IHB EN 1934-9
031444

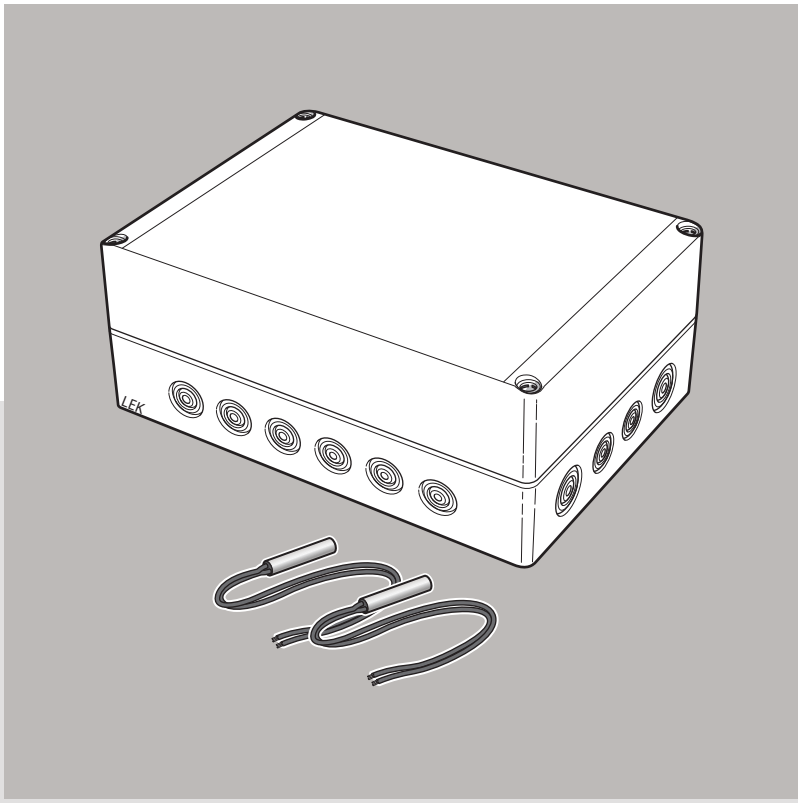
AXC 40

Installer Manual

Accessory card

S1155/S1255/VVM S320/VVM S325

F1145/F1155/F1245/F1255/VVM 225/VVM 320/VVM 325



NIBE

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Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Rights to make any design or technical modifications are reserved.

Symbols

NOTE

This symbol indicates danger to person or machine .

Caution

This symbol indicates important information about what you should consider when installing or servicing the installation.

TIP

This symbol indicates tips on how to facilitate using the product.

Marking

CE The CE mark is obligatory for most products sold in the EU, regardless of where they are made.

IP21 Classification of enclosure of electro-technical equipment.

Danger to person or machine.

Read the Installer Manual.

General

This accessory, which includes a freestanding electric control module, is used to allow connection and control of the following accessory functions. An AXC 40 is required for each function.

- shunt-controlled additional heat
- step-controlled additional heat
- control of circulation pump for hot water circulation
- controlling ground water pump

Contents

4 x	Cable ties
2 x	Heating pipe paste
1 x	Insulation tape
1 x	AXC module
2 x	Aluminium tape
2 x	Temperature sensor

Compatible products

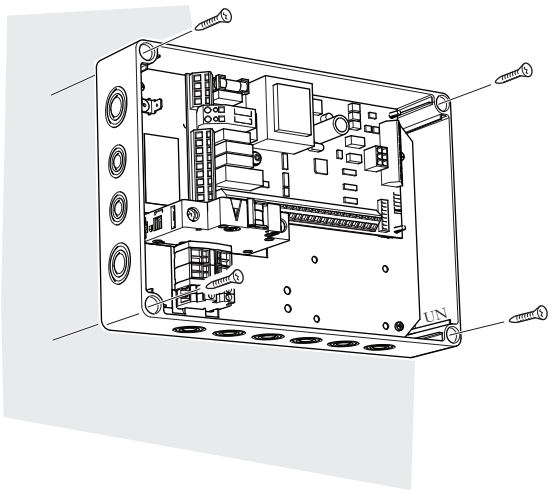
AXC 40 is suitable for the following main products:

- S1155
- S1255
- VVM S320
- VVM S325

Mounting

Caution

The screw type must be adapted to the surface on which installation is taking place.



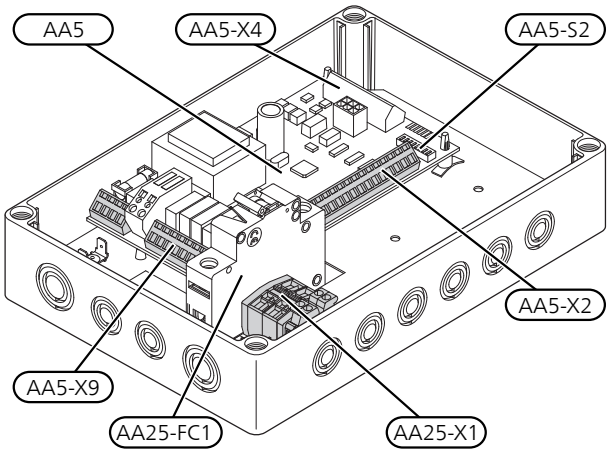
Use all mounting points and install the module upright, flat against the wall, with no part of the module protruding beyond the wall.

Leave at least 100 mm of free space around the module to allow access and make cable routing easier during installation and servicing.

NOTE

The installation must be carried out in such a way that IP21 is satisfied.

Component placing AXC module (AA25)



ELECTRICAL COMPONENTS

AA5	Accessory card
	AA5-S2 DIP switch
	AA5-X2 Terminal block, inputs
	AA5-X4 Terminal block, communication
	AA5-X9 Terminal block, outputs
AA25-FC1	Miniature circuit-breaker
AA25-X1	Terminal block, power supply

Designations according to standard EN 81346-2.

Common electrical connection

NOTE

All electrical connections must be carried out by an authorised electrician.

Electrical installation and wiring must be carried out in accordance with the stipulations in force.

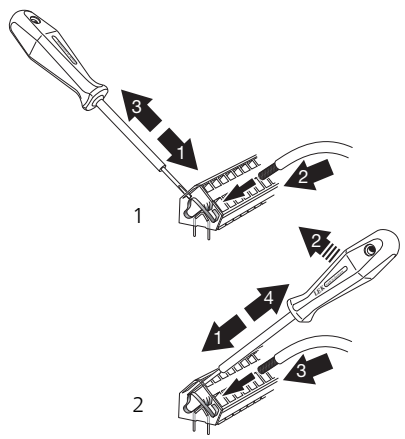
The main product must be disconnected from the power supply when installing AXC 40.

- To prevent interference, sensor cables to external connections must not be laid close to high voltage cables.
- The minimum area of communication and sensor cables to external connections must be 0.5 mm² up to 50 m, for example EKKX, LiYY or equivalent.
- AXC 40 must be installed via an isolator switch. The cable area has to be dimensioned based on the fuse rating used.
- Mark the relevant electrical cabinet with a warning about external voltage, in those cases where a component in the cabinet has a separate supply.
- AXC 40 restarts after a power failure.

Electrical circuit diagrams are at the end of the chapter for each connection option.

Cable lock

Use a suitable tool to release/lock cables in terminal blocks.

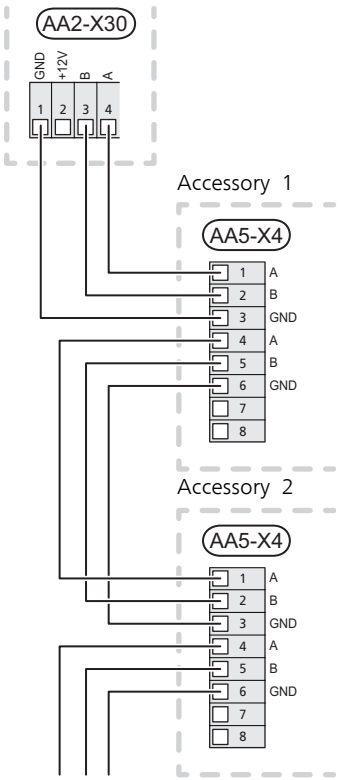


Connecting communication

This accessory contains an accessory board (AA5) that is connected directly to the main product's input board (terminal block AA2-X30).

The first accessory board is connected directly to the main product's terminal block AA2-X30. The following boards are connected in series with the previous board.

S1155/S1255
VVM S320/VVM S325

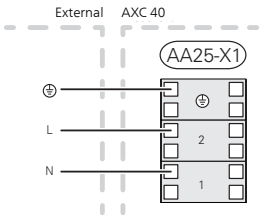


The terminal block (AA2-X30) is upright on S1155.

Power connection

Connect the power supply cable to terminal block AA25-X1 as illustrated.

Tightening torque: 0.5-0.6 Nm.



Shunt controlled additional heat

General

This function enables an external additional heater, e.g. an electric boiler, wood boiler, pellet boiler, oil boiler, gas boiler or district heating, to assist with the heating.

The heat pump/indoor module controls a shunt valve (QN11) and a circulation pump (GP10) via AXC 40. If the heat pump/indoor module cannot manage to maintain the correct supply temperature (BT25), the additional heat starts. When the temperature on the boiler sensor (BT52) exceeds the set value, the heat pump transmits a signal to the shunt (QN11) to open from the additional heat. The shunt (QN11) is regulated so that the true supply temperature agrees with the heat pump's theoretically calculated set point value. When the heating demand drops sufficiently, so additional heat is no longer required, the shunt (QN11) closes completely.

Factory-set minimum operating time for the boiler is 12 hours.

The function smart energy source can be selected if you want to prioritise automatically between heat pump operation and additional heat versus the best price or environmental impact.

COMPATIBLE PRODUCTS

- S1155
- S1255
- VVM S320
- VVM S325

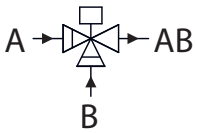
Pipe connections

The external circulation pump (GP10) is located on the supply line to the climate system after the temperature sensor (BT25).

SHUNT VALVE

The shunt valve (QN11) must be placed on the supply line to the climate system after the heat pump according to the outline diagram.

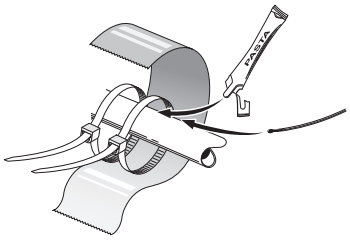
- Connect the supply line from the heat pump to the external heat source via the T-pipe to port B on the shunt valve (closes on reduce signal).



- Connect the supply line to the climate system from the shunt valve to the common port AB (always open)
- Connect the supply line from the external additional heat to the shunt valve to port A (opens on increase signal).

TEMPERATURE SENSOR

- Install the boiler sensor (BT52) in a suitable location in the external additional heat.
- External supply temperature sensor (BT25, connected in the heat pump/indoor module) must be installed on the supply line to the climate system, after the shunt valve (QN11).



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

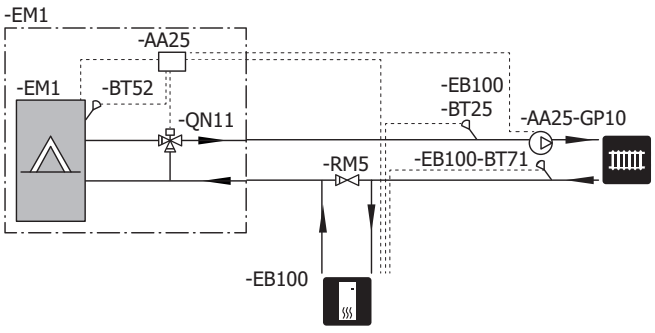
> *NOTE*
>
> Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

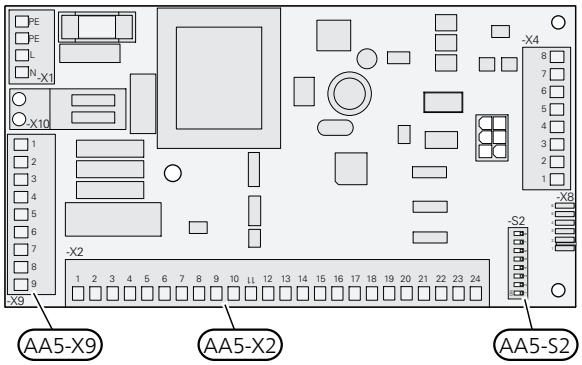
EM1	*Mixing valve controlled additional heat, boiler*
AA25	AXC 40
BT52	Boiler sensor
GP10	External circulation pump
QN11	Mixing valve, addition
EB100	*Heat pump*
BT25	External supply temperature sensor
BT71	External return line sensor
Miscellaneous	
RM5	Non-return valve



Electrical connection

> *NOTE*
>
> Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)



CONNECTION OF SENSORS AND EXTERNAL BLOCKING

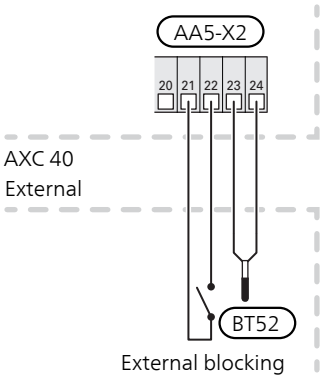
Use cable type LiYY, EKKX or similar.

Boiler sensor (BT52)

Connect the boiler sensor to AA5-X2:23-24.

External blocking (optional)

An external switch function (NO) can be connected to AA5-X2:21-22 to block additional heat. The switch must be potential-free and a closed switch results in blocking.



External supply temperature sensor (BT25) / return sensor (BT71)

The sensors (BT25) and (BT71) must be connected to the main product's soft inputs/outputs.

See the Installer Manual for the main product.

When the sensor is connected, the correct function must be selected for the input/output in menu 7.4.

Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

CONNECTION OF THE CIRCULATION PUMP (GP10)

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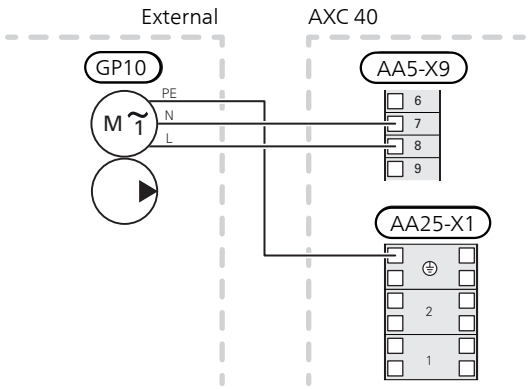
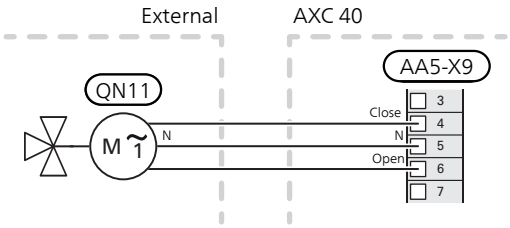
Connect the circulation pump (GP10) to AA5-X9:8 (230V), AA5-X9:7 (N) and AA25-X1:3 (PE).



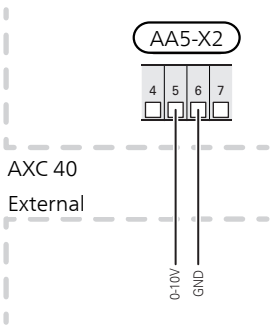
CONNECTION OF THE SHUNT VALVE MOTOR (QN11)

Connect the shunt motor (QN11) to AA5-X9:6 (230V, open), AA5-X9:5 (N) and AA5-X9:4 (230V, close).



Connection of 0-10 V control of shunt motor (QN11)

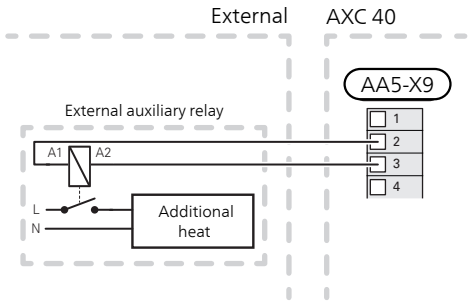
Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



At 0 V the shunt is closed and at 10 V the shunt is open.

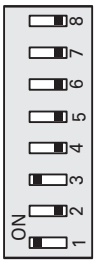
CONNECTION OF THE AUXILIARY RELAY FOR ADDITIONAL HEATING

Connect the auxiliary relay for switching the additional heat on and off to AA5-X9:2 (230V) and AA5-X9:3 (N).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

Start guide

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 7.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 7.2.1 - Add/remove accessories

Here, you state which accessories are installed for the compatible product.

To automatically identify connected accessories, select "Search for accessories". It is also possible to select accessories manually from the list.

Menu 7.2.3 - Shunt-controlled additional heat (AXC)

prioritised additional heat

Setting range: on/off

start additional heat

Setting range: -2000 – -30 DM

minimum running time

Setting range: 0 – 48 h

min temp.

Setting range: 5 – 90 °C

mixing valve amplifier

Setting range: 0.1 –10.0

mixing valve step delay

Setting range: 10 – 300 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.

See the accessory installation instructions for function description.

Menu 7.5.3 - Forced control

Here you can force control the various components in the installation. The most important safety functions remain active however.

NOTE

Forced control is only intended to be used for troubleshooting purposes. Using the function in any other way may cause damage to the components in your climate system.

Menu 4.6 - Smart Energy Source™

Smart energy source™

Alternative: on/off

Control method

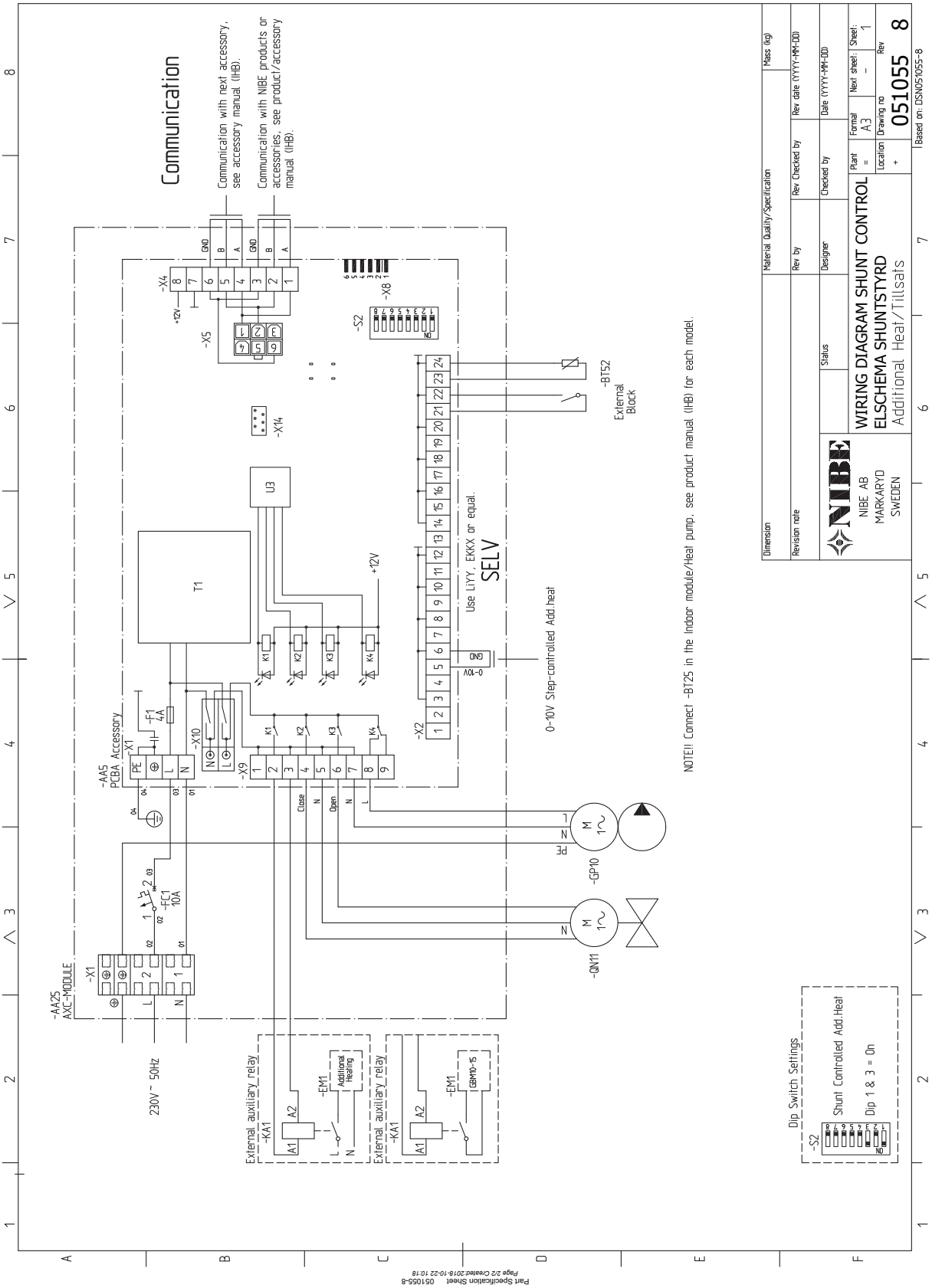
Alternative: Price / CO_2

Year Smart Energy Source™ activated AXC 40 prioritises how / to what extent each docked energy source will be used. Here you can select whether the system will use the energy source that is cheapest at the time or the one that is most carbon dioxide neutral at the time.

Caution

Also see the Installer Manual for the main product.

Electrical circuit diagram



Step controlled additional heat

General

This function enables an external additional heater, e.g. an electric boiler, to aid with heating.

With AXC 40, three potential-free relays can be used for additional heat control, which then gives max. 3 linear or 7 binary steps.

The flow through the addition is ensured either by the charge pump (GP12)) or the external circulation pump (GP10).

COMPATIBLE PRODUCTS

- S1155
- S1255
- VVM S320
- VVM S325

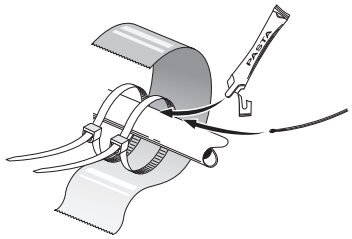
Pipe connections

The external circulation pump (GP10) is located on the supply line to the climate system after the temperature sensor (BT25).

If the climate system's flow exceeds the maximum recommended flow for the electric boiler, a bypass must be installed so that only a partial flow passes through the electric boiler.

TEMPERATURE SENSOR

- External supply temperature sensor (BT25, connected in the heat pump/indoor module), must be installed on the supply line to the climate system, after the additional heat.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

NOTE

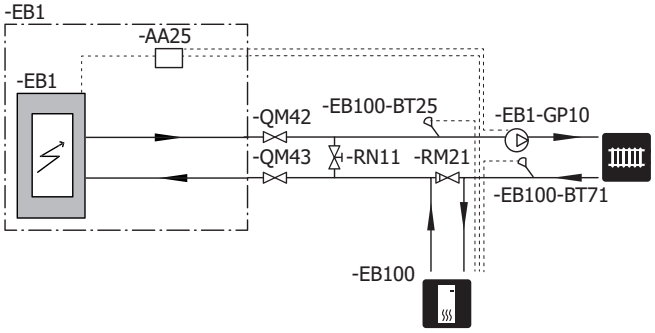
Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

EB1	*Step controlled additional heat*
AA25	AXC 40
GP10	Circulation pump, heating medium external
EB100	*Heat pump*
BT25	External supply temperature sensor
BT71	External return line sensor
Miscellaneous	
QM42-43	Shut-off valve
RN11	Trim valve
RM21	Non-return valve

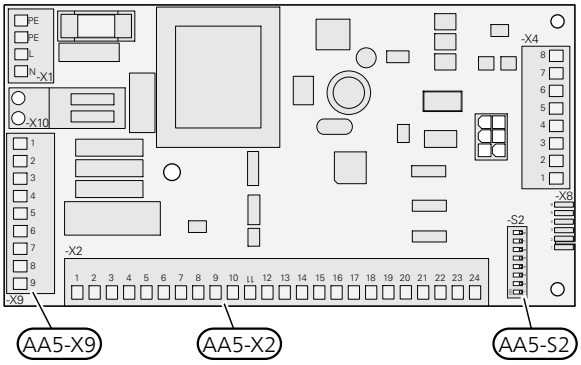


Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)

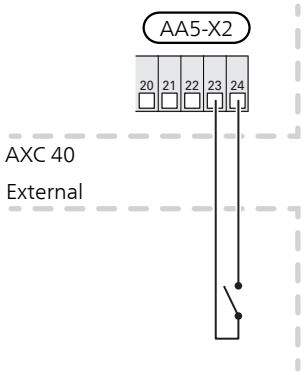


CONNECTION OF SENSORS AND EXTERNAL BLOCKING

Use cable type LiYY, EKKX or similar.

External blocking (optional)

A contact (NO) can be connected to AA5-X2:23-24 to block the additional heat. When the contact closes, the additional heat is blocked.



External supply temperature sensor (BT25) / return sensor (BT71)

The sensors (BT25) and (BT71) must be connected to the main product's soft inputs/outputs.

See the Installer Manual for the main product.

When the sensor is connected, the correct function must be selected for the input/output in menu 7.4.

Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

CONNECTION OF THE CIRCULATION PUMP (GP10)

Connect the circulation pump (GP10) to AA5-X9:8 (230V), AA5-X9:7 (N) and AA25-X1:3 (PE).

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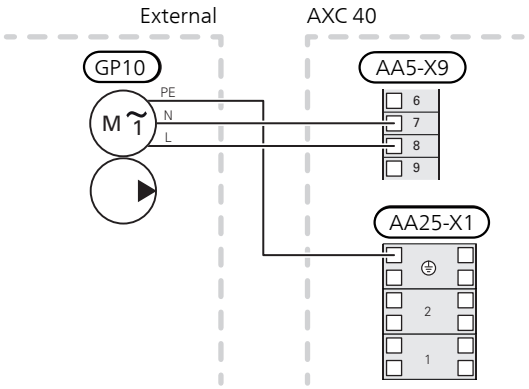


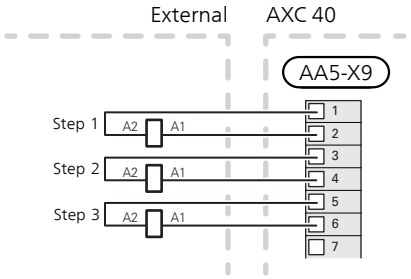
CONNECTION OF RELAYS

Connecting additional step

Connect step 1 to AA5-X9:1 and 2.

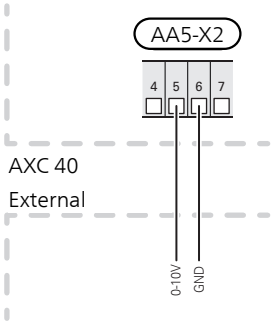
Connect step 2 to AA5-X9:3 and 4.

Connect step 3 to AA5-X9:5 and 6.



Connection of 0-10 V control

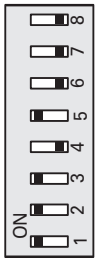
Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



0 V = 0 steps and 10 V = max. number of set steps.

DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears upon first start-up after the heat pump installation, but is also found in menu 7.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 7.2.1 - Add/remove accessories

Here, you state which accessories are installed for the compatible product.

To automatically identify connected accessories, select "Search for accessories". It is also possible to select accessories manually from the list.

Menu 7.2.6 - Step-controlled additional heat (AXC)

start diff additional heat

Setting range: -2000 – -30 DM

diff. between additional steps

Setting range: 0 – 1,000 DM

max step

Setting range
(binary stepping deactivated): 0 – 3

Setting range
(binary stepping activated): 0 – 7

binary stepping

Setting range: on/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 7.5.3 - Forced control

Here you can force control the various components in the installation. The most important safety functions remain active however.

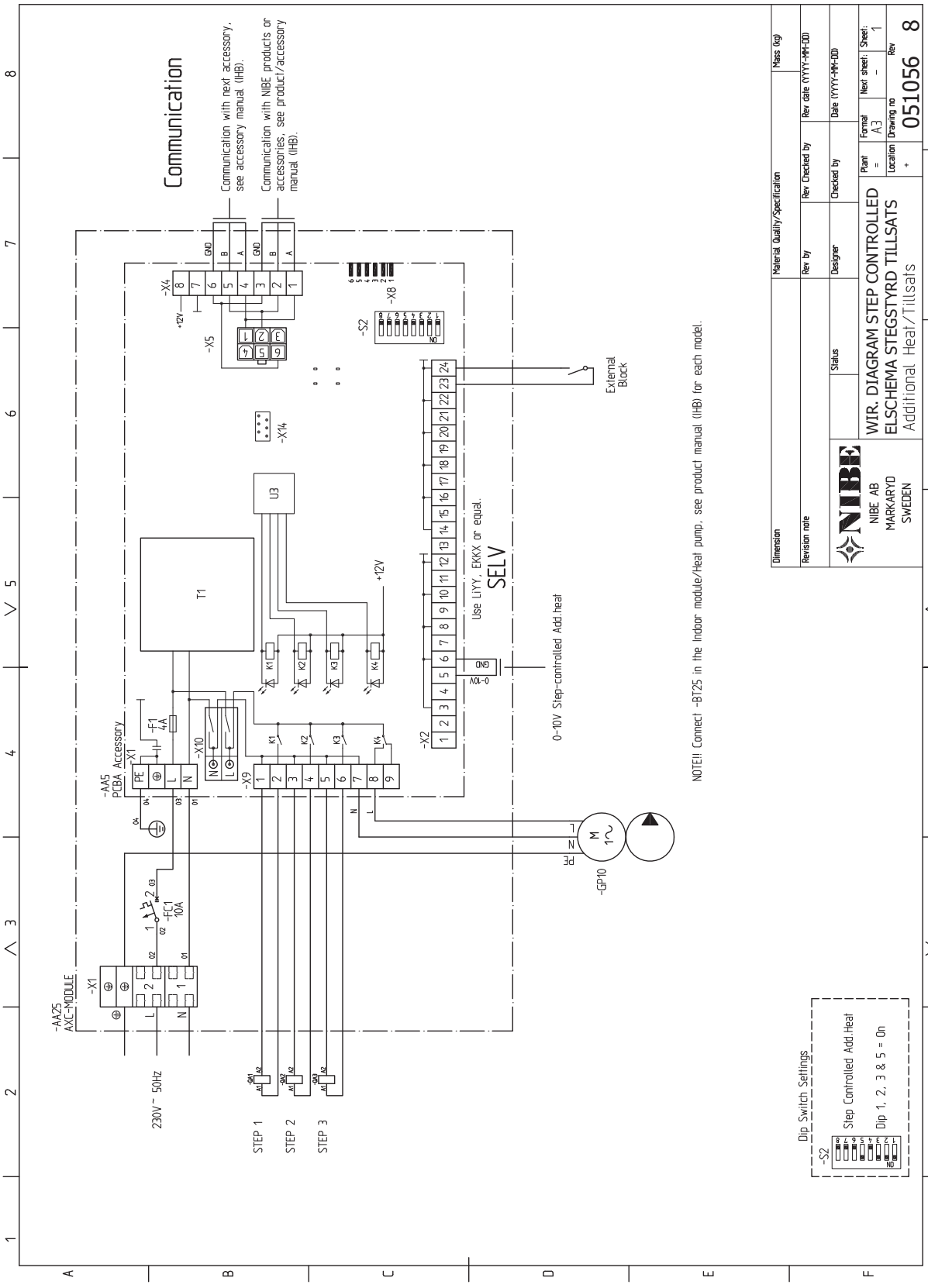
NOTE

Forced control is only intended to be used for troubleshooting purposes. Using the function in any other way may cause damage to the components in your climate system.

Caution

Also see the Installer Manual for the main product.

Electrical circuit diagram



Hot water comfort

General

This function provides the opportunity to control additional heat in the tank, mixing valve and hot water circulation.

ADDITIONAL HEAT IN TANK

If an immersion heater is installed in the tank, it can be permitted to produce hot water at the same time as the heat pump prioritises heating.

MIXING VALVE

A temperature sensor reads the temperature of the outgoing hot water to the domestic hot water and adjusts the mixing valve from the water heater until the set temperature has been reached.

HOT WATER CIRCULATION (VVC)

One pump can be controlled for the circulation of the hot water during selectable periods.

COMPATIBLE PRODUCTS

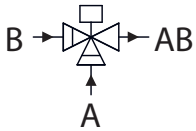
- S1155
- S1255
- VVM S320
- VVM S325

Pipe connections

MIXING VALVE

The mixer valve (FQ3) must be placed on the outgoing hot water line from the water heater according to the outline diagram.

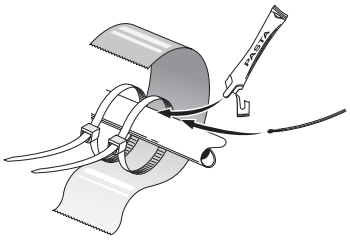
- Connect the incoming cold water via the T-pipe to port B on the mixer valve (closes at signal).



- Connect the mixed water to the domestic hot water taps from the mixer valve to the common port AB (always open).
- Connect the outgoing hot water from the water heater to the mixer valve to port A (opens on signal)

TEMPERATURE SENSOR

- Temperature sensor, outgoing hot water, (BT70) is installed as close to the mixing valve (FQ3) as possible.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

> *NOTE*
>
> Sensor and communication cables must not be laid near power cables.

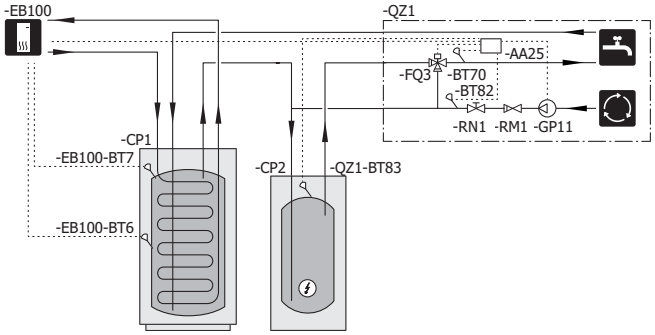
Outline diagram

EXPLANATION

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

QZ1	Hot water comfort
AA25	AXC 40
GP11	Hot water circulation pump
FQ3	Mixer valve, hot water
RN1	Trim valve
RM1	Non-return valve
BT70	Flow line sensor
BT82	Return line sensor, hot water
BT83	Temperature sensor, hot water heater
CP1	Water heater
CP2	Additional water heater
EB100	*Heat pump*
BT6	Temperature sensor, hot water
BT7	Temperature sensor, hot water top

OUTLINE DIAGRAM WITH ADDITIONAL WATER HEATER, HWC AND ELECTRONIC MIXING VALVE



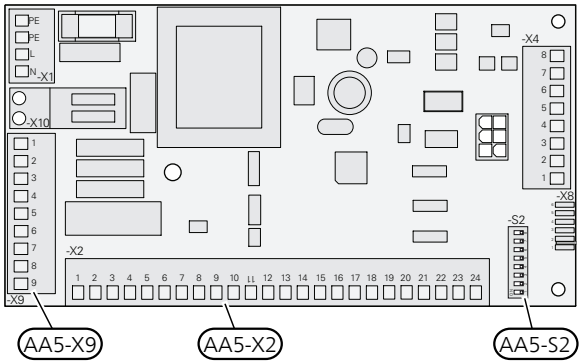
Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)

Overview accessory board (AA5)



CONNECTING SENSORS

Use cable type LiYY, EKKX or similar.

Hot water sensor, supply line (BT70)

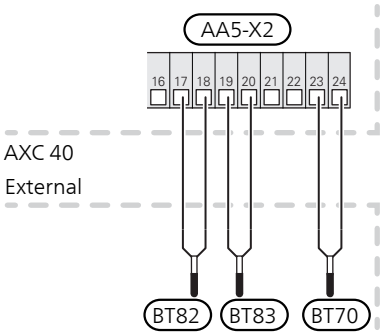
Connect the hot water sensor to AA5-X2:23-24.

Temperature sensor, hot water comfort, return line (BT82)

Connect the temperature sensor to AA5-X2:17-18.

Temperature sensor, hot water heater (BT83)

Connect the temperature sensor to AA5-X2:19-20.

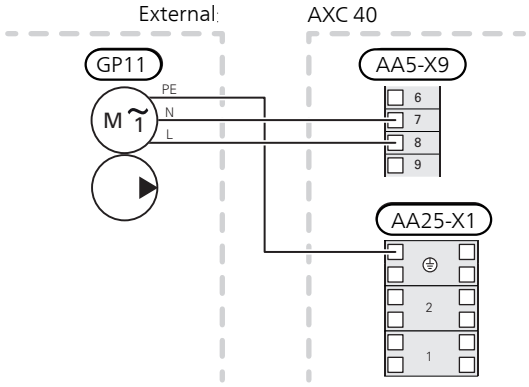


Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

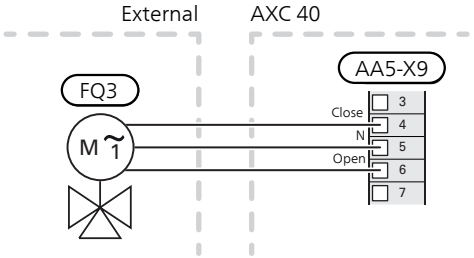
CONNECTION OF THE HOT WATER CIRCULATION PUMP (GP11)

Connect the circulation pump (GP11) to AA5-X9:8 (230V), AA5-X9:7 (N) and X1:.



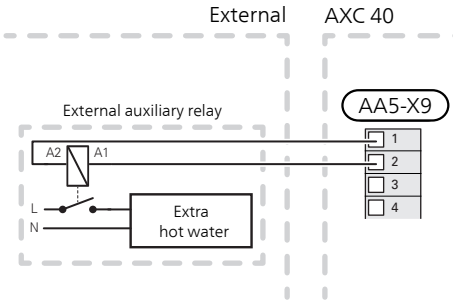
CONNECTION OF THE MIXER VALVE (FQ3)

Connect the mixing valve motor (FQ3) to AA5-X9:6 (230V, open), AA5-X9:5 (N) and AA5-X9:4 (230V, close).



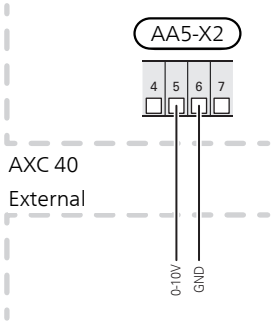
CONNECTION OF AUXILIARY RELAY FOR ADDITIONAL HEAT IN TANK

Connect the auxiliary relay for switching the additional heat on and off to AA5-X9:1 (N) and AA5-X9:2 (230V).



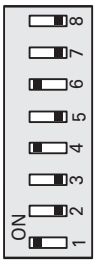
CONNECTION OF 0-10 V CONTROL

Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 7.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 7.2.1 - Add/remove accessories

Here, you state which accessories are installed for the compatible product.

To automatically identify connected accessories, select "Search for accessories". It is also possible to select accessories manually from the list.

Menu 2.5 - Hot water circulation

Run time

Setting range: 1 – 60 min

Downtime

Setting range: 0 – 60 min

Set 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." determines how long the hot water circulation pump will run per operation.

"Downtime" determines how long the hot water circulation pump will be stationary between operations.

NOTE

Hot water circulation is activated in menu 7.4 "Selectable in/outputs" or 7.2.8 "Hot water comfort".

Menu 7.2.8 - Hot water comfort (AXC)

activating imm heater

Setting range: on/off

activ. imm heat in heat mode

Setting range: on/off

activating the mixing valve

Setting range: on/off

outgoing hot water

Setting range: 40 - 65 °C

mixing valve amplifier

Setting range: 0.1 – 10.0

mixing valve step delay

Setting range: 10 – 300 s

Make settings for the hot water comfort here.

See the accessory installation instructions for function description.

activating imm heater: The immersion heater is activated here, if installed in the water heater.

activ. imm heat in heat mode: Activate here whether the immersion heater in the tank (requires the above alternative to be activated) is to be permitted to charge hot water, if the compressors in the heat pump are prioritising heating.

activating the mixing valve: Activated if mixer valve is installed and it is to be controlled from AXC 40. 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 7.5.3 - Forced control

Here you can force control the various components in the installation. The most important safety functions remain active however.

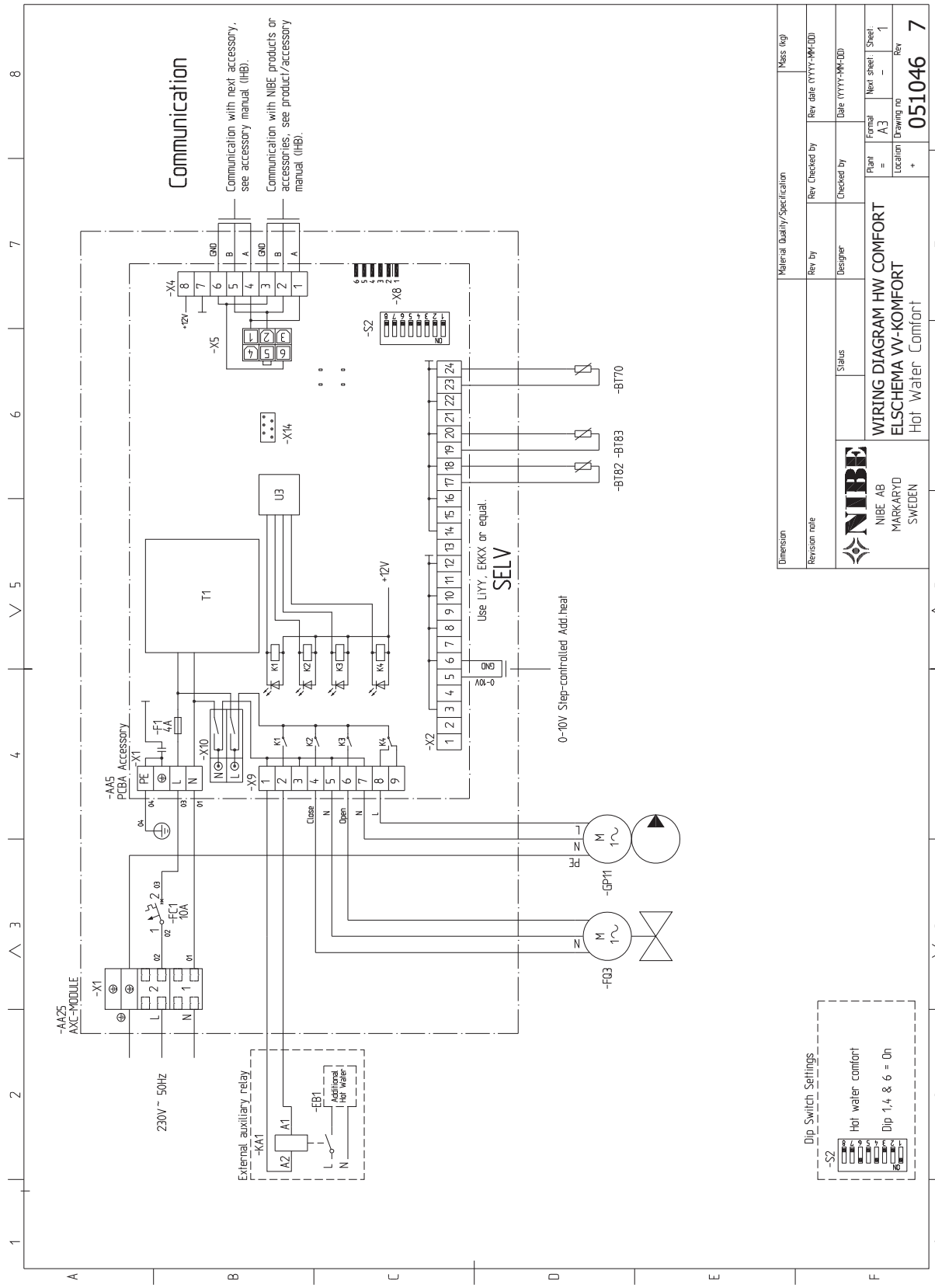
NOTE

Forced control is only intended to be used for troubleshooting purposes. Using the function in any other way may cause damage to the components in your climate system.

Caution

Also see the Installer Manual for the main product.

Electrical circuit diagram



Ground water system

General

With AXC 40 a ground water pump can be connected to the heat pump if the software controlled output (AUX output) is used for something else.

This connection enables the use of ground water as heat source. The ground water is pumped up to an intermediate heat exchanger. An intermediate heat exchanger is used to protect the heat pump's exchanger from dirt and freezing. The water is released into a buried filtration unit or a drilled well.

The ground water pump runs at the same time as the brine pump.

From software version 8233R2, the groundwater pump can be controlled with an analogue control signal from 0-10 V.

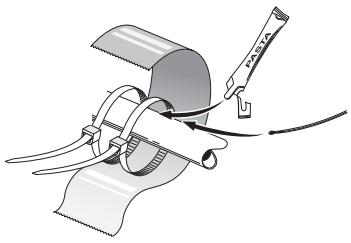
COMPATIBLE PRODUCTS

- S1155
- S1255

Pipe connections

TEMPERATURE SENSOR

- Temperature sensor, brine supply line (BT57) is installed on the supply line to the climate system.
- Temperature sensor, brine return line (BT58) is installed on the return line to the climate system.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

NOTE

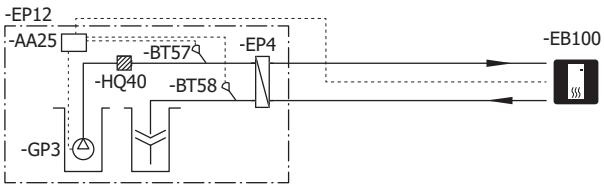
Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

EP12	*Ground water system*
AA25	AXC 40
EP4	Heat exchanger, groundwater
HQ40	Particle filter
GP3	Groundwater pump
EB100	*Heat pump*
BT57	Brine sensor, supply line
BT58	Brine sensor, return line

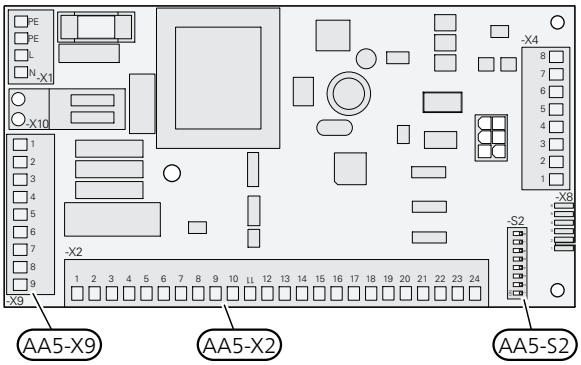


Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)



Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

The auxiliary relay (HR10) requires a greater load than 2A (230V).

CONNECTION OF SENSORS AND EXTERNAL BLOCKING

Use cable type LiYY, EKKX or similar.

Brine sensors (BT57) and (BT58)

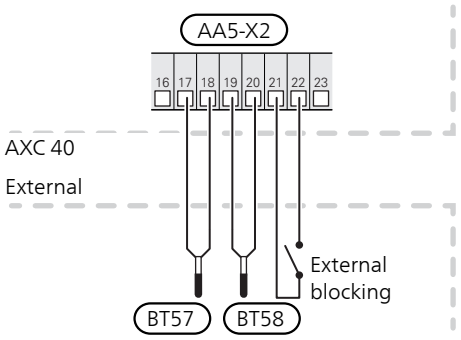
Two sensors (BT57 and BT58) can be connected to display the temperatures on the ground water side. An alarm can be activated in menu 7.2.20 to block the compressor, if the ground water out (BT58) from the heat exchanger drops below the set temperature. Blocking stops automatically, when the temperature on (BT58) rises by two degrees above the set temperature. The default setting for the alarm is deactivated.

Connect (BT57) to AA5-X2:17-18 on AXC 40 the accessory board.

Connect (BT58) to AA5-X2:19-20 on AXC 40 the accessory board.

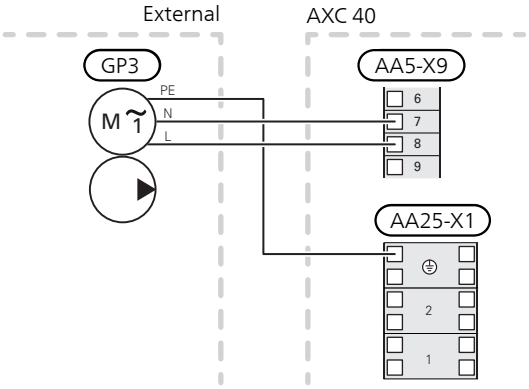
External blocking

A switch (NO) can be connected to AA5-X2:21-22 to block the groundwater pump. When the switch closes, the groundwater pump is blocked.



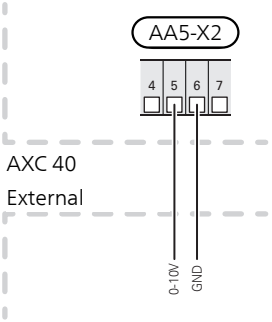
CONNECTING GROUND WATER PUMP (GP3)

Connect the ground water pump (GP3) to AA5-X9:8 (230V), AA5-X9:7 (N) and AA25-X1:3 (PE).



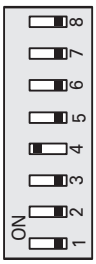
Connection of 0-10 V control of the groundwater pump (GP3)

Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 7.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 7.2.1 - Add/remove accessories

Here, you state which accessories are installed for the compatible product.

To automatically identify connected accessories, select "Search for accessories". It is also possible to select accessories manually from the list.

Menu 7.2.20 - Groundwater pump (AXC)

Select: "Alarm at min temp" yes/no.

Select: "Min temp groundwater", factory setting: 3°C

Select: "contr. gr. water pump" yes/no.

"manual speed" yes/no.

"manual speed", factory setting 75%.

"min. speed", factory setting 30%.

Here you adjust settings such as activation/deactivation of alarm, min. temperature and speeds.

Menu 7.5.3 - Forced control

Here you can force control the various components in the installation. The most important safety functions remain active however.

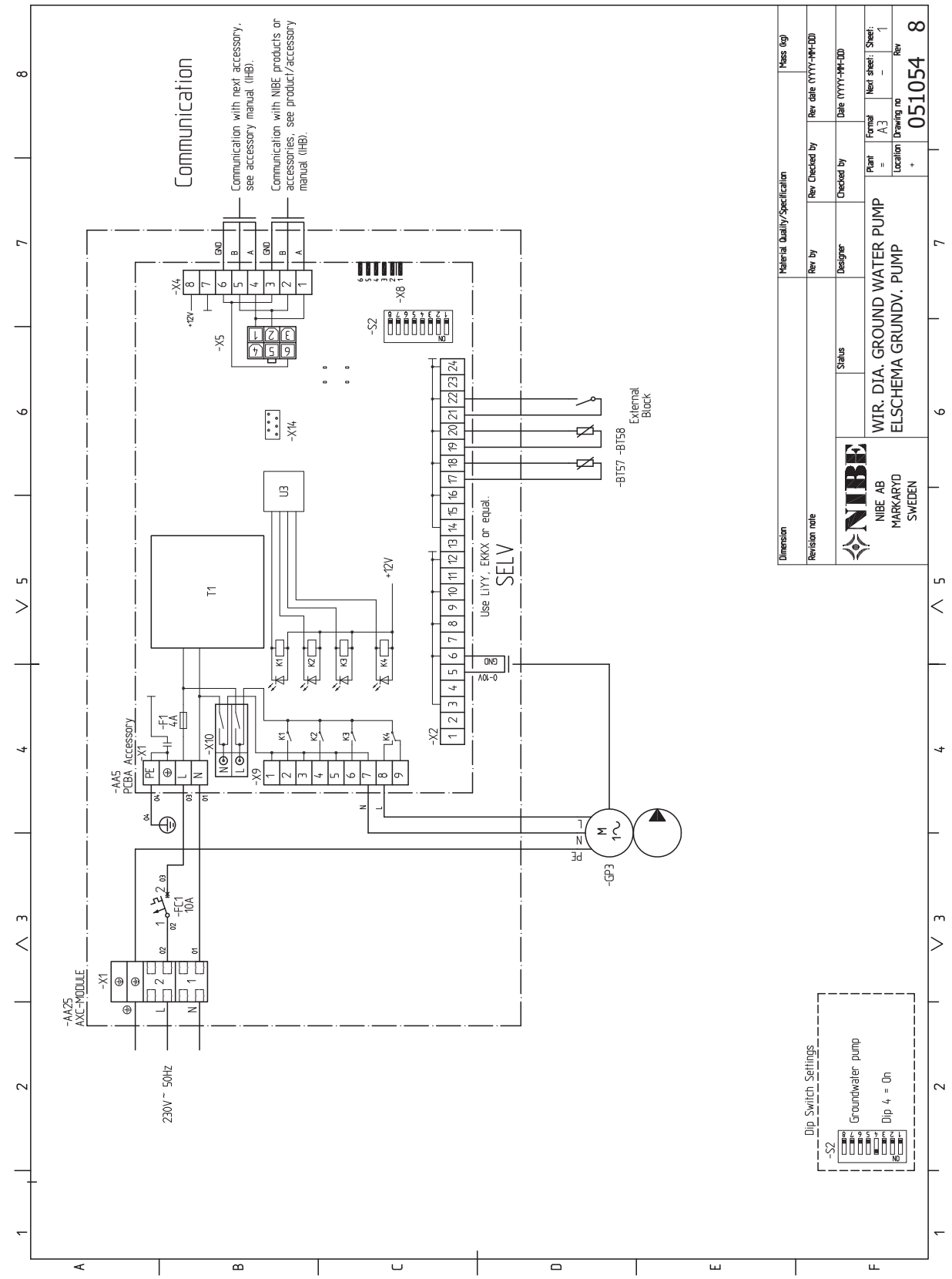
NOTE

Forced control is only intended to be used for troubleshooting purposes. Using the function in any other way may cause damage to the components in your climate system.

Caution

Also, see the Installer Manual for the main product.

Electrical circuit diagram



Technical data

Technical specifications

AXC module		
Electrical data		
Rated voltage		230V~ 50Hz
Enclosure class		IP21
Rated value for impulse voltage	kW	4
Pollution degree		2
Min fuse rating	A	10
Optional connections		
Max number of sensors		8
Miscellaneous		
Operation mode according to EN 60 730		Type 1
Area of operation	°C	-25 – 70
Ambient temperature	°C	5 – 35
Program cycles, hours		1, 24
Program cycles, days		1, 2, 5, 7
Resolution, program	min.	1
Dimensions LxWxH	mm	175x250x100
Weight	kg	1.47

AXC 40		
Part No.		067 060

Table of Contents

Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Rights to make any design or technical modifications are reserved.

Symbols

NOTE

This symbol indicates danger to person or machine .

Caution

This symbol indicates important information about what you should consider when installing or servicing the installation.

TIP

This symbol indicates tips on how to facilitate using the product.

Marking

CE The CE mark is obligatory for most products sold in the EU, regardless of where they are made.

IP21 Classification of enclosure of electro-technical equipment.

Danger to person or machine.

Read the Installer Manual.

General

This accessory, which includes a freestanding electric control module, is used to allow connection and control of the following accessory functions. An AXC 40 is required for each function.

- shunt-controlled additional heat
- step-controlled additional heat
- control of circulation pump for hot water circulation
- controlling ground water pump

Contents

4 x	Cable ties
2 x	Heating pipe paste
1 x	Insulation tape
1 x	AXC module
2 x	Aluminium tape
2 x	Temperature sensor

Compatible products

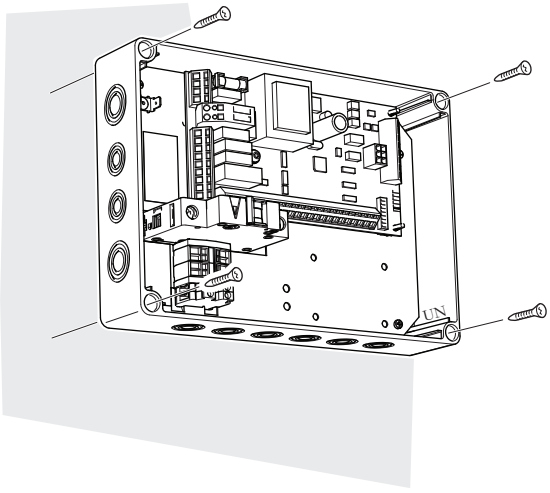
AXC 40 is suitable for the following main products:

- F1145
- F1155
- F1245
- F1255
- VVM 225
- VVM 310
- VVM 320
- VVM 325
- VVM 500

Mounting

Caution

The screw type must be adapted to the surface on which installation is taking place.



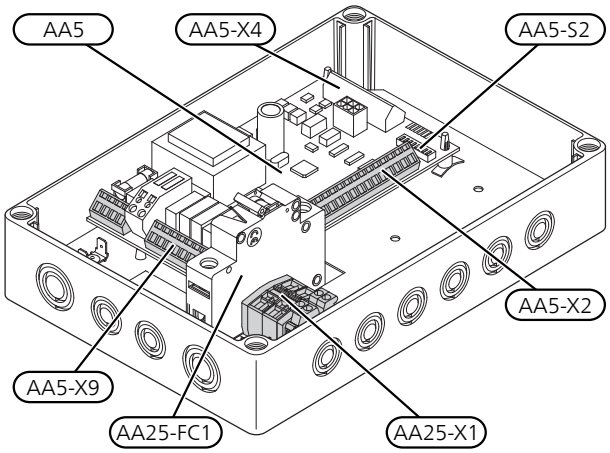
Use all mounting points and install the module upright, flat against the wall, with no part of the module protruding beyond the wall.

Leave at least 100 mm of free space around the module to allow access and make cable routing easier during installation and servicing.

NOTE

The installation must be carried out in such a way that IP21 is satisfied.

Component placing AXC module (AA25)



ELECTRICAL COMPONENTS

AA5	Accessory card
	AA5-S2 DIP switch
	AA5-X2 Terminal block, inputs
	AA5-X4 Terminal block, communication
	AA5-X9 Terminal block, outputs
AA25-FC1	Miniature circuit-breaker
AA25-X1	Terminal block, power supply

Designations according to standard EN 81346-2.

Common electrical connection

NOTE

All electrical connections must be carried out by an authorised electrician.

Electrical installation and wiring must be carried out in accordance with the stipulations in force.

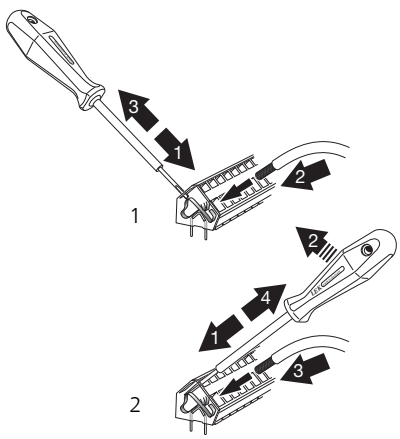
The main product must be disconnected from the power supply when installing AXC 40.

- To prevent interference, sensor cables to external connections must not be laid close to high voltage cables.
- The minimum area of communication and sensor cables to external connections must be 0.5 mm² up to 50 m, for example EKKX, LiYY or equivalent.
- AXC 40 must be installed via an isolator switch. The cable area has to be dimensioned based on the fuse rating used.
- Mark the relevant electrical cabinet with a warning about external voltage, in those cases where a component in the cabinet has a separate supply.
- AXC 40 restarts after a power failure.

Electrical circuit diagrams are at the end of the chapter for each connection option.

Cable lock

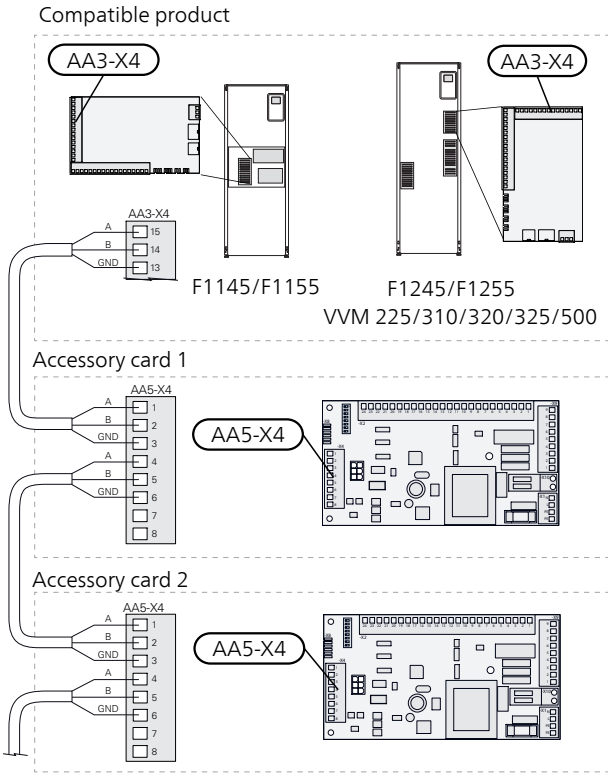
Use a suitable tool to release/lock cables in terminal blocks.



Connecting communication

This accessory contains an accessory board (AA5) that must be connected directly to the compatible product on the input board (terminal block AA3-X4).

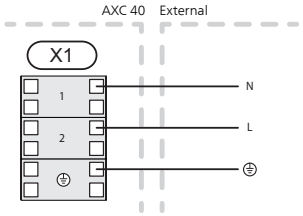
The first accessory board must be connected directly to the terminal block in the compatible product and the following boards must be connected in series with the previous board.



Power connection

Connect the power supply cable to terminal block X1 as illustrated.

Tightening torque: 0.5-0.6 Nm.



Shunt controlled additional heat

General

This function enables an external additional heater, e.g. an electric boiler, wood boiler, pellet boiler, oil boiler, gas boiler or district heating, to assist with the heating.

The heat pump/indoor module controls a shunt valve (QN11) and a circulation pump (GP10) via AXC 40. If the heat pump/indoor module cannot manage to maintain the correct supply temperature (BT25), the additional heat starts. When the temperature on the boiler sensor (BT52) exceeds the set value, the heat pump transmits a signal to the shunt (QN11) to open from the additional heat. The shunt (QN11) is regulated so that the true supply temperature agrees with the heat pump's theoretically calculated set point value. When the heating demand drops sufficiently, so additional heat is no longer required, the shunt (QN11) closes completely.

Factory-set minimum operating time for the boiler is 12 hours.

The function smart energy source can be selected if you want to prioritise automatically between heat pump operation and additional heat versus the best price or environmental impact.

COMPATIBLE PRODUCTS

- F1145
- F1155
- F1245
- F1255
- VVM 225
- VVM 310
- VVM 320
- VVM 325
- VVM 500

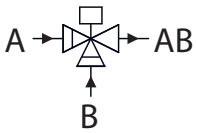
Pipe connections

The external circulation pump (GP10) is located on the supply line to the climate system after the temperature sensor (BT25).

SHUNT VALVE

The shunt valve (QN11) must be placed on the supply line to the climate system after the heat pump according to the outline diagram.

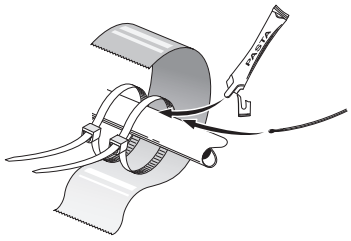
- Connect the supply line from the heat pump to the external heat source via the T-pipe to port B on the shunt valve (closes on reduce signal).



- Connect the supply line to the climate system from the shunt valve to the common port AB (always open)
- Connect the supply line from the external additional heat to the shunt valve to port A (opens on increase signal).

TEMPERATURE SENSOR

- Install the boiler sensor (BT52) in a suitable location in the external additional heat.
- External supply temperature sensor (BT25, connected in the heat pump/indoor module) must be installed on the supply line to the climate system, after the shunt valve (QN11).



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

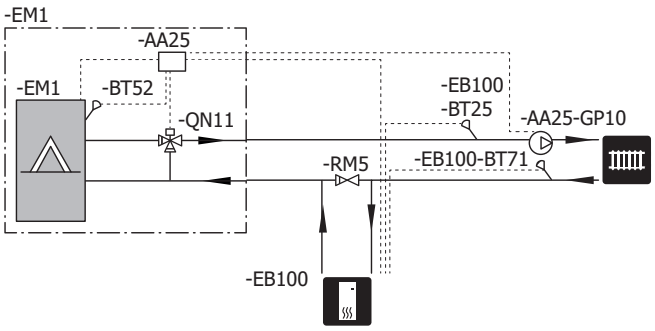
> *NOTE*
>
> Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

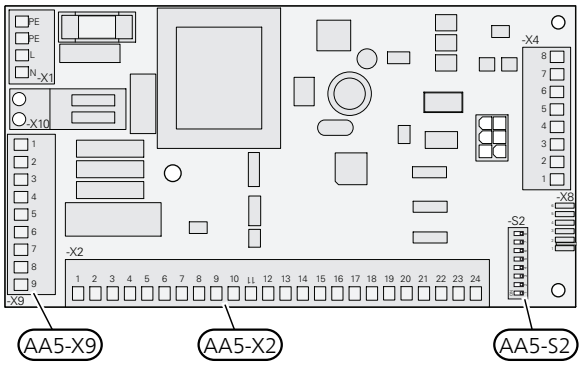
EM1	*Mixing valve controlled additional heat, boiler*
AA25	AXC 40
BT52	Boiler sensor
GP10	External circulation pump
QN11	Mixing valve, addition
EB100	*Heat pump*
BT25	External supply temperature sensor
BT71	External return line sensor
Miscellaneous	
RM5	Non-return valve



Electrical connection

> *NOTE*
>
> Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)



CONNECTION OF SENSORS AND EXTERNAL BLOCKING

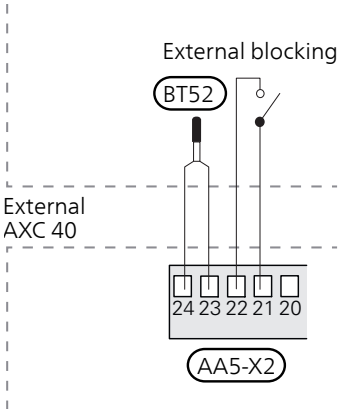
Use cable type LiYY, EKKX or similar.

Boiler sensor (BT52)

Connect the boiler sensor to AA5-X2:23-24.

External blocking (optional)

An external switch function (NO) can be connected to AA5-X2:21-22 to block additional heat. The switch must be potential-free and a closed switch results in blocking.



External supply temperature sensor (BT25) / return sensor (BT71)

The sensors (BT25) and (BT71) must be connected to the main product's soft inputs/outputs.

See the Installer Manual for the main product.

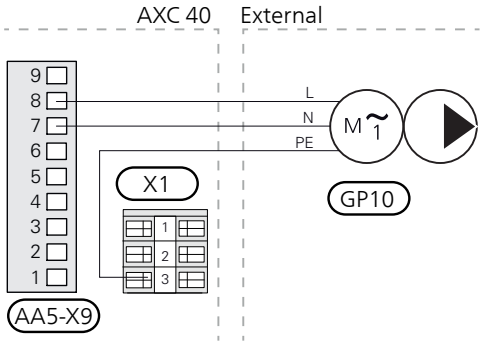
When the sensor is connected, the correct function must be selected for the input/output in menu 5.4.

Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

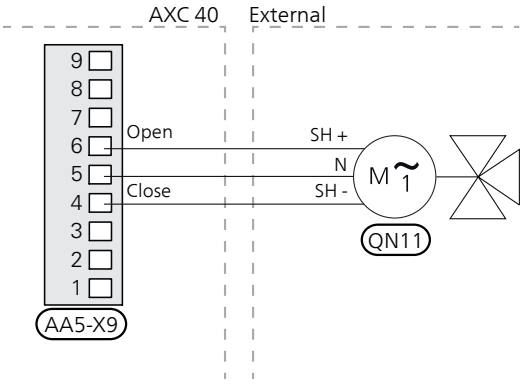
CONNECTION OF THE CIRCULATION PUMP (GP10)

Connect the circulation pump (GP10) to AA5-X9:8 (230V), AA5-X9:7 (N) and X1:3 (PE).



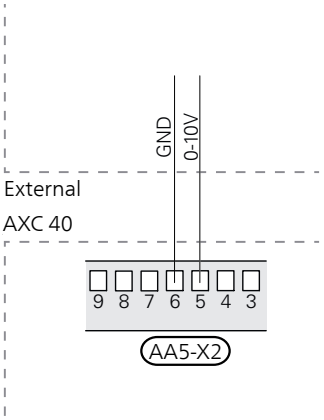
CONNECTION OF THE SHUNT VALVE MOTOR (QN11)

Connect the shunt motor (QN11) to AA5-X9:6 (230V, open), AA5-X9:5 (N) and AA5-X9:4 (230V, close).



Connection of 0-10 V control of shunt motor (QN11)

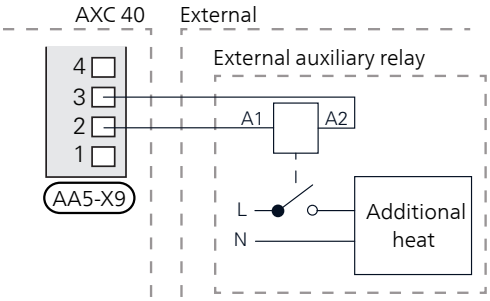
Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



At 0 V the shunt is closed and at 10 V the shunt is open.

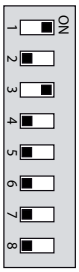
CONNECTION OF THE AUXILIARY RELAY FOR ADDITIONAL HEATING

Connect the auxiliary relay for switching the additional heat on and off to AA5-X9:2 (230V) and AA5-X9:3 (N).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

Start guide

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 5.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 5.2.4 - accessories

Activating/deactivating of accessories.

Select: "shunt controlled add. heat".

Menu 5.3.2 - shunt controlled add. heat

Here you can perform the following settings:

- activation of the prioritised additional heat function.
- minimum operating time.
- minimum boiler temperature at which the shunt will start to regulate.
- shunt amplification.
- shunt waiting time.

> *Caution*
>
> "start additional heat" in the menus 5.3.6 (external) and 4.9.3 (internal) are factory set at 400DM. If both additional heat options are used and you want one to start before the other, the start difference must be changed in one of the menus.

Menu 5.6 - forced control

Forced control of the various components in the heat pump as well as in the various accessories that may be connected.

EM1-AA5-K1: Activation of relay for extra heating.

EM1-AA5-K2: Signal (close) to mixing valve (QN11).

EM1-AA5-K3: Signal (open) to mixing valve (QN11).

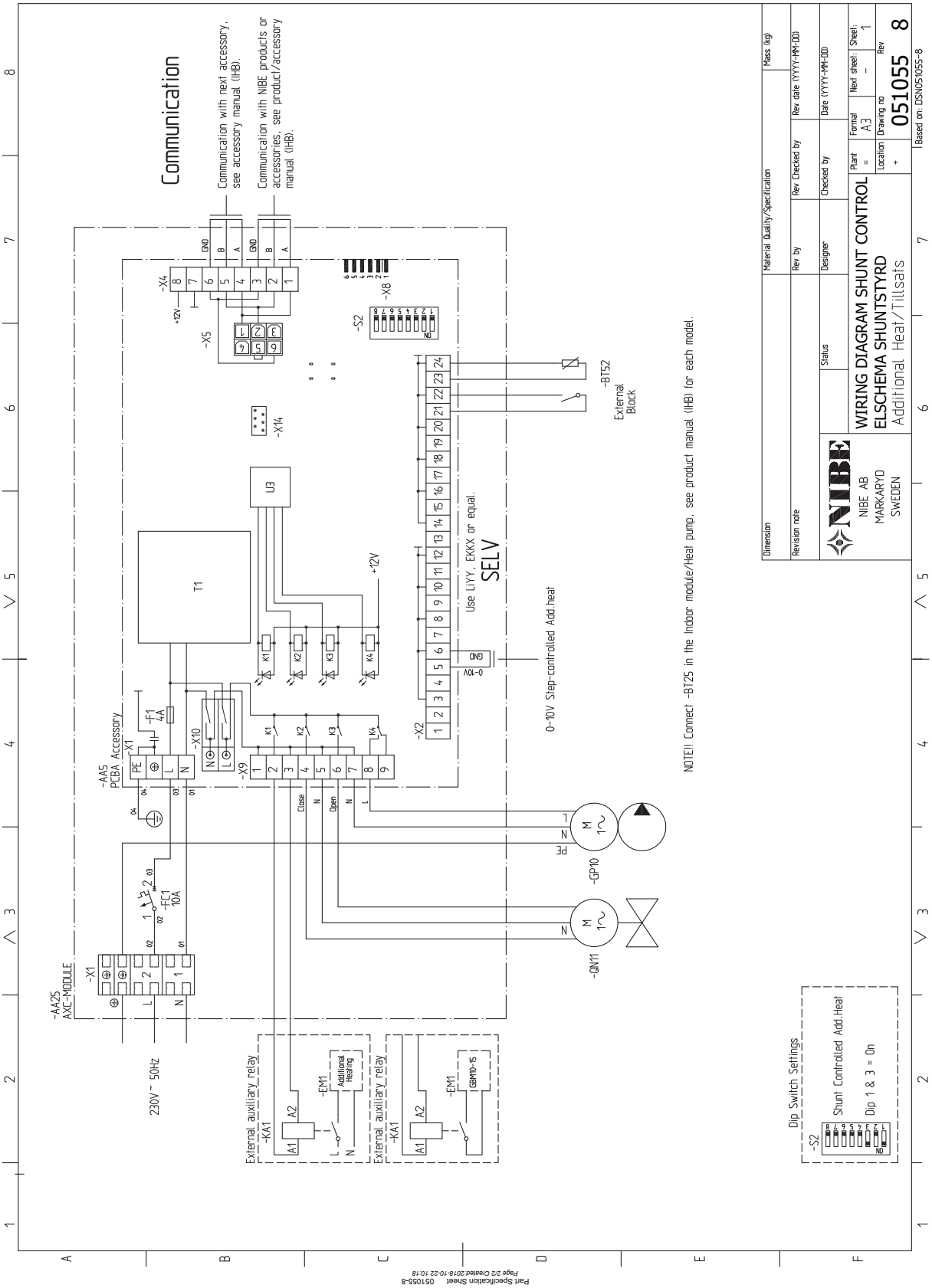
EM1-AA5-K4: Activating the circulation pump (GP10).

Menu 4.1.8 - smart energy source™ (option)

The function prioritises how/to what extent each docked energy source will be used. Here you can select whether the system will use the energy source that is cheapest at the time. You can also select whether the system will use the energy source that is most carbon neutral at the time. If you want to prioritise additional heat, set the values to 0.

> *Caution*
>
> Also see the Installer Manual for the main product.

Electrical circuit diagram



Step controlled additional heat

General

This function enables an external additional heater, e.g. an electric boiler, to aid with heating.

With AXC 40, three potential-free relays can be used for additional heat control, which then gives max. 3 linear or 7 binary steps.

The flow through the addition is ensured either by the charge pump (GP12)) or the external circulation pump (GP10).

COMPATIBLE PRODUCTS

- F1145
- F1155
- F1245
- F1255
- VVM 225
- VVM 320
- VVM 325

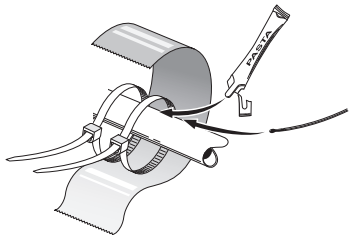
Pipe connections

The external circulation pump (GP10) is located on the supply line to the climate system after the temperature sensor (BT25).

If the climate system's flow exceeds the maximum recommended flow for the electric boiler, a bypass must be installed so that only a partial flow passes through the electric boiler.

TEMPERATURE SENSOR

- External supply temperature sensor (BT25, connected in the heat pump/indoor module), must be installed on the supply line to the climate system, after the additional heat.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

NOTE

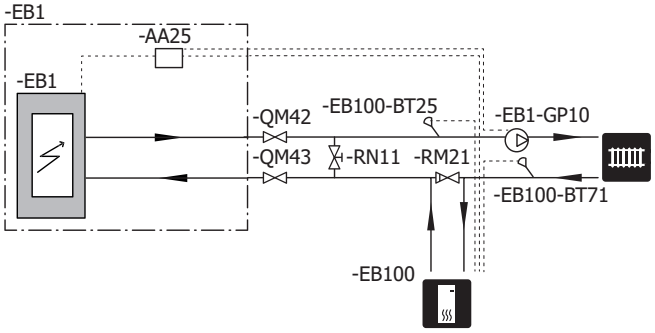
Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

EB1	*Step controlled additional heat*
AA25	AXC 40
GP10	Circulation pump, heating medium external
EB100	*Heat pump*
BT25	External supply temperature sensor
BT71	External return line sensor
Miscellaneous	
QM42-43	Shut-off valve
RN11	Trim valve
RM21	Non-return valve

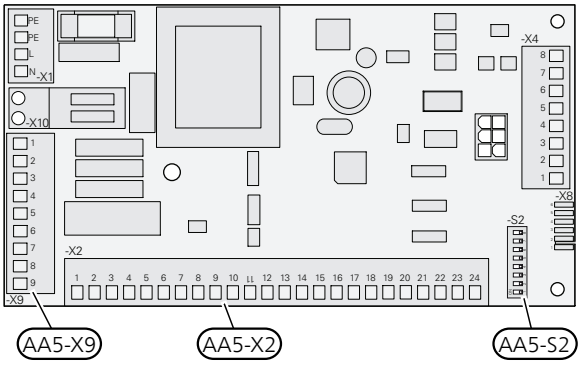


Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)

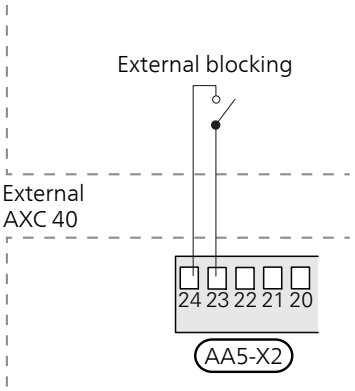


CONNECTION OF SENSORS AND EXTERNAL BLOCKING

Use cable type LiYY, EKKX or similar.

External blocking (optional)

A contact (NO) can be connected to AA5-X2:23-24 to block the additional heat. When the contact closes, the additional heat is blocked.



External supply temperature sensor (BT25) / return sensor (BT71)

The sensors (BT25) and (BT71) must be connected to the main product's soft inputs/outputs.

See the Installer Manual for the main product.

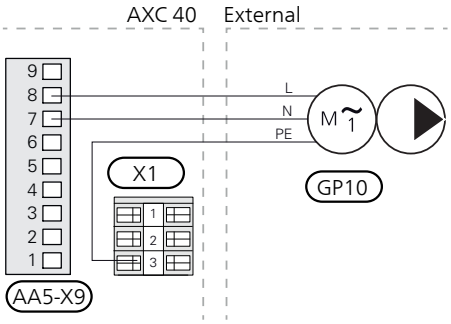
When the sensor is connected, the correct function must be selected for the input/output in menu 5.4.

Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

CONNECTION OF THE CIRCULATION PUMP (GP10)

Connect the circulation pump (GP10) to AA5-X9:8 (230V), AA5-X9:7 (N) and X1:3 (PE).



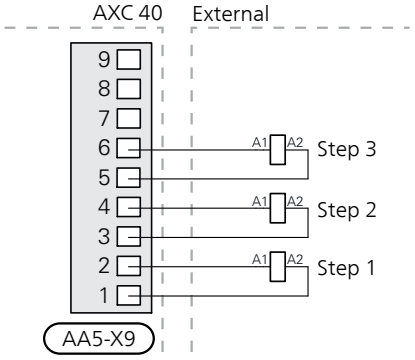
CONNECTION OF RELAYS

Connecting additional step

Connect step 1 to AA5-X9:1 and 2.

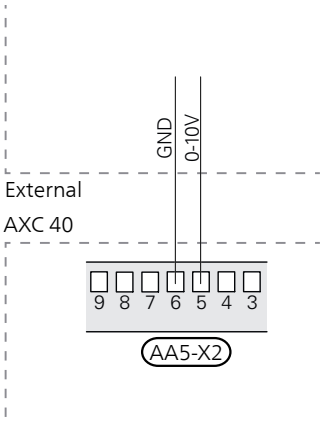
Connect step 2 to AA5-X9:3 and 4.

Connect step 3 to AA5-X9:5 and 6.



Connection of 0-10 V control

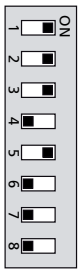
Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



0 V = 0 steps and 10 V = max. number of set steps.

DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears upon first start-up after the heat pump installation, but is also found in menu 5.7 .

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 5.2 - system settings

Activating/deactivating of accessories.

Select: "step controlled add. heat".

Menu 5.3.6 - step controlled add. heat

Here you can perform the following settings:

- Select when the addition is to start.
- Set max permitted number of additional steps.
- If binary stepping is to be used.

> *Caution*
>
> "start additional heat" in the menus 5.3.6 (external) and 4.9.3 (internal) are factory set at 400DM. If both the additional heat options are used and you want to have more steps, the start difference must be changed in one of the menus.

Menu 5.6 - forced control

Forced control of the different components in the heat pump as well as in the different accessories that may be connected.

EB1-AA5-K1: Activating additional step 1.

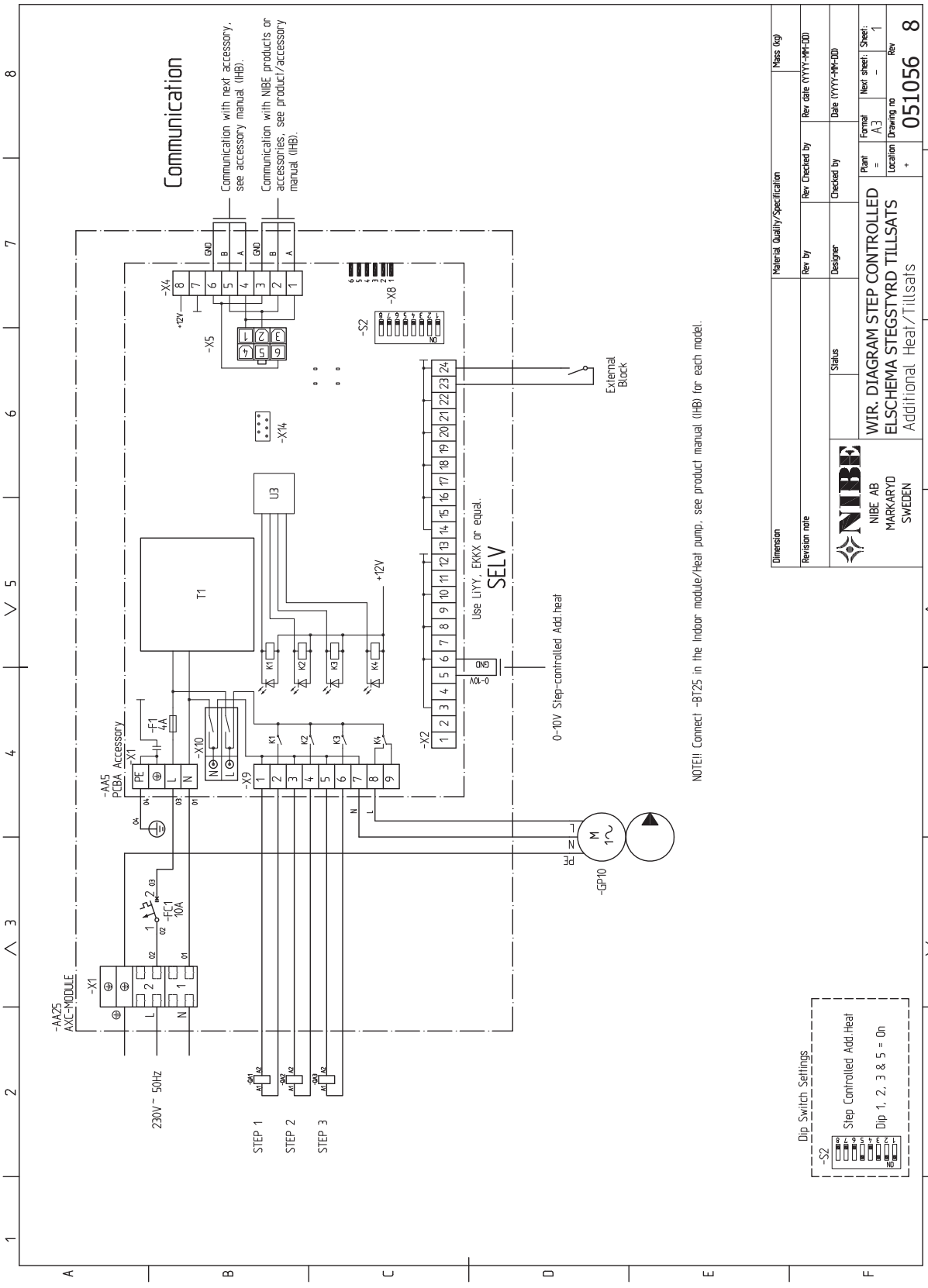
EB1-AA5-K2: Activating additional step 2.

EB1-AA5-K3: Activating additional step 3.

EB1-AA5-K4: Activating the circulation pump (GP10).

> *Caution*
>
> Also see the Installer Manual for the main product.

Electrical circuit diagram



Hot water comfort

General

This function provides the opportunity to control additional heat in the tank, mixing valve and hot water circulation.

ADDITIONAL HEAT IN TANK

If an immersion heater is installed in the tank, it can be permitted to produce hot water at the same time as the heat pump prioritises heating.

MIXING VALVE

A temperature sensor reads the temperature of the outgoing hot water to the domestic hot water and adjusts the mixing valve from the water heater until the set temperature has been reached.

HOT WATER CIRCULATION (VVC)

One pump can be controlled for the circulation of the hot water during selectable periods.

COMPATIBLE PRODUCTS

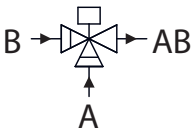
- F1145
- F1155
- F1245
- F1255
- VVM 225
- VVM 310
- VVM 320
- VVM 325
- VVM 500

Pipe connections

MIXING VALVE

The mixer valve (FQ3) must be placed on the outgoing hot water line from the water heater according to the outline diagram.

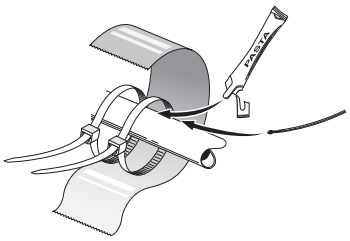
- Connect the incoming cold water via the T-pipe to port B on the mixer valve (closes at signal).



- Connect the mixed water to the domestic hot water taps from the mixer valve to the common port AB (always open).
- Connect the outgoing hot water from the water heater to the mixer valve to port A (opens on signal)

TEMPERATURE SENSOR

- Temperature sensor, outgoing hot water, (BT70) is installed as close to the mixing valve (FQ3) as possible.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

NOTE

Sensor and communication cables must not be laid near power cables.

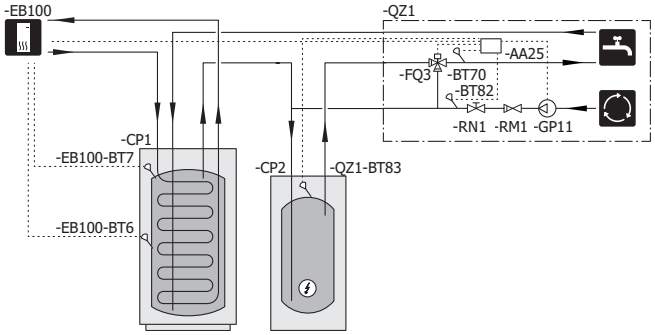
Outline diagram

EXPLANATION

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

QZ1	Hot water comfort
AA25	AXC 40
GP11	Hot water circulation pump
FQ3	Mixer valve, hot water
RN1	Trim valve
RM1	Non-return valve
BT70	Flow line sensor
BT82	Return line sensor, hot water
BT83	Temperature sensor, hot water heater
CP1	Water heater
CP2	Additional water heater
EB100	*Heat pump*
BT6	Temperature sensor, hot water
BT7	Temperature sensor, hot water top

OUTLINE DIAGRAM WITH ADDITIONAL WATER HEATER, HWC AND ELECTRONIC MIXING VALVE



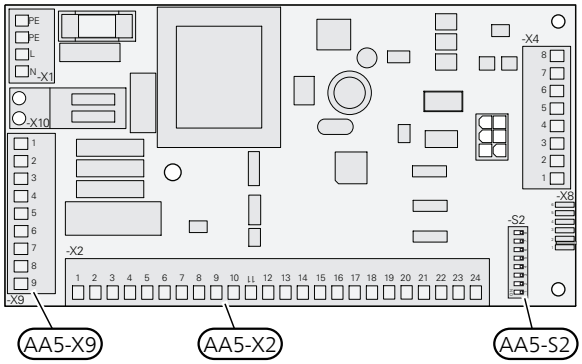
Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)

Overview accessory board (AA5)



CONNECTING SENSORS

Use cable type LiYY, EKKX or similar.

Hot water sensor, supply line (BT70)

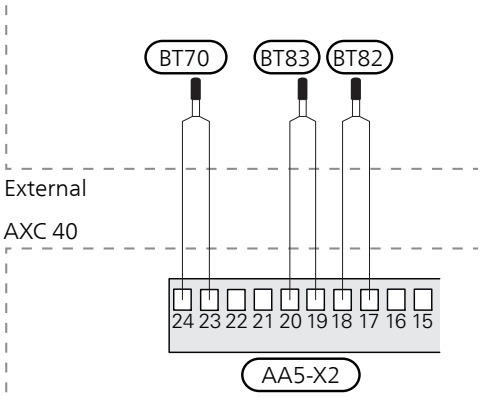
Connect the hot water sensor to AA5-X2:23-24.

Temperature sensor, hot water comfort, return line (BT82)

Connect the temperature sensor to AA5-X2:17-18.

Temperature sensor, hot water heater (BT83)

Connect the temperature sensor to AA5-X2:19-20.

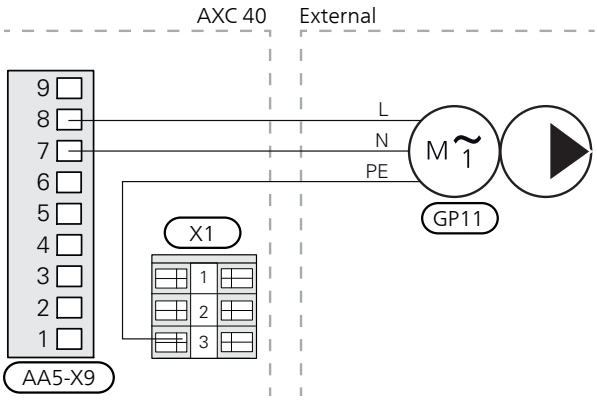


Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

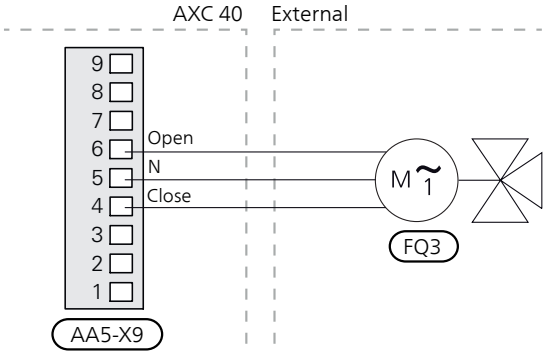
CONNECTION OF THE HOT WATER CIRCULATION PUMP (GP11)

Connect the circulation pump (GP11) to AA5-X9:8 (230V), AA5-X9:7 (N) and X1:3 (PE).



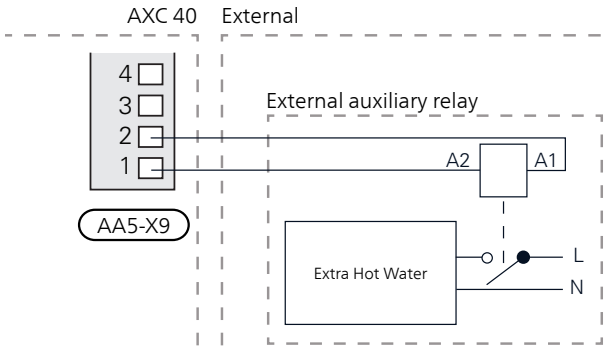
CONNECTION OF THE MIXER VALVE (FQ3)

Connect the mixing valve motor (FQ3) to AA5-X9:6 (230V, open), AA5-X9:5 (N) and AA5-X9:4 (230V, close).



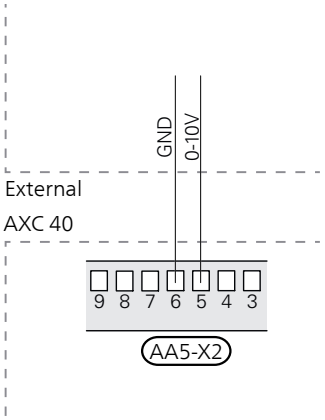
CONNECTION OF AUXILIARY RELAY FOR ADDITIONAL HEAT IN TANK

Connect the auxiliary relay for switching the additional heat on and off to AA5-X9:1 (N) and AA5-X9:2 (230V).



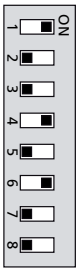
CONNECTION OF 0-10 V CONTROL

Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 5.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 5.2.4 - accessories

Activating/deactivating of accessories.

Select: "hot water comfort".

Menu 2.9.2 - hot water recirc.

Here you can make the following settings for hot water circulation for up to three periods per day:

- How long the hot water circulation pump must run per operating instance
- How long the hot water circulation pump must be stationary between operating instances.

Menu 5.3.8 - hot water comfort

Here you can perform the following settings:

- *activating imm heater*: The immersion heater is activated here, if installed in the water heater.
- *activ. imm heat in heat mode*: Activate here whether the immersion heater in the tank (requires the above alternative to be activated) is to be permitted to charge hot water, if the compressors in the heat pump are prioritising heating.
- *activating the mixing valve*: Activate if mixing valve is installed and it is to be controlled from the heat pump. When the option is active, you can set the outgoing hot water temperature, shunt amplification and shunt waiting time for the mixer valve.

Menu 5.6 - forced control

Forced control of the different components in the heat pump as well as in the different accessories that may be connected.

QZ1-AA5-K1: Activating the relay for extra hot water.

QZ1-AA5-K2: Signal (close) to the mixing valve (FQ3).

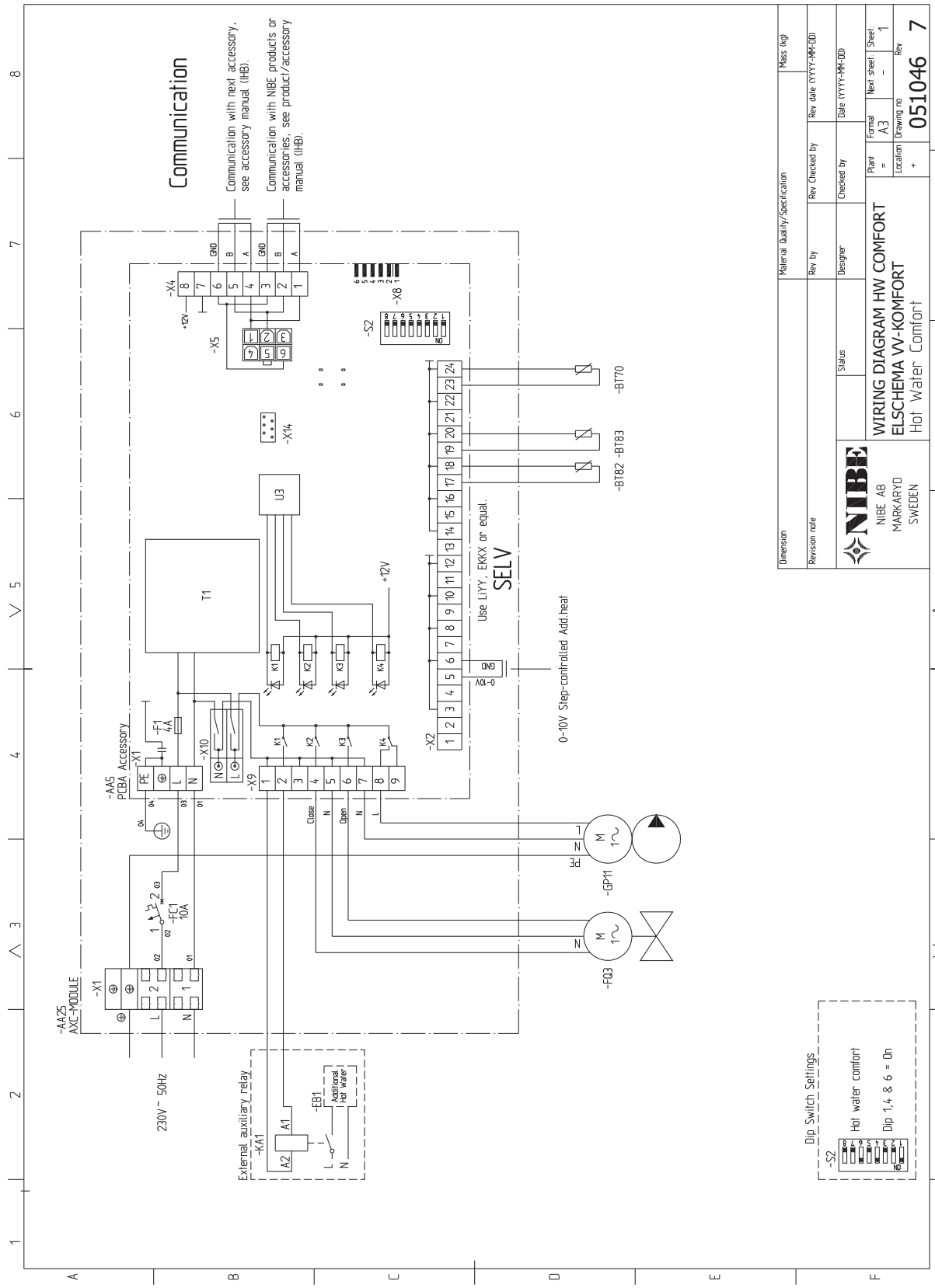
QZ1-AA5-K3: Signal (open) to the mixing valve (FQ3).

QZ1-AA5-K4: Activating the circulation pump (GP11).

Caution

Also see the Installer Manual for the main product.

Electrical circuit diagram



Ground water system

General

With AXC 40 a ground water pump can be connected to the heat pump if the software controlled output (AUX output) is used for something else.

This connection enables the use of ground water as heat source. The ground water is pumped up to an intermediate heat exchanger. An intermediate heat exchanger is used to protect the heat pump's exchanger from dirt and freezing. The water is released into a buried filtration unit or a drilled well.

The ground water pump runs at the same time as the brine pump.

From software version 8233R2, the groundwater pump can be controlled with an analogue control signal from 0-10 V.

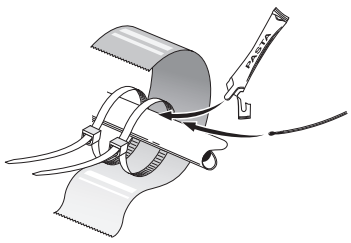
COMPATIBLE PRODUCTS

- F1145
- F1155
- F1245
- F1255

Pipe connections

TEMPERATURE SENSOR

- Temperature sensor, brine supply line (BT57) is installed on the supply line to the climate system.
- Temperature sensor, brine return line (BT58) is installed on the return line to the climate system.



Install the temperature sensors using cable ties, together with the heat conducting paste and aluminium tape. Then insulate with the enclosed insulation tape.

NOTE

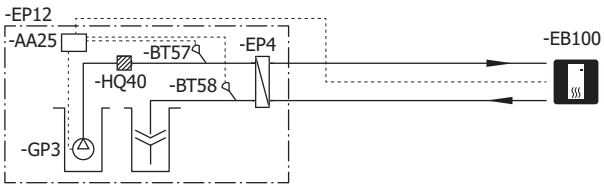
Sensor and communication cables must not be laid near power cables.

Outline diagram

Real installations must be planned according to applicable standards. More system principles can be found at nibe.eu.

EXPLANATION

EP12	*Ground water system*
AA25	AXC 40
EP4	Heat exchanger, groundwater
HQ40	Particle filter
GP3	Groundwater pump
EB100	*Heat pump*
BT57	Brine sensor, supply line
BT58	Brine sensor, return line

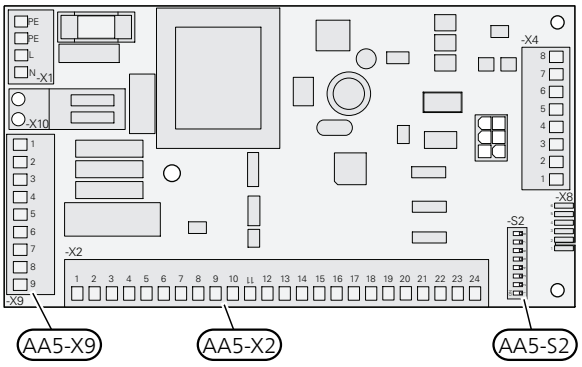


Electrical connection

NOTE

Read section "Common electrical connection" for instructions regarding electrical connection.

OVERVIEW ACCESSORY BOARD (AA5)



Caution

The relay outputs on the accessory board can have a max load of 2A (230V) in total.

The auxiliary relay (HR10) requires a greater load than 2A (230V).

CONNECTION OF SENSORS AND EXTERNAL BLOCKING

Use cable type LiYY, EKKX or similar.

Brine sensors (BT57) and (BT58)

Caution

For the alarm to be activated, software of at least 7740R2 must be installed on your heat pump.

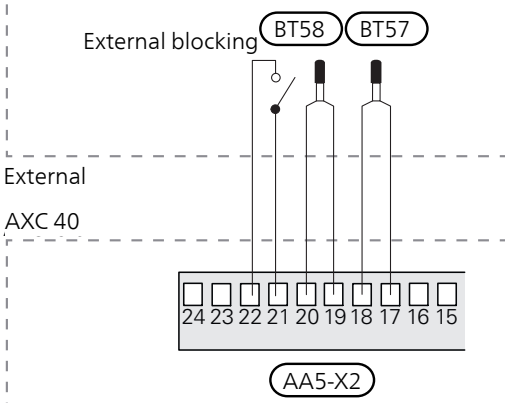
Two sensors (BT57 and BT58) can be connected to display the temperatures on the ground water side. An alarm can be activated in menu 5.3.23 to block the compressor, if the ground water out (BT58) from the heat exchanger drops below the set temperature. Blocking stops automatically, when the temperature on (BT58) rises by two degrees above the set temperature. The default setting for the alarm is deactivated.

Connect (BT57) to AA5-X2:17-18 on AXC 40 the accessory board.

Connect (BT58) to AA5-X2:19-20 on AXC 40 the accessory board.

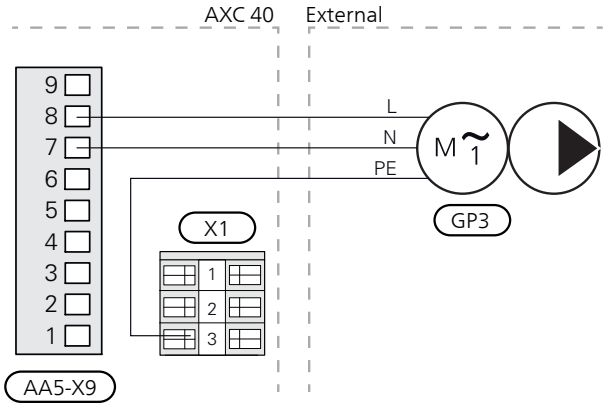
External blocking

A switch (NO) can be connected to AA5-X2:21-22 to block the groundwater pump. When the switch closes, the groundwater pump is blocked.



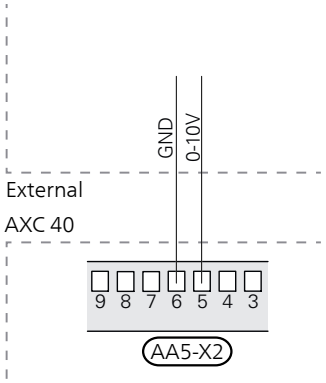
CONNECTING GROUND WATER PUMP (GP3)

Connect the ground water pump (GP3) to AA5-X9:8 (230V), AA5-X9:7 (N) and X1:3 (PE).



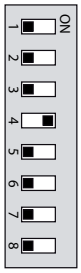
Connection of 0-10 V control of the groundwater pump (GP3)

Connect a twin core cable of the type LiKK, EKKX or equivalent to AA5-X2:5 (0-10 V) and AA5-X2:6 (GND).



DIP SWITCH

The DIP switch (S2) on the accessory card (AA5) must be set as follows.



Program settings

Program setting of AXC 40 can be performed via the start guide or directly in the menu system.

START GUIDE

The start guide appears at first start-up after the heat pump installation, but can also be found in menu 5.7.

MENU SYSTEM

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 5.2 - system settings

Activating/deactivating of accessories.

Select: "ground water pump".

Menu 5.3.23 - ground water pump

Here you adjust settings such as activation/deactivation of alarm, min. temperature and speeds.

Select: "Alarm at min temp" yes/no.

Select: "Min temp groundwater", factory setting: 3°C

Select: "contr. gr. water pump" yes/no.

"manual speed" yes/no.

"manual speed", factory setting 75%.

"min. speed", factory setting 30%.

Menu 5.6 - forced control

Forced control of the different components in the heat pump as well as in the different accessories that may be connected.

EP12-AA5-K1: No function.

EP12-AA5-K2: No function.

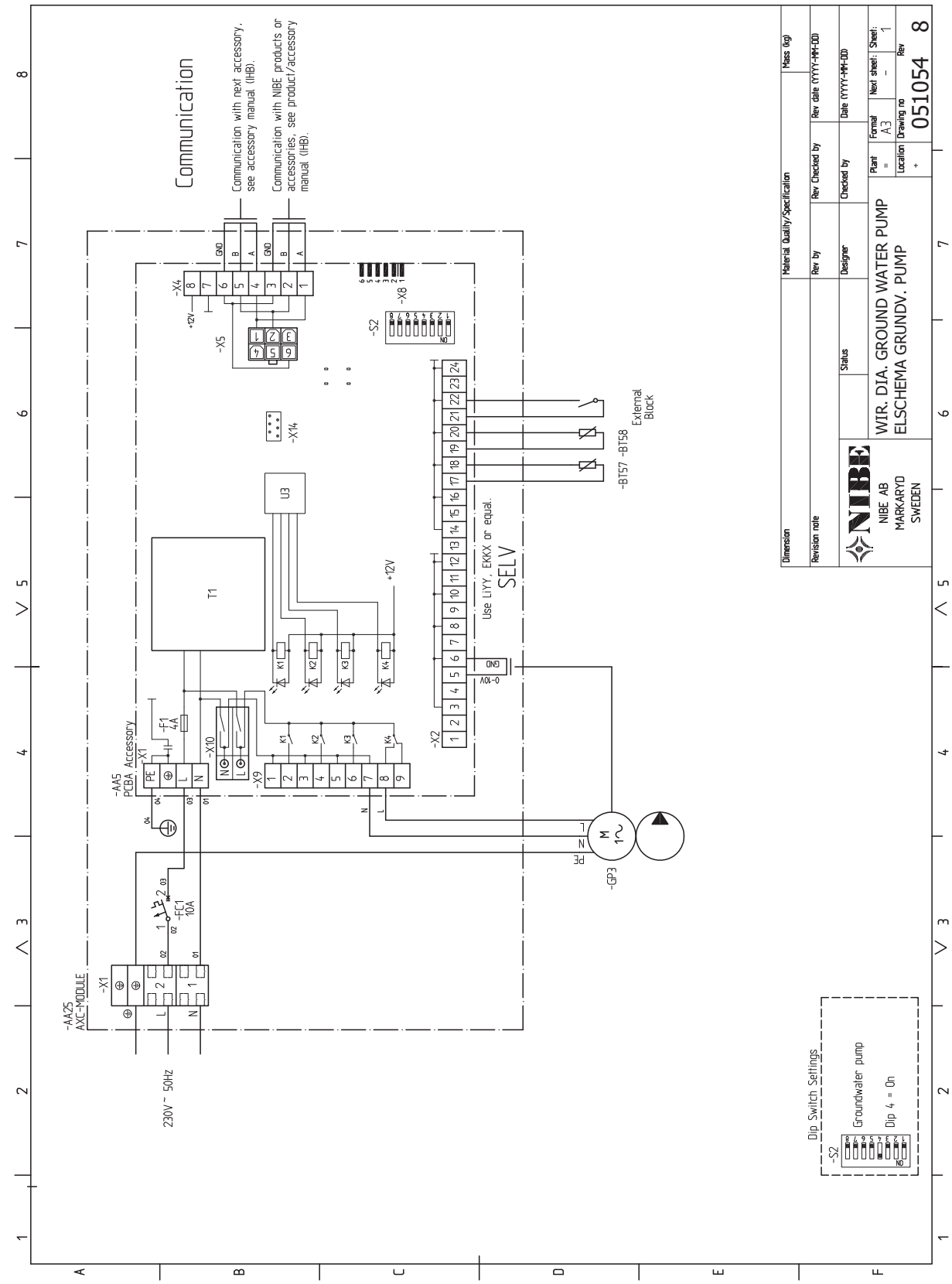
EP12-AA5-K3: No function.

EP12-AA5-K4: Activating the circulation pump (GP3).

Caution

Also, see the Installer Manual for the heat pump

Electrical circuit diagram



Technical data

Technical specifications

AXC module		
Electrical data		
Rated voltage		230V~ 50Hz
Enclosure class		IP21
Rated value for impulse voltage	kW	4
Pollution degree		2
Min fuse rating	A	10
Optional connections		
Max number of sensors		8
Miscellaneous		
Operation mode according to EN 60 730		Type 1
Area of operation	°C	-25 – 70
Ambient temperature	°C	5 – 35
Program cycles, hours		1, 24
Program cycles, days		1, 2, 5, 7
Resolution, program	min.	1
Dimensions LxWxH	mm	175x250x100
Weight	kg	1.47

AXC 40		
Part No.		067 060

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