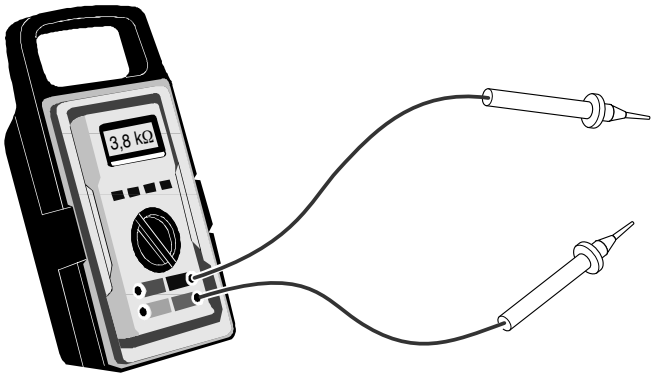
If a **IOBL.3WV B DEF** or **IOBL.3WV C DEF** error appears after voluntary deletion of a 3WV module, please delete the module from the memory in the SCU PCB

- Press key **?** repeatedly until **"Do you want to delete this module?"** is displayed
- Select **YES** by turning the rotary button and press to confirm.

i To delete an IOBL V3V module from the SCU PCB memory:

- Go to the menu **#NETWORK** and select **REMOVE DEVICE**.

CONTROLS AND SETTINGS



Contents

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1. Testing the sensors

1.1 Check and calibration of sensors on the DIEMATIC iSystem control system

A continuous surveillance of the sensors is assured by the DIEMATIC iSystem control system.
This surveillance and the measurement and settings options offered by the DIEMATIC iSystem control panel can only be done on circuits for which sensors are actually connected.

1.1.1 Sensor circuit cut or short circuited

When a sensor circuit is cut or short circuited, the DIEMATIC iSystem control system displays the alarm message corresponding to the sensor concerned.

See section 5, List of the messages and defects.

1.1.2 Reliability of the sensor measures

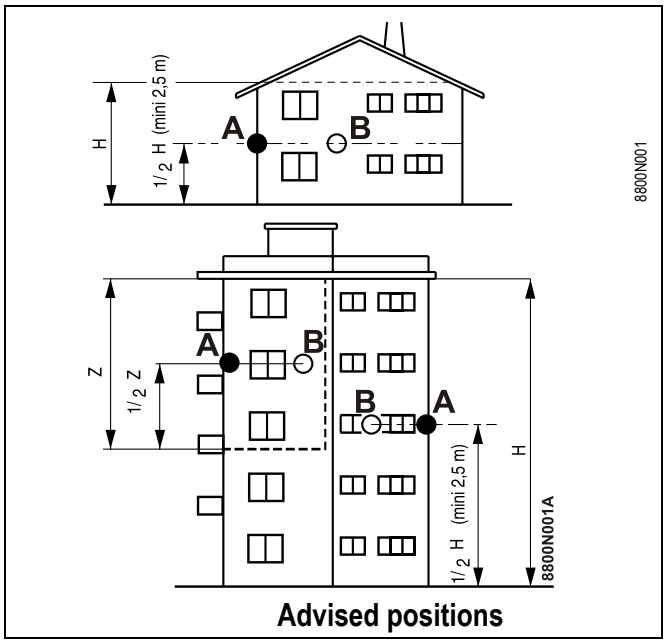
The sensors can be checked by displaying the temperature line for the sensor concerned in the **#MEASURES** menu.
If the temperature is not displayed or there is too great a difference between the temperature displayed and the actual temperature, check the resistance on the sensor concerned (see below) and its connection cable.

1.1.3 Switch-on and switch-off values compared with the set point value

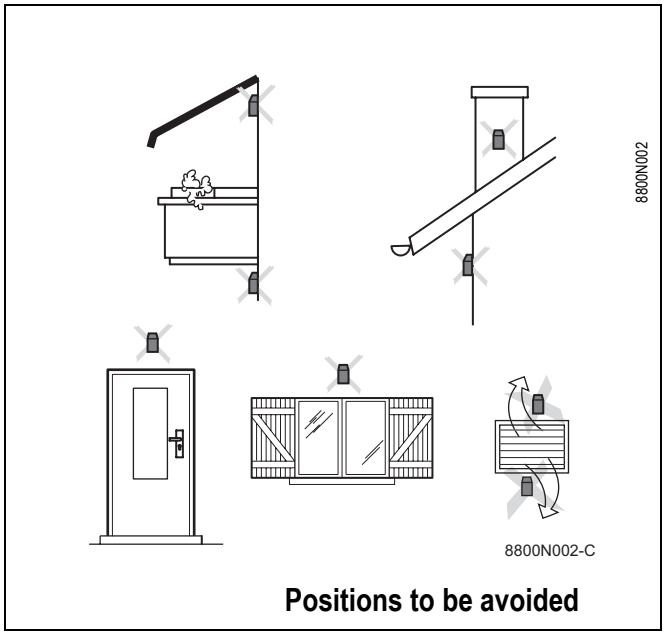
When the tank temperature falls below 4°C, particularly when the installation is in holiday mode (antifreeze), the tank is reheated to 10°C.
In after valve circuit B or C, the pump is shut down when the flow temperature exceeds the maximum temperature for the circuit by 10°C. The pump restarts when the temperature falls below these 10°C.

1.2 Check of the outside temperature sensor

The outside sensor is installed on the outside wall adjacent to the heated area. It must be easily accessible.
H : Inhabited height controlled by the sensor
●: recommended position on a corner
○: Possible position
Z : Inhabited area controlled by the sensor
The sensor must be placed on the outside wall so that it is directly influenced by weather variations, but is not directly influenced by solar radiations.



Advised positions



Positions to be avoided

6

1.3 Ohmic values of the sensors

The temperature/resistance correlation is shown below.
If the values measured on the ohmmeter do not correspond to those in the table, replace the sensor.
Nota: Disconnect the sensor to check its ohmic value.

Outside sensor		**Outlet sensor circuit B+C Domestic hot water sensor**		**Boiler sensor Return sensor**	
-20 °C	2392 Ω	0 °C	32014 Ω	-20 °C	98932 Ω
-16 °C	2088 Ω	10 °C	19691 Ω	-10 °C	58879 Ω
-12 °C	1811 Ω	20 °C	12474 Ω	0 °C	36129 Ω
-8 °C	1562 Ω	25 °C	10000 Ω	10 °C	22804 Ω
-4 °C	1342 Ω	30 °C	8080 Ω	20 °C	14773 Ω
0 °C	1149 Ω	40 °C	5372 Ω	25 °C	12000 Ω
4 °C	984 Ω	50 °C	3661 Ω	30 °C	9804 Ω
8 °C	842 Ω	60 °C	2535 Ω	40 °C	6652 Ω
12 °C	720 Ω	70 °C	1794 Ω	50 °C	4607 Ω
16 °C	616 Ω	80 °C	1290 Ω	60 °C	3252 Ω
20 °C	528 Ω	90 °C	941 Ω	70 °C	2337 Ω
24 °C	454 Ω			80 °C	1707 Ω
				90 °C	1266 Ω
				100 °C	952 Ω
				110 °C	726 Ω

2. Check of the electronic boards

Switch off the mains electricity supply before carrying out any work.

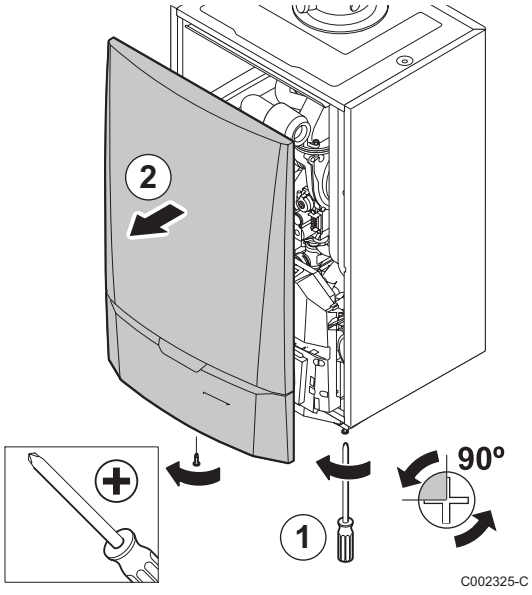
Do not trap the cables when refitting.

2.1 Switching off

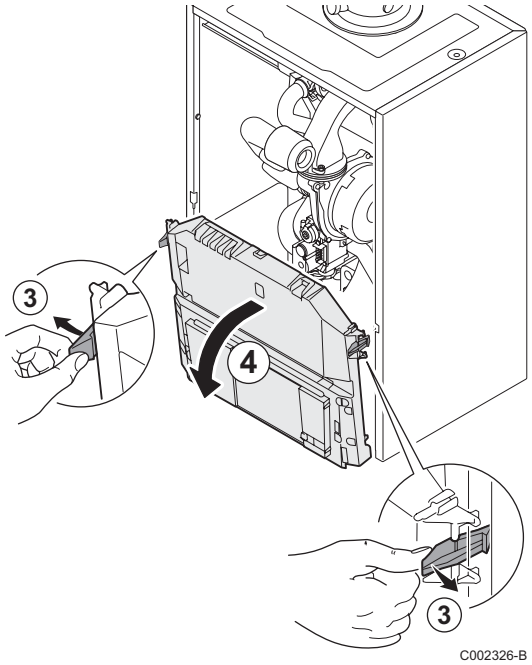
- The appliance is switched off by pressing the **On/Off** button on the control panel. Then, disconnect the boiler mains supply cable.

2.2 Board access

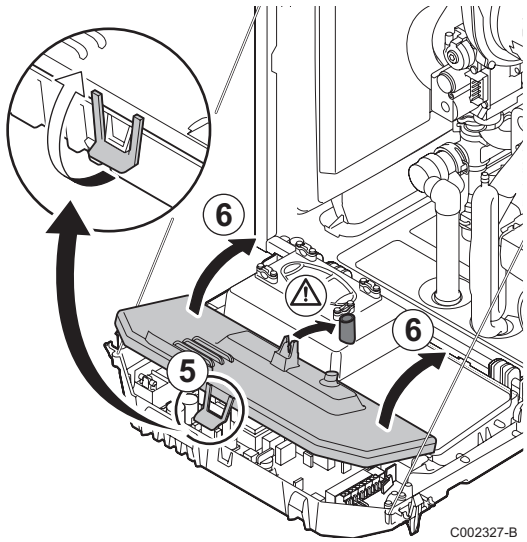
Proceed as follows:



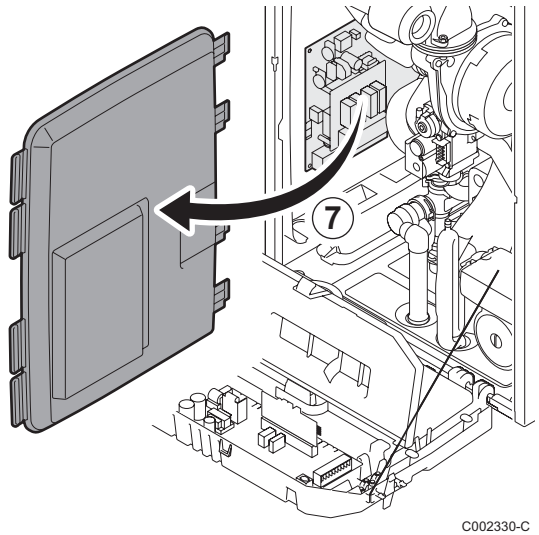
1. Unscrew the 2 screws under the front panel by a quarter turn
2. Remove the front panel



3. Open the holding clips located on the sides
4. Tilt the control panel forward

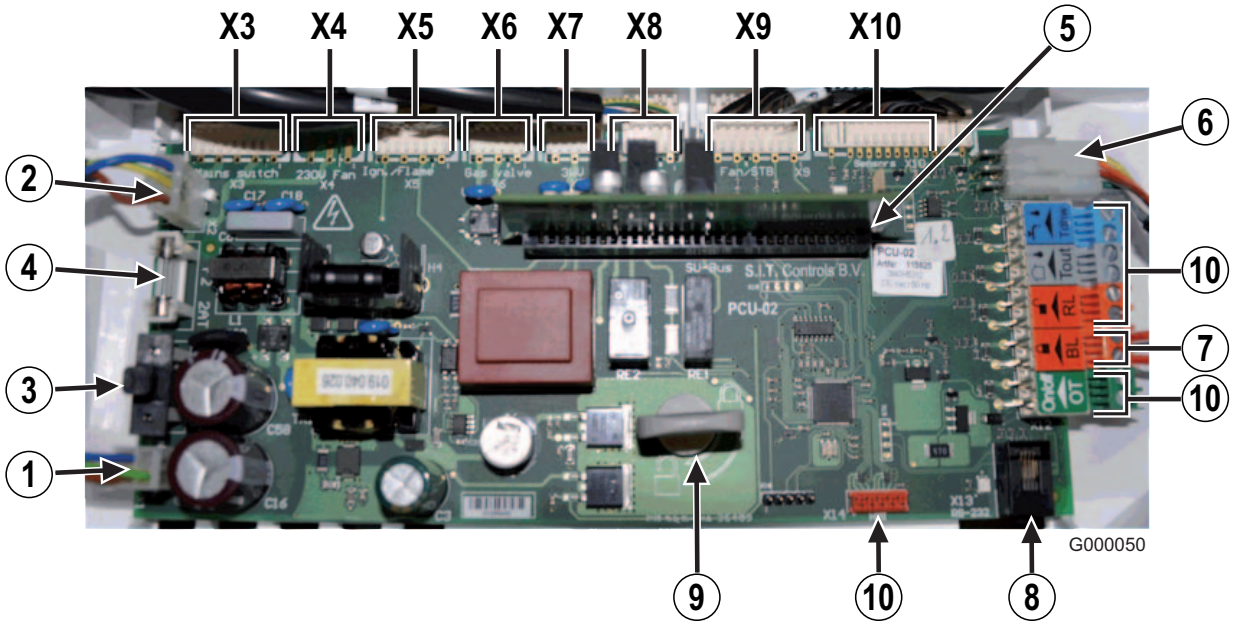


5. Lift the clip located in front of the control panel
6. Lift the control panel cover



7. Unclip the PCB cover

2.3 PCU PCB + SU



1. 230 V main supply
2. Connection between mains supply 230 and SCU
3. F1: 6.3 AT fuse
   This fuse protects the whole boiler (PCU, SU and SCU.
4. F2: 2 AT fuse
   This fuse protects only boards PCU and SU
5. Connector SU + Card SU
6. Bus PCU - SCU connector
7. BL-inlet of PCU board (can be configured)
8. PC interface connector (Recom)
9. Fastening lock for the PCB
10. NC : Not connected (Connector without function)

X3 Main ON/OFF switch

X4 Not connected

X5 Ignition transformer / Ionization probe

X6 Gas valve

X7 Heating / DHW inversion valve

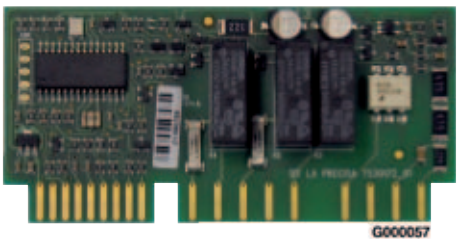
X8 Boiler pump (230 V)

X9 Fan and safety thermostat control

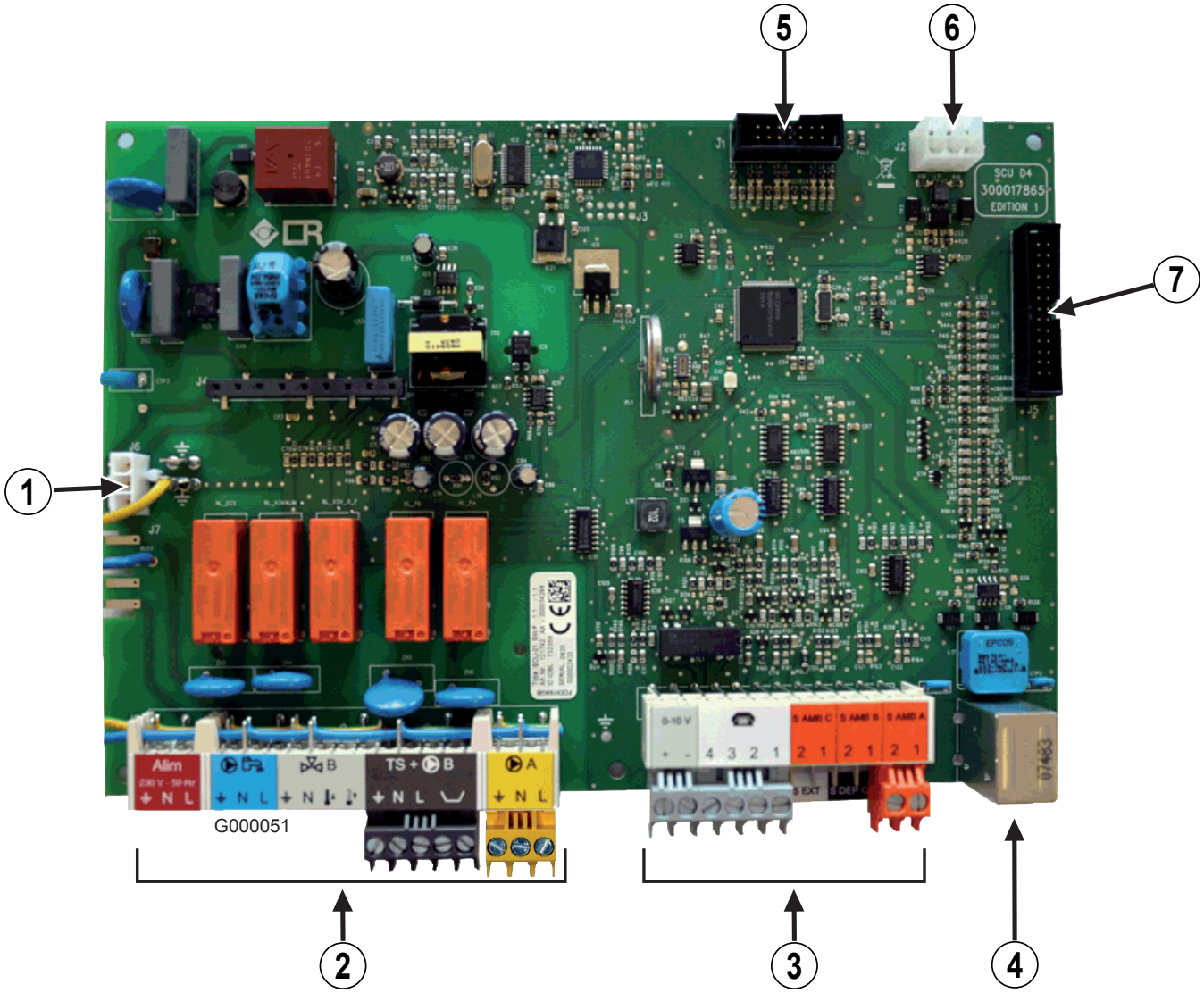
X10 Connector:

- Flowmeter
- PSU
- Boiler temperature sensor
- Return sensor
- Pressure gauge
- Boiler pump modulation

SU PCB

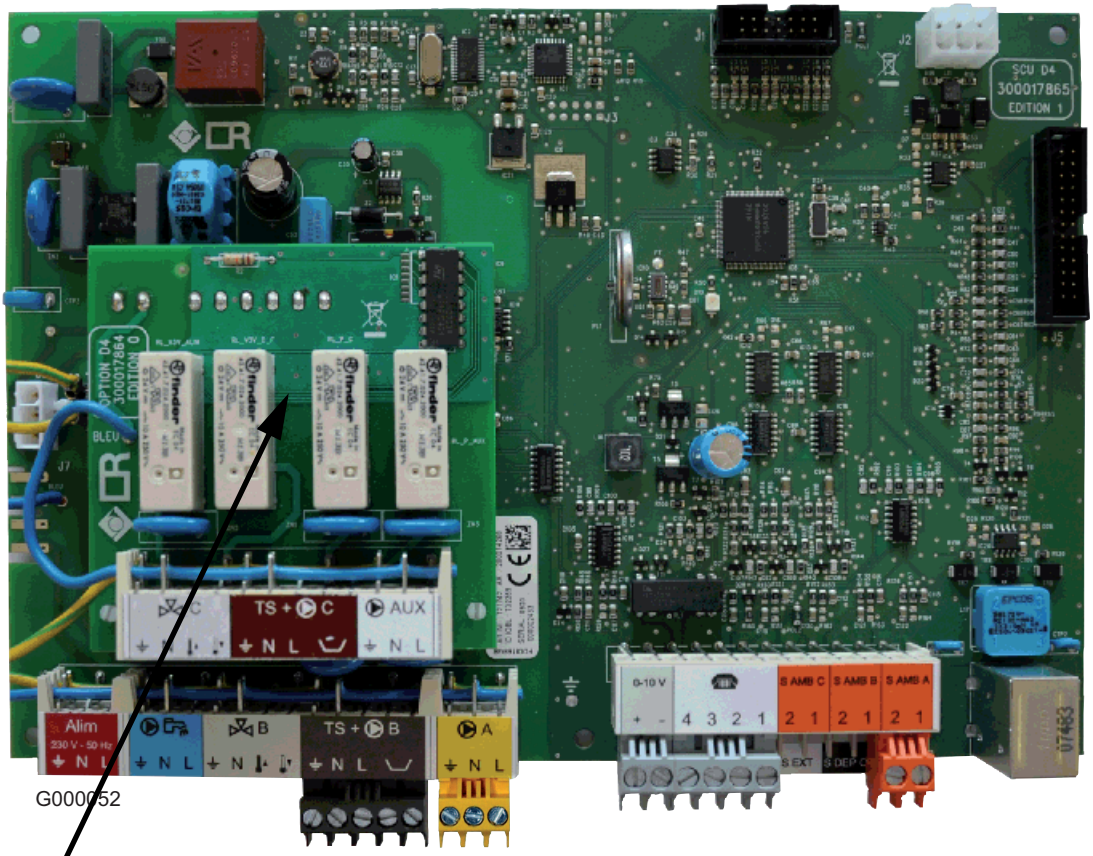


2.4 SCU PCB



1. 230 V main supply
2. Terminal block 230 V
3. Sensor terminal block
4. Mini-DIN connector for cascade bus
5. Connector for the programming tool (for updating of the SCU software version)
6. Bus PCU - SCU connector
7. Connector HMI

SCU PCB + Optional AD249 valve board



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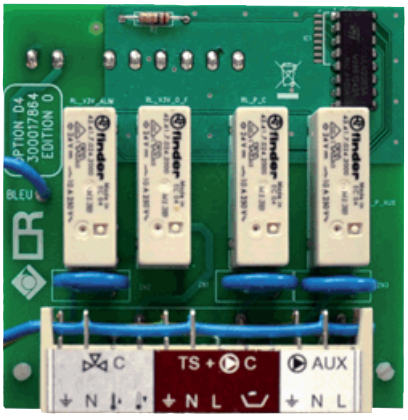
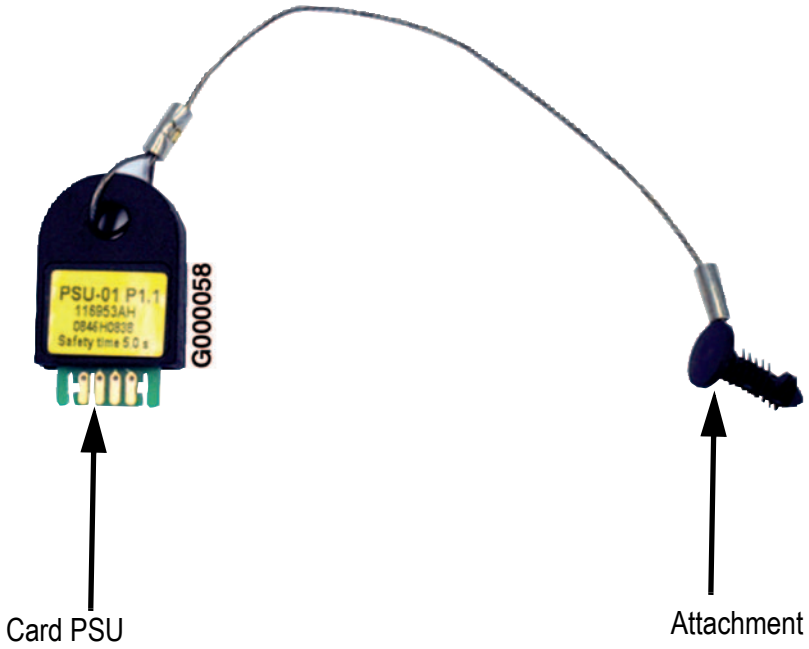
Optional AD249 valve board

Optional AD249 valve board

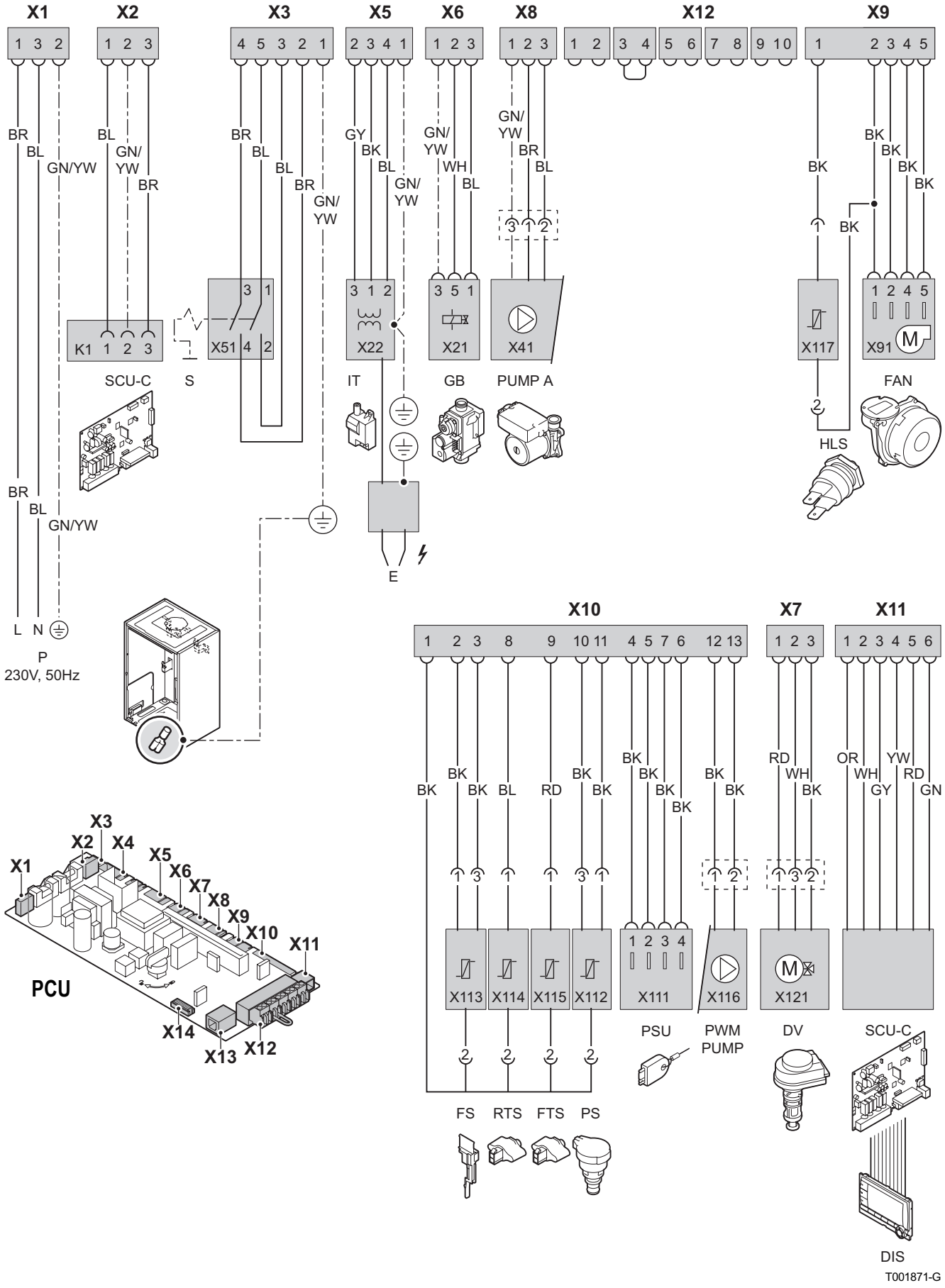


G000054

2.5 Card PSU

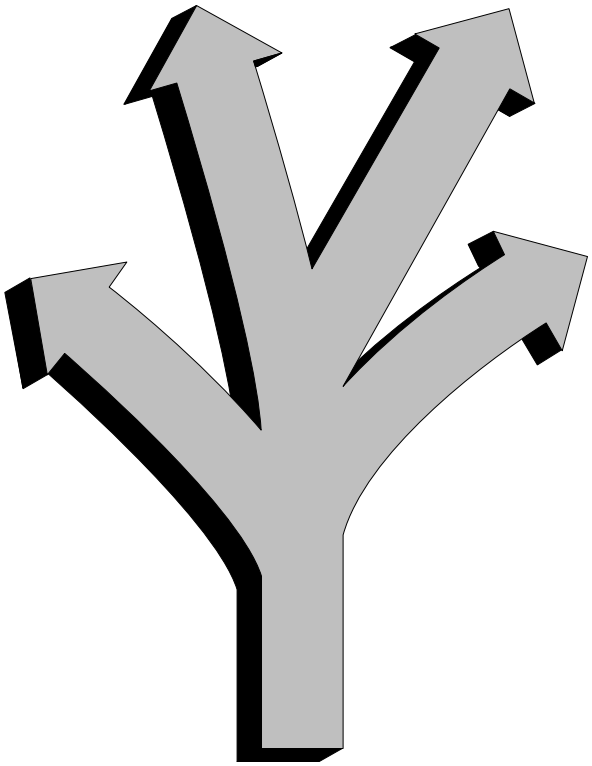


3. Electrical diagram



DIS DIEMATIC iSystem-display
DV Inverter valve
E Ignition electrode
FAN Fan
FS Flowmeter
FTS Outlet sensor
G Gas valve
HLS Safety thermostat
I Ignition transformer
P 230 V main supply
PCU PCB for managing burner operation (Primary Control Unit)
PS Pressure sensor
PSU Parameter storage for PCBs PCU and SU (Parameter Storage Unit)
PUMP A Modulating control on the boiler pump
PWM Modulation signal from the boiler pump
RTS Return sensor
S On/Off switch
SCU-C Diematic iSystem control panel PCB (Secondary Control Unit)

PRODUCT DEVELOPMENT



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Contents

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1. Software versions / Boiler model

Boiler model	Card	Reference of the SCU PCB (mounted board)	Reference in spare parts	Versions	Application date
MCA 15-25 MCA 25/28 MI	Card SCU	121742 / 200014268	S101048	V1.1	21/04/2009 (since launching)
MCA 15-25 MCA 25/28 MI	Card SCU			V1.2	15/09/2009
MCA 35	Card SCU			V1.2	since launching
MCA 25/28 BIC	Card SCU			V1.2	since launching

2. Technical information

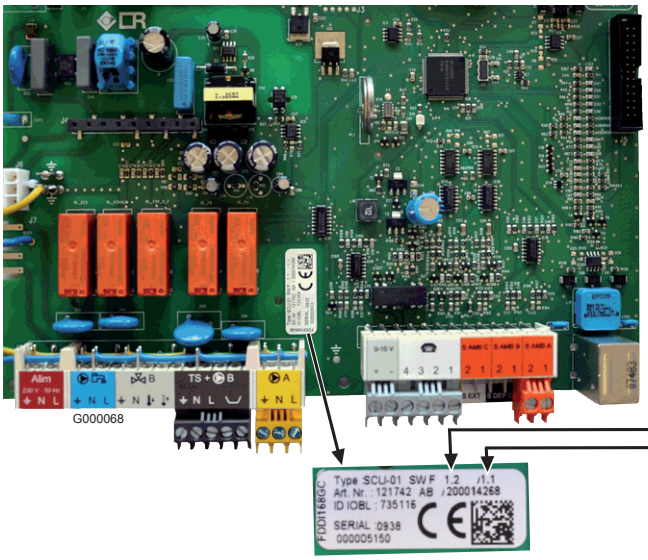
2.1 IT2549 - New SCU EPROM software version

The SCU PCB software version changes from V1.1 to V1.2

■ To check the SCU PCB software version

- Display menu #MEASURES (Press the → key)
- Turn the rotary button to display parameter **CTRL**
- The software version is displayed : **CTRL** V...

or: check the label sticked on the SCU PCB:



SCU PCB software version

SCU-board IOBL software version (not changed)

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■ Updating of the software version

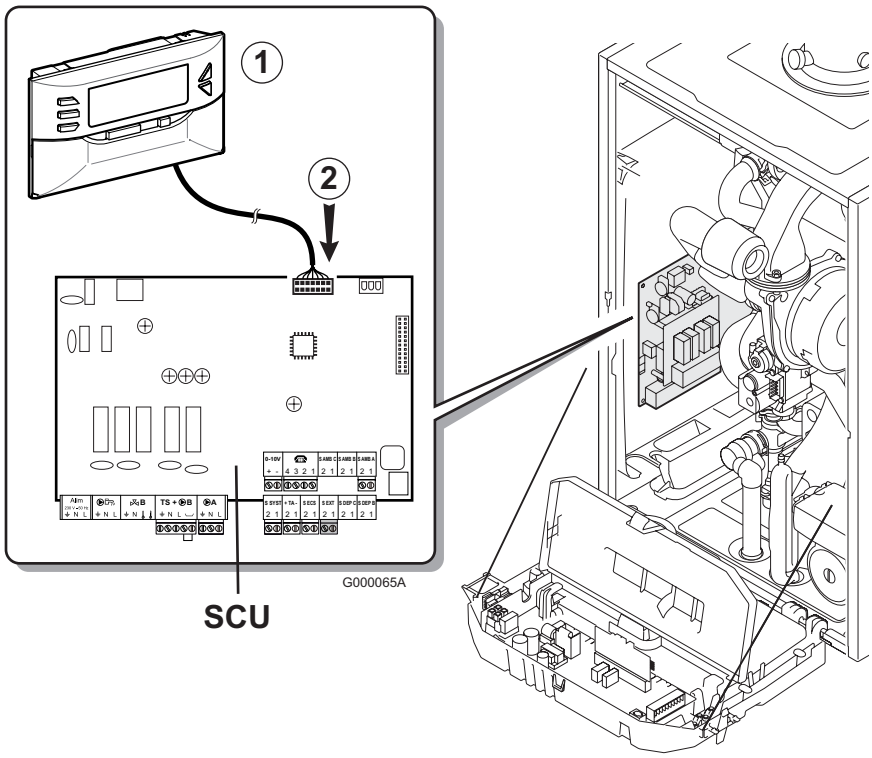
- **The updating of the SCU PCB software version is necessary in following cases:**

- Skipping of days on the display

- False warning of following defects on the display: **IOBL.3WV B DEF** and **IOBL.3WV C DEF**

- **The updating of the software version is made by using the programming tool.**

i The programming tool allows the software version updating of the following control panels: - DIEMATIC iSystem (Boilers MCA....)
- DIEMATIC-m3 (Boilers C 230, GT 330...).



① **Programming tool**

② **Connector for the programming tool**

Refer to the instructions delivered with the package.

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■ Modification details

- **Main modifications:**

  - Corrected the skipping of days on the display
  - Corrected the problem of false warning on the display for following defects: **IOBL.3WV B DEF** and **IOBL.3WV C DEF**

- **Modifications on the display:**

  - In the menu **#TEST INPUTS**: addition of clock calibration on the display (**CALIBRA.CLOCK**). The parameter is only displayed if **INSTALLATION** parameter is set to **EXTENDED**.
  - Addition of a vertical dotted line which means that a defect took place, on all the curves and not only on the curve **OUTLET TEMP. B**.
  - Correction of several translations (for example, the translation of OUI / NON in French is YES / NO in English and JA / NEIN in German)
  - In the menu **#TEST INPUTS**: addition on the display of boiler radio module (**MC.VERSION**) and outside radio-controlled temperature sensor (**OUTSI.S.VERSION**) software versions.
  - Correction of the descriptive texts for parameters **TOTAL RESET** and **RESET PROG** (they were inverted).
  - Correction of the descriptive texts for parameters **VER.ROM** and **VERS.PARAM.PCU** (they were inverted).
  - When adjusting a parameter and when a defect appears, the regulator stays in the menu. Previously it went back on the main display with the display of the defect.
  - At the boiler start up: Deleted the sensor failure display for not connected sensors.
  - Deleted the sensor failure display **SYST.SENS.FAIL.**, when activating a cascade and pairing with a DIEMATIC VM, if the system sensor is not connected.

- **Modifications at the regulation level:**

  - The relative DHW-priority (parameter **PRIORITY DHW** set on **SLIDING**) is no more taken into account by circuit A when it is configured in "high temperature" (parameter **CIRC. A:** set to **H.TEMP**).
  - If parameter **OUT.ANTIFREEZE** is set to **NO**, the installation antifreeze protection is no longer ensured.
  - If parameter **O.DHW:** is set to **RV**, it is no more necessary to set parameter **B.P. DELAY** to **0** to avoid the time-delay to start after a domestic hot water production.
  - In cascade, the calculated set-point temperature sent to the PCU is equal to the measured boiler temperature, minus 2 K (and no more minus 0.2 K), if the boiler temperature is above the boiler set point temperature. It leaves more time for the boiler to modulate downwards, without stopping it.
  - The 3-way valves B and C do not remain any more closed permanently between the tenth and the twentieth minute after switching on the boiler.
  - When an IOBL (In One By Legrand) scenario switch sends an override to the control panel, it is now possible, from the DIEMATIC iSystem control panel to modify this override
    For example:
    - the scenario puts the boiler into DAY mode
    - on DIEMATIC iSystem control panel, an other operating mode can be choosen, for example automatic mode.
  - In summer mode (), if parameter **O.DHW:** is set to **RV** and if the installation antifreeze becomes active or a chimney sweeping is in progress, the switchover valve doesn't stay in DHW position, but switches into heating position.

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