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Installation and User Manual
Control panel & PCB

Quinta Ace

135
160
HMI T-control
SCB-01

Dear Customer,

Thank you very much for buying this appliance.

Please read through the manual carefully before using the product, and keep it in a safe place for later reference. In order to ensure continued safe and efficient operation we recommend that the product is serviced regularly. Our service and customer service organisation can assist with this.

We hope you enjoy years of problem-free operation with the product.

Contents

1 Safety

1.1 Liabilities

1.1.1 Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various Directives applicable. They are therefore delivered with the CE marking and any documents necessary. In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications given in this document.

Our liability as manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on installing and maintaining the appliance.
- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.

1.1.2 Installer's liability

The installer is responsible for the installation and initial commissioning of the appliance. The installer must observe the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Install the appliance in compliance with prevailing legislation and standards.
- Carry out initial commissioning and any checks necessary.
- Explain the installation to the user.
- If maintenance is necessary, warn the user of the obligation to check the appliance and keep it in good working order.
- Give all the instruction manuals to the user.

1.1.3 User's liability

To guarantee optimum operation of the system, you must abide by the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Call on a qualified professional to carry out installation and initial commissioning.
- Get your installer to explain your installation to you.
- Have the required inspections and maintenance carried out by a qualified installer.
- Keep the instruction manuals in good condition close to the appliance.

2   About this manual

2.1   Symbols used

2.1.1   Symbols used in the manual

This manual uses various danger levels to draw attention to special instructions. We do this to improve user safety, to prevent problems and to guarantee correct operation of the appliance.

Danger
Risk of dangerous situations that may result in serious personal injury.

Danger of electric shock
Risk of electric shock.

Warning
Risk of dangerous situations that may result in minor personal injury.

Caution
Risk of material damage.

Important
Please note: important information.

See
Reference to other manuals or pages in this manual.

3 Description of the product

The Quinta Ace boiler is delivered with a combination of the control panel, control unit and extension PCB. The contents of this manual are based on the following software and navigation information:

Tab.1 Software and navigation information

	Name visible in display	Software version
Boiler **Quinta Ace**	FSB-WHB-HE-150-300	2.1
Control panel **HMI T-control**	MK3	1.29
PCB **SCB-01**	SCB-01	1.3

3.1 Control panel description

3.1.1 Control panel components

Fig.1 Control panel components

AD-3000932-02
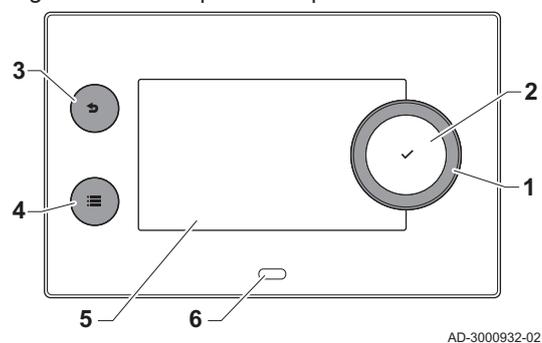
1 Rotary knob to select a tile, menu or setting
2 Confirm button ✔ to confirm the selection
3 Back button ↩:
- **Short button press**: Return to the previous level or previous menu
- **Long button press**: Return to home screen
4 Menu button ☰ to go to the main menu
5 Display
6 Status LED

3.1.2 Description of the main menu

You can navigate from any menu directly to the main menu by pressing the menu button ☰. The number of accessible menus depends on the access level (user or installer).

Fig.2 Items in the main menu

AD-3000935-02
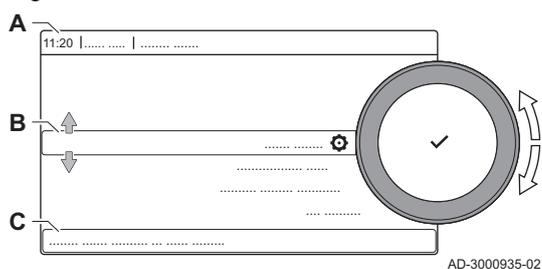
A Date and time | Name of the screen (actual position in the menu)
B Available menus
C Brief explanation of the selected menu

Tab.2 Available menus for the user 👤

Description	Icon
System Settings	⚙
Version Information	ℹ

Tab.3 Available menus for the installer 🛠

Description	Icon
Installation Setup	🛠
Commissioning Menu	🛠
Advanced Service Menu	🛠
Error History	🛠
System Settings	⚙
Version Information	ℹ

■ **Meaning of the icons in the display**

Tab.4   Icons

Icon	Description
👤	User menu: user-level parameters can be configured.
🛠	Installer menu: installer-level parameter can be configured.
i	Information menu: read out various current values.
⚙	System settings: system parameters can be configured.
⊗	Error indicator.
🔥	Gas boiler indicator.
🗄	Domestic hot water tank is connected.
🏠	The outdoor temperature sensor is connected.
🔢	Boiler number in cascade system.
☀	The solar calorifier is on and its heat level is displayed.
▥	CH operation is enabled.
▨	CH operation is disabled.
♨	DHW operation is enabled.
♨	DHW operation is disabled.
🔥	The burner is on.
✗	The burner is off.
≡	Burner output level (1 to 5 bars, with each bar representing 20% output).
▶	The pump is running.
⋈	Three-way valve indicator.
bar	Display of the system water pressure.
🧹	Chimney sweep mode is enabled (forced full load or low load for O_2/CO_2 measurement).
ECO	Energy-saving mode is enabled.
🕐	DHW boost is enabled.
🕐	Timer program is enabled: The room temperature is controlled by a timer program.
👆	Manual mode is enabled: The room temperature is set to a fixed setting.
👆	Temporary overwrite of the timer program is enabled: The room temperature is changed temporarily.
🧳	The holiday program (including frost protection) is active: The room temperature is reduced during your holiday to save energy.
❄	Frost protection is enabled: Protect the boiler and installation from freezing in winter.
🔧	Installer contact details are displayed or can be filled in.

Tab.5   Icons - Zones

Icon	Description
🏠	All zones (groups) icon.
🛋	Living room icon.
🍴	Kitchen icon.
🛏	Bedroom icon.
🪑	Study icon.
🗄	Cellar icon.

4   User instructions

4.1   Home screen

The tiles on the home screen provide quick access to the corresponding menus. Use the rotary knob to navigate to the menu of your choice and press the ✔ button to confirm the selection. All options for change will appear in the display (**Cannot edit read-only datapoint** will appear in the display if a setting cannot be changed).

Tab.6   Selectable tiles for the user

Tile	Menu	Function
ℹ	Information menu.	Read out various current values.
⊗	Error indicator.	Read out details about the current error.
		With some errors the 🔧 icon will appear with installer contact details (when filled in).
🧳	Holiday mode.	Set the start and end date of your holiday to lower the room and domestic hot water temperatures of all zones.
⬓	Gas boiler indicator.	Read out burning details of the boiler and switch the heating function of the boiler on or off.
⊏bar	Water pressure indicator.	Shows the water pressure. Top up the installation when the water pressure is too low.
🛏, 🛏, 🛋, 👨‍🍳, 🏭, ∥∥, 🏠	Heating circuit set-up.	Configure the settings per heating circuit.
🚿	DHW setup.	Configure the domestic hot water temperatures.
🏠	Outdoor sensor setup.	Configure the temperature regulation using the outdoor sensor.

4.2   Heating circuit configuration

For every heating circuit there is a quick user settings menu available. Select the heating circuit you want to configure by selecting the tile [🛏], [🛏], [🛋], [👨‍🍳], [🏭], [∥∥] or [🏠]

Tab.7   Menu to configure a heating circuit

Icon	Menu	Function
🕐	**Scheduling**	Set the scheduling mode and choose a timer program already created
👆	**Manual**	Set the manual mode; the room temperature setpoint is set to a fixed setting
👆	**Short temperature change**	Set the temporary mode; the room temperature setpoint is changed temporarily
🧳	**Holiday**	Set the start and end date of your holiday to lower the room temperature setpoint.
🏠	**Antifrost**	Set the frost protection mode; the minimum room temperature protects your system from freezing
🕐	**Set Heating Activity Temperatures**	Set the room temperature setpoint for each activity of the timer program. See: Timer program to control the room temperature, page 13
⚙	**Zone configuration**	Access the settings for the configuration of the heating circuit.

Tab.8   Extended menu to configure a heating circuit ⚙ **Zone configuration**

Menu	Function
Short temperature change	Change the room temperature temporarily, if required
OperatingZoneMode	Select the heating operating mode: Scheduling, Manual or Antifrost
Manu ZoneRoomTempSet	Set the room temperature manually to a fixed setting

Menu	Function
Heating Schedule	Create a timer program (up to 3 programs allowed). See: Creating a timer program, page 13
Set Heating Activity Temperatures	Set the room temperature for each activity of the timer program
ZoneTimeProg Select	Select a timer program (3 options)
Holiday Mode	Set the start and end date of your holiday and the reduced temperature for this zone
Zone friendly Name	Create or change the name of the heating circuit
Icon display zone	Select the icon of the heating circuit
OperatingZoneMode	Read the current operating mode of the heating circuit

4.3   Domestic hot water configuration

Configure the domestic hot water settings by selecting the tile [🚰]

Tab.9   Menu to configure domestic hot water

Icon	Menu	Function
📅	Scheduling	Set the timer program to control the DHW temperature.
👆	Manual	Set the manual mode; the DHW temperature is a fixed setting.
⏱	Hot water boost	Set the temporary mode: change the DHW temperature temporarily.
🧳	Holiday	Set the start and end date of your holiday to lower the domestic hot water temperature.
❄	Antifrost	Activate the antifrost mode to protect your system from freezing.
🚰	DHW comfort setpoint	Set the maximum DHW temperature.
⚙	Zone configuration	Configure the settings of the DHW circuit.

Tab.10   Extended menu to configure the domestic hot water circuit ⚙ Zone configuration

Menu	Function
Hot water boost	Change the DHW temperature temporarily.
DHW Schedule	Create a timer program (up to 3 programs allowed).
Domestic Hot Water Setpoints	Set the DHW temperatures for the timer program.
DHW timeprog. select	Select a timer program (3 options).
Holiday Mode	Set the start and end date of your holiday.
DHW mode	Select the DHW operating mode: Scheduling, Manual or Antifrost.

4.4   Display settings

Tab.11   Configure the display settings by pressing the [☰]-button and selecting System Settings ⚙

System Settings menu	Settings
Set Date and Time	Set the currrent date and time
Select Country and Language	Select your country and language
Daylight Saving Time	Enable or disable daylight saving to save energy during summer
Installer Details	Enter the name and phone number of the installer
Set Heating Activity Names	Create the names for the activities of the timer program
Set Screen Brightness	Adjust the brightness of the screen
Set click sound	Enable or disable the click sound of the rotary knob

4.5 Customizing the control panel

4.5.1 Changing the display settings

1. Press the ≡ button.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select **System Settings** ⚙.
4. Press the ✔ button to confirm the selection.
5. Perform one of the operations described in the table below:

Tab.12 Display settings

System Settings menu	Settings
Set Date and Time	Set the current date and time
Select Country and Language	Select your country and language
Daylight Saving Time	Enable or disable daylight saving time
Installer Details	Read out the name and phone number of the installer
Set Heating Activity Names	Create the names for the activities of the timer program
Set Screen Brightness	Adjust the brightness of the screen
Set click sound	Enable or disable the click sound of the rotary knob
License Information	Read out detailed license information from the device platform application

4.5.2 Changing the name and symbol of a zone

The zones have a factory symbol and factory name. You can change the name and symbol of a zone.

1. Select the tile of the zone you want to change.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select ⚙ **Zone configuration**
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select **Zone friendly Name**
6. Press the ✔ button to confirm the selection.
   ⇨ A keyboard with letters, numbers and symbols is shown.
7. Change the name of the zone (20 characters maximum):
   7.1. Use the rotary knob to select a letter, number or action.
   7.2. Select ← to delete a letter, number or symbol.
   7.3. Press the ✔ button to confirm or to repeat a letter, number or symbol.
   7.4. Select ⎵ to add a space.

Fig.3 Letter selection

AD-3001382-01

Fig.4 Confirm sign

AD-3001383-01
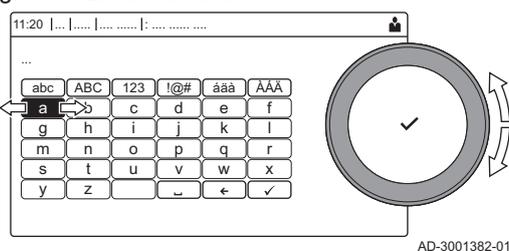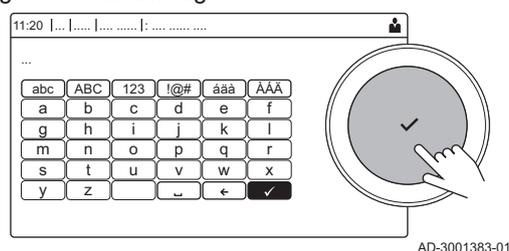
8. Select the ✔ sign on the screen when the name is complete.
9. Press the ✔ button to confirm the selection.
10. Use the rotary knob to select **Icon display zone**.
11. Press the ✔ button to confirm the selection.
    ⇨ All available icons appear in the display.
12. Use the rotary knob to select the desired symbol of the zone.
13. Press the ✔ button to confirm the selection.

4.5.3 Changing the name of an activity

You can change the names of the activities in the timer program.

1. Press the ≡ button.
2. Use the rotary knob to select **System Settings** ⚙.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Set Heating Activity Names**.

5. Press the ✔ button to confirm the selection.
    ⇨ A list of 6 activities and their standard names is shown:

Activity 1	Sleep
Activity 2	Home
Activity 3	Away
Activity 4	Morning
Activity 5	Evening
Activity 6	Custom

6. Use the rotary knob to select an activity.
7. Press the ✔ button to confirm the selection.
    ⇨ A keyboard with letters, numbers and symbols is shown.
8. Change the name of the activity:
    8.1.   Press the rotary knob ✔ to repeat a letter, number or symbol.
    8.2.   Select ← to delete a letter, number or symbol.
    8.3.   Select ␣ to add a space.
9. Select the ✔ sign on the screen when the name is complete.
10. Press the ✔ button to confirm the selection.

4.6   Changing the room temperature of a zone

4.6.1   Changing the operating mode of a zone

To regulate the room temperature of the different areas of the house, you can choose from 5 operating modes:

1. Select the tile of the zone you want to change.
2. Press the ✔ button to confirm the selection.
    ⇨ The **Zone QuickSelect** menu opens.
3. Use the rotary knob to select the desired operating mode:

Tab.13   Operating modes

Icon	Mode	Description
🗓	**Scheduling**	The room temperature is controlled by a timer program
👆	**Manual**	The room temperature is set to a fixed setting
👆	**Short temperature change**	The room temperature is changed temporarily
🧳	**Holiday**	The room temperature is reduced during your holiday to save energy
❄	**Antifrost**	Protect the boiler and installation from freezing in winter

4. Press the ✔ button to confirm the selection.

4.6.2   Changing the room temperature temporarily

Regardless of the operating mode selected for a zone, it is possible to change the room temperature for a short period. After this period has elapsed, the selected operating mode resumes.

> ℹ️ **Important**
> The room temperature can only be adjusted in this way if a room temperature sensor/thermostat is installed.

1. Select the tile of the zone you want to change.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select 👆 **Short temperature change**.
4. Press the ✔ button to confirm the selection.
5. Set the duration in hours and minutes.
6. Press the ✔ button to confirm the selection.
7. Set the temporary room temperature.
8. Press the ✔ button to confirm the selection.
    ⇨ The **Short temperature change** menu shows the duration and the temporary temperature.

4.6.3 Timer program to control the room temperature

■ **Creating a timer program**

A timer program allows you to vary the room temperature per hour and per day. The room temperature is linked to the activity of the timer program.

> **i** **Important**
> You can create up to three timer programs per zone. For example, you can create a program for a week with normal working hours and a programme for a week when you are at home most of the time.

1. Select the tile of the zone you want to change.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select ⚙ **Zone configuration**.
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select **Heating Schedule**.
6. Press the ✔ button to confirm the selection.
7. Use the rotary knob to select the timer program you want to modify: **Schedule 1**, **Schedule 2** or **Schedule 3**.
8. Press the ✔ button to confirm the selection.
   ⇨ Activities scheduled for Monday are displayed. The last scheduled activity of a day is active until the first activity of the next day. At initial start-up, all weekdays have two standard activities; **Home** starting at 6:00 and **Sleep** starting at 22:00.
9. Use the rotary knob to select the weekday you want to modify.

   A Weekday
   B Overview of scheduled activities
   C List of actions

10. Perform the following actions, if necessary:
    10.1. **Edit** the start time and/or activity of a scheduled activity.
    10.2. **Add** a new activity.
    10.3. **Delete** a scheduled activity (select the activity **Delete**).
    10.4. **Copy** the scheduled activities of the weekday to other days.
    10.5. **Change the temperature** linked to an activity.
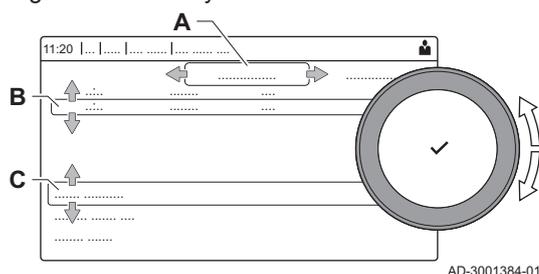
■ **Activating a timer program**

In order to use a timer program, it is necessary to activate the operating mode **Scheduling**. This activation is done separately for each zone.

1. Select the tile of the zone you want to change.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select 🕰 **Scheduling**.
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select the timer program **Schedule 1**, **Schedule 2** or **Schedule 3**.
6. Press the ✔ button to confirm the selection.

4.7 Changing the domestic hot water temperature

4.7.1 Changing the domestic hot water operating mode

For hot water production, you can choose from 5 operating modes:

1. Select the tile [🚿].
2. Press the ✔ button to confirm the selection.
   ⇨ The **DHW QuickSelect** menu opens.

Fig.5 Weekday

AD-3001384-01

3. Use the rotary knob to select the desired operating mode:

Tab.14   DHW operating modes

Icon	Mode	Description
🕐	Scheduling	The domestic hot water temperature is controlled by a timer program
☝	Manual	The domestic hot water temperature is set to a fixed setting
🚿	Hot water boost	The domestic hot water temperature is increased temporarily
🧳	Holiday	The domestic hot water temperature is reduced during your holiday to save energy
❄	Antifrost	Protect the boiler and installation from freezing in winter

4. Press the ✔ button to confirm the selection.

4.7.2   Increasing the domestic hot water temperature temporarily

Regardless of the operating mode selected for domestic hot water production, it is possible to increase the domestic hot water temperature for a short period. After this period the hot water temperature decreases to the **Reduced** setpoint.

> **i** **Important**
> The domestic hot water temperature can only be adjusted in this way if a domestic hot water sensor is installed.

1. Select the tile [🚿].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select 🚿 **Hot water boost**.
4. Press the ✔ button to confirm the selection.
5. Set the duration in hours and minutes.
6. Press the ✔ button to confirm the selection.
   ⇨ The temperature is increased to the **DHW comfort setpoint**.

4.7.3   Changing the comfort and reduced hot water temperature

You can change the comfort and reduced hot water temperature in the timer program.

1. Select the tile [🚿].
2. Select ⚙ **Zone configuration > Domestic Hot Water Setpoints**.
3. Select the DHW setpoint you want to change:
   3.1. **DHW comfort setpoint**: The DHW temperature when the hot water production is switched on.
   3.2. **DHW reduced setpoint**: The DHW temperature when the hot water production is switched off.
4. Change the temperature of the selected setpoint

4.7.4   Timer program to control the DHW temperature

#### ■   Creating a timer program

A timer program allows you to vary the domestic hot water temperature per hour and per day. The hot water temperature is linked to the activity of the timer program.

> **i** **Important**
> You can create up to three timer programs. For example, you can create a program for a week with normal working hours and a programme for a week when you are at home most of the time.

1. Select the tile [🚿].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select ⚙ **Zone configuration**.
4. Press the ✔ button to confirm the selection.
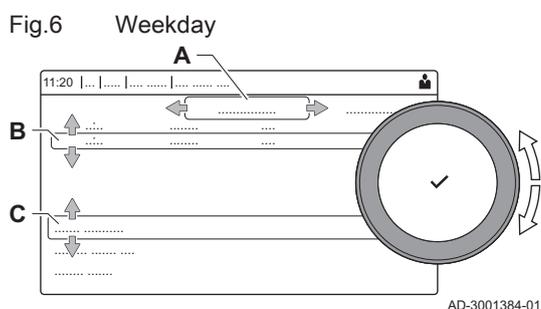
5. Use the rotary knob to select **DHW Schedule**.
6. Use the rotary knob to select the timer program you want to modify: **Schedule 1**, **Schedule 2** or **Schedule 3**.
7. Press the ✔ button to confirm the selection.
   ⇨ Activities scheduled for Monday are displayed. The last scheduled activity of a day is active until the first activity of the next day. The scheduled activities are shown. At initial start-up, all weekdays have two standard activities; **Comfort** starting at 6:00 and **Reduced** starting at 22:00.
8. Use the rotary knob to select the weekday you want to modify.

Fig.6   Weekday

AD-3001384-01

A Weekday
B Overview of scheduled activities
C List of actions

9. Perform the following actions, if necessary:
   9.1. **Edit** the start time and/or activity of a scheduled activity.
   9.2. **Add** a new activity.
   9.3. **Delete** a scheduled activity (select the activity **Delete**).
   9.4. **Copy** the scheduled activities of the weekday to other days.
   9.5. **Change the temperature** linked to an activity.

■ **Activating a DHW timer program**

In order to use a DHW timer program, it is necessary to activate the operating mode **Scheduling**. This activation is done separately for each zone.

1. Select the tile [🚿].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select 🕐 **Scheduling**.
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select the DHW timer program **Schedule 1**, **Schedule 2** or **Schedule 3**.
6. Press the ✔ button to confirm the selection.

4.8   Activating holiday programs for all zones

If you go on holiday, the room temperature and domestic hot water temperature can be reduced to save energy. With the following procedure you can activate the holiday mode for all zones and domestic hot water temperature.

1. Select the tile [🧳].
2. Press the ✔ button to confirm the selection.
   ⇨ The **Holiday Mode** menu opens.
3. Use the rotary knob to select **Start date holiday**.
4. Press the ✔ button to confirm the selection.
   ⇨ The current date is displayed as start date of your holiday.
5. Change the start date, if necessary.
6. Press the ✔ button to confirm the selection.
7. Use the rotary knob to select **End date holiday**.
8. Press the ✔ button to confirm the selection.
   ⇨ The day after the start date of your holiday is displayed.
9. Change the end date, if necessary.
10. Press the ✔ button to confirm the selection.
11. Use the rotary knob to select **Wished room zone temperature on holiday period**.
12. Press the ✔ button to confirm the selection.
    ⇨ The room temperature for the holiday period is displayed.
13. Change the temperature, if necessary.
14. Press the ✔ button to confirm the selection.
    You can reset or cancel the holiday program by selecting **Reset** in the holiday mode menu.

4.9   Switching the central heating on or off

You can switch off the central heating function of the boiler to save energy, for example during the summer period.

1. Select the tile [⬛].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select **CH function on**.
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select the following setting:
    5.1. **Off** to switch off the central heating function.
    5.2. **On** to switch the central heating function on again.

> **i** **Important**
> Frost protection is not available when the central heating function is switched off.

6. Press the ✔ button to confirm the selection.

4.10   Reading the installer's name and phone number

The installer can set his name and phone number in the control panel. You can read this information when you want to contact the installer.

1. Press the ☰ button.
2. Press the ✔ button to confirm the selection.
3. Select **System Settings** ⚙
4. Press the ✔ button to confirm the selection.
5. Select **Installer Details**
6. Press the ✔ button to confirm the selection.
    ⇨ The installer's name and phone number is shown.

5   Installer instructions

5.1   Initial start-up

Commissioning menu	Message	Setting
Automatic display after initial installation and start-up of the boiler	Select country	Country where boiler is installed
	Select language	Preferred language
	Enable Daylight Saving Time	Off
	Set Date and Time	Year/Month/Day

5.2   Accessing the installer level

Fig.7   Installer level

AD-3001378-02

Some parameters that may affect the operation of the boiler are protected by an access code. Only the installer is allowed to modify these parameters.
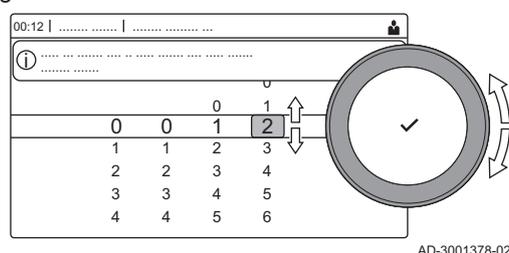
1. Select the tile [⚒].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select code: **0012**.
4. Press the ✔ button to confirm the selection.
   ⇨ When the installer level is enabled, the status of the tile [⚒] changes from **Off** into **On**.
5. To leave the installer level, select the tile [⚒] .
6. Use the rotary knob to select **Confirm** or **Cancel**.
7. Press the ✔ button to confirm the selection.
   ⇨ When the installer level is disabled, the status of the tile [⚒] changes from **On** into **Off**.

When the control panel is not used for 30 minutes, the installer level is left automatically.

5.3   Configuring the installation at installer level

Configure the installation by pressing the ▤ button and selecting **Installation Setup** ⚒. Select the control unit or circuit board you want to configure:

Tab.15   FSB-WHB-HE-150-300

Icon	Zone or function	Description
▥	CIRCA / CH	Central heating circuit
⬙	Commercial boiler	Gas boiler

Tab.16   Configuring a zone or function of FSB-WHB-HE-150-300 or

Parameters, counters, signals	Description
Parameters	Set the parameters at installer level
Counters	Read the counters at installer level
Signals	Read the signals at installer level
Adv. Parameters	Set the parameters at advanced installer level
Adv. Counters	Read the counters at advanced installer level
Adv. Signals	Read the signals at advanced installer level

5.3.1   Setting the installer details

You can store your name and phone number in the control panel to be read by the user.

1. Press the ▤ button.

2. Use the rotary knob to select **System Settings** ⚙.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Installer Details**.
5. Press the ✔ button to confirm the selection.
6. Enter the following data:

| Installer name	Name of the installer
Installer phone	Phone number of the installer

5.3.2   Setting the parameters

You can change the parameters and settings of the appliance and the connected control boards, sensors etc. to configure the installation.

1. Press the ☰ button.
2. Use the rotary knob to select **Installation Setup**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select the zone or device you want to configure.
5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select **Parameters, counters, signals**.
7. Press the ✔ button to confirm the selection.
8. Use the rotary knob to select **Parameters** to change a parameter.
9. Press the ✔ button to confirm the selection.
10. If available, select **Adv. Parameters** to change a parameter at the advanced installer level.

Fig.8   Parameters, counters, signals

AD-3000936-02

> **A** - **Parameters**
> - **Counters**
> - **Signals**
> - **Adv. Parameters**
> - **Adv. Counters**
> - **Adv. Signals**
> **B**   List of settings or values
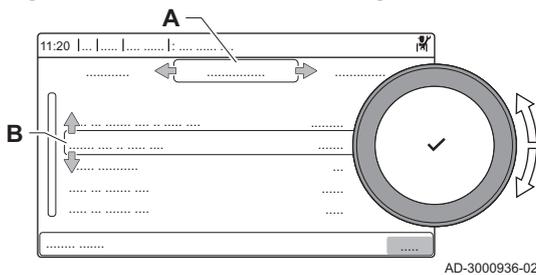
The boiler's control unit is set for the most common central heating systems. These settings will ensure that virtually every central heating system operates effectively. The user or the installer can optimise the parameters as required.

> ⚠ **Caution**
> Changing the factory settings may adversely affect the operation of the boiler.

5.3.3   Setting the heating curve

When an outdoor temperature sensor is connected to the installation, the relation between the outdoor temperature and the central heating flow temperature is controlled by a heating curve. This curve can be adjusted to the requirements of the installation.

1. Select the tile of the zone you want to configure.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select **Control strategy**.
4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select the setting **Outdoor Temp. based** or **Outdoor & room based**.
6. Press the ✔ button to confirm the selection.
   ⇨ The option **Heating Curve** appears in the **Zone setup** menu.
7. Use the rotary knob to select **Heating Curve**.
8. Press the ✔ button to confirm the selection.
   ⇨ A graphic display of the heating curve is shown.

Fig.9 The heating curve

AD-3001402-01
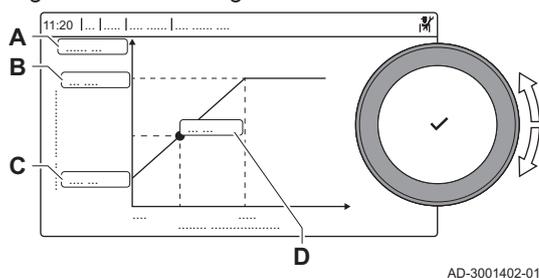
9. Adjust the following parameters:

Tab.17 Settings

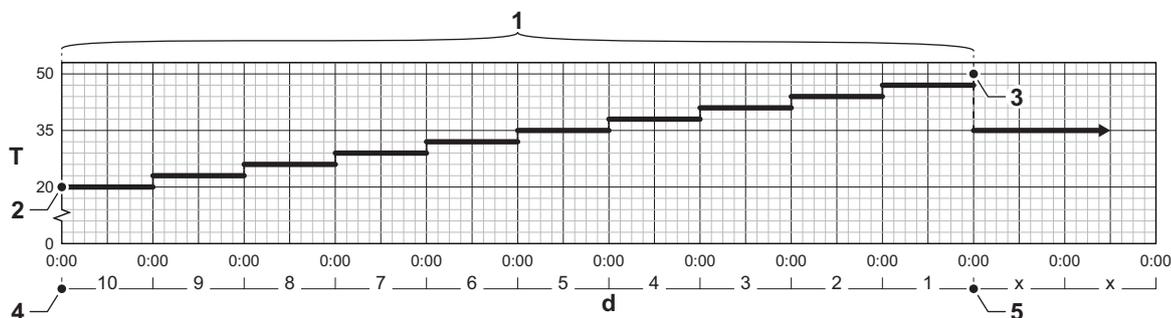| A	Slope:	Slope of the heating curve: • Floor heating circuit: slope between 0.4 and 0.7 • Radiator circuit: slope at approximately 1.5
B	Max:	Maximum temperature of the heating circuit
C	Base:	Ambient temperature setpoint
D	xx°C ; xx °C	Relationship between the heating circuit flow temperature and the outdoor temperature. This information is visible throughout the slope.

5.3.4 Screed drying

The screed drying function is used to force a constant flow temperature or a series of successive temperature levels to accelerate screed drying on underfloor heating.

> **i** **Important**
> • The settings for these temperatures must follow the screed layer's recommendations.
> • Activation of this function via the parameter CP470 forces the permanent display of the screed drying function and deactivates all other regulator functions.
> • When the screed drying function is active on one circuit, all other circuits and the domestic hot water circuit continue to run.
> • It is possible to use the screed drying function on circuits A and B. The parameter settings must be made on the PCB that controls the circuit concerned.

Fig.10 Screed drying curve

AD-3001406-01

d Number of days
T Heating set point temperature
1 Number of days on which the screed drying function is activated (parameter CP470)
2 Screed drying start temperature (parameter CP480)

3 Screed drying stop temperature (parameter CP490)
4 Start of the screed drying function
5 End of the screed drying function, back to normal running

> **i** **Important**
> Every day at midnight, the screed drying start temperature set point is recalculated and the remaining number of days on which the screed drying function is running decreases.

5.4 Commissioning the installation

The commissioning menu shows submenus and tests needed for the commissioning of the appliance.

1. Press the ☰ button.
2. Select Commissioning Menu.
3. Select the submenu with settings you want to change or the test you want to perform.

5.4.1   Chimney sweep menu

Select the tile [⛯] to open the chimney sweep menu. The **Change load test mode** menu will appear:

Fig.11   Load test

AD-3000941-03

A   Change load test mode
B   Load test mode
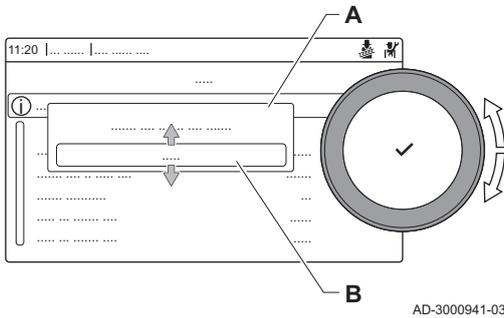
Tab.18   Load tests in the chimney sweep menu ⛯

Change load test mode	Settings
Off	No test
Low power	Part load test
Medium power	Full load test for Central Heating mode
High power	Full load test for Central Heating + Domestic Hot Water mode

Tab.19   Load test settings

| Load Test menu	Settings
Func. test status	Select the load test to start the test.
System Flow Temp	Read the central heating flow temperature
T return	Read the central heating return temperature
Actual fan RPM	Read the actual fan speed
Actual flame current	Read the actual flame current
Fan RPM Max CH	Adjust the maximum fan speed during Central Heating mode
Fan RPM Min	Adjust the minimum fan speed during Central Heating + Domestic Hot Water mode
Fan RPM Start	Adjust the start fan speed

■   **Performing the full load test**

1. Select the tile [⛯].
   ⇨ The **Change load test mode** menu appears.
2. Select the test **Medium power**.

   A   Change load test mode
   B   Medium power

   ⇨ The full load test starts. The selected load test mode is shown in the menu and the icon ⛯ appears in the top right of the screen.
3. Check the load test settings and adjust if necessary.
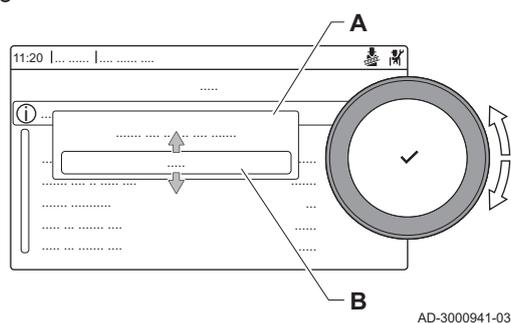   ⇨ Only the parameters shown in bold can be changed.

Fig.12   Full load test
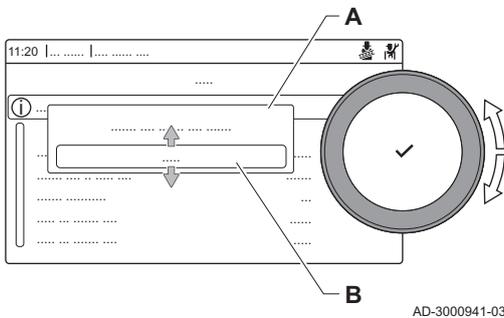
AD-3000941-03

■   **Performing the low load test**

1. If the full load test is still running, press the ✔ button to change the load test mode.

Fig.13   Low load test

AD-3000941-03

2. If the full load test was finished, select the tile [⚒] to restart the chimney sweep menu.

   A   **Change load test mode**
   B   **Low power**

3. Select the **Low power** test in the menu **Change load test mode**.
   ⇨ The low load test starts. The selected load test mode is shown in the menu and the icon ⚒ appears in the top right of the screen.
4. Check the load test settings and adjust if necessary.
   ⇨ Only the parameters shown in bold can be changed.
5. End the low load test by pressing the ↩ button.
   ⇨ The message **Running load test(s) stopped!** is displayed.

5.4.2   Saving the commissioning settings

You can save all current settings on the control panel. These settings can be restored if necessary, for example after replacement of the control unit.

1. Press the ≡ button.
2. Use the rotary knob to select **Advanced Service Menu**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Save as commissioning settings**.
5. Press the ✔ button to confirm the selection.
6. Select **Confirm** to save the settings.

When you have saved the commissioning settings, the option **Revert commissioning settings** becomes available in the **Advanced Service Menu**.

5.5   Maintaining the installation

5.5.1   Viewing the service notification

When a service notification appears on the display, you can view the details of the notification.

1. Select the tile [⚒].
2. Press the ✔ button to confirm the selection.
   ⇨ The **View Service Notification** menu opens.
3. Use the rotary knob to select the parameter or value you want to view.

5.5.2   Reading out measured values

The control unit continually registers various values from the boiler and the connected sensors. These values can be read on the control panel of the boiler.
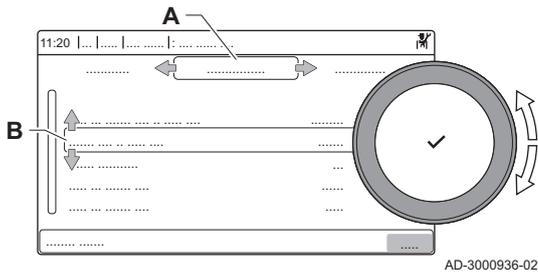
Fig.14   Installer level

AD-3001378-02

1. Select the tile [⚒].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select code: **0012**.
4. Press the ✔ button to confirm the selection.
   ⇨ When the installer level is enabled, the status of the tile [⚒] changes from **Off** into **On**.
5. Press the ≡ button.
6. Use the rotary knob to select **Installation Setup**.
7. Press the ✔ button to confirm the selection.
8. Use the rotary knob to select the zone or device you want to read out.
9. Press the ✔ button to confirm the selection.
10. Use the rotary knob to select **Parameters, counters, signals**.
11. Press the ✔ button to confirm the selection.
12. Use the rotary knob to select **Counters** or **Signals** to read out a counter or signal.
13. Press the ✔ button to confirm the selection.
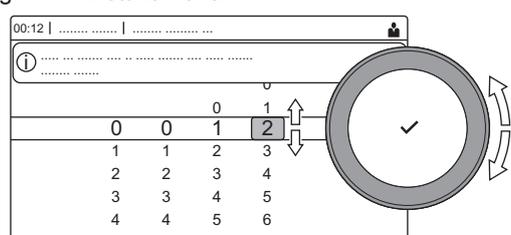
Fig.15   Parameters, counters, signals

AD-3000936-02

14. If available, select **Adv. Counters** or **Adv. Signals** to read out counters or signals at the advanced installer level.

    A - **Parameters**
        - **Counters**
        - **Signals**
        - **Adv. Parameters**
        - **Adv. Counters**
        - **Adv. Signals**
    B List of settings or values

5.5.3   Viewing production and software information

You can read details about the production dates, hardware and software versions of the appliance and all connected devices.

1. Press the ⁞≡ button.
2. Use the rotary knob to select **Version Information**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select the appliance, control board or any other device you want to view.

    A Select the appliance, control board or device
    B List of information

5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select the information you want to view.

Fig.16   Version information

AD-3000936-02
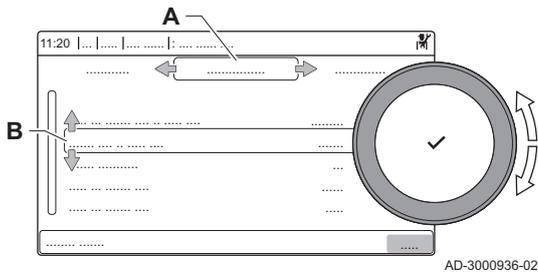
5.5.4   Changing the domestic hot water temperature temporarily

When the timer program is active with a reduced domestic hot water temperature, you can temporarily increase the hot water temperature for e.g. testing of the hot water production.

1. Press the ⁞≡ button.
2. Use the rotary knob to select **Installation Setup**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Internal DHW**.
5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select **Hot water boost**.
7. Press the ✔ button to confirm the selection.
8. Use the rotary knob to select **Duration of temporary overwrite** .
9. Press the ✔ button to confirm the selection.
10. Set the duration in hours and minutes.
    ⇨ The hot water temperature is increased to the **DHW comfort setpoint**.

You can delete or abort the temporary overwrite by selecting **Reset**.

5.6   Resetting or restoring settings

### 5.6.1   Resetting the configuration numbers CN1 and CN2

The configuration numbers must be reset when indicated by an error message or when the control unit has been replaced. The configuration numbers can be found on the data plate of the appliance.

> **i** **Important**
> All custom settings will be erased when the configuration numbers are reset. Depending on the appliance, there can be factory set parameters to enable certain accessories.
>
> • Use the saved commissioning settings to restore these settings after the reset.
> • If no commissioning settings were saved, write down custom settings before resetting. Include all relevant accessory related parameters.

Fig.17   Configuration numbers

AD-3001385-01
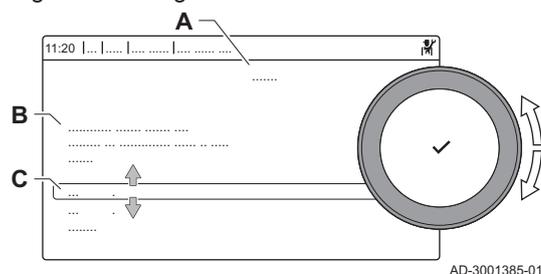
A   Select the control unit
B   Extra information
C   Configuration numbers

1. Press the ≣ button.
2. Use the rotary knob to select **Advanced Service Menu**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Set Configuration Numbers**.
5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select the device you want to reset.
7. Press the ✔ button to confirm the selection.
8. Use the rotary knob to select and change the **CN1** setting.
9. Press the ✔ button to confirm the selection.
10. Use the rotary knob to select and change the **CN2** setting.
11. Press the ✔ button to confirm the selection.
12. Use the rotary knob to select **Confirm** to confirm the changed numbers.
13. Press the ✔ button to confirm the selection.

5.6.2   Carrying out an auto detect

The auto detect-function scans for devices and appliances connected to the L-Bus and S-Bus. This function must be used when a PCB has been replaced or removed from the boiler.

1. Press the ≣ button.
2. Use the rotary knob to select **Advanced Service Menu**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Auto Detect**.
5. Use the rotary knob to select **Confirm** to carry out the auto-detect.
6. Press the ✔ button to confirm the selection.

5.6.3   Restoring the commissioning settings

This option is only available when the commissioning settings were saved on the control panel and allows you to restore these settings.

1. Press the ≣ button.
2. Use the rotary knob to select **Advanced Service Menu**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Revert commissioning settings**.
5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select **Confirm** to restore the commissioning settings.
7. Press the ✔ button to confirm the selection.

5.6.4   Resetting to factory settings

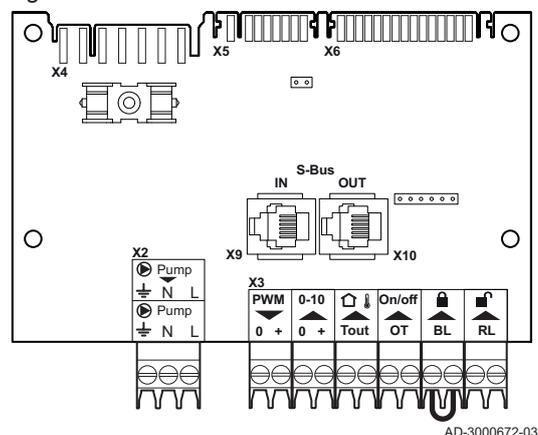You can reset the boiler to the default factory settings.

1. Press the ≣ button.
2. Use the rotary knob to select **Advanced Service Menu**.
3. Press the ✔ button to confirm the selection.
4. Use the rotary knob to select **Reset to Factory Settings**.

5. Press the ✔ button to confirm the selection.
6. Use the rotary knob to select **Confirm** to restore the factory settings.
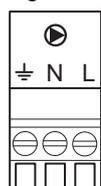7. Press the ✔ button to confirm the selection.

6   Installation
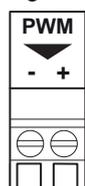
6.1   Electrical connections

6.1.1   The CB-01 connection PCB

Fig.18   Connection PCB CB-01

AD-3000672-03

The **CB-01** is placed in the control box. It provides easy access to all the standard connectors.

■   Connecting the system pump

1. Connect a system pump to the **Pump** terminals of the connector.

> **i**   **Important**
> The maximum power consumption is 300 VA.

The function of the system pump can be changed using parameters **PP015, PP016** and **PP018**.

Fig.19   System pump

AD-3001306-01

■   Connecting a PWM system pump

A PWM system pump can be connected to the boiler and can be controlled in a modulating way from the boiler

1. Connect the PWM pump to the **PWM** terminals of the connector.

> **i**   **Important**
> Contact us for more information.

Fig.20   PWM system pump

AD-3001307-01

■   Analogue input

This input has two modes: control based on temperature or based on heat output. If this input is used, the OT communication from the boiler is ignored.

1. Connect the input signal to terminals **0–10** of the connector.

Change the mode of the analogue input using the parameter **EP014**.

Fig.21   Analogue input

AD-3001304-01

■   Connecting an outdoor temperature sensor

An outdoor temperature sensor can be connected to the **Tout** connector.

Fig.22   Tout connector

Tout

AD-4000006-02

1. Connect the two-wire cable to the **Tout** connector.

Use below mentioned sensors, or sensors with identical characteristics. Set parameter **AP056** to the installed outdoor temperature sensor type.

- AF60 = NTC 470 Ω/25°C

When an on/off thermostat is also connected, the boiler will control the temperature with the set point from the internal heating curve. **OpenTherm** controllers can also use the outdoor temperature sensor. In that case, the desired heating curve must be set on the controller.

■ **Room thermostat connector (On/off - OT)**

Fig.23   On/off - OT connector

On/off

OT

AD-3001599-02

The **On/off - OT** connector can be used to connect a room thermostat. The connector supports the following types:

- **OpenTherm** thermostat
- **OpenTherm Smart Power** thermostat
- **On/off** thermostat

It does not matter which wire is connected to which cable clamp. The software recognizes which type of thermostat is connected.
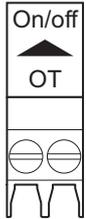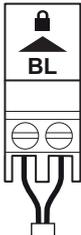
■ **Blocking input**

> ⚠ **Caution**
> Only suitable for potential-free contacts (dry contact).

> ℹ **Important**
> First remove the bridge if this input is used.

Fig.24   Blocking input

BL

AD-3000972-02

The boiler has a blocking input. A potential-free contact can be connected to the **BL** terminals of the connector. If the contact is opened, the boiler will be blocked.

Change the function of the input using parameter **AP001**. This parameter has the following 3 configuration options:

- Complete blocking: no frost protection with the outdoor sensor and no boiler frost protection (pump does not start and burner does not start)
- Partial blocking: boiler frost protection (pump starts when the temperature of the heat exchanger is < 6°C and the burner starts when the temperature of the heat exchanger is < 3°C)
- Lock out: no frost protection with outdoor sensor and partial boiler frost protection (pump starts when the temperature of the heat exchanger is < 6°C, the burner does not start when the temperature of the heat exchanger is < 3°C).

■ **Release input**

> ⚠ **Caution**
> Only suitable for potential-free contacts (dry contact).

Fig.25   Release input

RL
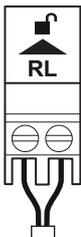
AD-3001303-01

The boiler has a release input. A potential-free contact can be connected to the **RL** terminals of the connector.

- If the contact is closed during a heat demand, the boiler will be blocked immediately.
- If the contact is closed when there is no heat demand, the boiler will be blocked after a waiting time.

Change the waiting time of the input using parameter **AP008**.

Fig.26   SCB-01 PCB

AD-3001514-01

Fig.27   Status notifications

AD-3001312-01

Fig.28   0–10 V output connector

AD-3001305-01

6.1.2   The SCB-01 expansion PCB

The SCB-01 has the following features:

- Two potential free contacts for status notifications
- 0–10 V output connection for a PWM system pump

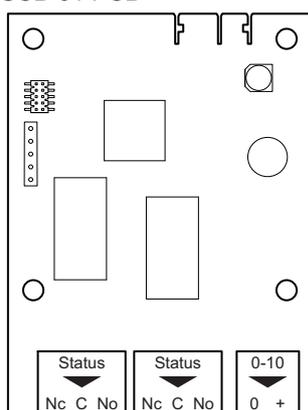Expansion PCBs are automatically recognised by the control unit of the boiler. If expansion PCBs are removed, the boiler will show an error code. To resolve this error, an auto-detect must be carried out after removal.
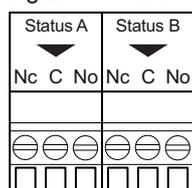
■   **Connecting status notifications**

The two potential-free contacts, **Status**, can be configured as required. Depending on the setting, a particular status can be transmitted by the boiler.

Connect a relais as follows:

Nc   Normally closed contact. Contact will open when status occurs.
C   Main contact.
No   Normally opened contact. Contact will close when status occurs.

Select the desired status notification (setting) using parameter **EP018** and **EP019**.

■   **Connecting 0–10 V output**

The **0-10** contact can be used to connect a PWM system pump. The speed of the pump is modulated based on the signal received from the boiler. Depending on the make and type of pump, the pump can be controlled by a 0–10 V or a PWM signal.

Connect the system pump controller to connector **0-10**.

- Select the type of signal that will be sent from the boiler using the parameter **EP029**.
- Select the type of signal that controls the pump using the parameter **EP028**.

⚠ **Caution**

- If possible, use the pump modulation signal. This provides the most accurate pump control.
- If the automatic burner unit does not support pump modulation, the pump will behave as an on/off pump.

7   Operation

7.1   Setting the heating curve

When an outdoor temperature sensor is connected to the installation, the relation between the outdoor temperature and the central heating flow temperature is controlled by a heating curve. This curve can be adjusted to the requirements of the installation.

1. Select the tile of the zone you want to configure.
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select **Control strategy**.
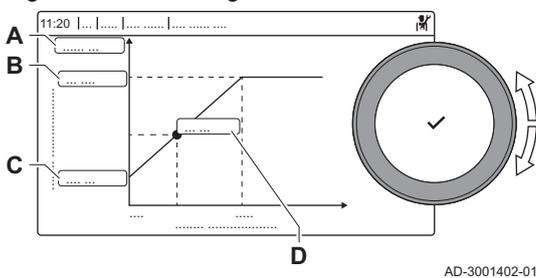4. Press the ✔ button to confirm the selection.
5. Use the rotary knob to select the setting **Outdoor Temp. based** or **Outdoor & room based**.
6. Press the ✔ button to confirm the selection.
   ⇨ The option **Heating Curve** appears in the **Zone setup** menu.
7. Use the rotary knob to select **Heating Curve**.
8. Press the ✔ button to confirm the selection.
   ⇨ A graphic display of the heating curve is shown.
9. Adjust the following parameters:

Fig.29   The heating curve

AD-3001402-01

Tab.20   Settings

A	Slope:	Slope of the heating curve: • Floor heating circuit: slope between 0.4 and 0.7 • Radiator circuit: slope at approximately 1.5
B	Max:	Maximum temperature of the heating circuit
C	Base:	Ambient temperature setpoint
D	xx°C ; xx °C	Relationship between the heating circuit flow temperature and the outdoor temperature. This information is visible throughout the slope.

7.2   Screed drying

The screed drying function is used to force a constant flow temperature or a series of successive temperature levels to accelerate screed drying on underfloor heating.

> **i** Important
> • The settings for these temperatures must follow the screed layer's recommendations.
> • Activation of this function via the parameter **CP470** forces the permanent display of the screed drying function and deactivates all other regulator functions.
> • When the screed drying function is active on one circuit, all other circuits and the domestic hot water circuit continue to run.
> • It is possible to use the screed drying function on circuits A and B. The parameter settings must be made on the PCB that controls the circuit concerned.

Fig.30   Screed drying curve

AD-3001406-01

d Number of days
T Heating set point temperature
1 Number of days on which the screed drying function is activated (parameter **CP470**)
2 Screed drying start temperature (parameter **CP480**)

3 Screed drying stop temperature (parameter **CP490**)
4 Start of the screed drying function
5 End of the screed drying function, back to normal running

> **i** | **Important**
> Every day at midnight, the screed drying start temperature set point is recalculated and the remaining number of days on which the screed drying function is running decreases.

7.3 Frost protection

> ⚠ **Caution**
> - Drain the boiler and central heating system if you are not going to use your home or the building for a long time and there is a chance of frost.
> - The frost protection does not work if the boiler is out of operation.
> - The built-in boiler protection is only activated for the boiler and not for the system and radiators.
> - Open the valves of all the radiators connected to the system.

Set the temperature control low, for example to 10°C.

If there is no heat demand, the boiler will only switch on to protect itself against frost.

If the temperature of the central heating water in the boiler drops too low, the built-in boiler protection system is activated. This system works as follows:

- At a water temperature lower than 7°C, the heating pump starts.
- If the water temperature is lower than 4°C, the boiler switches on.
- If the water temperature is higher than 10°C the boiler switches off and the circulation pump continues to run for a short time.

To prevent the system and radiators freezing in frost-sensitive areas (e.g. a garage), a frost thermostat or outside sensor can be connected to the boiler.

8   Settings

8.1   List of parameters

The code of the parameters always contain two letters and three numbers. The letters stand for:

AP	Appliance related parameters
CP	Zone related parameters
DP	Domestic hot water related parameters
EP	Smart Solutions related parameters
GP	Gas-fired heat engine related parameters
PP	Central heating related parameters

> **i** **Important**
> All possible options are indicated in the adjustment range. The display of the boiler only shows the relevant settings for the appliance.

8.1.1   SCB-01 expansion PCB settings

Tab.21   Navigation for installer level

Level	Menu path
Installer	☰ > Installation Setup > SCB-01 > Submenu ⁽¹⁾ > Parameters, counters, signals > Parameters
(1) See the column "Submenu" in the following table for the correct navigation. The parameters are grouped in specific functionalities.	

Tab.22   Factory settings at installer level

Code	Display text	Description	Range	Subme-nu	Default setting
EP018	Status relay func.	Status relay function	0 = No Action 1 = Alarm 2 = Alarm Inverted 3 = Burning 4 = Not burning 5 = Reserved 6 = Reserved 7 = Service request 8 = Boiler on CH 9 = Boiler on DHW 10 = CH pump on 11 = Locking or Blocking 12 = Cooling mode	Status informati on	0
EP019	Status relay func.	Status relay function	0 = No Action 1 = Alarm 2 = Alarm Inverted 3 = Burning 4 = Not burning 5 = Reserved 6 = Reserved 7 = Service request 8 = Boiler on CH 9 = Boiler on DHW 10 = CH pump on 11 = Locking or Blocking 12 = Cooling mode	Status informati on	0

Code	Display text	Description	Range	Subme-nu	Default setting
EP028	Function 10V-PWM	Selects the function of the 0-10 Volt output	0 = 0-10V 1 (Wilo) 1 = 0-10V 2 (Gr. GENI) 2 = PWM signal (Solar) 3 = 0-10V 1 limited 4 = 0-10V 2 limited 5 = PWM signal limited 6 = PWM signal (UPMXL)	0-10 volt or PWM out	0
EP029	Source 10V-PWM	Selects the source signal for the 0-10 Volt output	0 = PWM 1 = Requested power 2 = Actual power	0-10 volt or PWM out	0

8.2   List of measured values

8.2.1   SCB-01 expansion PCB counters

Tab.23   Navigation for basic installer level

Level	Menu path
Basic installer	☰ > Installation Setup > SCB-01 > Submenu[1] > Parameters, counters, signals > Counters
(1) See the column "Submenu" in the following table for the correct navigation. The counters are grouped in specific functionalities.	

Tab.24   Counters at basic installer level

Code	Display text	Description	Range	Submenu
AC001	Hours on mains	Number of hours that the appliance has been on mains power	0 Hours - 4294967295 Hours	System Functionality

8.2.2   SCB-01 expansion PCB signals

Tab.25   Navigation for basic installer level

Level	Menu path
Basic installer	☰ > Installation Setup > SCB-01 > Submenu [1] > Parameters, counters, signals > Signals
(1) See the column "Submenu" in the following table for the correct navigation. The signals are grouped in specific functionalities.	

Tab.26   Signals at basic installer level

Code	Display text	Description	Range	Submenu
AM010	Pump speed	The current pump speed	0 % - 100 %	0-10 volt or PWM out
AM012	Status Appliance	Current main status of the appliance.	📖 **See** Status and sub-status, page 32	System Functionality
AM014	Sub status Appliance	Current sub status of the appliance.	📖 **See** Status and sub-status, page 32	System Functionality
AM015	Pump running?	Is the pump running?	0 = Inactive 1 = Active	0-10 volt or PWM out
GM011	Power setpoint	Power setpoint in % of maximum	0 % - 655.35 %	0-10 volt or PWM out

Tab.27   Navigation for installer level

Level	Menu path
Installer	☰ > Installation Setup > SCB-01 > Submenu (1) > Parameters, counters, signals > Signals
(1) See the column "Submenu" in the following table for the correct navigation. The signals are grouped in specific functionalities.	

Tab.28   Signals at installer level

Code	Display text	Description	Range	Submenu
AM200	Status contact 1	Status of status contact 1. The meaning is dependant on the current function setting.	0 = Off 1 = On	Status information
AM201	Status contact 1	Status of status contact 1. The meaning is dependant on the current function setting.	0 = Off 1 = On	Status information

8.2.3   Status and sub-status

Tab.29   AM012 - Status

| Code	Display text	Explanation
0	Standby	The appliance is in standby mode.
1	Heat Demand	A heat demand is active.
2	Generator start	The appliance starts.
3	Generator CH	The appliance is active for central heating.
4	Generator DHW	The appliance is active for domestic hot water.
5	Generator stop	The appliance has stopped.
6	Pump Post Run	The pump is active after the appliance stopped.
7	Cooling Active	The appliance is active for cooling.
8	Controlled Stop	The appliance does not start because the starting conditions are not met.
9	Blocking Mode	A blocking mode is active.
10	Locking Mode	A locking mode is active.
11	Load test min	Low load test mode for central heating is active.
12	Load test CH max	Full load test mode for central heating is active.
13	Load test DHW max	Full load test mode for domestic hot water is active.
15	Manual Heat Demand	Manual heat demand for central heating is active.
16	Frost Protection	Frost protection mode is active.
17	DeAiration	The deaeration program operates.
18	Control unit Cooling	The fan runs to cool the inside of the appliance.
19	Reset In Progress	The appliance resets.
20	Auto Filling	The appliance fills the installation.
21	Halted	The appliance has stopped. It must be reset manually.
200	Device Mode	The service tool interface controls the functions of the appliance.

Tab.30   AM014 - Sub status

Code	Display text	Explanation
0	Standby	The appliance waits for a process or an action.
1	AntiCycling	The appliance waits to restart, because there were too many consecutive heat demands (anti-short cycle).
2	CloseHydraulicValve	An external hydraulic valve is opened, when this option is connected to the appliance. An external option board must be connected to drive the valve.
3	ClosePump	The appliance starts the pump.
4	WaitingForStartCond.	The appliance waits for the temperature to meet the start conditions.
10	CloseExtGasValve	An external gas valve is opened, when this option is connected to the appliance. An external option board must be connected to drive the valve.

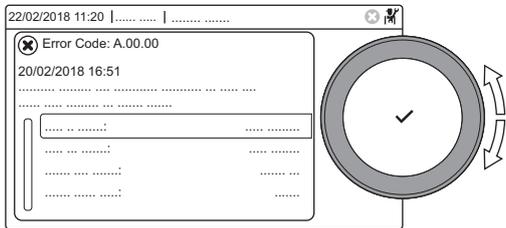| Code	Display text	Explanation
11	StartToGlueGasValve	The fan runs faster, before the flue gas valve is opened.
12	CloseFlueGasValve	The flue gas valve opens.
13	FanToPrePurge	The fan runs faster to pre-purge.
14	WaitForReleaseSignal	The appliance waits for the release input to close.
15	BurnerOnCommandToSu	A burner start command is sent to the safety core.
16	VpsTest	Valve proving test is active.
17	PreIgnition	Ignition starts before the gas valve opens.
18	Ignition	Ignition is active.
19	FlameCheck	The flame detection is active after the ignition.
20	Interpurge	The fan runs to purge the heat exchanger after a failed ignition.
30	Normal Int.Setpoint	The appliance operates to reach the desired value.
31	Limited Int.Setpoint	The appliance operates to reach the reduced internal desired value.
32	NormalPowerControl	The appliance operates on the desired power level.
33	GradLevel1PowerCtrl	The modulation is stopped due to a faster heat exchanger temperature change than gradient level 1.
34	GradLevel2PowerCtrl	The modulation is set to low load due to a faster heat exchanger temperature change than gradient level 2.
35	GradLevel3PowerCtrl	The appliance is in blocking mode due to a faster heat exchanger temperature change than gradient level 3.
36	ProtectFlamePwrCtrl	The burner power is increased due to a low ionisation signal.
37	StabilizationTime	The appliance is in stabilisation time. Temperatures should stabilise and temperature protections are switched off.
38	ColdStart	The appliance runs at start load to prevent cold start noise.
39	ChResume	The appliance resumes central heating after a domestic hot water interruption.
40	SuRemoveBurner	Burner demand is removed from safety core.
41	FanToPostPurge	The fan runs to purge the heat exchanger after the appliance stopped.
42	OpenExtFlueGasValve	External gas valve closes.
43	StopFanToFlueGVRpm	The fan runs slower, before the flue gas valve is closed.
44	StopFan	The fan has stopped.
45	LimitedPwrOnTflueGas	The power of the appliance is decreased to lower the flue gas temperature.
60	PumpPostRunning	The pump is active after the appliance stopped in order to bring the remaining heat into the system.
61	OpenPump	The pump has stopped.
62	OpenHydraulicValve	The external hydraulic valve closes.
63	SetAntiCycleTimer	
200	Initialising Done	Initialisation is finished.
201	Initialising Csu	The CSU is initialising.
202	Init. Identifiers	The identifiers are initialising.
203	Init.BL.Parameter	The blocking parameters are initialising.
204	Init. Safety Unit	The safety unit is initialising.
205	Init. Blocking	The blocking is initialising.

9 Troubleshooting

9.1 Reading out and clearing the error memory

The error memory stores the details of the most recent errors.

Fig.31   Installer level
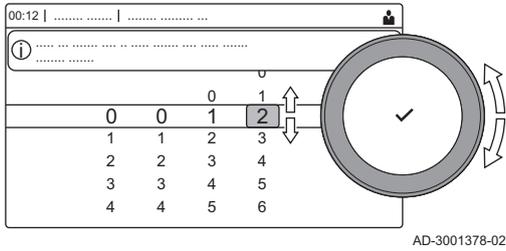
AD-3001378-02

Fig.32   Error details

AD-3001381-01

1. Select the tile [⚒].
2. Press the ✔ button to confirm the selection.
3. Use the rotary knob to select code: **0012**
4. Press the ✔ button to confirm the selection.
   ⇨ When the installer level is enabled, the status of the tile [⚒] changes from **Off** into **On**.
5. Press the ☰ button.
6. Use the rotary knob to select **Error History**.
7. Press the ✔ button to confirm the selection.
   ⇨ A list up to 32 most recent errors is displayed with the error code, a short description and the date.
8. Use the rotary knob to select the error code you want to investigate.
9. Press the ✔ button to confirm the selection.
   ⇨ The display shows an explanation of the error code and several details of the boiler when the error occurred.
10. To clear the error memory, press and hold the ✔ button.

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