

time betw. switch heat/cool

This selection is only available when cooling in 2-pipe systems. Here you can set how long BA-SVM 20-200 is to wait before it returns to heating mode when the cooling demand has ceased or vice versa.



NOTE!

Do not set the value "0" in "time betw. switch heat/cool" as this may result in frequent switching of the operating mode.



NOTE!

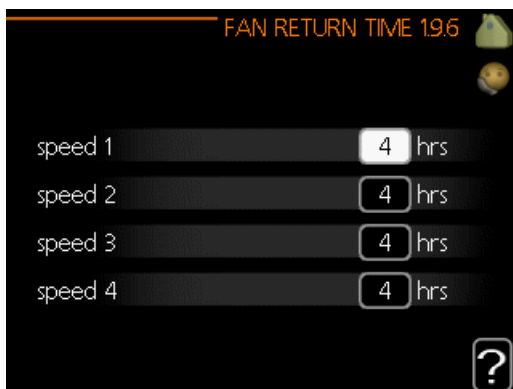
This setting option only appears if cooling is activated in menu 5.11.1.1.

MENU 1.9.6 - FAN RETURN TIME (ACCESSORY REQUIRED)

speed 1-4

Setting range: 1 – 99 h

Factory setting: 4 h



Here you select the return time for temporary speed change (speed 1-4) on the ventilation in menu 1.2.

Return time is the time it takes before ventilation speed returns to normal.

MENU 1.9.7 - OWN CURVE

supply temperature

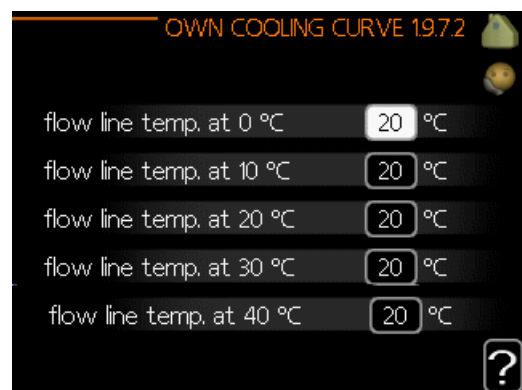
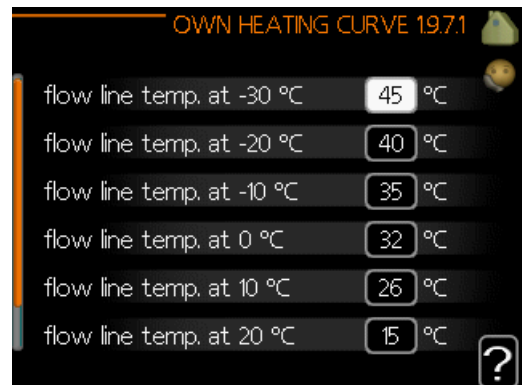
heating

Setting range: 5 – 70 °C

cooling (cooling must be activated)

Depending on which accessory is used the setting range can vary.

Setting range: 7 – 40 °C



You can use BA-SVM 20-200 to control the cooling in your house during hot periods of the year.



NOTE!

Curve 0 in menu 1.9.1 must be selected for own curve to apply.

MENU 1.9.8 - POINT OFFSET

outdoor temp. point

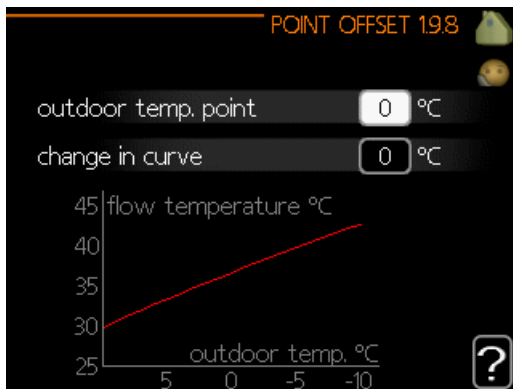
Setting range: -40 – 30 °C

Factory setting: 0 °C

change in curve

Setting range: -10 – 10 °C

Factory setting: 0 °C



Select a change in the heating curve at a certain outdoor temperature here. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required.

The heat curve is affected at $\pm 5^\circ\text{C}$ from set outdoor temp. point.

It is important that the correct heating curve is selected so that the room temperature is experienced as even.



TIP!

If it is cold in the house, at, for example -2°C , "outdoor temp. point" is set to -2 and "change in curve" is increased until the desired room temperature is maintained.



NOTE!

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

MENU 1.9.9 - NIGHT COOLING (ACCESSORY REQUIRED)

start temp. exhaust air

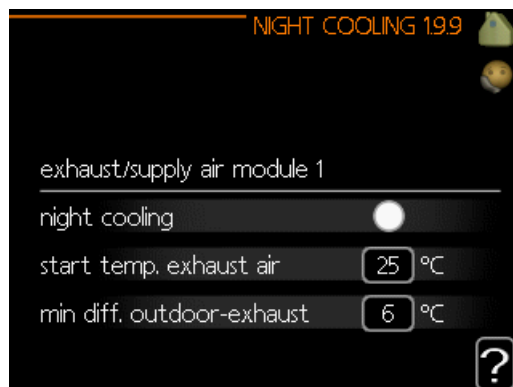
Setting range: $20 - 30^\circ\text{C}$

Factory setting: 25°C

min diff. outdoor-exhaust

Setting range: $3 - 10^\circ\text{C}$

Factory setting: 6°C



Activate night cooling here.

When the temperature in the house is high and the outdoor temperature is lower, a cooling effect can be obtained by forcing the ventilation.

If the temperature difference between the exhaust air and the outdoor temperature is greater than the set value ("min diff. outdoor-exhaust"), and the exhaust air temperature is higher than the set value ("start temp. exhaust air"), run the ventilation at speed 4 until one of the conditions is no longer met.



NOTE!

Night cooling can only be activated when house heating has been deactivated. This is done in menu 4.2.

Menu 2 – HOT WATER

OVERVIEW

Sub-menus



For the menu **HOT WATER** there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

temporary lux Activation of temporary increase in the hot water temperature. Status information displays “off” or what length of time of the temporary temperature increase remains.

comfort mode Setting hot water comfort. The status information displays what mode is selected, “economy”, “normal” or “luxury”.

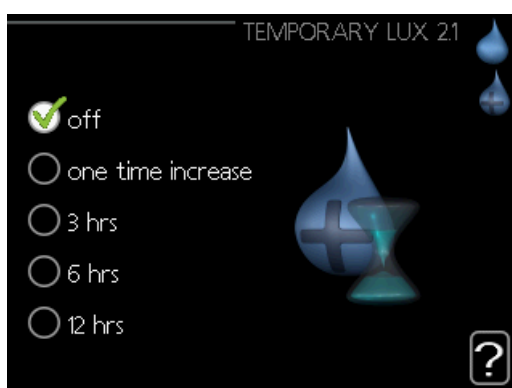
scheduling Scheduling hot water comfort. The status information “set” appears if you have set scheduling but it is not currently active, “holiday setting” appears if holiday setting is active at the same time as scheduling (when the holiday function is prioritised), “active” appears if any part of scheduling is active, otherwise “off” appears.

advanced Setting periodic increase in the hot water temperature.

MENU 2.1 - TEMPORARY LUX

Setting range: 3, 6 and 12 hours and mode “off” and “one time increase”

Factory setting: “off”



When hot water requirement has temporarily increased this menu can be used to select an increase in the hot water temperature to lux mode for a selectable time.



NOTE!

If comfort mode “luxury” is selected in menu 2.2 no further increase can be carried out.

The function is activated immediately when a time period is selected and confirmed using the OK button. The remaining time for the selected setting is shown to the right.

When the time has run out BA-SVM 20-200 returns to the mode set in menu 2.2.

Select “off” to switch off **temporary lux**.

MENU 2.2 - COMFORT MODE

Setting range: smart control, economy, normal, luxury

Factory setting: normal



The difference between the selectable modes is the temperature of the hot tap water. Higher temperature means that the hot water lasts longer.

smart control: In this menu you activate the Smart Control function. The function learns the previous week’s hot water consumption and adapts the temperature in the water heater for the coming week to ensure minimal energy consumption.

If the hot water demand is greater, there is a certain additional amount of hot water available.

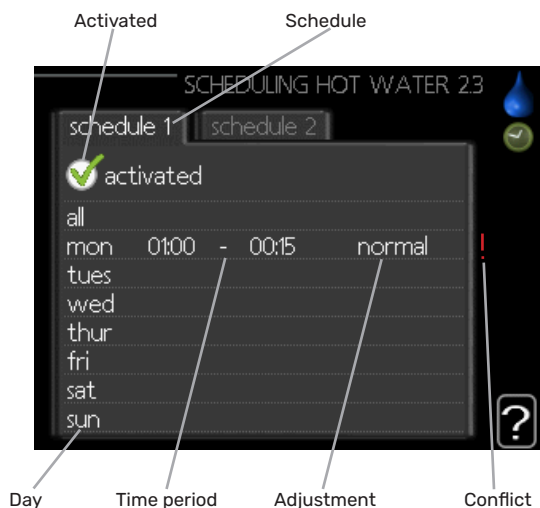
When the Smart Control function is activated, the water heater delivers the reported performance according to the energy decal.

economy: This mode produces less hot water than the others, but is more economical. This mode can be used in smaller households with a small hot water requirement.

normal: Normal mode gives a larger amount of hot water and is suitable for most households.

luxury: Lux mode gives the greatest possible amount of hot water. In this mode, the immersion heater is used to heat hot water as well as the compressor, which increases operating costs.

MENU 2.3 - SCHEDULING



Two different periods of hot water comfort per day can be scheduled here.

Scheduling is activated/deactivated by ticking/unticking "activated". Set times are not affected at deactivation.

Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the scheduling is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the row "all" is used, all days in the period are set according to that row.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjustment: Set the hot water comfort that is to apply during scheduling here.

Conflict: If two settings conflict with each other, a red exclamation mark is displayed.



TIP!

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

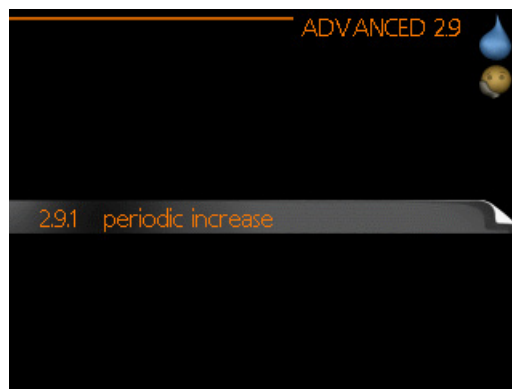


TIP!

Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.

Scheduling always starts on the date that the start time is set for.

MENU 2.9 - ADVANCED



Menu **advanced** has orange text and is intended for the advanced user. This menu has several sub-menus.

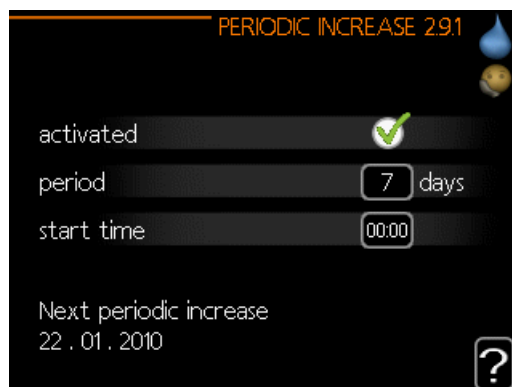
MENU 2.9.1 - PERIODIC INCREASE

period

Setting range: 1 - 90 days
Factory setting: 7 days

start time

Setting range: 00:00 - 23:00
Factory setting: 00:00



To prevent bacterial growth in the water heater, the compressor and the immersion heater can increase the hot water temperature for a short time at regular intervals.

The length of time between increases can be selected here. The time can be set between 1 and 90 days. Factory setting is 7 days. Tick/untick "activated" to start/switch off the function.

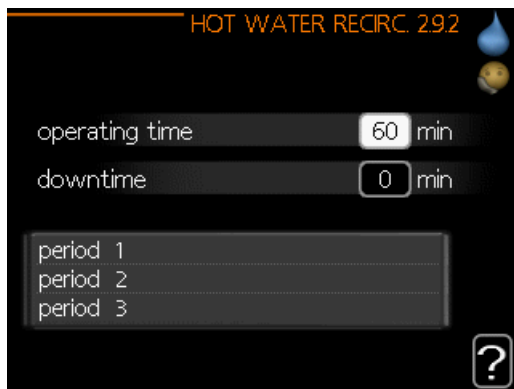
MENU 2.9.2 - HOT WATER RECIRC.

operating time

Setting range: 1 - 60 min
Factory setting: 60 min

downtime

Setting range: 0 - 60 min
Factory setting: 0 min



Set the hot water circulation for up to three periods per day here. During the set periods the hot water circulation pump will run according to the settings above.

“operating time” decide how long the hot water circulation pump must run per operating instance.

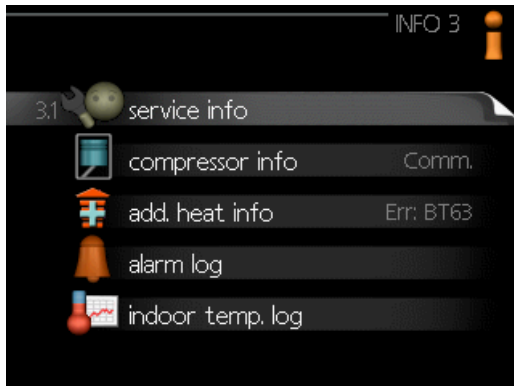
“downtime” decide how long the hot water circulation pump must be stationary between operating instances.

Hot water circulation is activated in menu 5.4 “soft inputs and outputs”.

Menu 3 – INFO

OVERVIEW

Sub-menus



For the menu **INFO** there are several sub-menus. No settings can be made in these menus, they just display information. Status information for the relevant menu can be found on the display to the right of the menus.

service info shows temperature levels and settings in the installation.

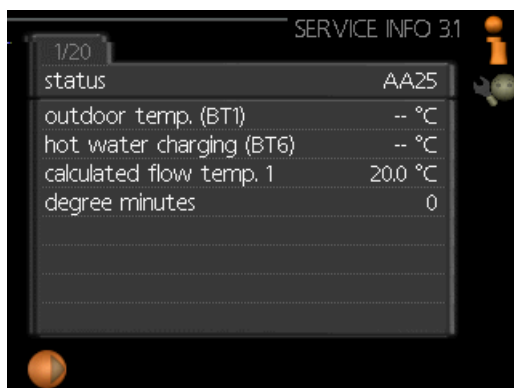
compressor info shows operating times, number of starts etc for the compressor in the heat pump.

add. heat info displays information about the additional heat's operating times etc.

alarm log shows the latest alarms.

indoor temp. log the average temperature indoors week by week during the past year.

MENU 3.1 - SERVICE INFO

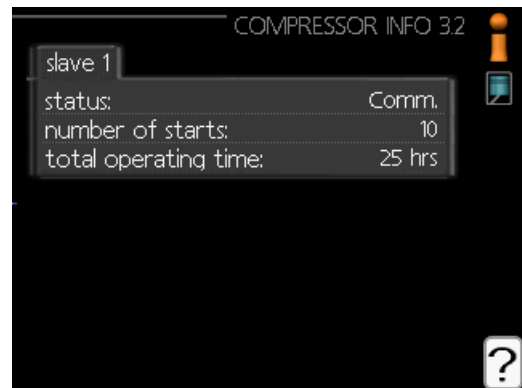


Information about the actual operating status of the installation (e.g. current temperatures etc.) can be obtained here. No changes can be made. The information is on several pages. Turn the control knob to scroll between the pages.

A QR code appears on one side. This QR code indicates serial number, product name and limited operating data.

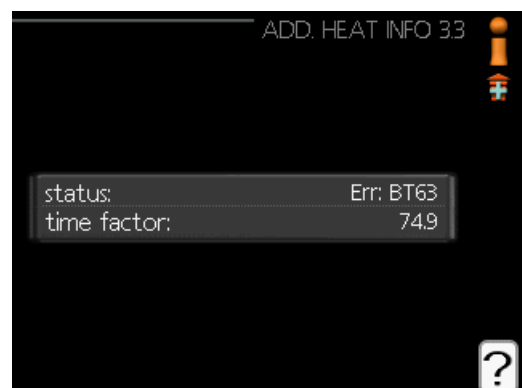
Symbols in this menu:			
	Compressor		Heating
	Addition		Hot water
	Cooling		Pool
	Heating medium pump (orange)		Ventilation
	Additional heat in tank		
	Solar accessory		

MENU 3.2 - COMPRESSOR INFO



Information about the compressor's operating status and statistics can be obtained here. No changes can be made. The information is on several pages. Turn the control knob to scroll between the pages.

MENU 3.3 - ADD. HEAT INFO



Information about the additional heat's settings, operating status and statistics can be obtained here. No changes can be made. The information is on several pages. Turn the control knob to scroll between the pages.

MENU 3.4 - ALARM LOG

ALARM LOG 3.4

08.01.2010	09:05	Flt: EQ1-BT25
08.01.2010	09:05	Flt: AZ30-BT21
08.01.2010	09:05	AZ30-BT20
08.01.2010	09:05	Flt: AZ30-BT23
08.01.2010	09:05	Flt: AZ30-BT22
08.01.2010	09:05	Err: BT63
08.01.2010	09:05	Err: EQ1-BT64
08.01.2010	09:05	Sensor flt: BT6
08.01.2010	09:05	Sensor flt: BT1
08.01.2010	09:05	Comm.

To facilitate troubleshooting, the installation's operating status at alarm alerts is stored here. You can see information for the 10 most recent alarms.

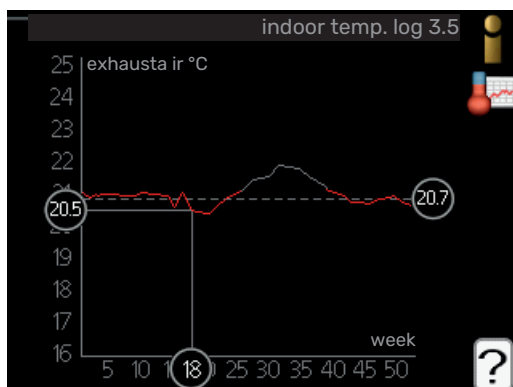
To view the run status in the event of an alarm, mark the alarm and press the OK button.

ALARM LOG 3.4

slave 1	
Com. flt from the heat pump (223)	
outdoor temp. (BT1)	-- °C
hot water charging (BT6)	-- °C
outdoor temp. (BT28)	-53.0 °C
condenser return (BT3)	-- °C
condenser out (BT12)	-- °C
addition (BT63)	-- °C
evaporator (BT16)	-63.0 °C
operating time	0 min
op. mode	off

Information about an alarm.

MENU 3.5 - INDOOR TEMP. LOG



Here you can see the average temperature indoors week by week during the past year. The dotted line indicates the annual average temperature.

The average outdoor temperature is only shown if a room temperature sensor/room unit is installed.

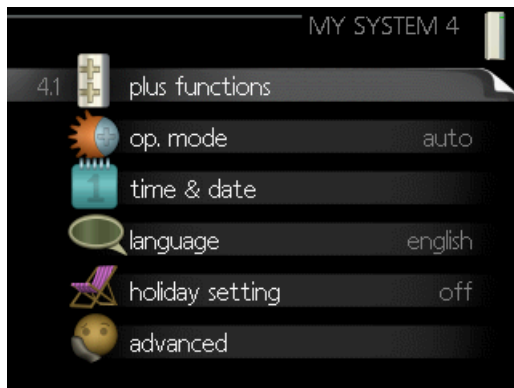
To read off an average temperature

1. Turn the control knob so that the ring on the shaft with the week number is marked.
2. Press the OK button.
3. Follow the grey line up to the graph and out to the left to read off the average indoor temperature at the selected week.
4. You can now select to take read outs for different weeks by turning the control knob to the right or left and read off the average temperature.
5. Press the OK or Back button to exit read off mode.

Menu 4 – MY SYSTEM

OVERVIEW

Sub-menus



For the menu **MY SYSTEM** there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

plus functions Settings applying to any installed extra functions in the heating system.

op. mode Activation of manual or automatic operating mode. The status information shows the selected operating mode.

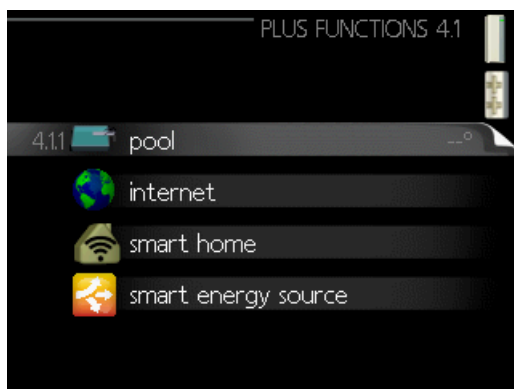
time & date Setting current time and date.

language Select the language for the display here. The status information shows the selected language.

holiday setting Vacation scheduling heating, hot water and ventilation. Status information "set" is displayed if you set a vacation schedule but it is not active at the moment, "active" is displayed if any part of the vacation schedule is active, otherwise it displays "off".

advanced Settings of control module work mode.

MENU 4.1 - PLUS FUNCTIONS



Settings for any additional functions installed in BA-SVM 20-200 can be made in the sub menus.

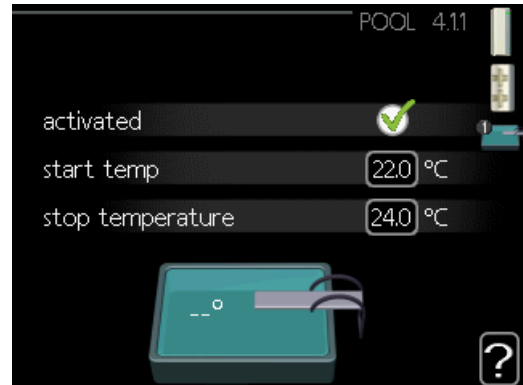
MENU 4.1.1 - POOL 1 (ACCESSORY IS REQUIRED)

start temp

Setting range: 5.0 - 80.0 °C
Factory setting: 22.0 °C

stop temperature

Setting range: 5.0 - 80.0 °C
Factory setting: 24.0 °C



Select whether the pool control is to be activated, within what temperatures (start and stop temperature) pool heating must occur and how many compressors may work against the pool at the same time.

When the pool temperature drops below the set start temperature and there is no hot water or heating requirement, BA-SVM 20-200 starts pool heating.

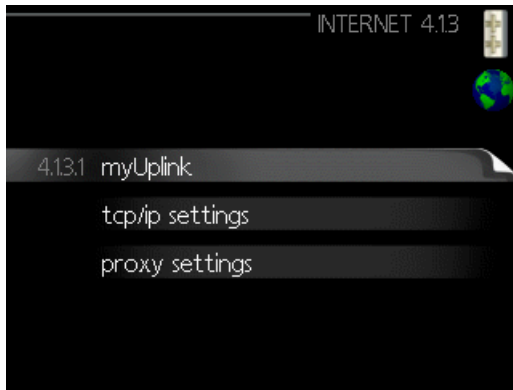
Untick "activated" to switch off the pool heating.



NOTE!

The start temperature cannot be set to a value that is higher than the stop temperature.

MENU 4.1.3 - INTERNET



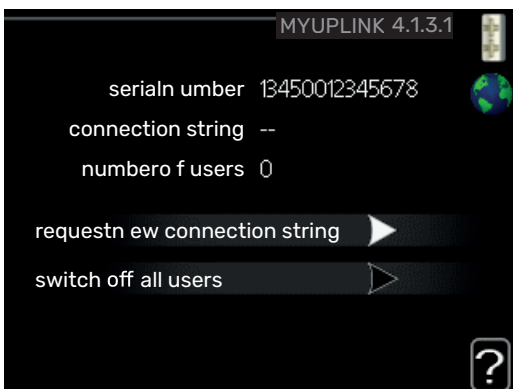
Here you make the settings for connecting BA-SVM 20-200 via my- Uplink, which uses the Internet.



CAUTION!

For these functions to work the network cable must be connected.

MENU 4.1.3.1 - MYUPLINK



Here you can manage the installation's connection to my-Uplink (myuplink.com) and see the number of users connected to the installation via the internet.

A connected user has a user account in myUplink , which has been given permission to control and/or monitor your installation.

Request new connection string

To connect a user account on myUplink to your installation, you must request a unique connection code.

1. Mark "request new connection string" and press the OK button.
2. The installation now communicates with myUplink to create a connection code.
3. When a connection string has been received, it is shown in this menu at "connection string" and is valid for 60 minutes.

Disconnect all users

1. Mark "switch off all users" and press the OK button.
2. The installation now communicates with myUplink to release your installation from all users connected via the internet.



CAUTION!

After disconnecting all users none of them can monitor or control your installation via myUplink without requesting a new connection string.

MENU 4.1.3.8 - TCP/IP SETTINGS



Here, you can set TCP/IP settings for your installation.

Automatic setting (DHCP)

1. Tick "automatic". The installation now receives the TCP/IP settings using DHCP.
2. Mark "confirm" and press the OK button.

Manual setting

1. Untick "automatic", you now have access to several setting options.
2. Mark "ip-address" and press the OK button.
3. Enter the correct details via the virtual keypad.
4. Select "OK" and press the OK button.
5. Repeat 1 - 3 for "net mask", "gateway" and "dns".
6. Mark "confirm" and press the OK button.



NOTE!

The installation cannot connect to the internet without the correct TCP/IP settings. If unsure about applicable settings use the automatic mode or contact your network administrator (or similar) for further information.



TIP!

All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.

MENU 4.1.3.9 - PROXY SETTINGS



You can set proxy settings for your installation here.

Proxy settings are used to give connection information to a intermediate server (proxy server) between the installation and Internet. These settings are primarily used when the installation connects to the Internet via a company network.

The installation supports proxy authentication of the HTTP Basic and HTTP Digest type.

If unsure about applicable settings, contact your network administrator (or equivalent) for further information.

Setting

1. Tick "use proxy" if you do not want to use a proxy.
2. Mark "server" and press the OK button.
3. Enter the correct details via the virtual keypad.
4. Select "OK" and press the OK button.
5. Repeat 1 - 3 for "port", "user name" and "password".
6. Mark "confirm" and press the OK button.



TIP!

All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.

MENU 4.1.5 - SG READY



This function can only be used in mains networks that support the "SG Ready"-standard.

Make settings for the function "SG Ready" here.

affect room temperature

Here you set whether room temperature should be affected when activating "SG Ready".

With low price mode on "SG Ready" the parallel offset for the indoor temperature is increased by "+1". If a room sensor is installed and activated, the desired room temperature is instead increased by 1 °C.

With over capacity mode on "SG Ready" the parallel offset for the indoor temperature is increased by "+2". If a room sensor is installed and activated, the desired room temperature is instead increased by 2 °C.

affect hot water

Here you set whether the temperature of the hot water should be affected when activating "SG Ready".

With low price mode on "SG Ready", the stop temperature for the hot water is set as high as possible with compressor operation only (immersion heater not permitted).

With over capacity mode of "SG Ready" the hot water is set to "luxury" (immersion heater permitted).

affect cooling (accessory required)

Here you set whether room temperature during cooling operation should be affected when activating "SG Ready".

With low price mode of "SG Ready" and cooling operation the indoor temperature is not affected.

With over capacity mode on "SG Ready" and cooling operation, the parallel offset for the indoor temperature is reduced by "-1". If a room sensor is installed and activated, the desired room temperature is instead reduced by 1 °C.

affect pool temperature (accessory is required)

Here you set whether pool temperature should be affected when activating "SG Ready".

With low price mode on "SG Ready", the desired pool temperature (start and stop temperature) is increased by 1 °C.

With over capacity mode on "SG Ready" the desired pool temperature (start and stop temperature) is increased by 2 °C



CAUTION!

The function must be connected and activated in your BA-SVM 20-200.

MENU 4.1.6 - SMART PRICE ADAPTION™

affect room temperature

Setting range: 1 - 10

Factory setting: 5

affect hot water

Setting range: 1 - 4

Factory setting: 2

affect pool temperature

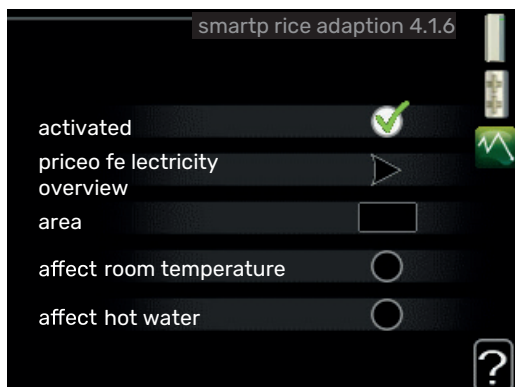
Setting range: 1 - 10

Factory setting: 2

affect cooling

Setting range: 1 - 10

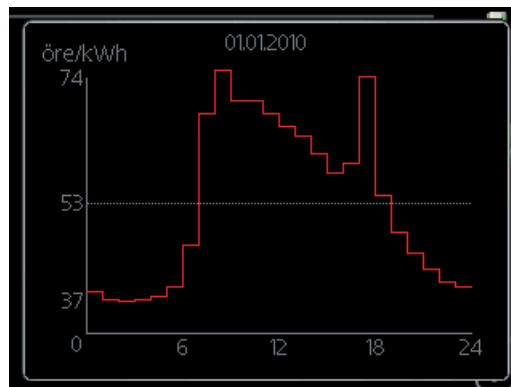
Factory setting: 3



area

In this menu you state where the heat pump is located and how great a role the electricity price should play. The greater the value, the greater the effect the electricity price has and the possible savings are larger, but at the same time there is an increased risk of affecting comfort.

price of electricity overview

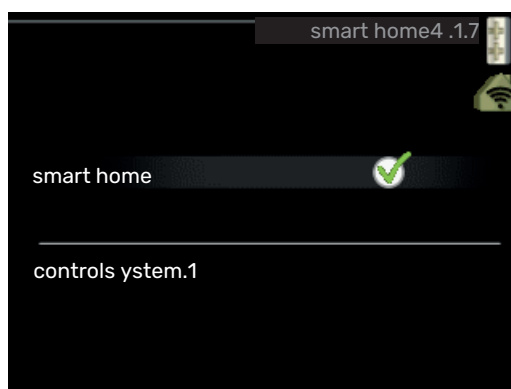


Here you can obtain information on how the electricity price varies over up to three days.

Smart price adaption™ moves the heat pump's consumption over 24 hours to periods with the cheapest electricity tariff, which gives savings for hourly rate based electricity contracts. The function is based on hourly rates for the next 24 hours being retrieved via myUplink and therefore an internet connection and an account for myUplink are required.

Deselect "activated" to switch off Smart price adaption™.

MENU 4.1.7 - SMART HOME (ACCESSORY IS REQUIRED)



When you have a smart home system that can speak to myUplink, by activating the smart home function in this menu you can control the BA-SVM 20-200 via an app.

By allowing connected units to communicate with myUplink, your heating system becomes a natural part of your homesmart home and gives you the opportunity to optimise the operation.

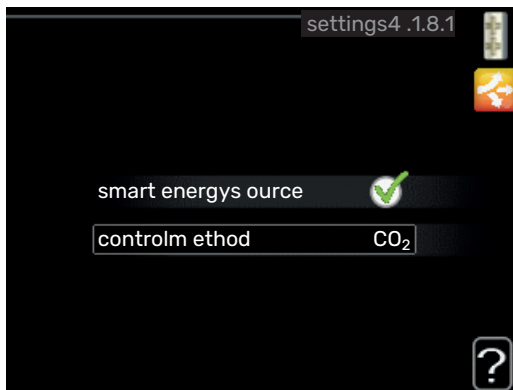
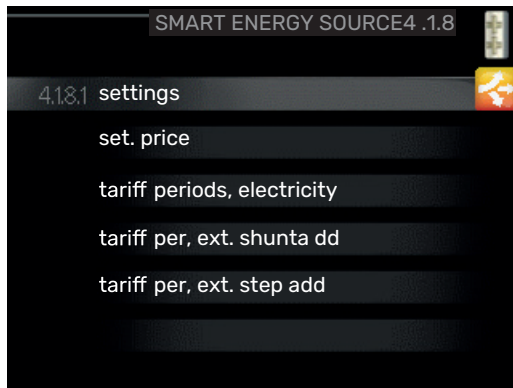


NOTE!

The smart home function requires myUplink in order to work.

MENU 4.1.8 - SMART ENERGY SOURCE™

settings
set. price
CO2 impact*
tariff periods, electricity
tariff per, ext. shunt add
tariff per, ext. step add

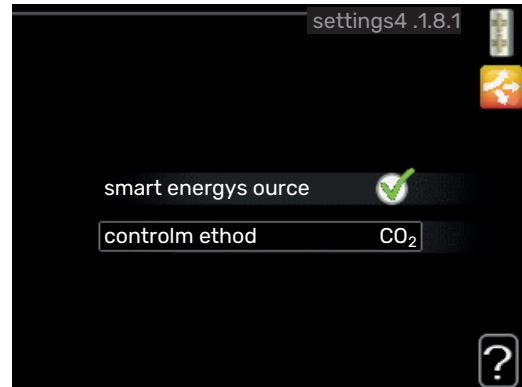


The function prioritises how / to what extent each docked energy source will be used. Here you can choose if the system is to use the energy source that is cheapest at the time.

You can also choose if the system is to use the energy source that is most carbon neutral at the time.

*Select control method "CO₂" under settings to open this menu.

MENU 4.1.8.1 - SETTINGS



smart energy source™

Setting range: Off/On
Factory setting: Off

control method

Setting range: Price / CO₂
Factory setting: Price

MENU 4.1.8.2 - SET. PRICE

price, electricity

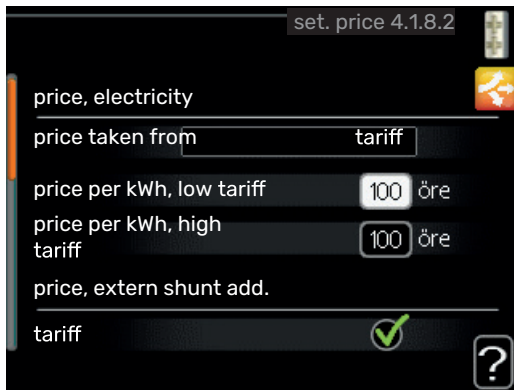
Setting range: spot, tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0-100,000*

price, extern shunt add.

Setting range: tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0-100,000*

price, extern step add.

Setting range: tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0-100,000*



Here you can choose whether the system is to exercise control based on the spot price, tariff control or a set price. The setting is made for each individual energy source. Spot price can only be used if you have an hourly tariff agreement with your electricity supplier.

*The currency varies depending on the country selected.

MENU 4.1.8.3 - CO2 IMPACT

CO2, electricity

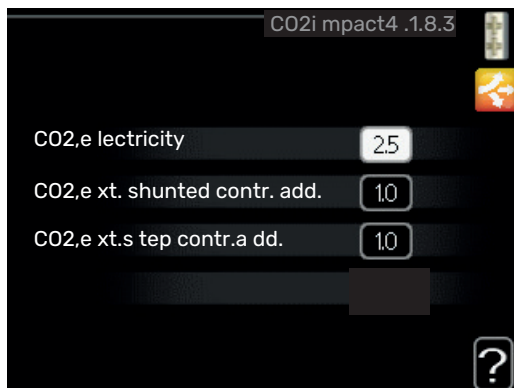
Setting range: 0–5
Factory setting: 2.5

CO2, ext. shunted contr. add.

Setting range: 0–5
Factory setting: 1

CO2, ext. step contr. add.

Setting range: 0–5
Factory setting: 1



Here, you set the size of the carbon footprint for each energy source.

The carbon footprint is different for different energy sources. For example, the energy from solar cells and wind turbines can be considered carbon dioxide neutral and, therefore, has a low CO₂ impact. Energy from fossil fuels can be considered to have a higher carbon footprint and, therefore, has a higher CO₂ impact.

MENU 4.1.8.4 - TARIFF PERIODS, ELECTRICITY



Here you can use tariff control for the electric additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).

MENU 4.1.8.6 - TARIFF PER, EXT. SHUNT ADD



Here you can use tariff control for the external shunted additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).

MENU 4.1.8.7 - TARIFF PER, EXT. STEP ADD



Here you can use tariff control for the external step controlled additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).

MENU 4.1.10 - SOLAR ELECTRICITY (ACCESSORY REQUIRED)

affect room temperature

Setting range: on/off

Factory setting: off

affect hot water

Setting range: on/off

Factory setting: off

affect pool temperature¹

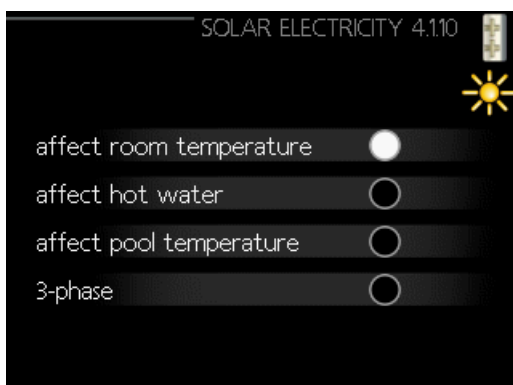
Setting range: on/off

Factory setting: off

3-phase

Setting range: on/off

Factory setting: off



This is where you set which part of your installation (room temperature, hot water temperature, pool temperature) is to benefit from the solar electricity surplus.

When the solar panels produce more electricity than BA-SVM 20-200 requires, the temperature in the property is adjusted and/or the temperature of the hot water is increased.

EME

In this menu you can also make settings that are specific for your EME.

For EME 20, you can select whether you want domestic electricity to be prioritised ahead of room temperature and hot water, provided that an external energy meter is connected to BA-SVM 20-200.

MENU 4.2 - OP. MODE

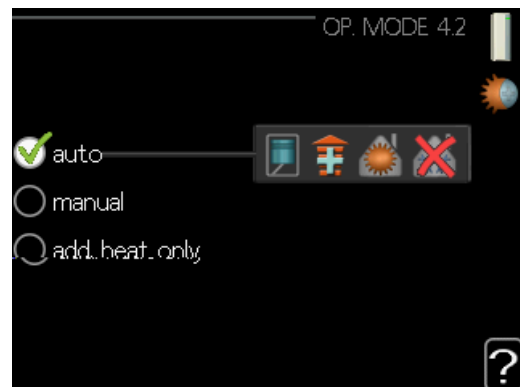
op. mode

Setting range: auto, manual, add. heat only

Factory setting: auto

functions

Setting range: compressor, addition, heating, cooling



The control module operating mode is usually set to "auto". It is also possible to set the control module to "add. heat only", when only additional heat is used, or "manual" and then select what functions are to be permitted.

Change the operating mode by marking the desired mode and pressing the OK button. When an operating mode is selected it shows what in the control module is permitted (crossed out = not permitted) and selectable alternatives to the right. To select selectable functions that are permitted or not, mark the function using the control knob and press the OK button.

Operating mode auto

In this operating mode the control module automatically selects what functions are permitted.

Operating mode manual

In this operating mode you can select what functions are permitted. You cannot deselect "compressor" in manual mode.

Operating mode add. heat only

In this operating mode the compressor is not active, only additional heat is used.

**NOTE!**

If you choose mode “add. heat only” the compressor is deselected and there is a higher operating cost.

**NOTE!**

You cannot change from add. heat only if you do not have a heat pump connected.

Functions

“compressor” is the unit that produces heating and hot water for the home. If “compressor” is deselected in auto mode, this is displayed with a symbol in the main menu. You cannot deselect “compressor” in manual mode.

“addition” is the unit that helps the compressor to heat the home and/or the hot water when it cannot manage the entire requirement alone.

“heating” means you obtain heating in the home. You can deselect the function when you do not wish to have the heating on.

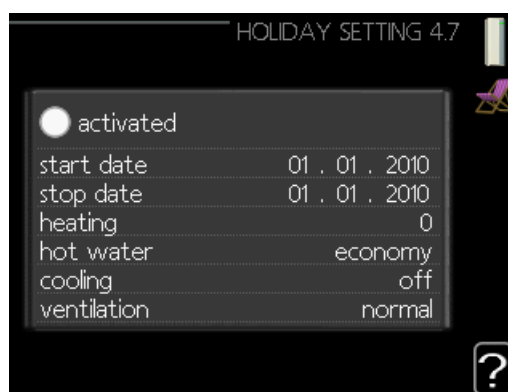
“cooling” means that you obtain cooling in the home in hot weather. This alternative requires an accessory for cooling, or for the air/water heat pump to have a built-in function for cooling, and is activated in the menu. You can deselect this function when you do not wish to have cooling in operation.

MENU 4.4 - TIME & DATE

Set time and date, display mode and time zone here.

MENU 4.6 - LANGUAGE

Choose the language that you want the information to be displayed in here.

MENU 4.7 - HOLIDAY SETTING

To reduce energy consumption during a holiday you can schedule a reduction in heating and hot water temperature. Cooling, ventilation, pool and solar panel cooling can also be scheduled if the functions are connected.

If a room sensor is installed and activated, the desired room temperature (°C) is set during the time period. This setting applies to all climate systems with room sensors.

If a room sensor is not activated, the desired offset of the heating curve is set. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required. This setting applies to all climate systems without room sensors.

The vacation scheduling starts at 00:00 on the start date and stops at 23:59 on the stop date.

**TIP!**

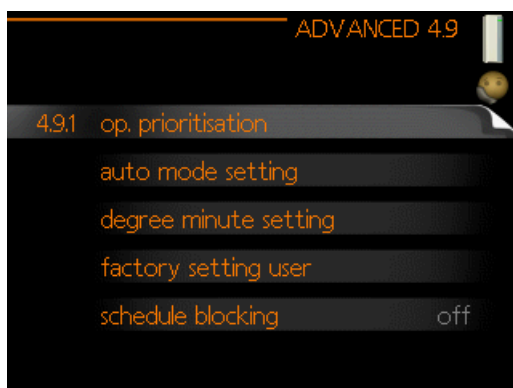
Stop the holiday setting about a day before your return so that room temperature and hot water have time to return to their usual levels.

**TIP!**

Set the vacation setting in advance and activate just before departure in order to maintain the comfort.

**NOTE!**

If you choose to stop hot water production for a holiday, "periodic increase" (preventing bacterial growth) will be blocked during this time. "periodic heat increase" will start up in conjunction with the vacation setting ending.

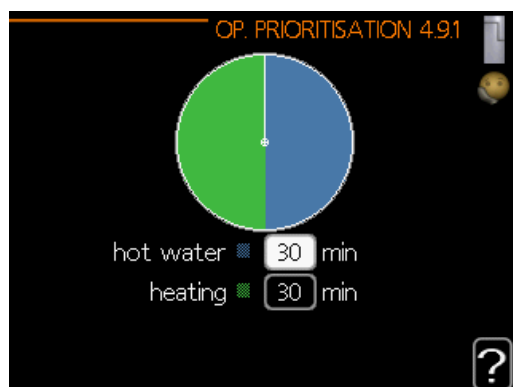
MENU 4.9 - ADVANCED

Menu **advanced** has orange text and is intended for the advanced user. This menu has several sub-menus.

MENU 4.9.1 - OP. PRIORITISATION**op. prioritisation**

Setting range: 0 to 180 min

Factory setting: 30 min



Choose here how long the heat pump should work with each requirement if there are two or more requirements at the same time. If there is only one requirement the heat pump only works with that requirement.

The indicator marks where in the cycle the heat pump is. If 0 minutes is selected, this means that the requirement is not prioritised, but will only be activated when there is no other requirement.

MENU 4.9.2 - AUTO MODE SETTING**start cooling (cooling must be activated)**

Setting range: -20 – 40 °C

Factory setting: 25

stop heating

Setting range: -20 – 40 °C

Factory setting: 17

stop additional heat

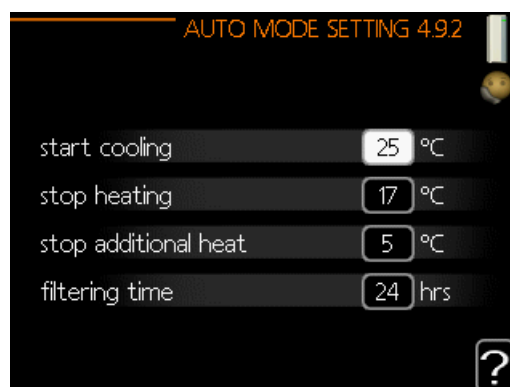
Setting range: -25 – 40 °C

Factory setting: 5

filtering time

Setting range: 0 – 48 h

Factory setting: 24 h



When the operating mode is set to "auto", the control module selects when start and stop of additional heat and heat production is permitted, depending on the average outdoor temperature. If the heat pump has the integrated cooling function and it is activated in the menu you can also select the start temperature for cooling.

Select the average outdoor temperatures in this menu.

**NOTE!**

It cannot be set "stop additional heat" higher than "stop heating".

**NOTE!**

In systems where heating and cooling share the same pipes (2-pipe cooling), „stop heating“ cannot be set higher than „start cooling“ if there is no cooling/heating sensor.

filtering time: You can also set the time (filtering time) over which the average temperature is calculated. If you select 0, the current outdoor temperature is used.

MENU 4.9.3 - DEGREE MINUTE SETTING

current value

Setting range: -459 – 3000

start compressor

Setting range: -1000 – -30

Factory setting: -60

start diff additional heat

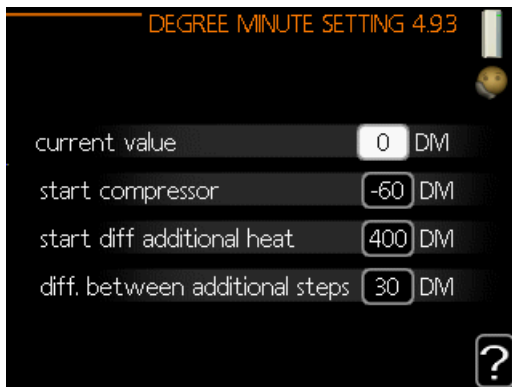
Setting range: 100 – 2000

Factory setting: 400

diff. between additional steps

Setting range: 10 – 1000

Factory setting: 30



Degree minutes are a measurement of the current heating requirement in the house and determine when the compressor respectively additional heat will start/stop.



NOTE!

Higher value on "start compressor" gives more compressor starts, which increase wear on the compressor. Too low value can give uneven indoor temperatures.



NOTE!

The compressor curves can only be edited by qualified personnel.

MENU 4.9.4 - FACTORY SETTING USER



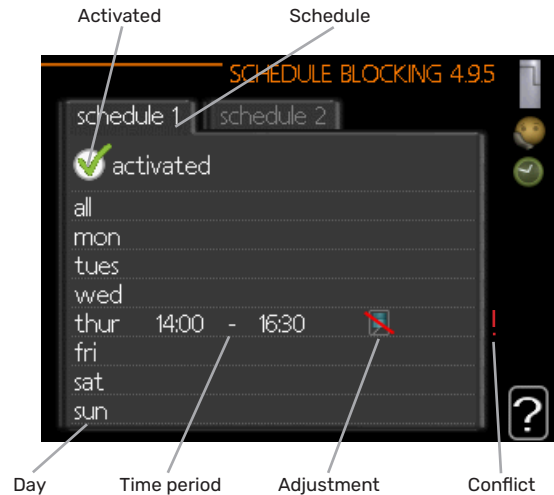
All settings that are available to the user (including advanced menus) can be reset to default values here.



NOTE!

After factory setting, personal settings such as heating curves must be reset.

MENU 4.9.5 - SCHEDULE BLOCKING



The additional heat and compressor can be scheduled to be blocked for up to two different time periods here.

When scheduling is active the relevant blocking symbol is shown in the main menu on the symbol for the control module.

Schedule: The period to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the scheduling is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the row "all" is used, all days in the period are set according to that row.

Time period: The start and stop time for the selected day for scheduling are selected here.

Blocking: The desired blocking is selected here.

Conflict: If two settings conflict with each other, a red exclamation mark is displayed.



Blocking the compressor in the outdoor module.



Blocking additional heat.



TIP!

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

**TIP!**

Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after. Scheduling always starts on the date that the start time is set for.

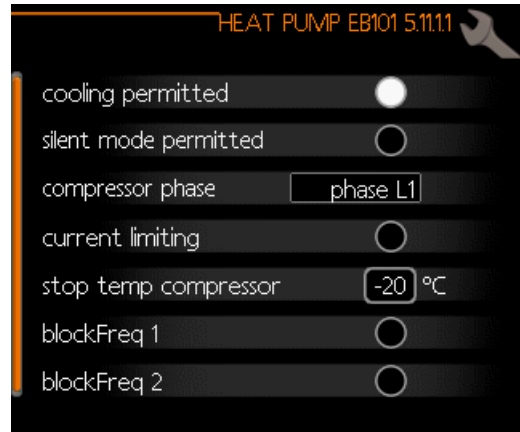
**NOTE!**

Long term blocking can cause reduced comfort and operating economy.

Cooling settings

In the factory settings of the BA-SVM 20-200 the cooling is deactivated and requires activation in menu 5.11.1.1 in order to start it up.

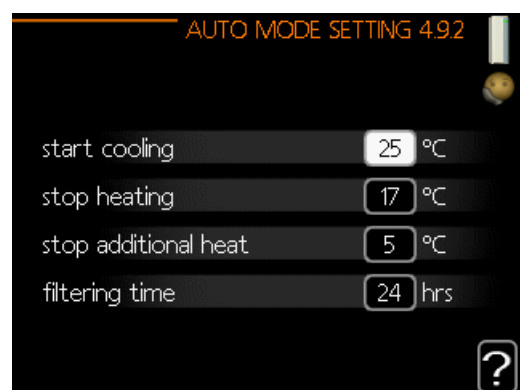
Factory setting:

**CAUTION!**

By default, cooling works in the 2-pipe system. In order to change the cooling mode to 4-pipe, it must be activated in menu 5.2.4.

To start up cooling, change the "start cooling" parameter in menu 4.9.2 to the higher value (applies to the outside temperature) which starts cooling in accordance with the settings in menu 1.9 (settings are in menu 1.9.1.2, 1.9.3.2 and 1.9.5).

Factory setting:



If the average temperature calculated by the "filtering time" is higher than the one set, cooling will start in accordance with the settings in menu 1.9 (settings are in menu 1.9.1.2, 1.9.3.2 and 1.9.5).

**NOTE!**

The settings for cooling should be made based on the existing CH system. The above cooling settings can only be edited by qualified personnel.

Menu 5 - SERVICE

OVERVIEW

5 - SERVICE	5.1 - operating settings	5.1.1 - hot water settings	
		5.1.2 - max flow line temperature	
		5.1.3 - max diff flow line temp.	
		5.1.4 - alarm actions	
		5.1.5 - fan sp. exhaust air*	
		5.1.6 - fan sp. supply air*	
		5.1.12 - internal electrical addition	
		5.1.14 - flow set. climate system	
		5.1.22 - heat pump testing	
		5.1.23 - compressor curve	
		5.1.25 - time filter alarm	
	5.2 - system settings	5.2.2 - installed slaves	
		5.2.4 - accessories	
	5.3 - accessory settings	5.3.2 - shunt controlled add. heat	
		5.3.3 - extra climate system*	
		5.3.4 - solar heating*	
		5.3.6 - step controlled add. heat	
		5.3.8 - hot water comfort*	
		5.3.11 - modbus*	
		5.3.12 - exhaust/supply air module*	
		5.3.16 - humidity sensor*	
		5.3.21- flow sensor / energy meter*	
	5.4 - soft in/outputs		
	5.5 - factory setting service		
	5.6 - forced control		
	5.7 - start guide		
	5.8 - quick start		
	5.9 - floor drying function		
	5.10 - change log		
	5.11 - slave settings	5.11.1 - EB101	5.11.1.1 - heat pump
			5.11.1.2 - charge pump (GP12)
	5.12 - country		

The above menu diagram may vary depending on the installed accessories.

* Accessory needed.

Go to the main menu and hold the Back button in for 7 seconds to access the Service menu.

Sub-menus

Menu **SERVICE** has orange text and is intended for the advanced user. This menu has several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

operating settings Operating settings for the control

system settings System settings for the control module, activating accessories etc.

accessory settings Operational settings for different accessories.

soft in/outputs Setting software-controlled in and outputs on the input board (AA3) and terminal block (X2).

factory setting service Total reset of all settings (including settings available to the user) to default values.

forced control Forced control of the different components in the indoor module.

start guide Manual start of the start guide which is run the first time when the control module is started.

quick start Quick starting the compressor.



CAUTION!

Incorrect settings in the service menus can damage the installation.

MENU 5.1 - OPERATING SETTINGS

Operating settings can be made for the control module in the sub menus.

MENU 5.1.1 - HOT WATER SETTINGS



CAUTION!

The factory set tap water temperatures specified in the manual can vary due to the directives in force in different countries. From this menu, you can check the relevant settings for the system.

economy

Setting range start temp. economy: 5 – 45 °C

Factory setting start temp. economy: 39 °C

Setting range stop temp. economy: 5 – 45 °C

Factory setting stop temp. economy: 43 °C

normal

Setting range start temp. normal: 5 – 50 °C

Factory setting start temp. normal: 42 °C

Setting range stop temp. normal: 5 – 50 °C

Factory setting stop temp. normal: 46 °C

luxury

Setting range start temp. lux: 5 – 60 °C

Factory setting start temp. lux: 45 °C

Setting range stop temp. lux: 5 – 60 °C

Factory setting stop temp. lux: 49 °C

stop temp. per. increase

Setting range: 55 – 60 °C

Factory setting: 60 °C

step difference compressors

Setting range: 0.5 – 4.0 °C

Factory setting: 1.0 °C

charge method

Setting range: target temp, delta temp

Factory setting: delta temp

Here you set the start and stop temperature of the hot water for the different comfort options in menu 2.2 as well as the stop temperature for periodic increase in menu 2.9.1.

The charge method for hot water operation is selected here. "delta temp" is recommended for heaters with charge coil, "target temp" for double-jacketed heaters and heaters with hot water coil.

MENU 5.1.2 - MAX FLOW LINE TEMPERATURE

climate system

Setting range: 5-70 °C

Factory setting: 55 °C

Here, you set the maximum supply temperature for the climate system. If the installation has more than one climate system, individual maximum supply temperatures can be set for each system. Climate system 2 – 8 cannot be set to a higher max supply temperature than climate system 1.



NOTE!

For underfloor heating systems, max flow line temperature should normally be set to between 35 and 45°C.

Check the max and min temperature for your floor with your installer/floor supplier.

MENU 5.1.3 - MAX DIFF FLOW LINE TEMP.

max diff compressor

Setting range: 1 – 25 °C

Factory setting: 10 °C

max diff addition

Setting range: 1 – 24 °C

Factory setting: 7 °C

Here you set the maximum permitted difference between the calculated and actual supply temperature in the event of compressor or additional heat mode respectively. Max diff. additional heat can never exceed max diff. compressor.

max diff compressor

If the current supply temperature exceeds the calculated supply by set value, the degree minute value is set to +2. The compressor in the heat pump stops if there is only a heating demand.

max diff addition

If "addition" is selected and activated in menu 4.2 and the current supply temperature exceeds the calculated temperature by the set value, the additional heat is forced to stop.

MENU 5.1.4 - ALARM ACTIONS

Select how you want the control module to alert you that there is an alarm in the display here. The different alternatives are; the heat pump stops producing hot water and/or reduces the room temperature.



NOTE!

If no alarm action is selected, it can result in higher energy consumption in the event of an alarm.

MENU 5.1.5 - FAN SP. EXHAUST AIR (ACCESSORY IS REQUIRED)

normal and speed 1-4

Setting range: 0 – 100 %

Set the speed for the five different selectable speeds for the fan here.



NOTE!

An incorrectly set ventilation flow can damage the house and may also increase energy consumption.

MENU 5.1.6 - FAN SP. SUPPLY AIR (ACCESSORY REQUIRED)

normal and speed 1-4

Setting range: 0 – 100 %

Set the speed for the five different selectable speeds for the fan here.



NOTE!

An incorrectly set value may damage the house in the long term and possibly increase energy consumption.

MENU 5.1.12 - INTERNAL ELECTRICAL ADDITION

The settings in this menu apply to the method of controlling the auxiliary heater.



CAUTION!

The factory settings introduced in menu 5.1.12 are the required settings. Editing these settings is only possible by authorized installers and service technicians!

3x400V incoming power

Setting range: on/off

Factory setting: on

set max electrical add.

Setting range (230V): 0,0 – 4,5 kW

Setting range (400V): 0,0 – 9,0 kW

Factory setting: 9,0 kW

Fuse size

Setting range: 1 – 200A

Factory setting: 20A

transformation ratio

Setting range: 300 – 3000

Factory setting: 300

detect phase order (displayed if 3x400 V incoming power is activated.)



NOTE!

If the 3x400 V incoming power is active and current sensors are connected, the pdetect phase order function must be activated.



NOTE!

Setting the fuse too small may limit the power of the peak source and/or compressor.

MENU 5.1.14 - FLOW SET. CLIMATE SYSTEM

presettings

Setting range: radiator, floor heat., rad. + floor heat., DOT °C

Factory setting: radiator

Setting range DOT: -40.0 – 20.0 °C

The factory setting of DOT value depends on the country that has been given for the product's location. The example below refers to Sweden.

Factory setting DOT: -20.0 °C

own setting

Setting range dT at DOT: 0.0 – 25.0

Factory setting dT at DOT: 10.0

Setting range DOT: -40.0 – 20.0 °C

Factory setting DOT: -20.0 °C

The type of heating distribution system the heating medium pump works towards is set here.

dT at DOT is the difference in degrees between flow and return temperatures at dimensioned outdoor temperature.

MENU 5.1.22 - HEAT PUMP TESTING



CAUTION!

This menu is intended for testing BA-SVM 20-200 according to different standards. Use of this menu for other reasons may result in your installation not functioning as intended.

This menu contains several sub-menus, one for each standard.

MENU 5.1.23 - COMPRESSOR CURVE



NOTE!

This menu is only displayed if BA-SVM 20-200 is connected to a heat pump with inverter controlled compressor.



NOTE!

The compressor curves can only be edited by qualified personnel.

Set whether the compressor in the heat pump should work to a particular curve under specific requirements or if it should work to predefined curves.

You set a curve for a demand (heat, hot water etc.) by un-ticking "auto", turning the control knob until a temperature is marked and pressing OK. You can now set at what temperatures the max. and min. frequencies, respectively will occur.

This menu can consist of several windows (one for each available demand), use the navigation arrows in the top left corner to change between the windows.

MENU 5.1.25 - TIME FILTER ALARM (ACCESSORY IS REQUIRED)

months btwn filter alarms

Setting range: 1 - 24

Factory setting: 3

Here you set the number of months between alarms for a reminder to clean the filter in a connected accessory.

MENU 5.2 - SYSTEM SETTINGS

Make different system settings for your installation here, e.g. activate connected slaves and which accessories are installed.

MENU 5.2.2 - INSTALLED SLAVES

One device can be selected.

MENU 5.2.4 - ACCESSORIES

Set which accessories are installed on the installation here. There are two ways of activating connected accessories. You can either mark the alternative in the list or use the automatic function "search installed acc."

search installed acc.

Mark "search installed acc." and press the OK button to automatically find connected accessories for BA-SVM 20-200.

ACTIVATING 4 - PIPE COOLING OPERATION

In order to activate 4-pipe cooling, select the function "active cooling 4 pipe".

To enable cooling, see „Cooling Settings“.

MENU 5.3 - ACCESSORY SETTINGS

The operating settings for accessories that are installed and activated are made in the sub-menus for this.

MENU 5.3.2 - SHUNT CONTROLLED ADD. HEAT (ACCESSORY IS REQUIRED)

prioritised additional heat

Setting range: on/off
Factory setting: off

start diff additional heat

Setting range: 0 – 2000 DM
Factory setting: 400 DM

minimum running time

Setting range: 0 – 48 h
Factory setting: 12 h

min temp.

Setting range: 5 – 90 °C
Factory setting: 55 °C

mixing valve amplifier

Setting range: 0.1 – 10.0
Factory setting: 1.0

mixing valve step delay

Setting range: 10 – 300 s
Factory setting: 30 s

Set when the addition is to start, the minimum run time and the minimum temperature for external addition with shunt here. External addition with shunt is for example a wood/oil/gas/pellet boiler.

You can set shunt valve amplification and shunt valve waiting time.

Selecting “prioritised additional heat” uses the heat from the external additional heat instead of the heat pump. The shunt valve is regulated as long as heat is available, otherwise the shunt valve is closed.



TIP!

See the accessory installation instructions for function description.

MENU 5.3.3 - EXTRA CLIMATE SYSTEM (ACCESSORY IS REQUIRED)

use in heating mode

Setting range: on/off
Factory setting: on

use in cooling mode

Setting range: on/off
Factory setting: off

mixing valve amplifier

Setting range: 0.1 – 10.0
Factory setting: 1.0

mixing valve step delay

Setting range: 10 – 300 s
Factory setting: 30 s

Contr. pump GP10

Setting range: on/off
Factory setting: off

Here, you select which climate system (2 – 8) you wish to set.

use in heating mode: If the heat pump is connected to a climate system(s) for cooling, any condensation can take place in this/these. Check that “use in heating mode” has been selected for the climate system(s) that is/are not adapted for cooling. This setting means that the sub-shunt for the extra climate system closes when cooling operation is activated.

use in cooling mode: Select “use in cooling mode” for climate systems that are adapted to handle cooling. For 2-pipe cooling you can select both “use in cooling mode” and “use in heating mode”, while for 4-pipe cooling you can only select one option.



NOTE!

This setting option only appears if the heat pump is activated for cooling operation.

mixing valve amplifier, mixing valve step delay: Here, you set the shunt amplification and shunt waiting time for the various extra climate systems that are installed.

Contr. pump GP10: Here, you can set the speed of the circulation pump manually.

See the accessory installation instructions for function description.

MENU 5.3.4 - SOLAR HEATING (ACCESSORY IS REQUIRED)

start delta-T GP4

Setting range: 1 – 40 °C

Factory setting: 8 °C

stop delta-T GP4

Setting range: 0 – 40 °C

Factory setting: 4 °C

max. tank temperature

Setting range: 5 – 110 °C

Factory setting: 95 °C

max. solar collector temp.

Setting range: 80 – 200 °C

Factory setting: 125 °C

anti-freeze temperature

Setting range: -20 – +20 °C

Factory setting: 2 °C

start solar collector cooling

Setting range: 80 – 200 °C

Factory setting: 110 °C

start delta-T, stop delta-T: Here, you can set the temperature difference between solar panel and solar tank at which the circulation pump will start and stop.

max. tank temperature, max. solar collector temp.:

Here, you can set the maximum temperatures in the tank and solar panel respectively at which the circulation pump will stop. This is to protect against excess temperatures in the solar tank.

If the unit has an anti-freeze function and/or solar panel cooling you can activate them here. When the function has been activated, you can make settings for them.

freeze protection

anti-freeze temperature: Here, you can set the temperature in the solar panel at which the circulation pump is to start to prevent freezing.

solar panel cooling

start solar collector cooling: If the temperature in the solar panel is higher than this setting, at the same time as the temperature in the solar tank is higher than the set maximum temperature, the external function for cooling is activated.

See the accessory installation instructions for function description.

MENU 5.3.6 - STEP CONTROLLED ADD. HEAT (ACCESSORY IS REQUIRED)

start diff additional heat

Setting range: 0 – 2000 DM

Factory setting: 400 DM

diff. between additional steps

Setting range: 0 – 1000 DM

Factory setting: 30 DM

max step

Setting range

(binary stepping deactivated): 0 – 3

Setting range

(binary stepping activated): 0 – 7

Factory setting: 3

binary stepping

Setting range: on/off

Factory setting: off

Make settings for step controlled addition here. Step controlled addition is for example an external electric boiler.

It is possible, for example, to select when the additional heat is to start, to set the maximum number of permitted steps and whether binary stepping is to be used.

When binary stepping is deactivated (off), the settings refer to linear stepping.

See the accessory installation instructions for function description.

MENU 5.3.8 - HOT WATER COMFORT (ACCESSORY IS REQUIRED)

activating immersion heater

Setting range: on/off

Factory setting: off

activ. imm. heat in heat mode (if activating immersion heater is on)

Setting range: on/off

Factory setting: on

activating the mixing valve

Setting range: on/off

Factory setting: off

outgoing hot water

Setting range: 40 – 65 °C

Factory setting: 55 °C

mixing valve amplifier

Setting range: 0.1 – 10.0

Factory setting: 1.0

mixing valve step delay

Setting range: 10 – 300 s

Factory setting: 30 s

Make settings for the hot water comfort here.
See the accessory installation instructions for function description.

activating the mixing valve: Activated if mixer valve is installed and it is to be controlled from BA-SVM 20-200. When the option is active, you can set the outgoing hot water temperature, shunt amplification and shunt waiting time for the mixer valve.

outgoing hot water: Here, you can set the temperature at which the mixer valve is to restrict hot water from the water heater.

MENU 5.3.11 - MODBUS (ACCESSORY IS REQUIRED)

address

Factory setting: address 1

word swap

Factory setting: not activated

As from Modbus 40 version 10, the address can be set between 1 - 247. Earlier versions have a fixed address (address 1).

Here, you can select if you want to have "word swap" instead of the preset standard "big endian".

See the accessory installation instructions for function description.

MENU 5.3.12 - EXHAUST/SUPPLY AIR MODULE (ACCESSORY IS REQUIRED)

months btwn filter alarms

Setting range: 1 - 24

Factory setting: 3

lowest extract air temp.

Setting range: 0 - 10 °C

Factory setting: 3 °C

bypass at excess temperature

Setting range: 2 - 10 °C

Factory setting: 4 °C

bypass during heating

Setting range: on/off

Factory setting: off

cut-out val. exh. air temp.

Setting range: 5 - 30 °C

Factory setting: 25 °C

product

Setting range: ERS S10, ERS 20/ERS 30

Factory setting: ERS 20 / ERS 30

action level monitor

Setting range: off, blocked, level monitor

Factory setting: level monitor

months btwn filter alarms: Set how often the filter alarm is to be displayed.

lowest extract air temp.: Set the minimum extract air temperature to prevent the build-up of ice on the heat exchanger. The supply air fan speed reduces, if the extract air temperature is lower than the set value.

bypass at excess temperature: If a room sensor is installed, you set the over-temperature at which the bypass damper will open here.

bypass during heating: Activate whether the bypass damper will also be allowed to open during heat production.

cut-out val. exh. air temp.: If no room sensor is installed, you set the exhaust air temperature at which the bypass damper will open here.

product: Here, you set which ERS model is installed.

action level monitor: If "level monitor" is selected, the product issues an alert and the fans stop when the input closes. If "blocked" is selected, text in operating info shows that the input is closed. The fans stop until the input is open.



TIP!

See the installation instructions for ERS and HTS for a function description.

MENU 5.3.16 - HUMIDITY SENSOR (ACCESSORY IS REQUIRED)

climate system 1 HTS

Setting range: 1-4

Factory setting: 1

Heating

limit RH in the room, syst.

Setting range: on/off

Factory setting: off

Cooling (cooling must be activated)

prevent condensation, syst.

Setting range: on/off

Factory setting: off

limit RH in the room, syst.

Setting range: on/off

Factory setting: off

Up to four humidity sensors (HTS 40) can be installed.

Here you select whether your system(s) is/are to limit the relative humidity level (RH) during heating or cooling operation.

You can also choose to limit min. cooling supply and calculated cooling supply to prevent condensation on pipes and components in the cooling system.

See the Installer Manual for HTS 40 for function description.

MENU 5.3.21 - FLOW SENSOR / ENERGY METER (ACCESSORY IS REQUIRED)

Flow sensor

set mode

Setting range: EMK150 / EMK300/310 / EMK500

Factory setting: EMK300/310

energy per pulse

Setting range: 0 – 10000 Wh

Factory setting: 1000 Wh

pulses per kWh

Setting range: 1 – 10000

Factory setting: 500

Energy meter

set mode

Setting range: energy per pulse / pulses per kWh

Factory setting: energy per pulse

energy per pulse

Setting range: 0 – 10000 Wh

Factory setting: 1000 Wh

pulses per kWh

Setting range: 1 – 10000

Factory setting: 500

Flow sensor (EMK) / energy meter can be connected on the input board AA3, terminal block X22 and X23. Select these in menu 5.2.4 – accessories.

Flow sensor (Energy measurement kit EMK)

A flow sensor (EMK) is used to measure the amount of energy produced and supplied by the heating installation for hot water and heating in the building.

The function of the flow sensor is to measure flow and temperature differences in the charge circuit. The value is presented in the display on a compatible product.

energy per pulse: Here you set the amount of energy to which each pulse will correspond.

pulses per kWh: Here you set the number of pulses per kWh that are sent to BA-SVM 20-200.



NOTE!

Visit myuplink.com and click on the "Software" tab to download the latest software to your installation.

Energy meter (Electricity meter)

The energy meter(s) is used to send pulse signals every time a certain amount of energy has been consumed.

energy per pulse: Here you set the amount of energy to which each pulse will correspond.

pulses per kWh: Here you set the number of pulses per kWh that are sent to BA-SVM 20-200.

MENU 5.4 - SOFT IN/OUTPUTS

Here you can select which in/output on the input board (AA3) and the terminal block (X2) the external switch function will be connected to.

Selectable inputs on terminal blocks AUX 1-3 (AA3-X6:9-14) and AUX 4 (X2:1-4) and output AA3-X7.



CAUTION!

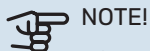
The signal for the AUX inputs must be a zero-voltage signal (make-break contact).

Possible configurations AA3-X7:

- Not used,
- Holiday,
- Away mode,
- Alarm output,
- Hot water recirculation,
- Ext heat. med. pump

MENU 5.5 - FACTORY SETTING SERVICE

All settings can be reset (including settings available to the user) to default values here.



NOTE!

When resetting, the start guide is displayed the next time the control module is restarted.

MENU 5.6 - FORCED CONTROL

You can force control the different components in the control module and any connected accessories here.

MENU 5.7 - START GUIDE

When the control module is started for the first time the start guide starts automatically. Start it manually here.

MENU 5.8 - QUICK START

It is possible to start the compressor from here.



NOTE!

There must be a heating, cooling or hot water demand to start the compressor.



CAUTION!

Do not quick start the compressor too many times over a short period of time, as this could damage the compressor and its surrounding equipment.

MENU 5.9 - FLOOR DRYING FUNCTION

length of period 1 - 7

Setting range: 0 - 30 days

Factory setting, period 1 - 3, 5 - 7: 2 days

Factory setting, period 4: 3 days

temp. period 1 - 7

Setting range: 15 - 70 °C

Factory setting:

temp. period 1	20 °C
temp. period 2	30 °C
temp. period 3	40 °C
temp. period 4	45 °C
temp. period 5	40 °C
temp. period 6	30 °C
temp. period 7	20 °C

Set the function for under floor drying here.

You can set up to seven time periods with different calculated supply temperatures. If fewer than seven periods are to be used, set the remaining periods to 0 days.

Mark the active window to activate the underfloor drying function. A counter at the bottom shows the number of days the function has been active.



TIP!

If operating mode "add. heat only" is to be used, select it in menu 4.2.

MENU 5.10 - CHANGE LOG

Read off any previous changes to the control system here. The date, time, ID no. (unique to particular setting) and the new set value are shown for every change.



NOTE!

The change log is saved at restart and remains unchanged after factory setting.

MENU 5.11 - SLAVE SETTINGS

Settings for installed slaves can be made in the sub menus.

MENU 5.11.1 - EB101

Make settings for the installed slaves here.



CAUTION!

The BA-SVM 20-200 unit cannot be cascaded with heat pumps.

MENU 5.11.1.1 - HEAT PUMP

Make settings for the installed slave here. To see what settings you can make, see the installation manual for the relevant installed slave.

MENU 5.11.1.2 - CHARGE PUMP (GP12)

op. mode

Heating/cooling

Setting range: auto / intermittent

Factory setting: auto

GP10 off, cool. 2-pipe

Setting range: on/off

Factory setting: off

Set the operating mode for the charge pump here.

auto: The charge pump runs according to the current operating mode for BA-SVM 20-200.

intermittent: The charge pump starts and stops 20 seconds before, and after, the compressor in the heat pump.

GP10 off, cool. 2-pipe: This function allows the GP10 pump to be turned off during cooling in a 2-pipe system.

speed during operation

heating, hot water, pool, cooling

Setting range: auto / manual

Factory setting: auto

Manual setting

Setting range: 1–100 %

Factory setting: 70 %

min. allowed speed

Setting range: 1–100 %

Factory setting: 15 %

speed in wait mode

Setting range: 1–100 %

Factory setting: 30 %

max. allowed speed

Setting range: 80–100 %

Factory setting: 100 %

Set the speed at which the charge pump is to operate in the present operating mode. Select “auto” if the speed of the charge pump is to be regulated automatically (factory setting) for optimal operation.

If “auto” is activated for heating operation, you can also make the setting “min. allowed speed” and “max. allowed speed”, which restricts the charge pump and prevents it from running at a lower or higher speed than the set value.

For manual operation of the charge pump, deactivate “auto” for the current operating mode and set the value to between 1 and 100% (the previously set value for “max. allowed speed” and “min. allowed speed” no longer applies).

Speed in wait mode (only used if “auto” has been selected for “Operating mode”) means the charge pump operates at the set speed during the time when neither compressor operation nor additional heat are required.

5.12 - COUNTRY

Select here the country in which the product was installed. This allows access to country-specific settings in your product.

Language settings can be made regardless of this selection.

**NOTE!**

This option locks after 24 hours, after restarting the display and during program updating.

10 Service

Service actions



CAUTION!

Servicing should only be carried out by persons with the necessary expertise.
When replacing components in the BA-SVM 20-200, only original spare parts should be used.

Emergency mode



CAUTION!

Switch (SF1) must not be put into mode „“ before the installation is filled with water. The compressor in the heat pump can be damaged.

Emergency mode is used in event of operational interference and in conjunction with service. Hot water is not produced in emergency mode.

Emergency mode is activated by setting switch (SF1) in mode „“. This means that:

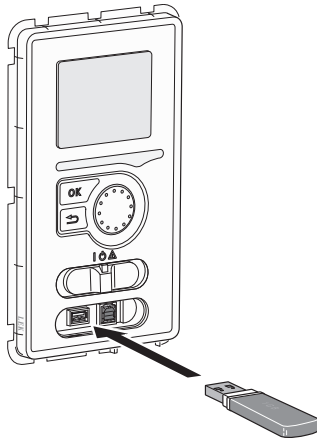
- The status lamp illuminates yellow
- The display is not lit and the control computer is not connected.
- Hot water is not produced.
- The compressors are switched off. Charge pump (EB101-GP12) is running.
- Accessories are switched off
- The heating medium pump is active.
- The emergency mode relay (K2) is active.
- Electric module available power – 3kW.

External additional heat is active if it is connected to the emergency mode relay (K2, terminal block X1). Ensure that the heating medium circulates through the external additional heat.

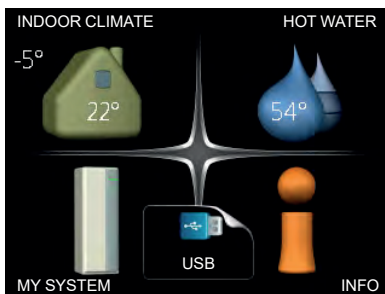
Table of resistance of temperature sensors

Temperature (°C)	Resistance (kΩm)	Voltage (VDC)
-40	351,0	3,256
-35	251,6	3,240
-30	182,5	3,218
-25	133,8	3,189
-20	99,22	3,150
-15	74,32	3,105
-10	56,20	3,047
-5	42,89	2,976
0	33,02	2,889
5	25,61	2,789
10	20,02	2,673
15	15,77	2,541
20	12,51	2,399
25	10,00	2,245
30	8,045	2,083
35	6,514	1,916
40	5,306	1,752
45	4,348	1,587
50	3,583	1,426
55	2,968	1,278
60	2,467	1,136
65	2,068	1,007
70	1,739	0,891
75	1,469	0,758
80	1,246	0,691
85	1,061	0,607
90	0,908	0,533
95	0,779	0,469
100	0,672	0,414

USB service outlet

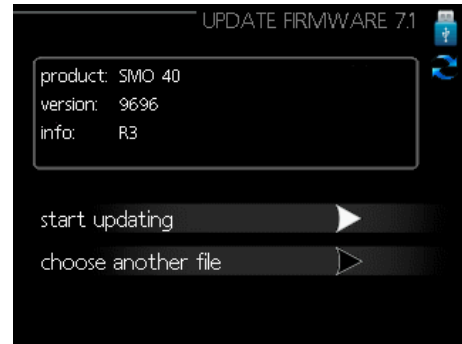


The display unit is equipped with a USB socket that can be used to update the software, save logged information and manage the settings in the controller.



When a USB memory is connected a new menu (menu 7) appears in the display.

Menu 7.1 - update firmware



This allows you to update the software in the controller.



CAUTION!

For the following functions to work the USB memory must contain files with software for the controller.

The fact box at the top of the display shows information of the most probable update that the update software has selected from the USB memory.

This information states which product the software is intended for, the software version and general information about them. If you wish to select another file than the one selected, the correct file can be selected by „choose another file“.

start updating

Select “start updating” if you want to start the update. You are asked whether you really want to update the software. Respond „yes” to continue or „no” to undo.

If you responded “yes” to the previous question the update starts and you can now follow the progress of the update on the display. When the update is complete the controller restarts.



CAUTION!

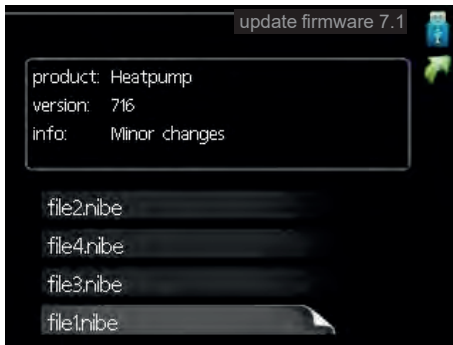
A software update does not reset the menu settings in the controller.



CAUTION!

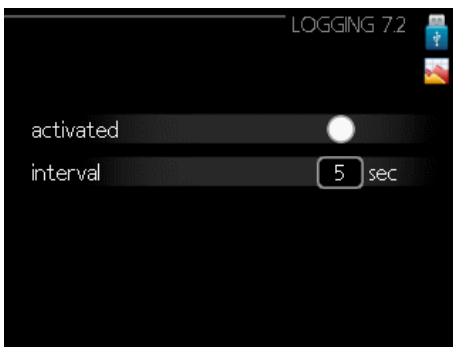
If the update is interrupted before it is complete (for example power cut etc.), the software can be reset to the previous version if the OK button is held in during start up until the green lamp starts to illuminate (takes about 10 seconds).

Choose another file



Select "choose another file" if you do not want to use the suggested software. When you scroll through the files, information about the marked software is shown in a fact box just as before. When you have selected a file with the OK button you will return to the previous page (menu 7.1) where you can choose to start the update.

Menu 7.2 - logging



Setting range: 1 s – 60 min
Factory setting range: 5 s

Here you can choose how current measurement values from the controller should be saved onto a log file on the USB memory.

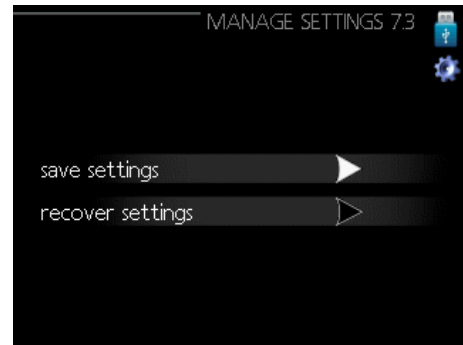
1. Set the desired interval between loggings.
2. Tick "activated".
3. The present values from the controller are saved in a file in the USB memory at the set interval until "activated" is unticked.



CAUTION!

Untick „activated“ before removing the USB memory. Otherwise, saved data may be lost.

Menu 7.3 - manage settings



Here you can manage (save as or retrieve from) all the menu settings (user and service menus) in the controller with a USB memory.

Via „save settings“ you save the menu settings to the USB memory in order to restore them later or to copy the settings to another controller.



CAUTION!

When you save the menu settings to the USB memory you replace any previously saved settings on the USB memory.



CAUTION!

Reset of the menu settings from the USB memory cannot be undone.

Emptying the hot water tank

For emptying the hot water tank the siphon principle applies. This can be done via the drain valve on the cold water supply pipe or by placing a hose in the cold water connection.

Emptying the heating system

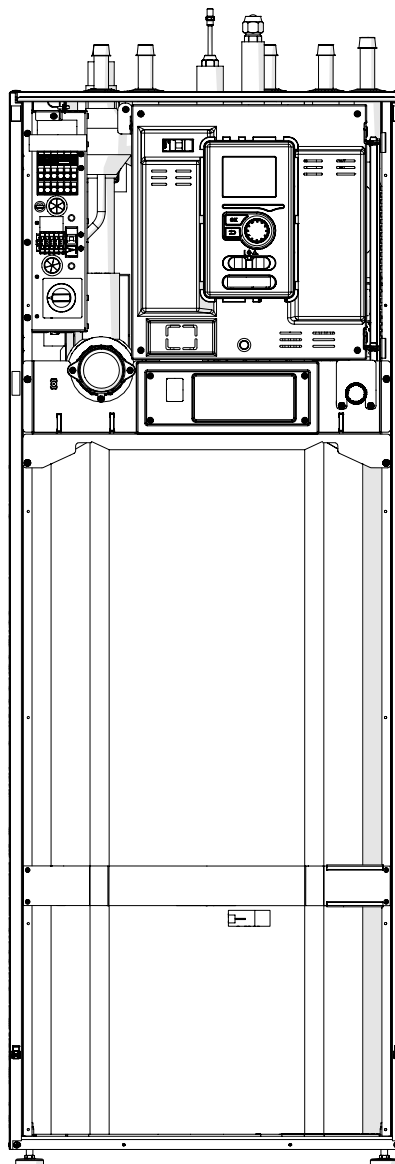
To facilitate the servicing of the heating system, it must first be emptied using the filling valve.

1. Connect the hose to the external drain valve of the system.
2. Then open the drain valve to empty the heating system.



CAUTION!

When emptying the side of the heating medium / heating system, remember that they may contain hot water. There is a risk of burns.

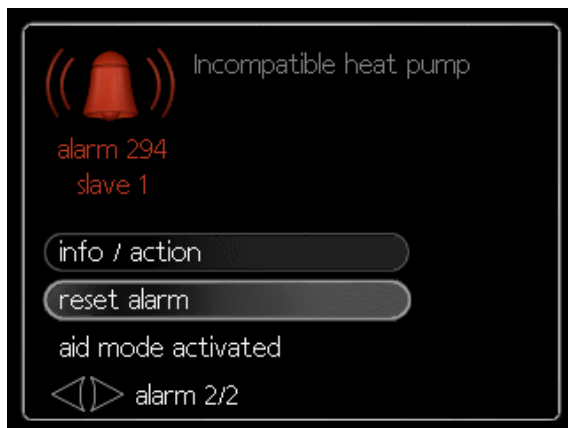


11 Disturbances in comfort

In most cases, the control module notes a malfunction and indicates this with alarms and shows instructions to rectify it in the display. See „Manage alarm” for information about managing alarms. If the malfunction does not appear in the display, or if the display is not lit, the following troubleshooting guide can be used.

In the event of an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from green continuously to red continuously. In addition, an alarm bell appears in the information window.

Alarm



In the event of an alarm with a red status lamp a malfunction has occurred that the heat pump and/or control module cannot remedy itself. In the display, by turning the control knob and pressing the OK button, you can see the type of alarm it is and reset it. You can also choose to set the installation to aid mode.

info / action Here you can read what the alarm means and receive tips on what you can do to correct the problem that caused the alarm.

reset alarm In many cases, it is sufficient to select “reset alarm” in order for the product to revert to normal operation. If a green light comes on after selecting “reset alarm”, the alarm has been remedied. If a red light is still visible and a menu called “alarm” is visible in the display, the problem that caused the alarm remains. If the alarm disappears and then returns, contact the installer.

reset alarm “aid mode” is a type of emergency mode. This means that the installation produces heat and/or hot water despite there being some kind of problem. This can mean that the heat pump’s compressor is not running. In this case any electrical addition produces heat and/or hot water.



CAUTION!

Selecting „aid mode” is not the same as correcting the problem that caused the alarm. The status lamp will therefore continue to be red.

If the alarm has not been reset, contact the installer for proper repair.



CAUTION!

When reporting a fault, always enter the serial number of the product (14 digits) found on the nameplate (PF1).

Troubleshooting

If the operational interference is not shown in the display the following tips can be used:

Basic actions

Start by checking the following items:

- The switch’s position.
- Group and main fuses of the accommodation.
- The control module’s miniature circuit breaker.
- Correctly set load monitor (if installed).

Low hot water temperature or no hot water

This part of the fault-tracing chapter only applies if the water heater is installed in the system.

- Closed or choked filling valve for the hot water.
 - Open the valve.
- Mixing valve (if there is one installed) set too low.
 - Adjust the mixer valve.
- Control module in incorrect operating mode.
 - If mode „manual” is selected, select „addition”.
- Large hot water consumption.
 - Wait until the hot water has heated up. Temporarily increased hot water capacity (temporary lux) can be activated in menu 2.1..
- Too low hot water setting.
 - Enter menu 2.2 and select a higher comfort mode
- Too low or no operating prioritisation of hot water.
 - Enter menu 4.9.1 and increase the time for when hot water is to be prioritised.

Low room temperature

- Closed thermostats in several rooms.
 - Set the thermostats to max, in as many rooms as possible.
- Adjust the room temperature via menu 1.1, instead of choking the thermostats.
- Control module in incorrect operating mode.
 - Enter menu 4.2. If mode „auto” is selected, select a higher value on „stop heating” in menu 4.9.2.
 - If mode „manual” is selected, select „heating”. If this is not enough, select „addition”.
- Too low set value on the automatic heating control.
 - Enter menu 1.1 „temperature” and adjust the offset heating curve up. If the room temperature is only low in cold weather the curve slope in menu 1.9.1 „heating curve” needs adjusting up.

- Too low or no operating prioritisation of heat.
 - Enter menu 4.9.1 and increase the time for when heating is to be prioritised.
- „Holiday mode“ activated in menu 4.7.
 - Enter menu 4.7 and select „Off“.
- External switch for changing the room heating activated.
 - Check any external switches.
- Air in the climate system.
 - Vent the climate system.
 - Open the valves (contact the installer to locate them).

High room temperature

- Too high set value on the automatic heating control.
 - Enter menu 1.1 (temperature) and reduce the offset heating curve. If the room temperature is only high in cold weather the curve slope in menu 1.9.1 „heating curve“ needs adjusting down.
- External switch for changing the room heating activated.
 - Check any external switches.

The compressor does not start

- There is no heating requirement.
 - The controller does not call on heating or hot water.
- Compressor blocked due to the temperature conditions.
 - Wait until the temperature is within the product's working range.
- Minimum time between compressor starts has not been reached.
 - Wait 30 minutes and then check if the compressor has started.
- Alarm tripped.
 - Follow the display instructions.

Additional heating only

If you are unsuccessful in rectifying the fault and are unable to heat the house, you can, whilst waiting for assistance, continue running the heat pump in "add. heat only". This means that additional heating only is used to heat the house.

Set the installation to additional heat mode

1. Go to menu 4.2 op. mode.
2. Mark "add. heat only" using the control knob and then press the OK button.
3. Return to the main menus by pressing the Back button.



NOTE!

When commissioning without NIBE air/water heat pump, the communication error alarm may appear in the display.

The alarm is reset if the relevant heat pump is deactivated in menu 5.2.2 („installed slaves“).

12 Accessories

Automatic gas separator AGS 10

Intended for NIBE AMS 20-10 / BA-SVM 20-200/12.
An automatic air separator must be installed when the length of the pipe between NIBE AMS 20-10 and BA-SVM 20-200/12 air/water heat pump exceeds 15 m.

Part no. 067 829

Room sensor RTS 40

This accessory is used to obtain a more even indoor temperature.

Part no. 067 065

Extra shunt group ECS 40/ECS 41

This accessory is used when the controller is installed in houses with two or more different heating systems that require different supply temperatures.

ECS 40 (max 80m²)

Part no. 067 287

ECS 41 (max 250m²)

Part no. 067 288

Accessory card AXC 40

An accessory board is required in case of active cooling (4-pipe system), an additional climate system, or if more than four feed pumps are to be connected to the controller. It can also be used in case of additional heat controlled by a shunt valve (e.g. wood/oil/gas/pellet boiler). An accessory board is required if, for example, a hot water circulation pump is to be connected to the controller where the AA3-X7 output is activated for the QN12 valve.

Part no. 067 060

Communications module MODBUS 40

MODBUS 40 enables controller to be controlled and monitored using a BMS (building management system) in the building. Communication is then performed using MODBUS-RTU.

Part no. 067 144

Room unit RMU 40

RMU 40 means that control and monitoring of the controller can be carried out in a different part of your home to where it is located.

Part no. 067 064

Pool unit POOL 40

POOL 40 is used to enable swimming pool heating with BA-SVM 20-200.

Part no. 067 062

Air/water heat pump

AMS 20-6

Part no. 064 235

AMS 20-10

Part no. 064 319

AMS 10-6

Part no. 064 205

AMS 10-8

Part no. 064 033

AMS 10-12

Part no. 064 110

Auxiliary relay HR 10

Auxiliary relay HR 10 is used to control external 1 to 3 phase loads such as oil burners, immersion heaters and pumps.

Part no. 067 309

Condensation water drainage pipe

KVR10-10

Length - 1 meter
Part no. 067 614

KVR10-30

Length - 3 metres
Part no. 067 616

KVR10-60

Length - 6 meters
Part no. 067 618

Communication module for solar panels EME 20

The EME 20 is used to enable communication and control between NIBE solar cell inverters and the BA-SVM indoor unit.

Part no. 057 188

ERS RECUPERATION SYSTEMS

This accessory is used to supply the building with recovered energy from the ventilation air. The device ventilates the building and heats the supply air if necessary.

ERS 10-400

Part no. 066 115

ERS 20-250

Part no. 066 068

More accessories are available on the website
<https://www.nibe.eu>

Connecting the KVR accessory

The KVR 10 accessory is used to safely drain off most of the condensate from the air/water heat pump to a frost-free collection point.

HYDRAULIC CONNECTION

For information on hydraulic connection of the KVR 10 accessory, see the instructions for the KVR accessory.

ELECTRICAL CONNECTION

In order to connect the electric KVR accessory:

1. Open the control panel and knock out the notched plate in the control panel housing under the residual current device. Remove the panel housing.
2. Disconnect the wires and remove the cube.

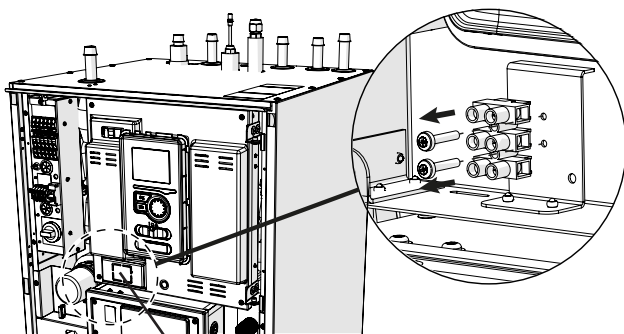
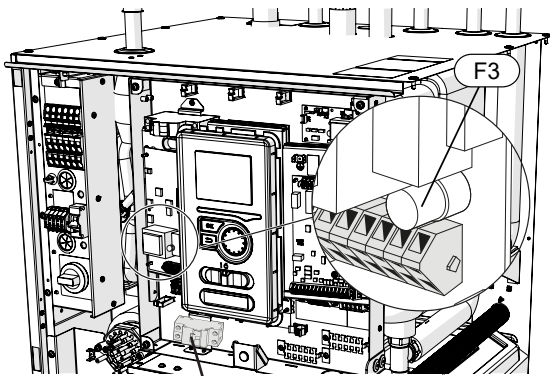


Plate to be punched-out

3. Attach the residual-current device RCD.



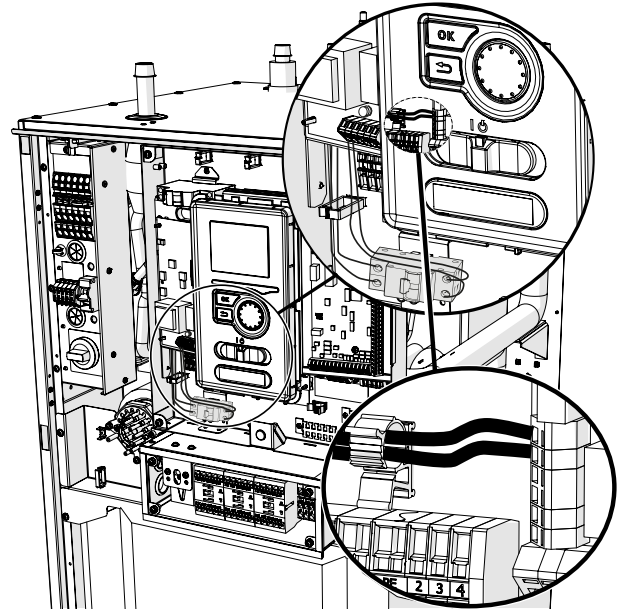
Residual-current device RCD

4. Use fuse (F3) depending on the length of the KVR cable in accordance with the below table.

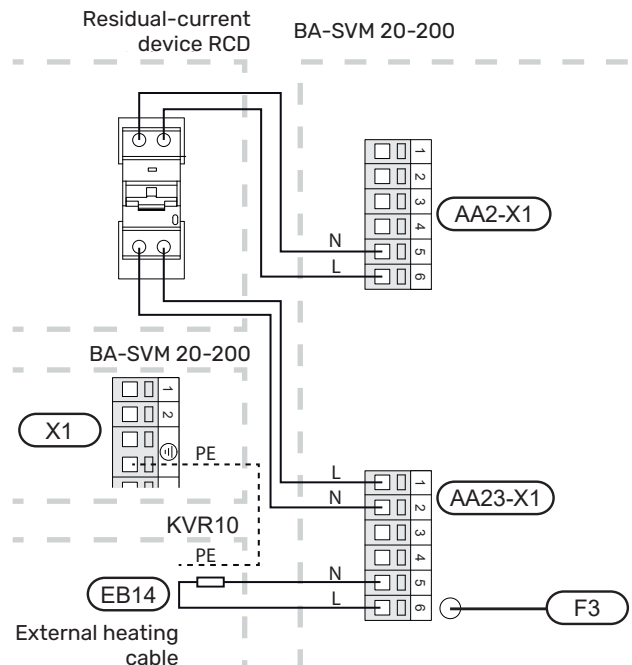
Length (m)	P _{tot} (W)	Fuse (F3)	Part no.
1	15	T100mA/250V	718 085
3	45	T250mA/250V	518 900*
6	90	T500mA/250V	718 086

*Fitted at the factory

5. Connect a residual-current device to terminal AA2-X1 under terminal block 5(N) and 6(L).
6. Connect a residual-current device to terminal AA23-X1 to terminal blocks 1 (L) and 2 (N).



7. Connect an external heating cable (EB14) to terminal AA23-X1 to terminal blocks: 4 (PE), 5 (N), 6 (L).



Connecting an additional heat source

The BA-SVM 20-200 can be connected to an additional heat source (e.g. a gas boiler, solid fuel boiler).



NOTE!

When using an additional heat source (e.g. gas boiler, solid fuel boiler), the built-in electric auxiliary heater will not be used.

Additional heat source connected before QN10 (replacing the built-in auxiliary heater) must not have a power greater than 15 kW and should be connected to the contactor K1A. Short-circuit of potential-free contacts K1A gives a signal to switch on an additional heat source.

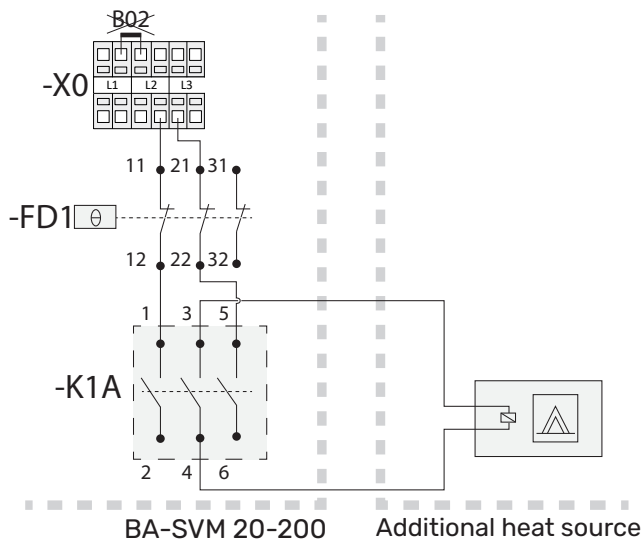
HYDRAULIC CONNECTION

The hydraulic connection should be made to connections XL 18 and 19 in accordance with „Diagram showing connection of an additional heat source“ in section 4 Pipe connections.

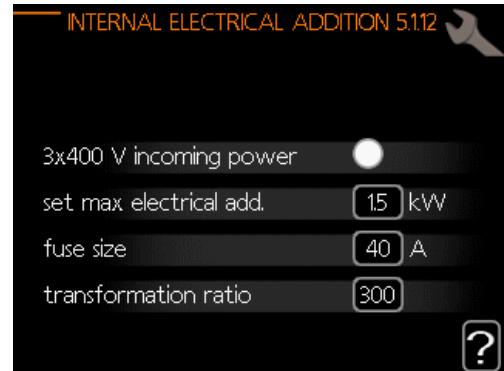
ELECTRICAL CONNECTION

In order to make a correct electrical connection to the control (potential-free):

1. Disconnect the device from the power supply.
2. In the case of connecting the unit to 400V, convert the connection to 230V.
3. Disconnect the B02 jumper as shown in the drawing below (detailed diagram in the subsection „Wiring diagrams“).
4. Connect the wires from the additional heat source (e.g. gas boiler) to the terminals of the K1A: 3 and K1A: 4 relay as shown in the figure below.



5. Connect the device to the power supply and start the BA-SVM unit.
6. In menu 5.1.12, change the setting according to the screenshot and description below.



Description of settings:

3x400 V incoming power: off
set max electrical add.: 15 kW
fuse size: 40A (recommended value)
transformation ratio: 300



CAUTION!

Setting the fuse size too low may result in wrong operation in additional heat source and/or compressor power limitation.



NOTE!

To run an additional heat source (e.g. a gas boiler), the fuse size must be set at least 7A higher than the required compressor run value.

In the absence of current limitation, the recommended fuse size is 40A.

Connecting the expansion card

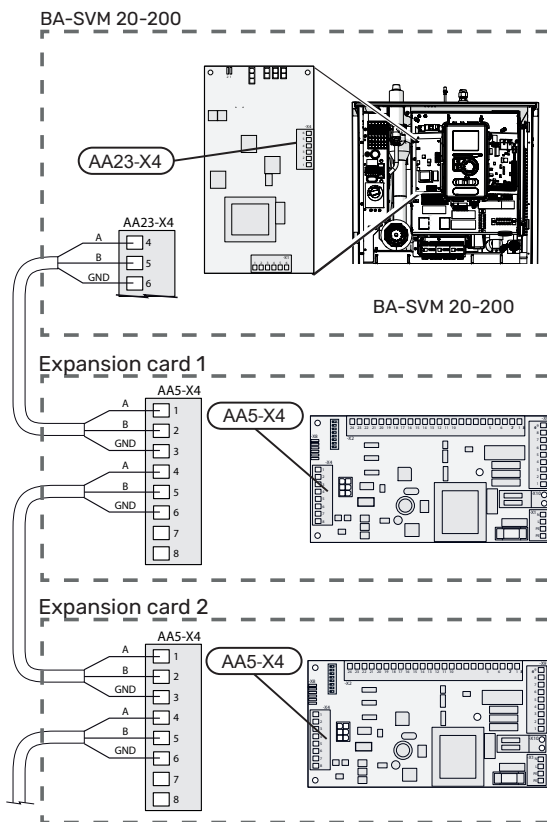
Communication connection

The expansion card communication should be connected directly to the BA-SVM 20-200 to the AA23 card according to the diagram below.

When connecting or installing more than one accessory, observe the following.

The first expansion card should be connected directly to the AA23-X4 terminal block on the BA-SVM 20-200, and the following cards should be connected in series with the previous one.

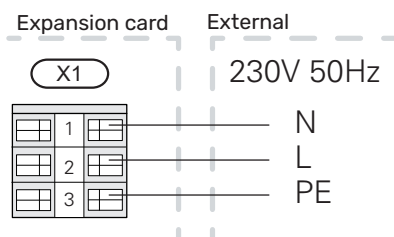
Use cables type LiYY, EKKX or similar.



For detailed information on using the expansion card, see the installer manual for the AXC 40 accessory.

Power connection

Connect the power to terminal X1 as shown in the figure.



Connection of an additional GP10 pump

To connect an additional GP10 circulation pump, proceed as follows:

- connect wire L to the terminal block AA2-X4: 11
- connect wire N to the terminal block AA2-X4: 10
- connect wire PE to the terminal AA2-X4: 9

All connections should be made in accordance with the figure below.

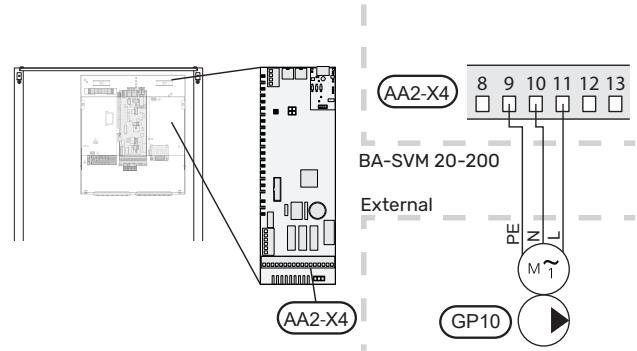
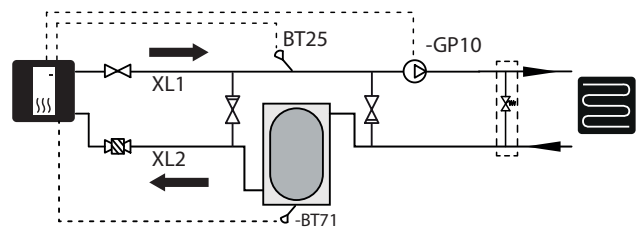
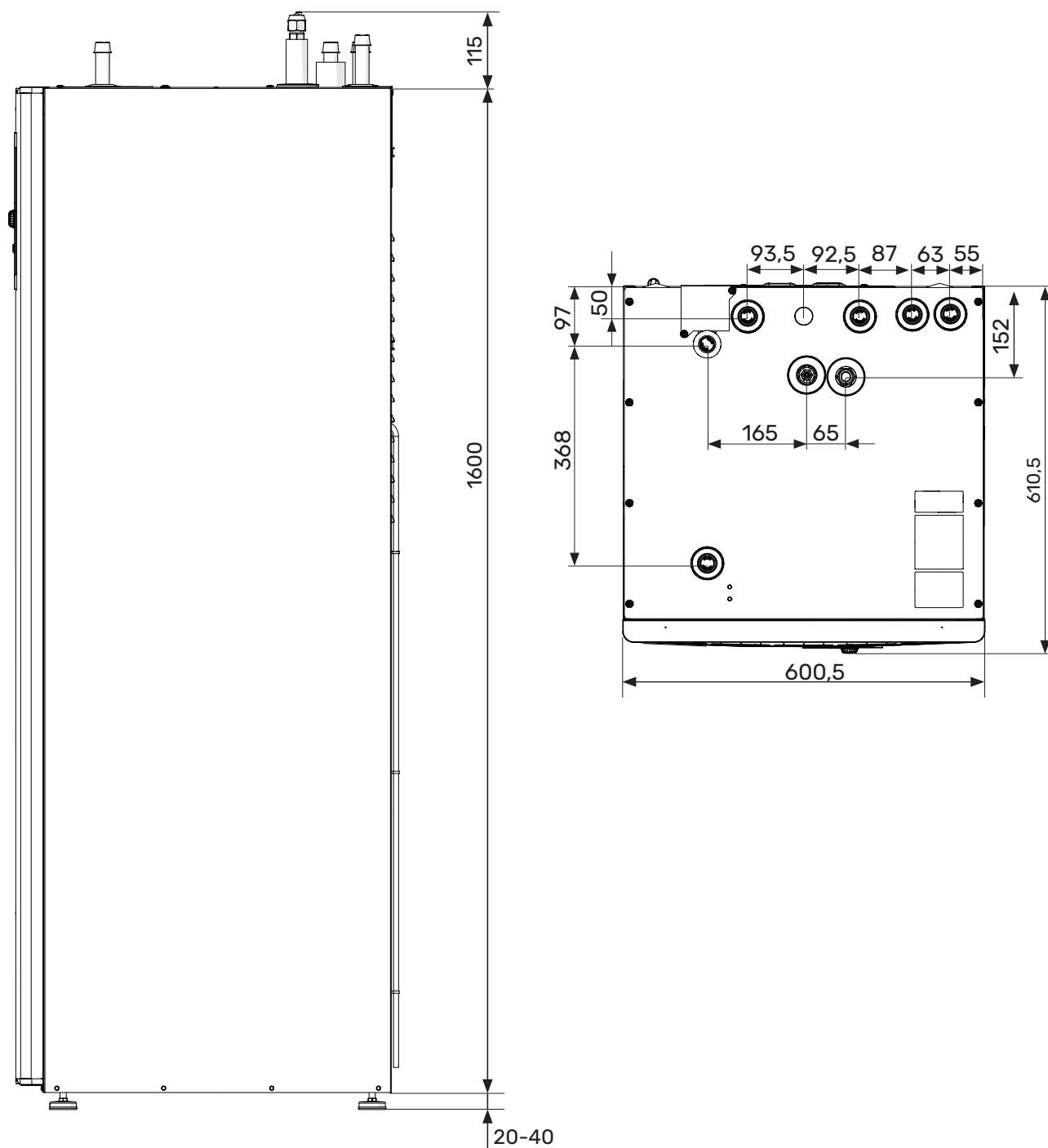


Diagram with buffer tank connected in series-parallel and additional circulation pump GP10.



13 Technical data



Technical data

BA-SVM 20-200

Product type	Unit	BA-SVM 20-200/6 E/E EM	BA-SVM 20-200/12 E/E EM
Height	mm	1720	
Required room height	mm	2100	
Width	mm	600	
Depth	mm	610	
Weight	kg	155	165
Maximum operating pressure of central heating system	bar	3	
Minimum operating pressure of central heating system	bar	0,5	
Maximum hot water pressure	bar	10	
Minimum hot water pressure	bar	2	
Hot water tank volume	l	180	
Maximum operating temperature of central heating	°C	70	
Low-energy circulation pump clim. sys.	-	Yes	
Safety valve. climate system	-	Yes, in the safety assembly	
Expansion vessel	l	10	
Additional heat	kW	4,5 (230 V) / 9 (400 V)	
Plate heat exchanger power	kW	6	9
Rated voltage	V	1x230 / 3x400	
Hot water tank corrosion protection	-	Enamel + titanium anode	
Refrigerant type	-	R410A / R32	
Maximum hot water capacity in accordance with EN16147	-	230 l 40°C	
Energy class (acc. to ErP, at supply temp. 55°C) (Applies to AMS 20-12 + BA-SVM 20-200/12 i AMS 20-6 + BA-SVM 20-200/6)	-	A++	
Performance class / Load profile (DHW)	-	A/XL	

AMS 20

Outdoor module	Unit	AMS 20-6	AMS 20-10
Output data according to EN 14 511, partial load ¹			
Heating	-7 / 35°C	5.55 / 2.05 / 2.71	7.18 / 2.93 / 2.45
Capacity / power input / COP (kW/kW/-) at nominal flow Outdoor temp. / Supply temp.	2 / 35°C	2.31 / 0.56 / 4.13	3.46 / 0.83 / 4.17
	2 / 45°C	2.02 / 0.67 / 3.01	3.24 / 1.12 / 3.24
	7 / 35°C	2.64 / 0.49 / 5.42	4.00 / 0.75 / 5.33
	7 / 45°C	2.43 / 0.65 / 3.74	5.00 / 1.28 / 3.91
Cooling	35 / 7 °C	5.32 / 1.94 / 2.74	7.07 / 2.40 / 2.95
Capacity / power input / EER (kW/kW/-) at maximum flow Outdoor temp: / Supply temp.	35 / 18 °C	7.55 / 2.11 / 3.58	10.79 / 3.00 / 3.60
SCOP according to EN 14825			
Nominal heat output (P _{designh}) average climate 35 °C / 55 °C (Europe)	kW	5.20 / 5.60	6.3 / 6.5
Nominal heat output (P _{designh}) cold climate 35 °C / 55 °C	kW	5.80 / 5.70	6.5 / 6.2
Nominal heat output (P _{designh}) warm climate 35 °C / 55 °C	kW	5.57 / 5.48	6.9 / 6.6
SCOP average climate, 35 °C / 55 °C (Europe)		5.08 / 3.58	4.6 / 3.4
SCOP cold climate, 35 °C / 55 °C		4.10 / 3.05	3.9 / 2.9
SCOP warm climate, 35 °C / 55 °C		6.76 / 4.55	6.4 / 4.4
Energy rating, average climate ²			
The product's room heating efficiency class 35 C / 55 C ³		A++ / A++	
The system's room heating efficiency class 35 C / 55 C ⁴		A+++ / A++	
Electrical data			
Rated voltage		230 V 50 Hz, 230 V 2 AC 50 Hz	
Max operating current, heat pump	A _{rms}	15	16
Max operating current, compressor	A _{rms}	14	15
Max. power, fan	W	50	86
Drain pan heating (integrated)	W	110	100
Fuse	A _{rms}	16	
Starting current	A _{rms}	5	
Enclosure class		IP24	
Refrigerant circuit			
Type of refrigerant		R32	
GWP refrigerant		675	
Volume	kg	1.3	1.84
Type of compressor		Twin Rotary	
CO ₂ -equivalent (The cooling circuit is hermetically sealed.)	t	0.88	1.24
Cut-out value pressure switch HP (BP1)	MPa (bary)	-	4,15 (41,5)
Cut-out value pressure switch LP (BP2)	MPa (bary)	-	0,079 (0,79)
Max. length, refrigerant pipe, one way	m	30	50
Max height difference, when AMS 20 is placed higher than BA-SVM	m	20	30
Max height difference, when AMS 20 is placed lower than BA-SVM	m	20	15

Dimensions, refrigerant pipes, Gas pipe/Liquid pipe ⁵	mm	12.7 (1/2") / 6.35 (1/4")	15.88 (5/8") / 6.35 (1/4")
Airflow			
Max airflow	m³/h	2,530	3,000
Working area			
Min./max. air temperature, heating	°C	-20 / 43	
Min./max. air temperature, cooling	°C	15 / 43	
Defrosting system		Reverse cycle	
Pipe connections			
Pipe connection option		Right-hand side	
Pipe connections		Flare	
Dimensions and weight			
Width	mm	800	880 (+67 valve cover)
Depth	mm	290	340 (+ 110 with foot rail)
Height with stand	mm	640	750
Weight	kg	46	60
Miscellaneous			
Part no.		064 235	064 319

¹ Power statements including defrosting according to EN 14511 at heating medium supply corresponding to DT=5 K at 7 / 45.

² Reported efficiency for the system also takes the temperature regulator into account. If the system is supplemented with an external auxiliary boiler or solar heating, the total efficiency of the system must be recalculated.

³ Scale for the product's room heating efficiency class A++ to G. Control module model SMO S.

⁴ Scale for the system's room heating efficiency class A+++ to G. Control module model SMO S.

⁵ If the length of the refrigerant pipes exceeds 15 metres, extra refrigerant must be added at 0.02 kg/m. Use the enclosed label to re-mark the unit with the new amount of refrigerant.

AMS 10

Outdoor module	Unit	AMS 10-6	AMS 10-8	AMS 10-12
Output data according to EN14511 ΔT5K	Outdoor temp./ Supply temp.			
Heating Capacity / power input / COP (kW/kW/-) at nominal flow	7/35°C (floor)	2,67/0,5/5,32	3,86/0,83/4,65	5,21/1,09/4,78
	2/35°C (floor)	2,32/0,55/4,2	5,11/1,36/3,76	6,91/1,79/3,86
	-7/35°C (floor)	4,60/1,79/2,57	6,60/2,46/2,68	9,00/3,27/2,75
	7/45°C	2,28/0,63/3,62	3,70/1,00/3,70	5,00/1,31/3,82
	2/45°C	1,93/0,67/2,88	5,03/1,70/2,96	6,80/2,24/3,04
Cooling Capacity / Power input / EER (kW/kW/-) at maximum flow	27/7°C	5,87/1,65/3,56	7,52/2,37/3,17	9,87/3,16/3,13
	27/18°C	7,98/1,77/4,52	11,20/3,20/3,50	11,70/3,32/3,52
	35/7°C	4,86/1,86/2,61	7,10/2,65/2,68	9,45/3,41/2,77
	35/18°C	7,03/2,03/3,45	9,19/2,98/3,08	11,20/3,58/3,12
Electrical data				
Rated voltage		230 V 50 Hz, 230 V 2 AC 50 Hz		
Max. current	A _{rms}	15	16	23
Recommended fuse rating	A _{rms}	16	16	25
Starting current	A _{rms}	5		
Max fan flow (heating, nominal)	m ³ /h	2 530	3 000	4 380
Fan rating	W	50	86	

Drain pan heater (integrated)	W	110	100	120
Defrosting		Reverse cycle		
Enclosure class		IP 24		
Refrigerant circuit				
Type of refrigerant		R410A		
GWP refrigerant		2 088		
Compressor		Twin Rotary		
Refrigerant quantity	kg	1,5	2,55	2,90
CO ₂ equivalent	t	3,13	5,32	6,06
Cut-out value, pressure switch, high pressure	MPa (bar)	-	4,15 (41,5)	
Breaking value high pressure	MPa (bar)	4,5 (45)	-	
Cut-out value, pressure switch, lowpressure (15 s)	MPa (bar)	-	0,079 MPa (0,79)	
Max. length, refrigerant pipe, one way	m	30*		
Max height difference, refrigerant pipe	m	7		
Dimensions, refrigerant pipe		Gas pipe: OD12,7 (1/2") Fluid pipe: OD 6,35 (1/4")	Gas pipe: OD 15,88 (5/8") Fluid pipe: OD 9,52 (3/8")	
Pipe connections				
Pipe connection option		Right-hand side	Right-hand side	Right / bottom / reverse
Pipe connections		Flare		
Dimensions and weight				
Width	mm	800	880 (+67 valve protec- tion)	970
Depth	mm	290	340 (+110 with foot rail)	370 (+80 with foot rail)
Height	mm	640	750	845
Weight	kg	46	60	74
Miscellaneous				
Part no.		064 205	064 033	064 110

* If the length of the refrigerant pipes exceeds 15 m, extra refrigerant must be added in the amount of 0.02kg/m for BA-SVM 20-200/6 or 0.06 kg/m for BA-SVM 20-200/12.

Max. operating current and recommended fuse rating for 3x400 V connection	Unit	BA-SVM 20-200/6 E/E EM + AMS 20-6	BA-SVM 20-200/12 E/E EM + AMS 20-10
Max. operating current, compressor	A	16	16
Max. operating current of heat pump including 3 kW immersion heater, compressor running and contactor K1 connected (recommended fuse rating)	A	16 (16)	16 (16)
Max. operating current of heat pump including 6 kW immersion heater, compressor running and contactor K1+K2 connected (recommended fuse rating)	A	16 (16)	16 (16)
Max. operating current of heat pump including 9 kW immersion heater, compressor running and contactor K1+K2+K3 connected (recommended fuse rating)	A	20 (20)	20 (20)
Max. operating current of 9 kW immersion heater, contactor K1+K2+K3 connected, compressor not running (recommended fuse rating)	A	20 (20)	20 (20)

Max. operating current and recommended fuse rating for 1x230 V connection	Unit	BA-SVM 20-200/6 E/E EM + AMS 20-6	BA-SVM 20-200/12 E/E EM + AMS 20-10
Max. operating current. compressor	A	16	16
Max. operating current of heat pump including 1.5 kW immersion heater. compressor running and contactor K1 connected (recommended fuse rating)	A	22,5 (25)	22,5 (25)
Max. operating current of heat pump including 3 kW immersion heater. compressor running and contactor K1+K2 connected (recommended fuse rating)	A	29 (32)	29 (32)
Max. operating current of heat pump including 4.5 kW immersion heater. compressor running and contactor K1+K2+K3 connected (recommended fuse rating)	A	35,5 (32)	35,5 (32)
Max. operating current of 4.5 kW immersion heater. contactor K1+K2+K3 connected. compressor not running (recommended fuse rating)	A	19,5 (20)	19,5 (20)

Max. operating current and recommended fuse rating for 3x400 V connection	Unit	BA-SVM 20-200/6 E/E EM + AMS 10-6	BA-SVM 20-200/12 E/E EM + AMS 10-8	BA-SVM 20-200/12 E/E EM + AMS 10-12
Max. operating current, compressor	A	16	16	20
Max. operating current of heat pump including 3 kW immersion heater, compressor running and contactor K1 connected (recommended fuse rating)	A	16 (16)	16 (16)	20 (20)
Max. operating current of heat pump including 6 kW immersion heater, compressor running and contactor K1+K2 connected (recommended fuse rating)	A	16 (16)	16 (16)	20 (20)
Max. operating current of heat pump including 9 kW immersion heater, compressor running and contactor K1+K2+K3 connected (recommended fuse rating)	A	20 (20)	20 (20)	20 (20)
Max. operating current of 9 kW immersion heater, contactor K1+K2+K3 connected, compressor not running (recommended fuse rating)	A	20 (20)	20 (20)	20 (20)

Max. operating current and recommended fuse rating for 1x230 V connection	Unit	BA-SVM 20-200/6 E/E EM + AMS 10-6	BA-SVM 20-200/12 E/E EM + AMS 10-8	BA-SVM 20-200/12 E/E EM + AMS 10-12
Max. operating current. compressor	A	16	16	20
Max. operating current of heat pump including 1.5 kW immersion heater. compressor running and contactor K1 connected (recommended fuse rating)	A	22,5 (25)	22,5 (25)	26,5 (25)
Max. operating current of heat pump including 3 kW immersion heater. compressor running and contactor K1+K2 connected (recommended fuse rating)	A	29 (32)	29 (32)	33 (32)
Max. operating current of heat pump including 4.5 kW immersion heater. compressor running and contactor K1+K2+K3 connected (recommended fuse rating)	A	35,5 (32)	35,5 (32)	39,5 (40)
Max. operating current of 4.5 kW immersion heater. contactor K1+K2+K3 connected. compressor not running (recommended fuse rating)	A	19,5 (20)	19,5 (20)	19,5 (20)

Energy efficiency label

Manufacturer	NIBE		
Heat pump model		AMS 20-6	AMS 20-10
		BA-SVM 20-200/6 E/E EM	BA-SVM 20-200/12 E/E EM
Temperature application	°C	35 / 55	35 / 55
Space heating efficiency class, average climate		A+++ / A++	
Nominal heat output (P_{designh}), average climate	kW	5 / 6	6 / 6
Annual energy consumption for space heating, average climate	kWh	2 116 / 3 250	2 834 / 3 961
Seasonal average space heating efficiency, average climate	%	200 / 139	181 / 132
Sound power level L_{WA} indoors	dB	35	
Rated heat output (P_{designh}), cold climate	kW	6 / 6	7 / 6
Rated heat output (P_{designh}), warm climate	kW	6 / 5	7 / 7
Annual energy consumption space heating, cold climate	kWh	3 487 / 4 604	4 059 / 5 204
Annual energy consumption space heating, warm climate	kWh	1 110 / 1 617	1 379 / 1 964
Seasonal average space heating efficiency, cold climate	%	161 / 119	155 / 114
Seasonal average space heating efficiency, warm climate	%	265 / 178	260 / 177
Sound power level L_{WA} outdoors	dB	54	54

Manufacturer	NIBE			
Heat pump model		AMS 10-6	AMS 10-8	AMS 10-12
		BA-SVM 20-200/6 E/E EM	BA-SVM 20-200/12 E/E EM	BA-SVM 20-200/12 E/E EM
Temperature application	°C	35 / 55	35 / 55	35 / 55
Declared load profile for heating hot water		XL		
Space heating efficiency class, average climate		A+++ / A++	A++ / A++	A++ / A++
Hot water heating efficiency class, average climate		A	A	A
Nominal heat output (P_{design}), average climate	kW	5 / 5	8 / 7	12 / 10
Annual energy consumption for space heating, average climate	kWh	2 089 / 3 248	3 882 / 4 447	5 382 / 6 136
Seasonal average space heating efficiency, average climate	%	188 / 131	172 / 127	174 / 132
Water heating energy efficiency, average climate	%	99	99	98
Sound power levels L_{WA} indoors	dB	35	35	35
Nominal heat output (P_{design}), cold climate	kW	4 / 6	9 / 10	12 / 13
Nominal heat output (P_{design}), warm climate	kW	4 / 5	8 / 8	12 / 12
Annual energy consumption for space heating, cold climate	kWh	2 694 / 4 610	6 264 / 8 844	7 798 / 11 197
Annual energy consumption for space heating, warm climate	kWh	872 / 1 398	1 879 / 2 333	2 759 / 3 419
Seasonal average space heating efficiency, cold climate	%	143 / 116	139 / 108	142 / 111
Seasonal average space heating efficiency, warm climate	%	252 / 179	225 / 180	229 / 185
Sound power level L_{WA} outdoors	dB	51	55	58

Energy efficiency specifications of the package

Heat pump model		AMS 20-6	AMS 20-10
		BA-SVM 20-200/6 E/E EM	BA-SVM 20-200/12 E/E EM
Temperature application	°C	35 / 55	35 / 55
Controller, class		VI	
Controller, contribution to efficiency	%	4,0	
Seasonal space heating energy efficiency of the package, average climate	%	204 / 143	185 / 136
Seasonal space heating energy efficiency class of the package, average climate		A+++ / A++	
Seasonal space heating energy efficiency of the package, cold climate	%	165 / 123	159 / 118
Seasonal space heating energy efficiency of the package, warm climate	%	269 / 182	264 / 181

Heat pump model		AMS 10-6	AMS 10-8	AMS 10-12
		BA-SVM 20-200/6 E/E EM	BA-SVM 20-200/12 E/E EM	BA-SVM 20-200/12 E/E EM
Temperature application	°C	35 / 55	35 / 55	35 / 55
Controller, class		VI		
Controller, contribution to efficiency	%	4,0		
Seasonal space heating energy efficiency of the package, average climate	%	192 / 135	176 / 131	178 / 136
Seasonal space heating energy efficiency class of the package, average climate		A+++ / A++	A+++ / A++	A+++ / A++
Seasonal space heating energy efficiency of the package, cold climate	%	147 / 120	143 / 112	146 / 115
Seasonal space heating energy efficiency of the package, warm climate	%	256 / 183	229 / 184	233 / 189

A+++ - D for product space heating
A+++ - G for package space heating
A+ - F for product domestic hot water

The reported efficiency of the system also takes the controller into account. If an external supplementary boiler or solar heating is added to the system, the overall efficiency of the system should be recalculated.

Energy label

Model				AMS 20-6 + BA-SVM 20-200/6 E/E M			
Type of heat pump				☒ Air-water ☐ Exhaust-water ☐ Brine-water ☐ Water-water			
Low-temperature heat pump				☐ Yes ☒ No			
Integrated immersion heater for additional heat				☒ Yes ☐ No			
Heat pump combination heater				☒ Yes ☐ No			
Climate				☒ Average ☐ Cold ☐ Warm			
Temperature application				☒ Average (55°C) ☐ Low (35°C)			
Applied standards				EN14825 / EN16147, EN14511 and EN12102			
Rated heat output	Prated	5.6	kW	Seasonal space heating energy efficiency	η_s	139	%
Declared capacity for space heating at part load and at outdoor temperature T_j				Declared coefficient of performance for space heating at part load and at outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	P _{dh}	5.0	kW	$T_j = -7^\circ\text{C}$	P _{dh}	1.95	-
$T_j = +2^\circ\text{C}$	P _{dh}	2.9	kW	$T_j = +2^\circ\text{C}$	P _{dh}	3.51	-
$T_j = +7^\circ\text{C}$	P _{dh}	1.9	kW	$T_j = +7^\circ\text{C}$	P _{dh}	4.99	-
$T_j = +12^\circ\text{C}$	P _{dh}	1.7	kW	$T_j = +12^\circ\text{C}$	P _{dh}	6.33	-
$T_j = \text{biv}$	P _{dh}	5.0	kW	$T_j = \text{biv}$	P _{dh}	1.95	-
$T_j = \text{TOL}$	P _{dh}	4.6	kW	$T_j = \text{TOL}$	P _{dh}	1.74	-
$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	P _{dh}		kW	$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	P _{dh}		-
Bivalent temperature	T_{biv}	-7	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{cyh}		kW	Cycling interval efficiency	COP _{cyh}		-
Degradation coefficient	C _{dh}	0.96	-	Max supply temperature	WTOL	58	°C
Power consumption in modes other than active mode				Additional heat			
Off mode	P _{OFF}	0.007	kW	Rated heat output	P _{sup}	1.0	kW
Thermostat-off mode	P _{TO}	0.0112	kW				
Standby mode	P _{SB}	0.0107	kW	Type of energy input	Electric		
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	Variable			Rated airflow (air-water)		2 340	m³/h
Sound power level, indoors/outdoors	L _{WA}	35 / 54	dB	Rated heating medium flow			m³/h
Annual energy consumption	Q _{HE}	3 250	kWh	Brine flow rate in brine-water or water-water heat pumps			m³/h

Model		AMS 20-10 + BA-SVM 20-200/12 E/E EM					
Type of heat pump		☒ Air-water ☐ Exhaust-water ☐ Brine-water ☐ Water-water					
Low-temperature heat pump		☐ Yes ☒ No					
Integrated immersion heater for additional heat		☒ Yes ☐ No					
Heat pump combination heater		☒ Yes ☐ No					
Climate		☒ Average ☐ Cold ☐ Warm					
Temperature application		☒ Average (55°C) ☐ Low (35°C)					
Applied standards		EN14825 / EN16147, EN14511 and EN12102					
Rated heat output	Prated	6.5	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for space heating at part load and at outdoor temperature T_j				Declared coefficient of performance for space heating at part load and at outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	Pdh	5.8	kW	$T_j = -7^\circ\text{C}$	Pdh	1.98	-
$T_j = +2^\circ\text{C}$	Pdh	3.5	kW	$T_j = +2^\circ\text{C}$	Pdh	3.17	-
$T_j = +7^\circ\text{C}$	Pdh	2.3	kW	$T_j = +7^\circ\text{C}$	Pdh	4.98	-
$T_j = +12^\circ\text{C}$	Pdh	2.2	kW	$T_j = +12^\circ\text{C}$	Pdh	5.50	-
$T_j = \text{biv}$	Pdh	5.8	kW	$T_j = \text{biv}$	Pdh	1.98	-
$T_j = \text{TOL}$	Pdh	5.8	kW	$T_j = \text{TOL}$	Pdh	1.69	-
$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	Pdh		kW	$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	Pdh		-
Bivalent temperature				Min. outdoor air temperature			
	T_{biv}	-7	°C		TOL	-10	°C
Cycling interval capacity				Cycling interval efficiency			
	P _{psych}		kW		COP-cyc		-
Degradation coefficient				Max supply temperature			
	Cdh	0.98	-		WTOL	60	°C
Power consumption in modes other than active mode				Additional heat			
Off mode	P _{OFF}	0.003	kW	Rated heat output	P _{sup}	0.7	kW
Thermostat-off mode	P _{TO}	0.008	kW				
Standby mode	P _{SB}	0.008	kW	Type of energy input	Electric		
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	Variable			Rated airflow (air-water)		3 000	m³/h
Sound power level, indoors/outdoors	L _{WA}	35 / 54	dB	Rated heating medium flow			m³/h
Annual energy consumption	Q _{HE}	3 961	kWh	Brine flow rate in brine-water or water-water heat pumps			m³/h

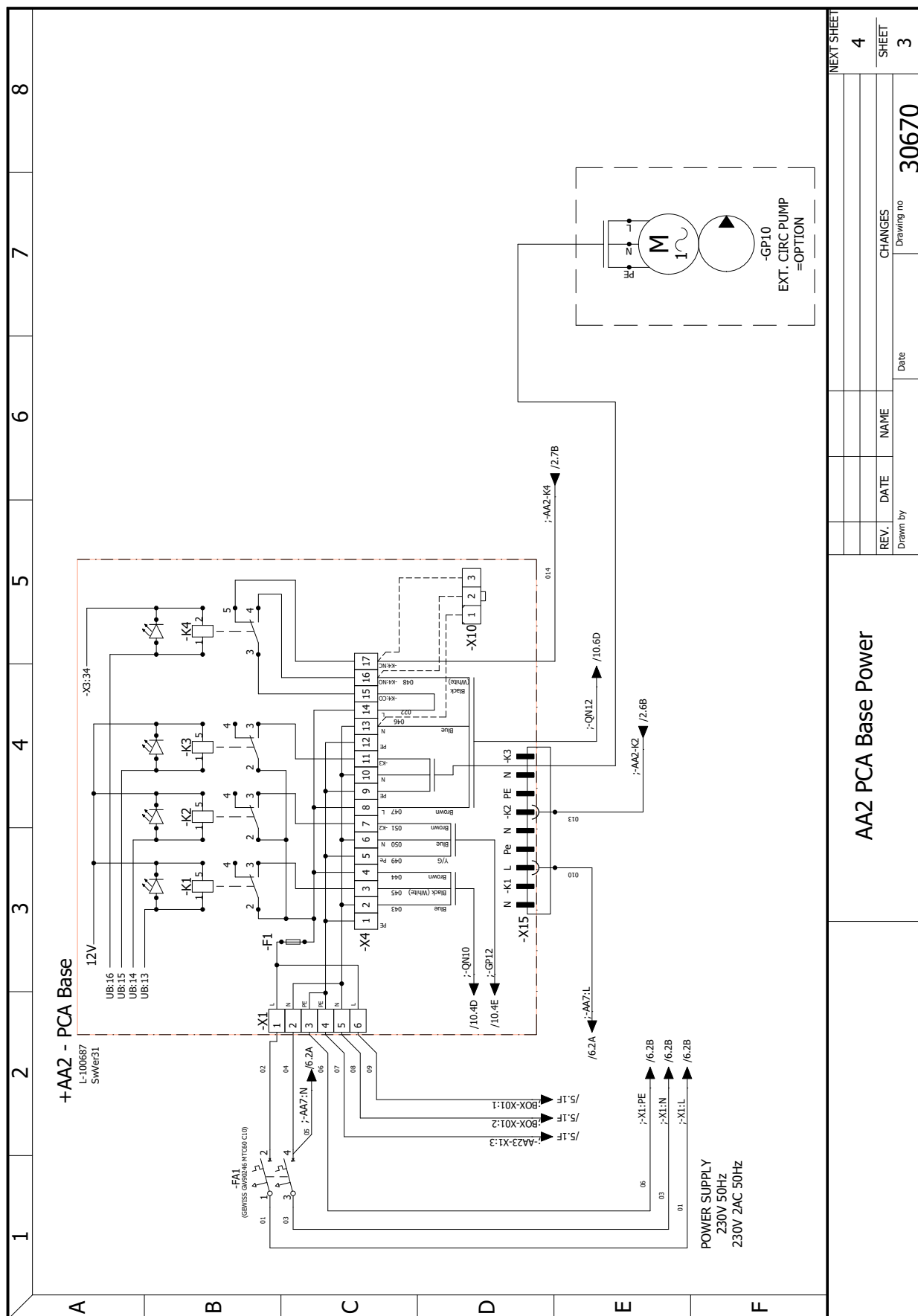
Model		AMS10-6 + BA-SVM 20-200/6 E/E EM						
Type of heat pump		☒ Air-water ☐ Exhaust-water ☐ Brine-water ☐ Water-water						
Low-temperature heat pump		☐ Yes ☒ No						
Integrated immersion heater for additional heat		☒ Yes ☐ No						
Heat pump combination heater		☒ Yes ☐ No						
Climate		☒ Average ☐ Cold ☐ Warm						
Temperature application		☒ Average (55°C) ☐ Low (35°C)						
Applied standards		EN14825 / EN16147, EN14511 and EN12102						
Rated heat output	Prated	5.3	kW	Seasonal space heating energy efficiency		η_s	131	%
Declared capacity for space heating at part load and at outdoor temperature T_j				Declared coefficient of performance for space heating at part load and at outdoor temperature T_j				
$T_j = -7^\circ\text{C}$	Pdh	4.7	kW	$T_j = -7^\circ\text{C}$	Pdh	1.88	-	
$T_j = +2^\circ\text{C}$	Pdh	2.8	kW	$T_j = +2^\circ\text{C}$	Pdh	3.26	-	
$T_j = +7^\circ\text{C}$	Pdh	1.8	kW	$T_j = +7^\circ\text{C}$	Pdh	4.72	-	
$T_j = +12^\circ\text{C}$	Pdh	2.7	kW	$T_j = +12^\circ\text{C}$	Pdh	6.47	-	
$T_j = \text{biv}$	Pdh	4.7	kW	$T_j = \text{biv}$	Pdh	1.88	-	
$T_j = \text{TOL}$	Pdh	4.1	kW	$T_j = \text{TOL}$	Pdh	1.77	-	
$T_j = -15^\circ\text{C}(\text{if TOL} < -20^\circ\text{C})$	Pdh		kW	$T_j = -15^\circ\text{C}(\text{if TOL} < -20^\circ\text{C})$	Pdh		-	
Bivalent temperature	T_{biv}	-7	°C	Min. outdoor air temperature	TOL	-10	°C	
Cycling interval capacity	P _{cyh}		kW	Cycling interval efficiency	COP _{cyh}		-	
Degradation coefficient	Cdh	0.99	-	Max supply temperature	WTOL	58	°C	
Power consumption in modes other than active mode				Additional heat				
Off mode	P_{OFF}	0.007	kW	Rated heat output	P _{sup}	1.2	kW	
Thermostat-off mode	P_{TO}	0.012	kW					
Standby mode	P_{SB}	0.012	kW	Type of energy input	Electric			
Crankcase heater mode	P_{CK}	0	kW					
Other items								
Capacity control	Variable			Rated airflow (air-water)		2 526	m³/h	
Sound power level, indoors/outdoors	L_{WA}	35 / 51	dB	Rated heating medium flow			m³/h	
Annual energy consumption	Q_{HE}	3 248	kWh	Brine flow rate in brine-water or water-water heat pumps			m³/h	

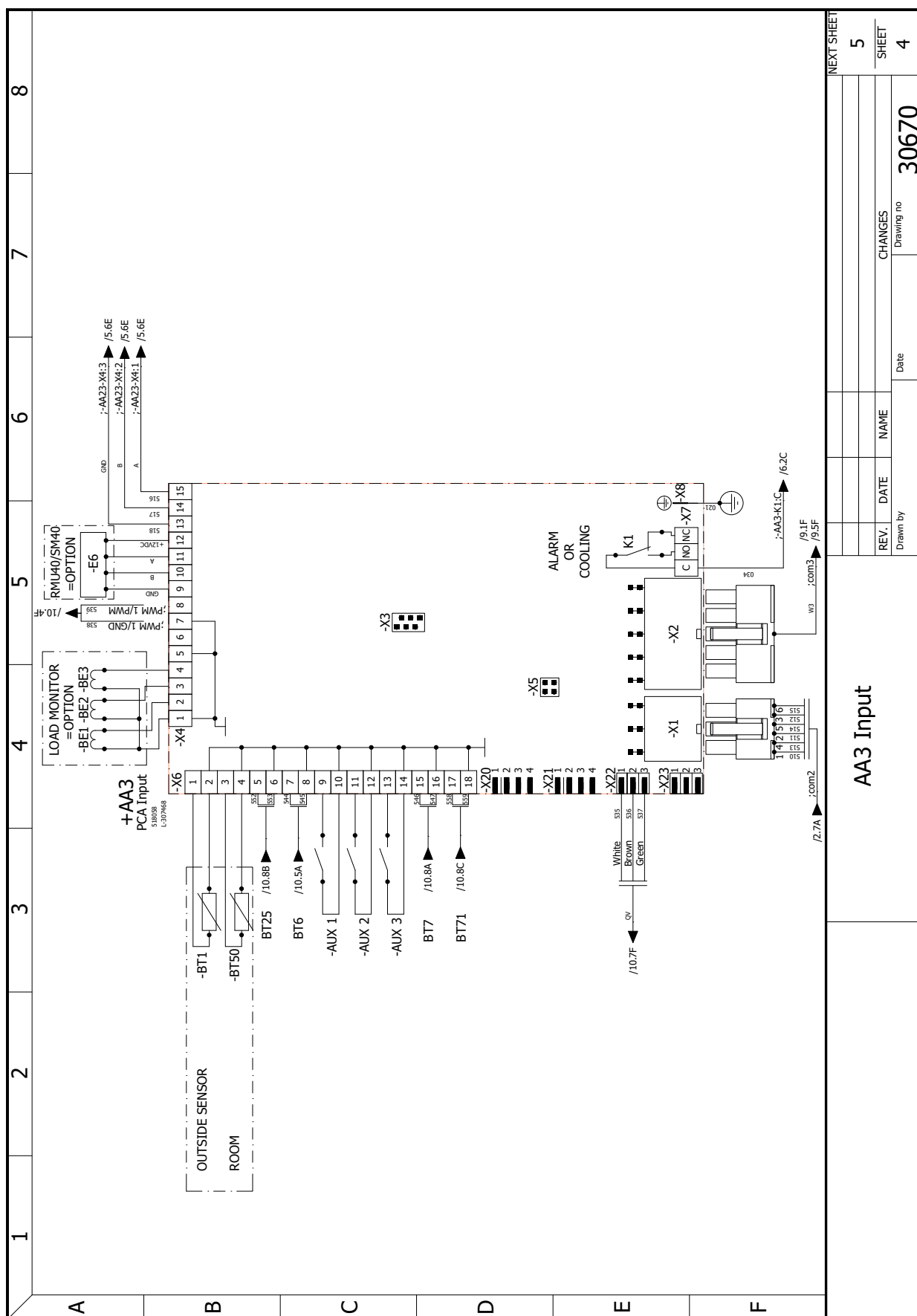
Model		AMS10-8 + BA-SVM 20-200/12 E/E EM						
Type of heat pump		☒ Air-water ☐ Exhaust-water ☐ Brine-water ☐ Water-water						
Low-temperature heat pump		☐ Yes ☒ No						
Integrated immersion heater for additional heat		☒ Yes ☐ No						
Heat pump combination heater		☒ Yes ☐ No						
Climate		☒ Average ☐ Cold ☐ Warm						
Temperature application		☒ Average (55°C) ☐ Low (35°C)						
Applied standards		EN14825 / EN16147						
Rated heat output	Prated	7.0	kW	Seasonal space heating energy efficiency		η_s	127	%
Declared capacity for space heating at part load and at outdoor temperature T_j				Declared coefficient of performance for space heating at part load and at outdoor temperature T_j				
$T_j = -7^\circ\text{C}$	Pdh	6.3	kW	$T_j = -7^\circ\text{C}$	Pdh	1.94	-	
$T_j = +2^\circ\text{C}$	Pdh	3.9	kW	$T_j = +2^\circ\text{C}$	Pdh	3.11	-	
$T_j = +7^\circ\text{C}$	Pdh	2.6	kW	$T_j = +7^\circ\text{C}$	Pdh	4.42	-	
$T_j = +12^\circ\text{C}$	Pdh	3.7	kW	$T_j = +12^\circ\text{C}$	Pdh	5.93	-	
$T_j = \text{biv}$	Pdh	6.6	kW	$T_j = \text{biv}$	Pdh	1.83	-	
$T_j = \text{TOL}$	Pdh	5.9	kW	$T_j = \text{TOL}$	Pdh	1.86	-	
$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	Pdh		kW	$T_j = -15^\circ\text{C}$ (if $\text{TOL} < -20^\circ\text{C}$)	Pdh		-	
Bivalent temperature				Min. outdoor air temperature				
	T_{biv}	-8.6	°C		TOL	-10	°C	
Cycling interval capacity				Cycling interval efficiency				
	P _{cyc}		kW		COP _{cyc}		-	
Degradation coefficient				Max supply temperature				
	Cdh	0.97	-		WTOL	58	°C	
Power consumption in modes other than active mode				Additional heat				
Off mode	P_{OFF}	0.002	kW	Rated heat output		P _{sup}	1.1	kW
Thermostat-off mode	P_{TO}	0.010	kW					
Standby mode	P_{SB}	0.015	kW	Type of energy input		Electric		
Crankcase heater mode	P_{CK}	0.030	kW					
Other items								
Capacity control	Variable			Rated airflow (air-water)			3 000	m³/h
Sound power level, indoors/outdoors	L_{WA}	35 / 55	dB	Rated heating medium flow			0.60	m³/h
Annual energy consumption	Q_{HE}	4 447	kWh	Brine flow rate in brine-water or water-water heat pumps				m³/h

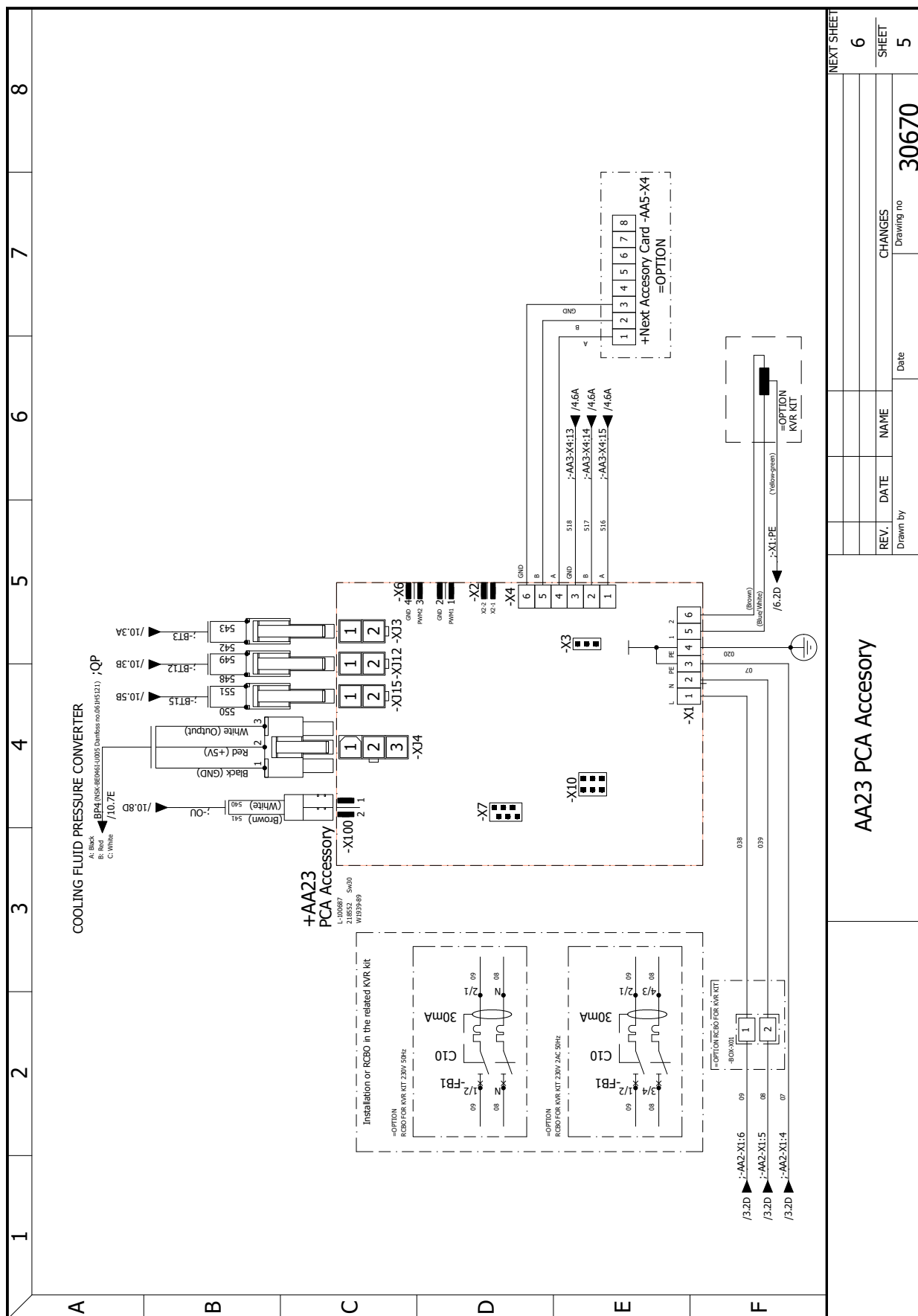
Model		AMS10-12 + BA-SVM20-200/12 E/E EM					
Type of heat pump		☒ Air-water ☐ Exhaust-water ☐ Brine-water ☐ Water-water					
Low-temperature heat pump		☐ Yes ☒ No					
Integrated immersion heater for additional heat		☒ Yes ☐ No					
Heat pump combination heater		☒ Yes ☐ No					
Climate		☒ Average ☐ Cold ☐ Warm					
Temperature application		☒ Average (55°C) ☐ Low (35°C)					
Applied standards		EN14825 / EN16147					
Rated heat output	Prated	10.0	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for space heating at part load and at outdoor temperature Tj				Declared coefficient of performance for space heating at part load and at outdoor temperature Tj			
Tj=-7°C	Pdh	8.9	kW	Tj=-7°C	Pdh	1.99	-
Tj=+2°C	Pdh	5.5	kW	Tj=+2°C	Pdh	3.22	-
Tj=+7°C	Pdh	3.5	kW	Tj=+7°C	Pdh	4.61	-
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	Pdh	6.25	-
Tj=biv	Pdh	9.2	kW	Tj=biv	Pdh	1.90	-
Tj=TOL	Pdh	8.1	kW	Tj=TOL	Pdh	1.92	-
Tj=-15°C(if TOL<-20°C)	Pdh		kW	Tj=-15°C(if TOL<-20°C)	Pdh		-
Bivalent temperature				Min. outdoor air temperature			
	T _{biv}	-7.9	°C		TOL	-10	°C
Cycling interval capacity				Cycling interval efficiency			
	P _{cyh}		kW		COP _{cyh}		-
Degradation coefficient				Max supply temperature			
	Cdh	0.98	-		WTOL	58	°C
Power consumption in modes other than active mode				Additional heat			
Off mode	P _{OFF}	0.002	kW	Rated heat output	P _{sup}	1.9	kW
Thermostat-off mode	P _{TO}	0.014	kW				
Standby mode	P _{SB}	0.015	kW	Type of energy input	Electric		
Crankcase heater mode	P _{CK}	0.035	kW				
Other items							
Capacity control	Variable			Rated airflow (air-water)		4 380	m³/h
Sound power level, indoors/outdoors	L _{WA}	35 / 58	dB	Rated heating medium flow		0.86	m³/h
Annual energy consumption	Q _{HE}	6 136	kWh	Brine flow rate in brine-water or water-water heat pumps			m³/h

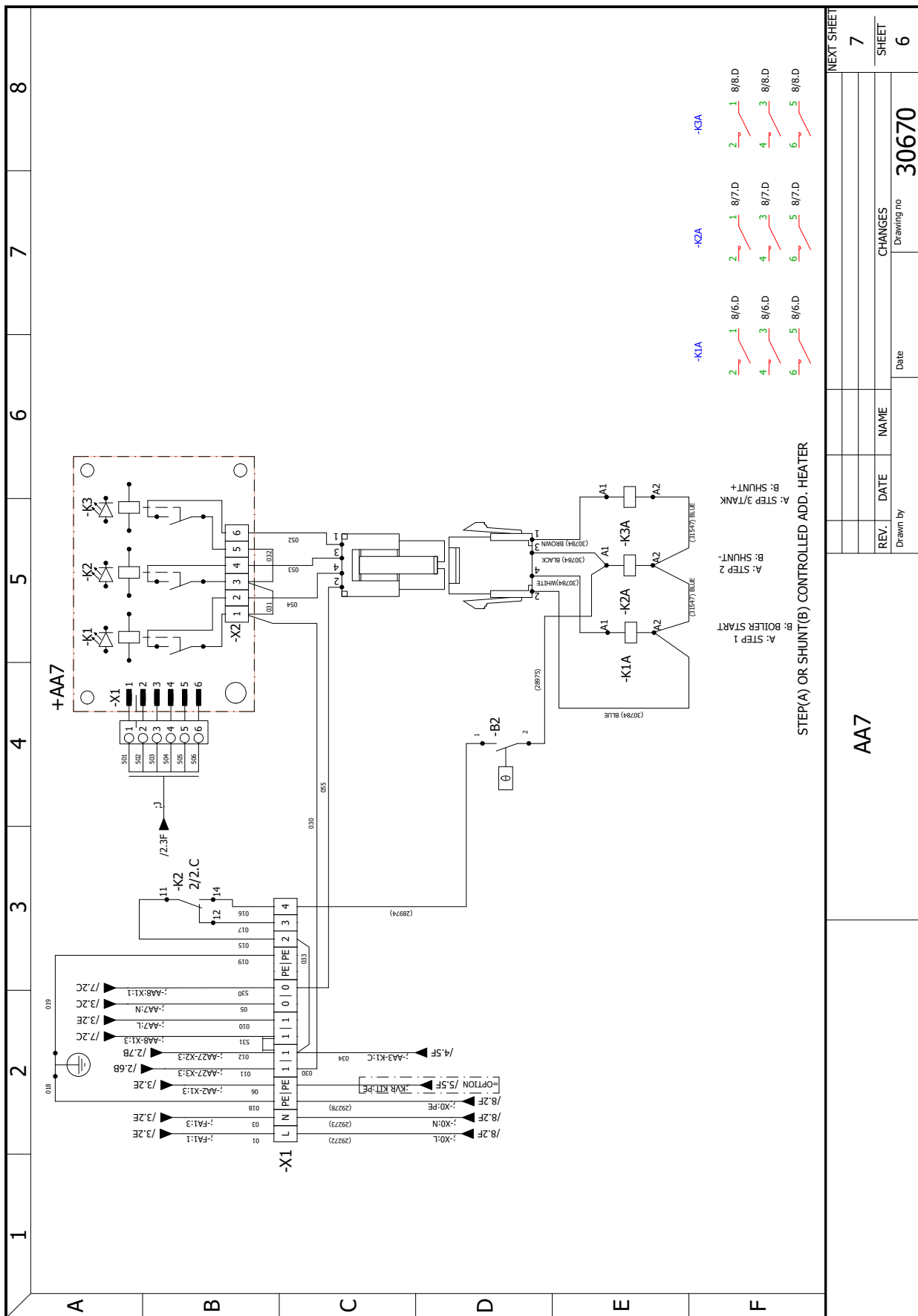
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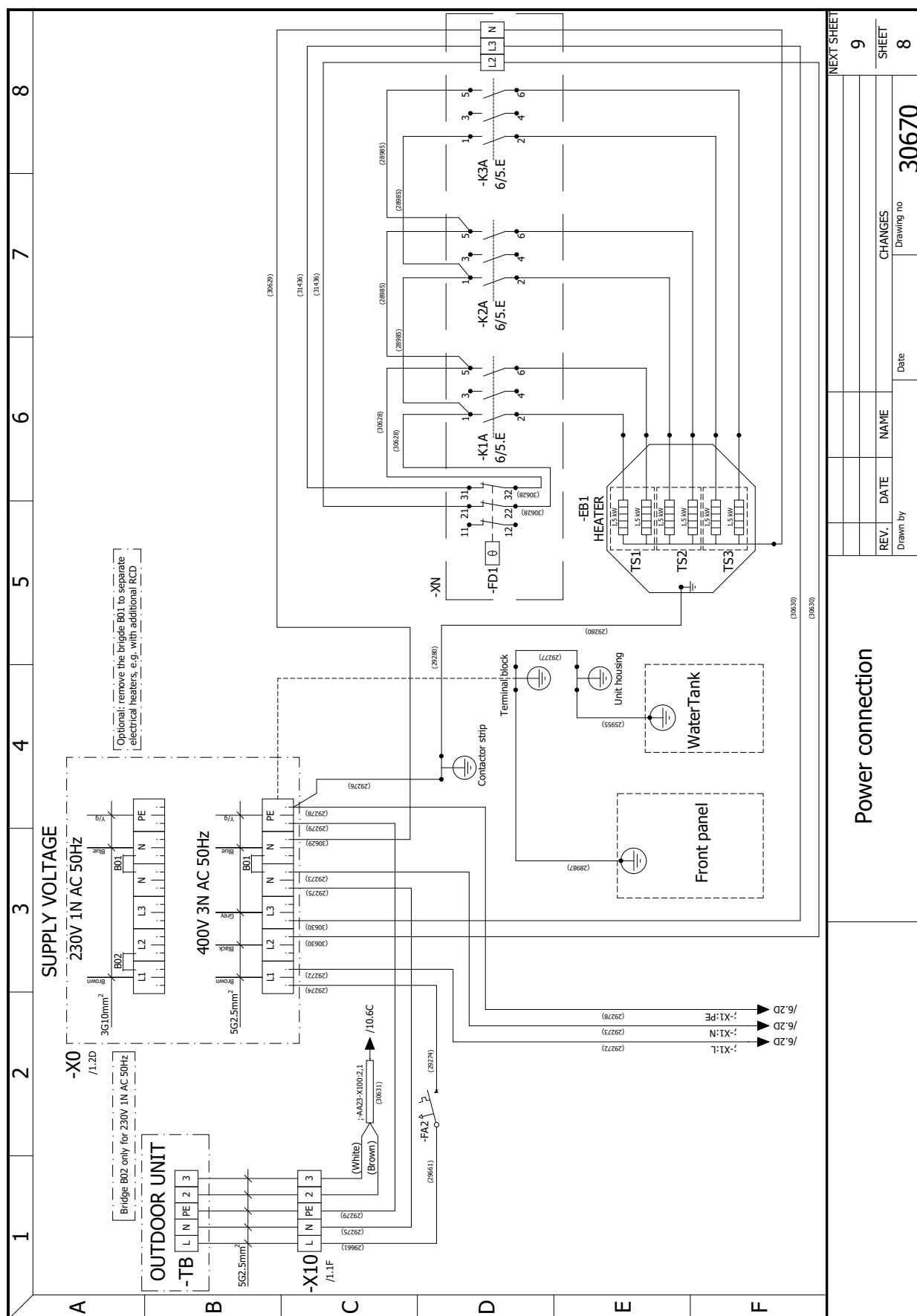


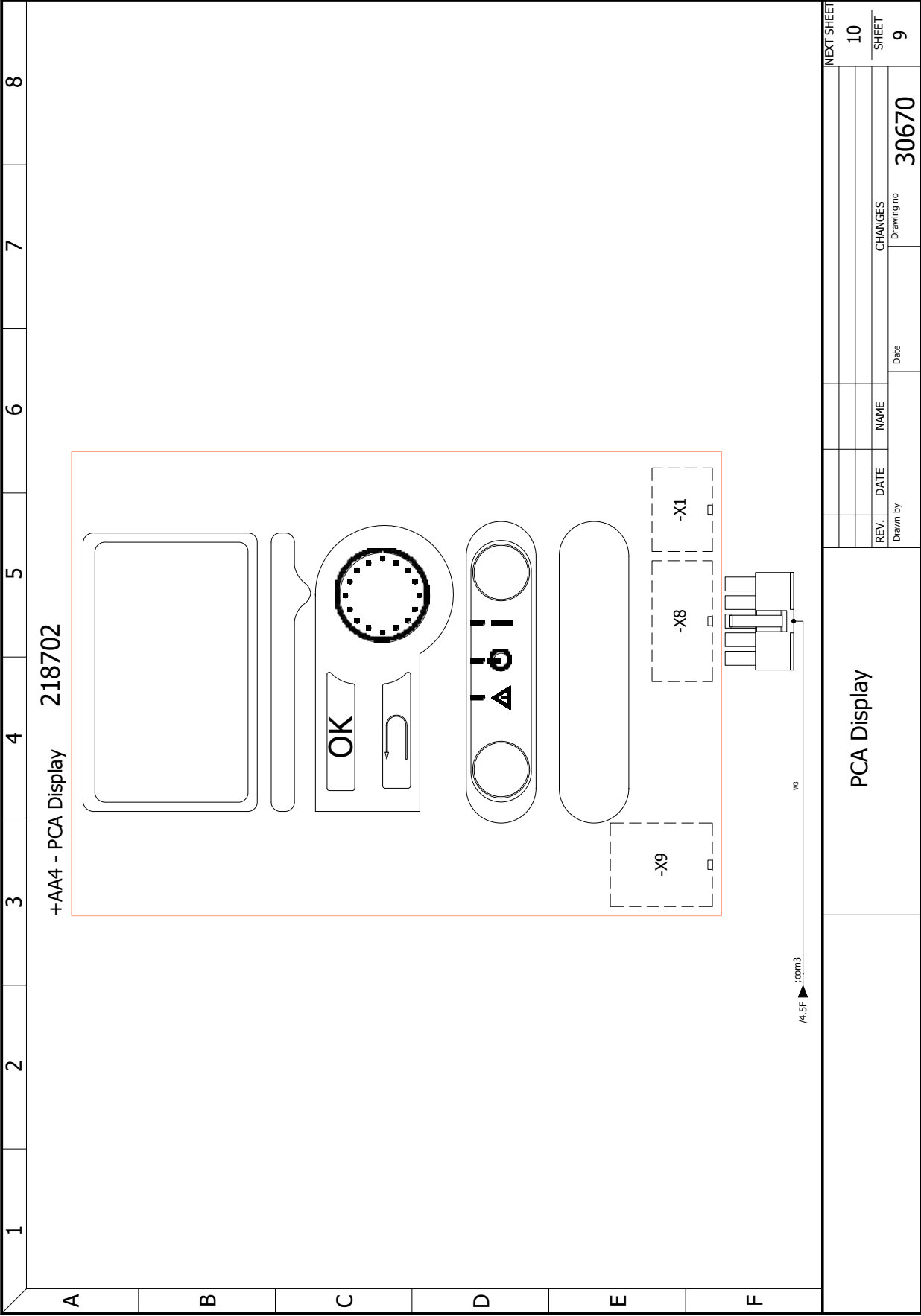


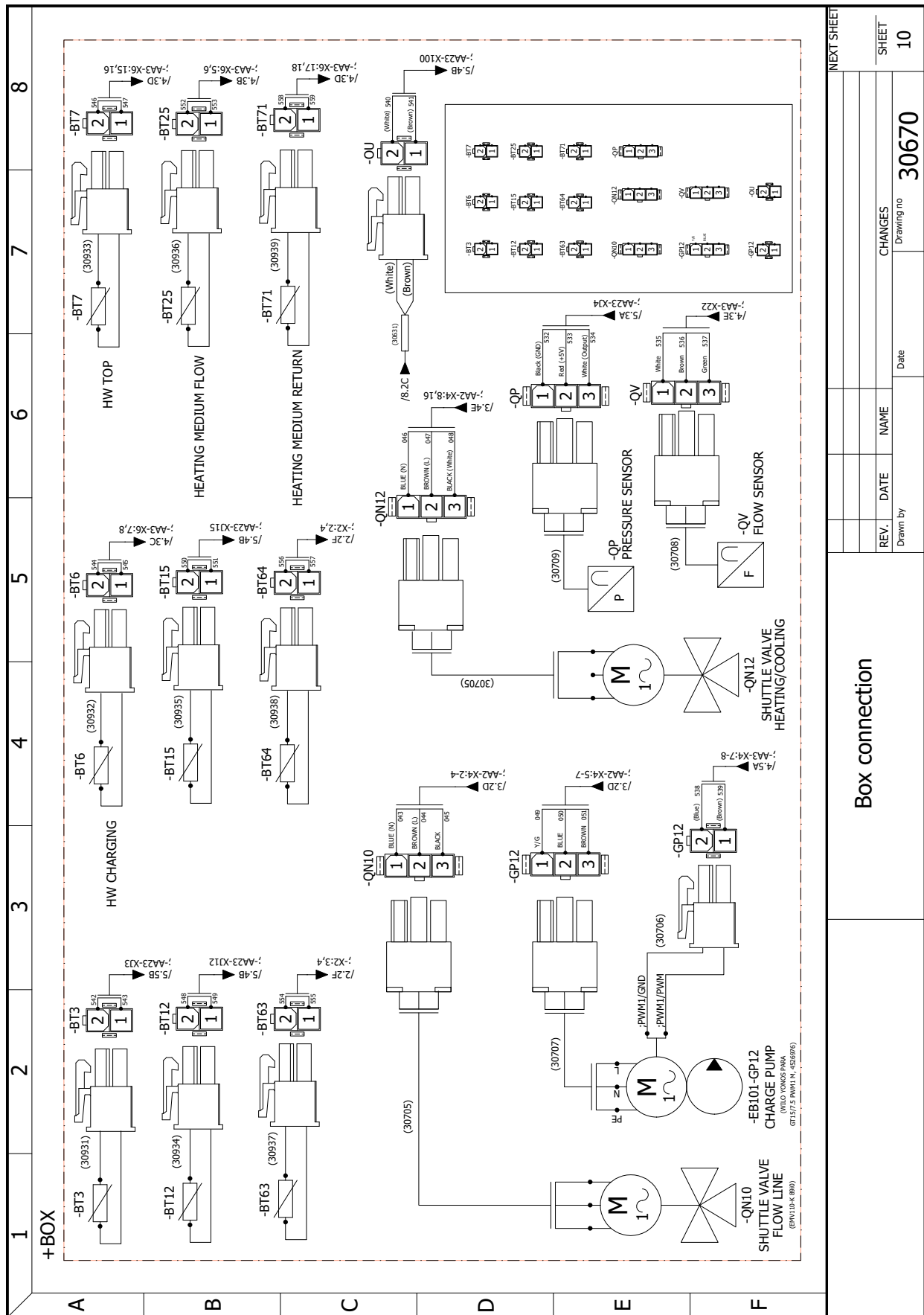












Box connection				NEXT SHEET	
REV.	DATE	NAME	Date	CHANGES	SHEET
Drawn by				Drawing no	10
				30670	

NIBE Group

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