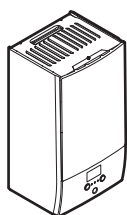




Installation manual

Daikin Altherma – Low temperature split



EABH16DA6V
EABH16DA9W

EABX16DA6V
EABX16DA9W

Installation manual
Daikin Altherma – Low temperature split

English

CE - DECLARATION OF CONFORMITY	CE - ERKLÄRUNG ÜBER ÜBEREINSTIMMUNG	CE - ERKLÄRUNG OM SAMSVAR	CE - IZJAVA O SKLADNOSTI	CE - ATTIKTES DEKLARACJA
CE - KONFORMITÄTSERKLÄRUNG	CE - ERKÄNDANDE AV ÖVERENSSTÄMMELSE	CE - ILMOITUS YHDEMUKAUSUDESTA	CE - VASTAVISDEKLARATSIOON	CE - VASTAVISDEKLARACJA
CE - DECLARATION OF CONFORMITE	CE - FORKLÄRNING OM ÖVERENSSTÄMMELSE	CE - PROHLÁŠENÍ O SHODĚ	CE - DEKLARACIJA ZGODNOSTI	CE - VYHLÁŠENÍ ZODY
CE - KONFORMITÄTSEKLRUNG				CE - ÜYÜNLÜK BEYANI

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02 is not subject to any obligation of conformity assessment under the relevant EU
03 directives and/or regulations, and that the equipment is not intended for use in
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EN60335-2-40,

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| 02 | gemäß den Vorschriften der | 02 | podľa predpisov: |
| 03 | conformément aux stipulations des | 03 | konformne s ustanoveniami: |
| 04 | overeenkomstig de bepalingen van | 04 | u skladu s ustanoveními: |
| 05 | siguendo as disposiciones de: | 05 | podľa ustanovení: |
| 06 | secondo le prescrizioni per: | 06 | podľa predpisov: |
| 07 | при приложениі правилъ: | 07 | при приложениі правилъ: |
| 08 | de acordo com o previsto em | 08 | podľa ustanovení: |
| 09 | в соответствии с положением | 09 | в соответствии с положением: |
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| 19 | db upštevanju določb: |
| 20 | vstavljal nūletele: |
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| 23 | ievėrojot prasības, kas noteiktas: |
| 24 | odrēžavajūc ustanovēnia: |
| 25 | būnun kosullanna uvgun darak: |

Low Voltage 2014/35/EU
Electromagnetic Compatibility 2014/30/EU

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Corfiatili <> | 16 Meugjizise |
| 12 Merk* | son del ferikomer <da> qj, gjenom, positiv
bedimelme >da> folje Seffatili <> | 17 Uwaga* |
| 13 Huom* | pika on eseleni, asakj, pass >da> pja <da>
on hysyrtj, Seffatili <> mikaseli. | 18 Nola* |
| 14 Poznam* | jak dje udereno >da> pozitivne zjefeno
<> v soudaji >da> osviedchen <> | 19 Opomba* |
| 15 Napomena* | kako je izoceno >da> pozitivno ocjeleno od strane
prema Seffatili <> | 20 Markus* |

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- CE - IZJAVA O USKLADENOSTI
CE - MEGFELELŐSÉGI NYILATKOZAT
CE - DEKLARACIJA ZGODNOSTI
CE - DECLARATIE DE CONFORMITATE

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1 About the documentation

1.1 About this document

Target audience

Authorised installers

Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
 - Safety instructions that you must read before installing
 - Format: Paper (in the box of the indoor unit)
- **Indoor unit installation manual:**
 - Installation instructions
 - Format: Paper (in the box of the indoor unit)
- **Outdoor unit installation manual:**
 - Installation instructions
 - Format: Paper (in the box of the outdoor unit)
- **Installer reference guide:**
 - Preparation of the installation, good practices, reference data,...
 - Format: Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>
- **Addendum book for optional equipment:**
 - Additional info about how to install optional equipment
 - Format: Paper (in the box of the indoor unit) + Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

The original documentation is written in English. All other languages are translations.

Technical engineering data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin extranet (authentication required).

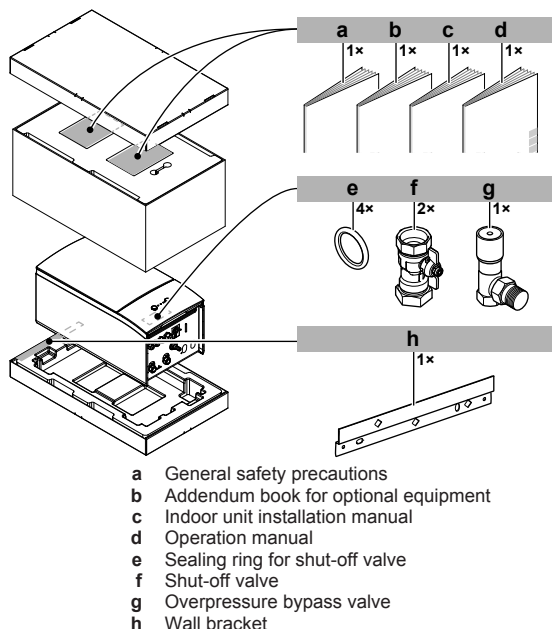
2 About the box

2 About the box

2.1 Indoor unit

2.1.1 To remove the accessories from the indoor unit

Some accessories are located inside the unit. To open the unit, see "4.1.1 To open the indoor unit" on page 5.



3 Preparation

3.1 Preparing the installation site

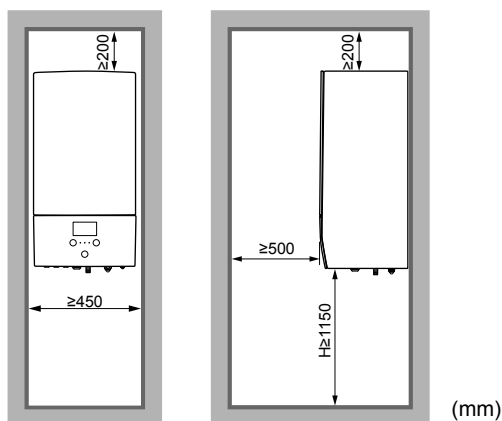


WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

3.1.1 Installation site requirements of the indoor unit

- The indoor unit is designed for indoor installation only and for the following ambient temperatures:
 - Space heating operation: 5~30°C
 - Space cooling operation: 5~35°C
 - Domestic hot water production: 5~35°C
- The maximum height difference between the indoor unit and tank compared to the outdoor unit is 10 m
- The maximum piping length between the indoor unit and the separated tank is 10 m.
- Mind the following spacing installation guidelines:



3.2 Preparing water piping



NOTICE

In case of plastic pipes, make sure they are fully oxygen diffusion tight according to DIN 4726. The diffusion of oxygen into the piping can lead to excessive corrosion.

- **Valve towards expansion vessel.** The valve towards the expansion vessel (if equipped) MUST be open.

3.2.1 To check the water volume and flow rate

Minimum water volume

Check that the total water volume in the installation is minimum 20 litres, the internal water volume of the outdoor unit NOT included.



NOTICE

When circulation in each space heating/cooling loop is controlled by remotely controlled valves, it is important that the minimum water volume is guaranteed, even if all of the valves are closed.

Minimum flow rate

Check that the minimum flow rate in the installation is guaranteed in all conditions. This minimum flow rate is required during defrost/backup heater operation. For this purpose, use the overpressure bypass valve delivered with the unit, and respect the minimum water volume.



NOTICE

To guarantee proper operation it is recommended to have a minimum flow of 28 l/min during DHW.



NOTICE

If glycol was added to the water circuit, and the temperature of the water circuit is low, the flow rate will NOT be displayed on the user interface. In this case, the minimum flow rate can be checked by way of the pump test (check that the user interface does NOT display error 7H).



NOTICE

When circulation in each or certain space heating loops is controlled by remotely controlled valves, it is important that the minimum flow rate is guaranteed, even if all valves are closed. In case the minimum flow rate cannot be reached, a flow error 7H will be generated (no heating or operation).

See the installer reference guide for more information.

Minimum required flow rate

20 l/min

See the recommended procedure as described in "6.2 Checklist during commissioning" on page 20.

3.2.2 Third-party tank requirements

In case of a third-party tank, the tank shall adhere to the following requirements:

- The heat exchanger coil of the tank is $\geq 1.8 \text{ m}^2$.
- The tank thermistor must be located above the heat exchanger coil.
- The booster heater must be located above the heat exchanger coil.



NOTICE

Performance data for third-party tanks CANNOT be provided nor guaranteed.



NOTICE

When connecting a third-party tank, configure as EKHWS tank type.

3.3 Preparing electrical wiring

3.3.1 Overview of electrical connections for external and internal actuators

Item	Description	Wires	Maximum running current
Outdoor unit and indoor unit power supply			
1	Power supply for outdoor unit	2+GND	(a)
2	Power supply and interconnection cable to indoor unit	3	(g)
3	Power supply for backup heater	See table below.	—
4	Preferential kWh rate power supply (voltage free contact)	2	(e)
5	Normal kWh rate power supply	2	6.3 A
Optional equipment			
6	3-way valve	3	100 mA ^(b)
7	Power supply for booster heater and thermal protection (from indoor unit)	4+GND	(c)
8	Power supply for booster heater (to indoor unit)	2+GND	13 A
9	Domestic hot water tank thermistor	2	(d)
10	User interface used as room thermostat	2	(f)
11	Room thermostat	3 or 4	100 mA ^(b)
12	Outdoor ambient temperature sensor	2	(b)
13	Indoor ambient temperature sensor	2	(b)
14	Heat pump convector	2	100 mA ^(b)
Field supplied components			
15	Shut-off valve	2	100 mA ^(b)

Item	Description	Wires	Maximum running current
16	Electricity meter	2 (per meter)	(b)
17	Domestic hot water pump	2	(b)
18	Alarm output	2	(b)
19	Changeover to external heat source control	2	(b)
20	Space cool/heat operation control	2	(b)
21	Power consumption digital inputs	2 (per input signal)	(b)
22	Safety thermostat	2	(e)

- (a) Refer to name plate on outdoor unit.
- (b) Minimum cable section 0.75 mm².
- (c) Cable section 2.5 mm².
- (d) The thermistor and connection wire (12 m) are delivered with the domestic hot water tank.
- (e) Cable section 0.75 mm² till 1.25 mm²; maximum length: 50 m. Voltage-free contact shall ensure the minimum applicable load of 15 V DC, 10 mA.
- (f) Cable section 0.75 mm² till 1.25 mm²; maximum length: 500 m. Applicable for both single user interface and dual user interface connection.
- (g) Cable section 1.5 mm².



NOTICE

More technical specifications of the different connections are indicated on the inside of the indoor unit.

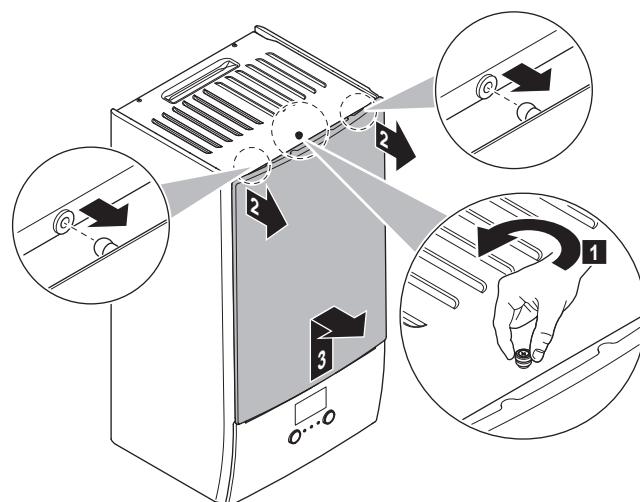
Backup heater type	Power supply	Required number of conductors
*6V	1N~ 230 V (6V)	2+GND
	3~ 230 V (6T1)	3+GND
*9W	3N~ 400 V	4+GND

4 Installation

4.1 Opening the units

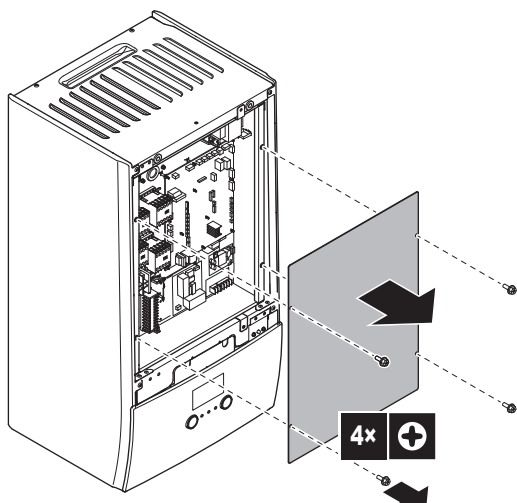
4.1.1 To open the indoor unit

- 1 Remove the front panel.

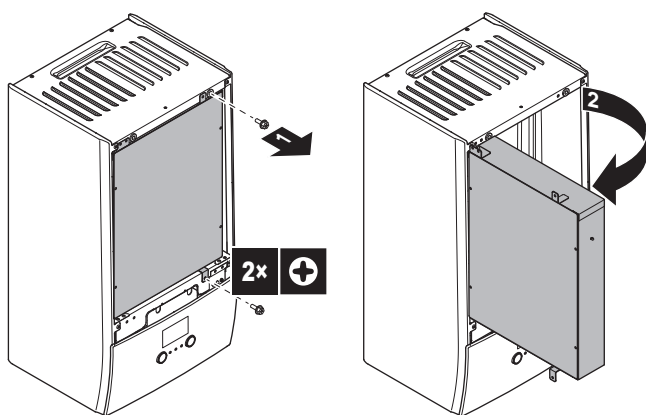


- 2 If you have to connect electrical wiring, remove the switch box cover.

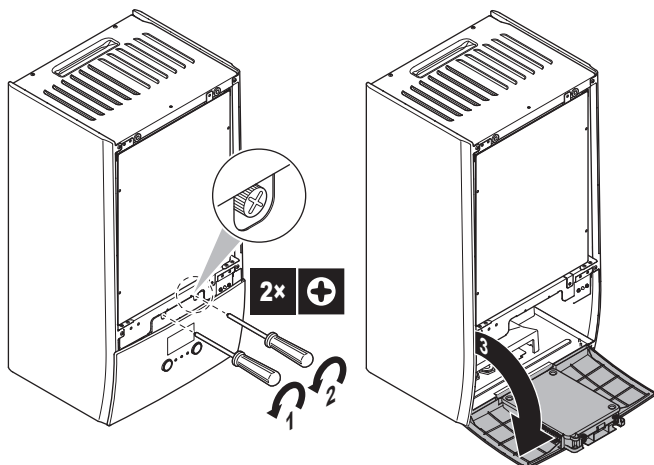
4 Installation



- 3 If you have to do work behind the switch box, open the switch box.



- 4 If you have to do work behind the user interface panel or upload new software into the user interface, open the user interface panel.

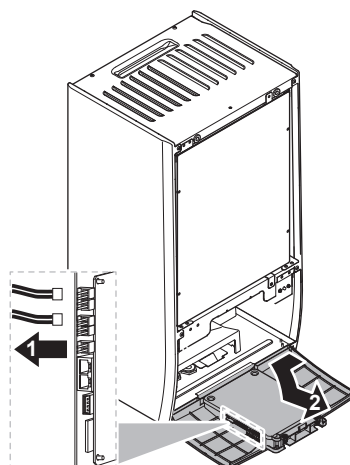


- 5 Optional: Remove the user interface panel.



NOTICE

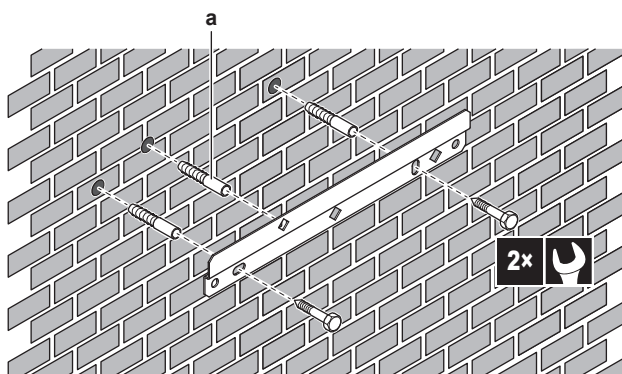
If you remove the user interface panel, also disconnect the cables from the back of the panel to prevent damage.



4.2 Mounting the indoor unit

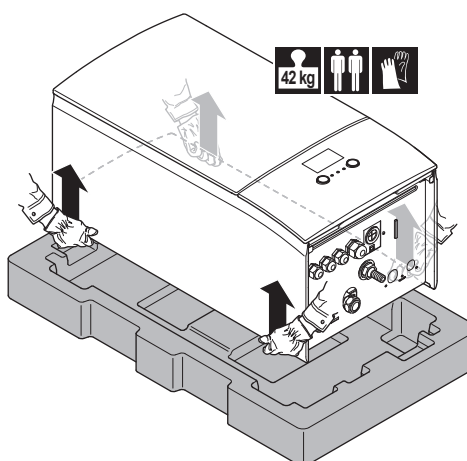
4.2.1 To install the indoor unit

- 1 Fix the wall bracket (accessory) to the wall (level) with 2 Ø8 mm bolts.



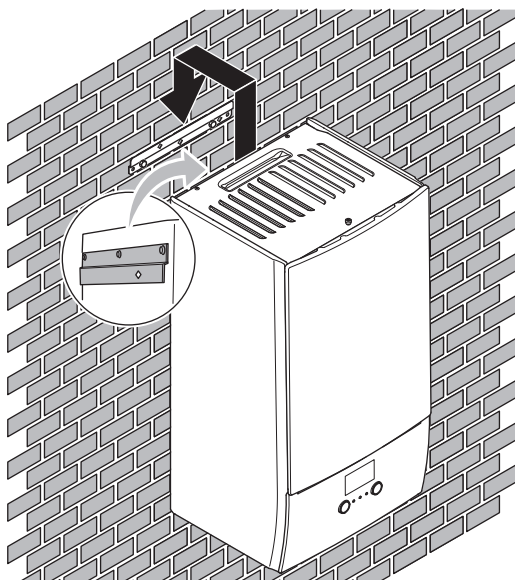
- a Optional: If you want to fix the unit to the wall from inside the unit, provide an additional screw plug.

- 2 Lift the unit.



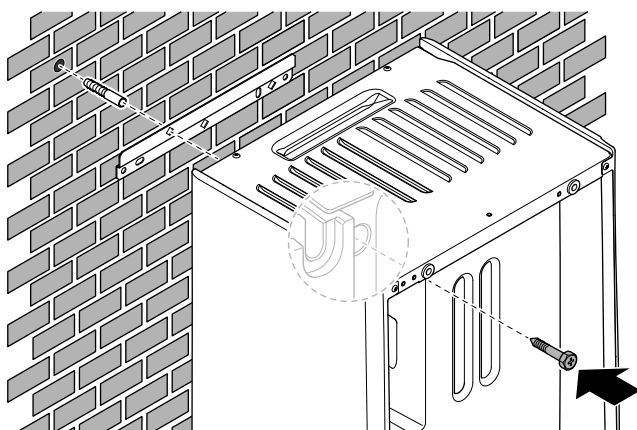
- 3 Attach the unit to the wall bracket:

- Tilt the top of the unit against the wall at the position of the wall bracket.
- Slide the bracket on the back of the unit over the wall bracket. Make sure the unit is fixed properly.



4 Optional: If you want to fix the unit to the wall from inside the unit:

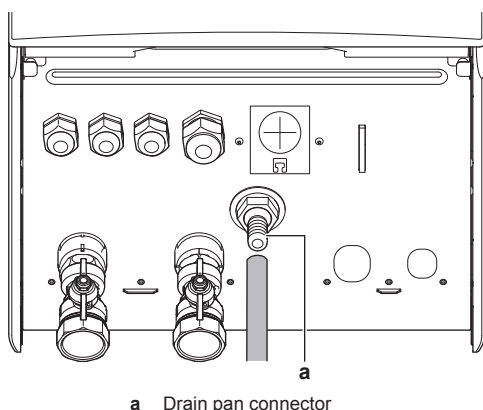
- Remove the upper front panel, and open the switch box. See ["4.1.1 To open the indoor unit" on page 5](#).
- Fix the unit to the wall with an Ø8 mm screw.



4.2.2 To connect the drain hose to the drain

Water coming from the pressure relief valve is collected in the drain pan. You must connect the drain pan to an appropriate drain according to the applicable legislation.

- Connect a drain tube (field supply) to the drain pan connector as follows:



a Drain pan connector

It is recommended to use a tundish to collect the water.

4.3 Connecting the water piping

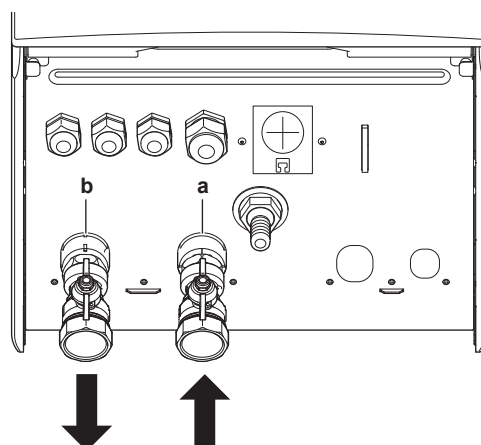
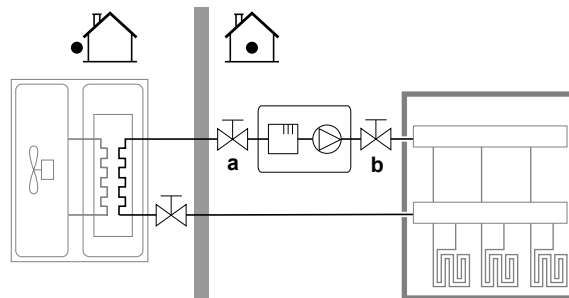
4.3.1 To connect the water piping



NOTICE

Do NOT use excessive force when connecting the piping. Deformation of the piping can cause malfunctioning of the unit.

- Connect the O-rings and shut-off valves to the indoor unit water connections.
- Connect the outdoor unit field piping on the water IN connection (a) of the indoor unit.
- Connect the space heating/cooling field piping on the space heating water OUT connection (b) of the indoor unit.



- a Water IN connection
b Space heating water OUT connection



NOTICE



Overpressure bypass valve (delivered as accessory). We recommend to install the overpressure bypass valve in the space heating water circuit.

- Mind the minimum water volume when choosing the installation location of the overpressure bypass valve (at the indoor unit, or at the collector). See ["3.2.1 To check the water volume and flow rate" on page 4](#).
- Mind the minimum flow rate when adjusting the overpressure bypass valve setting. See ["3.2.1 To check the water volume and flow rate" on page 4](#) and ["6.2.1 To check the minimum flow rate" on page 20](#).



NOTICE

Install air purge valves at all local high points.

4 Installation



NOTICE

A pressure relief valve (field supply) with an opening pressure of maximum 10 bar must be installed on the domestic cold water inlet connection in accordance with the applicable legislation.

4.3.2 To fill the water circuit

To fill the water circuit, use a field supply filling kit. Make sure you comply with the applicable legislation.



INFORMATION

Make sure both air purge valves (one on the magnetic filter and one on the backup heater) are open.

4.3.3 To protect the water circuit against freezing

About freeze protection

Frost can damage the system. To prevent the hydraulic components from freezing, the software is equipped with special frost protection functions such as water pipe freeze prevention and drain prevention (see installer reference guide) that include the activation of pump in case of low temperatures.

However, in case of a power failure, these functions cannot guarantee protection.

Do one of the following to protect the water circuit against freezing:

- Add glycol to the water. Glycol lowers the freezing point of the water.
- Install freeze protection valves. Freeze protection valves drain the water from the system before it can freeze.



NOTICE

If you add glycol to the water, do NOT install freeze protection valves. **Possible consequence:** Glycol leaking out of the freeze protection valves.

Freeze protection by glycol

Adding glycol to the water lowers the freezing point of the water.

The required concentration depends on the lowest expected outdoor temperature, and on whether you want to protect the system from bursting or from freezing. To prevent the system from freezing, more glycol is required. Add glycol according to the table below.



INFORMATION

- Protection against bursting: the glycol will prevent the piping from bursting, but NOT the liquid inside the piping from freezing.
- Protection against freezing: the glycol will prevent the liquid inside the piping from freezing.

Lowest expected outdoor temperature	Prevent from bursting	Prevent from freezing
-5°C	10%	15%
-10°C	15%	25%
-15°C	20%	35%
-20°C	25%	—
-25°C	30%	—



NOTICE

- The required concentration might differ depending on the type of glycol. ALWAYS compare the requirements from the table above with the specifications provided by the glycol manufacturer. If necessary, meet the requirements set by the glycol manufacturer.
- The added concentration of glycol should NEVER exceed 35%.
- If the liquid in the system is frozen, the pump will NOT be able to start. Mind that if you only prevent the system from bursting, the liquid inside might still freeze.
- When water is at standstill inside the system, the system is very likely to freeze and get damaged.

The types of glycol that can be used depend on whether the system contains a domestic hot water tank:

If...	Then...
The system contains a domestic hot water tank	Only use propylene glycol ^(a)
The system does NOT contain a domestic hot water tank	You can use either propylene glycol ^(a) or ethylene glycol

(a) Propylene glycol, including the necessary inhibitors, classified as Category III according to EN1717.



WARNING

Ethylene glycol is toxic.



NOTICE

Glycol absorbs water from its environment. Therefore do NOT add glycol that has been exposed to air. Leaving the cap off the glycol container causes the concentration of water to increase. The glycol concentration is then lower than assumed. As a result, the hydraulic components might freeze up after all. Take preventive actions to ensure a minimal exposure of the glycol to air.



WARNING

Due to presence of glycol, corrosion of the system is possible. Uninhibited glycol will turn acidic under the influence of oxygen. This process is accelerated by the presence of copper and high temperatures. The acidic uninhibited glycol attacks metal surfaces and forms galvanic corrosion cells that cause severe damage to the system. Therefore it is important that:

- the water treatment is correctly executed by a qualified water specialist,
- a glycol with corrosion inhibitors is selected to counteract acids formed by the oxidation of glycols,
- no automotive glycol is used because their corrosion inhibitors have a limited lifetime and contain silicates which can foul or plug the system,
- galvanized pipes are NOT used in glycol systems since the presence may lead to the precipitation of certain components in the glycol's corrosion inhibitor.



NOTICE

If glycol is present in the system, setting [E-0D] must be set to 1. If the glycol setting is NOT set correctly, the liquid inside the piping can freeze.

Freeze protection by freeze protection valves

When no glycol is added to the water, you can use freeze protection valves to drain the water from the system before it can freeze.

- Install freeze protection valves (field supply) at all lowest points of the field piping.

- Normally closed valves (located indoors near the piping entry/exit points) can prevent that all water from indoor piping is drained when the freeze protection valves open.



NOTICE

When freeze protection valves are installed, do NOT select a minimum cooling setpoint lower than 8°C (8°C=default). If lower, freeze protection valves can open during cooling operation.

Consult the installer reference guide of the unit for more detailed information.

Heater tape (field supply)

- Install heater tape to the outdoor field piping.
- Provide external power supply for the heater tape.



NOTICE

- For the internal heater tape to operate, the power to the unit MUST be ON. For this reason, during cold periods, never disconnect the power, nor turn off the main switch.
- In case of a power failure, power to the heater tape (both internal and external) will be aborted and the water circuit will NOT be protected. To guarantee a full protection, it is always possible to add glycol to the water circuit or to use freeze protection valves, even when installing heater tape to the outdoor field piping.

4.3.4 To fill the domestic hot water tank

For installation instructions, see the installation manual of the domestic hot water tank.

4.3.5 To insulate the water piping

The piping in the complete water circuit MUST be insulated to prevent condensation during cooling operation and reduction of the heating and cooling capacity.

For the outdoor piping insulation, refer to the installer reference guide or the installation manual of the outdoor unit.

4.4 Connecting the electrical wiring



DANGER: RISK OF ELECTROCUTION



WARNING

ALWAYS use multicore cable for power supply cables.

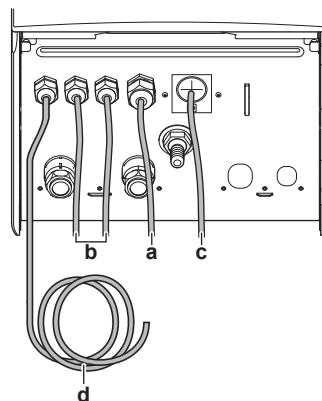
4.4.1 About electrical compliance

Only for the backup heater of the indoor unit

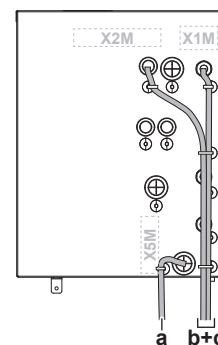
See "4.4.4 To connect the backup heater power supply" on page 10.

4.4.2 To connect the electrical wiring on the indoor unit

- Open the switch box so that you can access the back of the switch box. See "4.1.1 To open the indoor unit" on page 5.
- Route the wiring as follows:
 - Enter the unit from the bottom.
 - Route the wiring via the back of the switch box.
 - Fix the cables with cable ties to the cable tie mountings at the back of the switch box.



a, b, c Field wiring (see table below)
d Factory-mounted cable for power supply of backup heater



INFORMATION

When installing field supply or option cables, foresee sufficient cable length. This will make it possible to open the switch box and gain access to other components during service.

Routing	Possible cables (depending on unit type and installed options)
a Low voltage	<ul style="list-style-type: none"> Preferential power supply contact User interface (option) Power consumption digital inputs (field supply) Outdoor ambient temperature sensor (option) Indoor ambient temperature sensor (option) Electrical meters (field supply) Safety thermostat (field supply)
b High voltage power supply	<ul style="list-style-type: none"> Interconnection cable Normal kWh rate power supply Preferential kWh rate power supply
c High voltage control signal	<ul style="list-style-type: none"> Heat pump convector (option) Room thermostat (option) Shut-off valve (field supply) Domestic hot water pump (field supply) Alarm output Changeover to external heat source control Space cool/heat operation control
d High voltage power supply (factory-mounted cable)	<ul style="list-style-type: none"> Power supply for backup heater



CAUTION

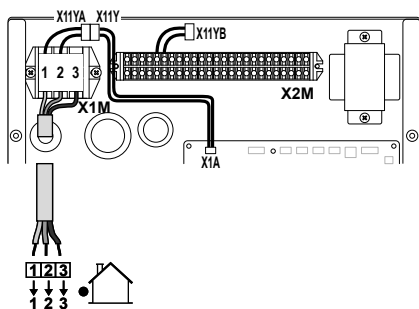
Do NOT push or place redundant cable length in the unit.

4.4.3 To connect the main power supply

- Connect the main power supply.

In case of normal kWh rate power supply

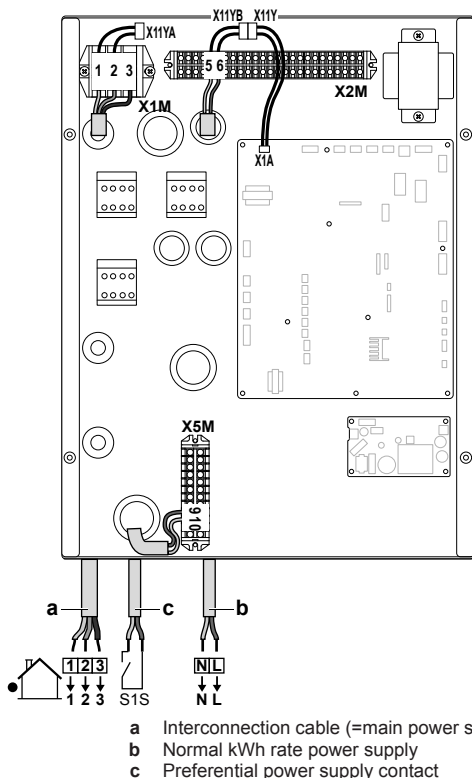
4 Installation



Legend: see illustration below.

In case of preferential kWh rate power supply

Connect X11Y to X11YB.



2 Fix the cables with cable ties to the cable tie mountings.

INFORMATION

In case of preferential kWh rate power supply, connect X11Y to X11YB. The necessity of separate normal kWh rate power supply to indoor unit (b) X2M/5+6 depends on the type of preferential kWh rate power supply.

Separate connection to the indoor unit is required:

- if preferential kWh rate power supply is interrupted when active, OR
- if no power consumption of the indoor unit is allowed at the preferential kWh rate power supply when active.

INFORMATION

The preferential kWh rate power supply contact is connected to the same terminals (X5M/9+10) as the safety thermostat. It is only possible for the system to have EITHER preferential kWh rate power supply OR a safety thermostat.

4.4.4 To connect the backup heater power supply



CAUTION

If the indoor unit has a tank with a built-in electrical booster heater, use a dedicated power circuit for the backup heater and booster heater. NEVER use a power circuit shared by another appliance. This power circuit must be protected with the required safety devices according to the applicable legislation.



CAUTION

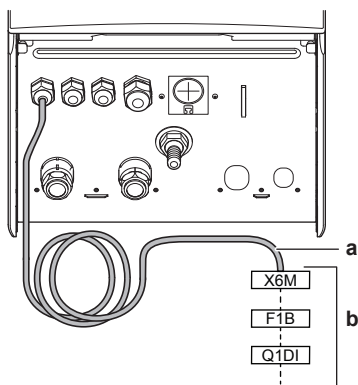
To guarantee the unit is completely earthed, always connect the backup heater power supply and the earth cable.

The backup heater capacity can vary, depending on the indoor unit model. Make sure that the power supply is in accordance with the backup heater capacity, as listed in the table below.

Backup heater type	Backup heater capacity	Power supply	Maximum running current	Z _{max}
*6V	2 kW	1N~ 230 V ^(c)	9 A	—
	4 kW	1N~ 230 V ^(c)	17 A ^{(a)(b)}	0.22 Ω
	6 kW	1N~ 230 V ^(c)	26 A ^{(a)(b)}	0.22 Ω
	2 kW	3~ 230 V ^(d)	5 A	—
	4 kW	3~ 230 V ^(d)	10 A	—
	6 kW	3~ 230 V ^(d)	15 A	—
*9W	3 kW	3N~ 400 V	4 A	—
	6 kW	3N~ 400 V	9 A	—
	9 kW	3N~ 400 V	13 A	—

- (a) Equipment complying with EN/IEC 61000-3-12 (European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.).
- (b) This equipment complies with EN/IEC 61000-3-11 (European/International Technical Standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current ≤75 A) provided that the system impedance Z_{sys} is less than or equal to Z_{max} at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a system impedance Z_{sys} less than or equal to Z_{max}.
- (c) (6V)
(d) (6T1)

Connect the backup heater power supply as follows:



- a Factory-mounted cable connected to the backup heater contactor inside the switch box (K5M for *6V and *9W models)
b Field wiring (see table below)

Model (power supply)	Connections to backup heater power supply
*6V (6V: 1N~ 230 V)	
*6V (6T1: 3~ 230 V)	
*9W (3N~ 400 V)	

- F1B Overcurrent fuse (field supply). Recommended fuse for *6V and *9W models: 4-pole; 20 A; curve 400 V; tripping class C.
- K1M Contactor (in the switch box)
- K5M Safety contactor (in the switch box)
- Q1DI Earth leakage circuit breaker (field supply)
- SWB Switch box
- X6M Terminal (field supply)



NOTICE

Do NOT cut or remove the backup heater power supply cable.

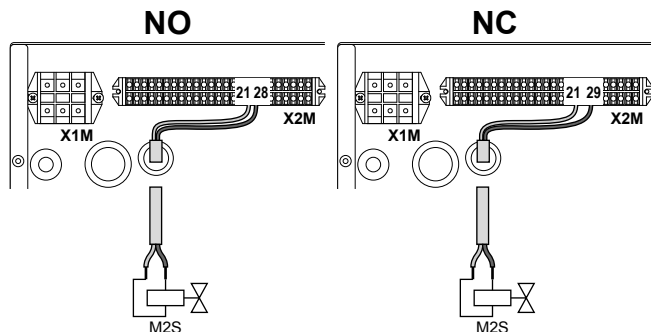
4.4.5 To connect the shut-off valve

- 1 Connect the valve control cable to the appropriate terminals as shown in the illustration below.



NOTICE

Wiring is different for a NC (normal closed) valve and a NO (normal open) valve.



- 2 Fix the cable with cable ties to the cable tie mountings.

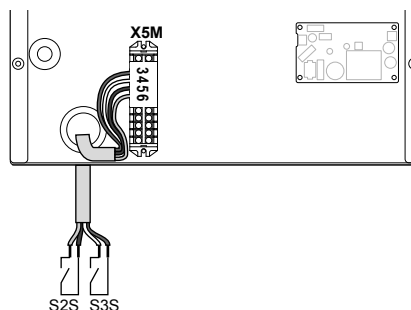
4.4.6 To connect the electrical meters



INFORMATION

In case of an electrical meter with transistor output, check the polarity. The positive polarity MUST be connected to X5M/6 and X5M/4; the negative polarity to X5M/5 and X5M/3.

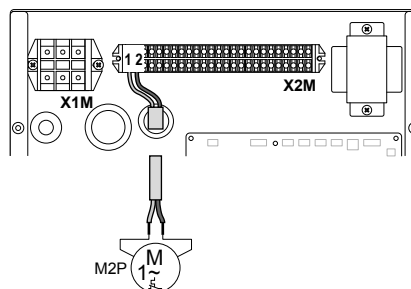
- 1 Connect the electrical meters cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

4.4.7 To connect the domestic hot water pump

- 1 Connect the domestic hot water pump cable to the appropriate terminals as shown in the illustration below.

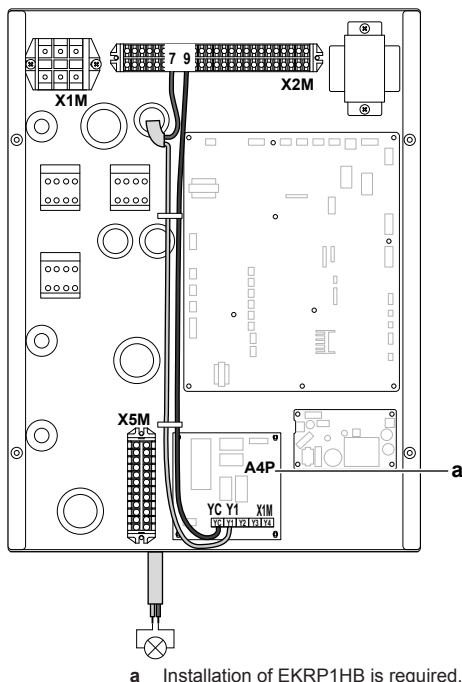


- 2 Fix the cable with cable ties to the cable tie mountings.

4 Installation

4.4.8 To connect the alarm output

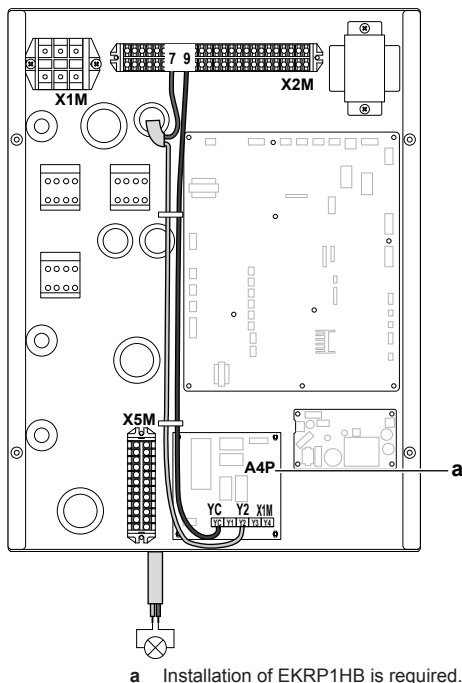
- 1 Connect the alarm output cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

4.4.9 To connect the space cooling/heating ON/OFF output

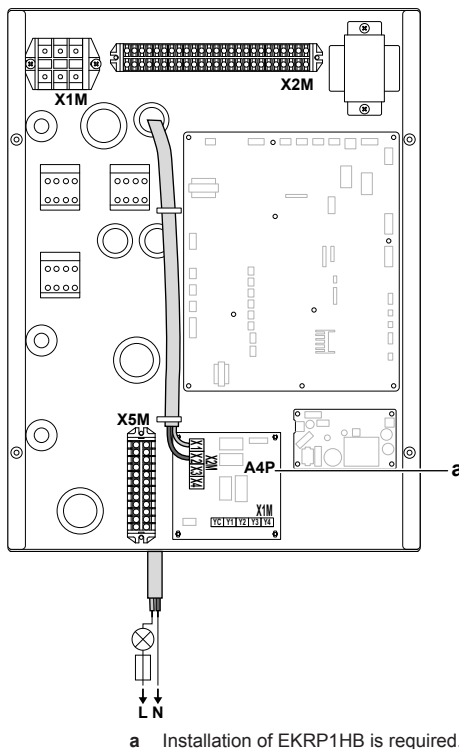
- 1 Connect the space cooling/heating ON/OFF output cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

4.4.10 To connect the changeover to external heat source

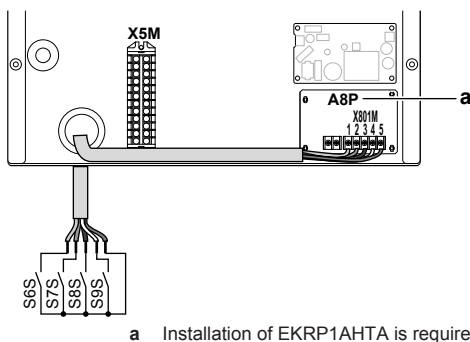
- 1 Connect the changeover to external heat source cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

4.4.11 To connect the power consumption digital inputs

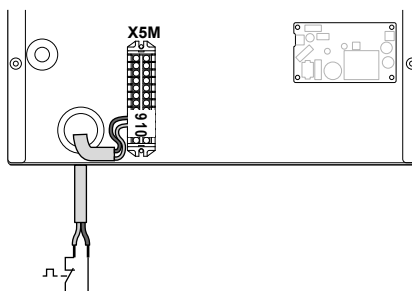
- 1 Connect the power consumption digital inputs cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

4.4.12 To connect the safety thermostat (normal closed contact)

- 1 Connect the safety thermostat (normal closed) cable to the appropriate terminals as shown in the illustration below.



- 2 Fix the cable with cable ties to the cable tie mountings.

**NOTICE**

Make sure to select and install the safety thermostat according to the applicable legislation.

In any case, to prevent unnecessary tripping of the safety thermostat, it is recommended that ...

- ... the safety thermostat is automatically resettable.
- ... the safety thermostat has a maximum temperature variation rate of 2°C/min.
- ... there is a minimum distance of 2 m between the safety thermostat and the motorised 3-way valve delivered with the domestic hot water tank.

**INFORMATION**

After it is installed, do NOT forget to configure the safety thermostat. Without configuration, the indoor unit will ignore the safety thermostat contact.

**INFORMATION**

The preferential kWh rate power supply contact is connected to the same terminals (X5M/9+10) as the safety thermostat. It is only possible for the system to have EITHER preferential kWh rate power supply OR a safety thermostat.

4.5 Finishing the indoor unit installation

4.5.1 To close the indoor unit

- 1 Reinstall the user interface panel.
- 2 Reinstall the switch box cover and close the switch box.
- 3 Reinstall the front panel.

**NOTICE**

When closing the indoor unit cover, make sure that the tightening torque does NOT exceed 4.1 N•m.

5 Configuration

5.1 Overview: Configuration

This chapter describes what you have to do and know to configure the system after it is installed.

**NOTICE**

The explanation about the configuration in this chapter gives you ONLY basic explanations. For more detailed explanation and background information, see the installer reference guide.

Why

If you do NOT configure the system correctly, it might NOT work as expected. The configuration influences the following:

- The calculations of the software
- What you can see on and do with the user interface

How

You can configure the system via the user interface.

- **First time – Configuration wizard.** When you turn ON the user interface for the first time (via the indoor unit), the configuration wizard starts to help you configure the system.

- **Restart the configuration wizard.** If the system is already configured, you can restart the configuration wizard. To restart the configuration wizard, go to Installer settings > Configuration wizard. To access Installer settings, see ["5.1.1 To access the most used commands" on page 13](#).
- **Afterwards.** If necessary, you can make changes to the configuration in the menu structure or the overview settings.

**INFORMATION**

When the configuration wizard is finished, the user interface will show an overview screen and request to confirm. When confirmed, the system will restart and the home screen will be displayed.

Accessing settings – Legend for tables

You can access the installer settings using two different methods. However, NOT all settings are accessible via both methods. If so, the corresponding table columns in this chapter are set to N/A (not applicable).

Method	Column in tables
Accessing settings via the breadcrumb in the menu structure . To enable breadcrumbs, press the ? button in the home screen.	#
Accessing settings via the code in the overview field settings .	Code

See also:

- ["To access the installer settings" on page 13](#)
- ["5.4 Menu structure: Overview installer settings" on page 19](#)

5.1.1 To access the most used commands

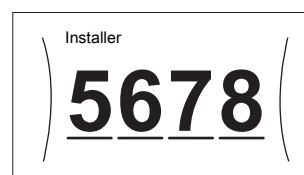
To change the user permission level

You can change the user permission level as follows:

1	Go to [B]: User profile.	
2	Enter the applicable code for the user permission.	—
	• Move the cursor from left to right.	
	• Browse through the list of digits and change the selected digit.	
	• Confirm the pincode and proceed.	

Installer pin code

The Installer pin code is **5678**. Additional menu items and installer settings are now available.



Advanced user pin code

The Advanced user pin code is **1234**. Additional menu items for the user are now visible.

User pin code

The User pin code is **0000**.

To access the installer settings

- 1 Set the user permission level to Installer.
- 2 Go to [9]: Installer settings.

To modify an overview setting

Example: Modify [1-01] from 15 to 20.

5 Configuration

All settings can be done using the menu structure. If for any reason it is required to change a setting using the overview settings, then the overview settings can be accessed as follows:

1	Set the user permission level to Installer. See "To change the user permission level" on page 13.	—
2	Go to [9.I]: Installer settings > Overview field settings.	
3	Turn the left dial to select the first part of the setting and confirm by pressing the dial.	
4	Turn the left dial to select the second part of the setting	
5	Turn the right dial to modify the value from 15 to 20.	
6	Press the left dial to confirm the new setting.	
7	Press the center button to go back to the home screen.	



INFORMATION

When you change the overview settings and you go back to the home screen, the user interface will show a popup screen and request to restart the system.

When confirmed, the system will restart and recent changes will be applied.

5.2 Configuration wizard

After first power ON of the system, the user interface will guide you using the configuration wizard. This way you can set the most important initial settings. This way the unit will be able to run properly. Afterwards, more detailed settings can be done via the menu structure if required.

5.2.1 Configuration wizard: Language

#	Code	Description
[7.1]	N/A	Language

5.2.2 Configuration wizard: Time and date

#	Code	Description
[7.2]	N/A	Set the local time and date



INFORMATION

By default, daylight savings time is enabled and clock format is set to 24 hours. If you want to change these settings, you can do this in the menu structure (User settings > Time/date) once the unit is initialised.

5.2.3 Configuration wizard: System

Indoor unit type

The indoor unit type is displayed, but cannot be adjusted.

Backup heater type

The backup heater is adapted to be connected to most common European electricity grids. The type of backup heater must be set on the user interface. For units with a built-in backup heater, the type of heater can be viewed but not changed.

#	Code	Description
[9.3.1]	[E-03]	<ul style="list-style-type: none"> 3: 6V 4: 9W

Domestic hot water

The following setting determines if the system can prepare domestic hot water or not, and which tank is used. Set this setting according to the actual installation.

#	Code	Description
[9.2.1]	[E-05] ^(*) [E-06] ^(*) [E-07] ^(*)	<ul style="list-style-type: none"> No DHW No tank installed. EKHWS/E Tank with booster heater installed at the side of the tank. EKHWP/HYC Tank with optional booster heater installed at the top of the tank.

(*) Use the menu structure instead of the overview settings. Menu structure setting [9.2.1] replaces the following 3 overview settings:

- [E-05] Can the system prepare domestic hot water?
- [E-06] Is a domestic hot water tank installed in the system?
- [E-07] What kind of domestic hot water tank is installed?

In case of a third-party tank, we recommend to use the setting for EKHWS.

In case of EKHWP/HYC, we recommend to set the temperature of the booster heater NOT higher than 70°C.

Emergency

When the heat pump fails to operate, the backup heater and/or booster heater can serve as an emergency heater and either automatically or non-automatically take over the heat load.

- When auto emergency is set to Automatic and a heat pump failure occurs, the backup heater will automatically take over the heat load, and the booster heater in the optional tank will automatically take over the domestic hot water production.
- When auto emergency is set to Manual and a heat pump failure occurs, the domestic hot water and space heating operation will stop and need to be recovered manually via the user interface. To recover operation manually, go to the Malfunctioning main menu screen, where the user interface will then ask you to confirm whether the backup heater and/or booster heater can take over the heat load or not.

We recommend to set Emergency to Automatic if the house is unattended for longer periods.

#	Code	Description
[9.5]	N/A	<ul style="list-style-type: none"> 0: Manual 1: Automatic



INFORMATION

The auto emergency setting can be set in the menu structure of the user interface only.



INFORMATION

If [4-03]=1 or 3, then Emergency=Manual is not applicable for the booster heater.

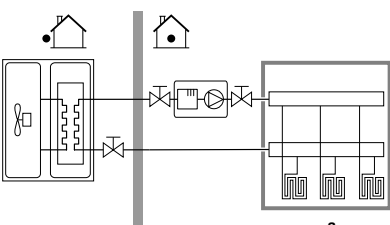
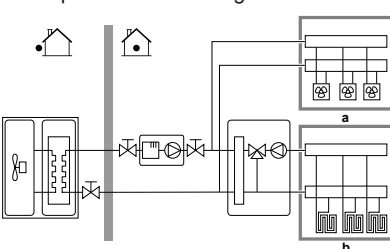


INFORMATION

If a heat pump failure occurs and Emergency is set to Manual, the room frost protection function, the underfloor heating screed dryout function, and the water pipe antifreeze function will remain active even if the user does NOT confirm emergency operation.

Number of zones

The system can supply leaving water to up to 2 water temperature zones. During configuration, the number of water zones must be set.

#	Code	Description
[4.4]	[7-02]	<ul style="list-style-type: none"> 0: Single zone <p>Only one leaving water temperature zone:</p>  <ul style="list-style-type: none"> a: Main LWT zone
[4.4]	[7-02]	<ul style="list-style-type: none"> 1: Dual zone <p>Two leaving water temperature zones. The main leaving water temperature zone consists of the higher load heat emitters and a mixing station to achieve the desired leaving water temperature. In heating:</p>  <ul style="list-style-type: none"> a: Additional LWT zone: Highest temperature b: Main LWT zone: Lowest temperature



CAUTION

If there are 2 zones, it is important that the zone with the lowest water temperature is configured as the main zone, and the zone with the highest water temperature is configured as the additional zone. Not configuring the system in this way could cause damage to the heat emitters.



CAUTION

If there are 2 zones and the emitter types are wrongly configured, water of high temperature can be sent towards a low temperature emitter (underfloor heating). To avoid this:

- Install an aquastat/thermostatic valve to avoid too high temperatures towards a low temperature emitter.
- Make sure you set the emitter types for the main zone [2.7] and for the additional zone [3.7] correctly in accordance with the connected emitter.

5.2.4 Configuration wizard: Backup heater

The backup heater is adapted to be connected to most common European electricity grids. If the backup heater is available, the voltage, configuration and capacity must be set on the user interface.

The capacities for the different steps of the backup heater must be set for the energy metering and/or power consumption control feature to work properly. When measuring the resistance value of each heater, you can set the exact heater capacity and this will lead to more accurate energy data.

Voltage

- For a 6V model, this can be set to:
 - 230V, 1ph
 - 230V, 3ph
- For a 9W model, this is fixed to 400V, 3ph.

#	Code	Description
[9.3.2]	[5-0D]	<ul style="list-style-type: none"> 0: 230V, 1ph 1: 230V, 3ph 2: 400V, 3ph

Configuration

The backup heater can be configured in different ways. It can be chosen to have a 1-step only backup heater or a backup heater with 2 steps. If 2 steps, the capacity of the second step depends on this setting. It can also be chosen to have a higher capacity of the second step in emergency.

#	Code	Description
[9.3.3]	[4-0A]	<ul style="list-style-type: none"> 1: Relay 1 / Relay 1+2 2: Relay 1 / Relay 2 3: Relay 1 / Relay 2 Emergency Relay 1+2



INFORMATION

Settings [9.3.3] and [9.3.5] are linked. Changing one setting influences the other. If you change one, check if the other is still as expected.



INFORMATION

During normal operation, the capacity of the second step of the backup heater at nominal voltage is equal to [6-03]+[6-04].



INFORMATION

If [4-0A]=3 and emergency mode is active, the power usage of the backup heater is maximal and equal to 2×[6-03]+[6-04].

5 Configuration



INFORMATION

Only for systems with integrated domestic hot water tank: If the storage temperature set point is higher than 50°C, Daikin recommends NOT to disable the backup heater second step because it will have a big impact on the required time for the unit to heat up the domestic hot water tank.

Capacity step 1

#	Code	Description
[9.3.4]	[6-03]	<ul style="list-style-type: none"> The capacity of the first step of the backup heater at nominal voltage.

Additional capacity step 2

#	Code	Description
[9.3.5]	[6-04]	<ul style="list-style-type: none"> The capacity difference between the second and first step of the backup heater at nominal voltage. Nominal value depends on backup heater configuration.

5.2.5 Configuration wizard: Main zone

The most important settings for the main leaving water zone can be set here.

Emitter type

Depending on the system water volume and the heater emitter type of the main zone, the heat up or cool down of the main zone can take longer. This setting can compensate for a slow or a quick heating/cooling system during the heat up/cool down cycle. The target delta T for the main zone will depend on this setting.

In room thermostat control, this setting will influence the maximum modulation of the desired leaving water temperature, and the possibility for usage of the automatic cooling/heating changeover based on the indoor ambient temperature.

Therefore it is important to set this correctly and in accordance with your system layout.

#	Code	Description
[2.7]	[2-0C]	<ul style="list-style-type: none"> 0: Underfloor heating 1: Fancoil unit 2: Radiator

The setting of the emitter type has an influence on the space heating setpoint range and the target delta T in heating as follows:

Description	Space heating setpoint range	Target delta T in heating
0: Underfloor heating	Maximum 55°C	Variable
1: Fancoil unit	Maximum 55°C	Variable
2: Radiator	Maximum 65°C	Fixed 8°C



NOTICE

For radiators, the average emitter temperature will be lower compared to underfloor heating, due to the fixed delta T of 8°C. To compensate, you can:

- Increase the weather dependent curve desired temperatures [2.5].
- Enable leaving water temperature modulation and increase the maximum modulation [2.C].

Control

For the control of the unit there are 3 possibilities:

Control	In this control...
Leaving water	Unit operation is decided based on the leaving water temperature regardless the actual room temperature and/or heating or cooling demand of the room.
External room thermostat	Unit operation is decided by the external thermostat or equivalent (e.g. heat pump convector).
Room thermostat	Unit operation is decided based on the ambient temperature of the user interface used as a room thermostat.

#	Code	Description
[2.9]	[C-07]	<ul style="list-style-type: none"> 0: Leaving water 1: External room thermostat 2: Room thermostat

Setpoint mode

In Fixed mode, the desired leaving water temperature does NOT depend on the outdoor ambient temperature.

In WD heating, fixed cooling mode, the desired leaving water temperature:

- depends on the outdoor ambient temperature for heating
- does NOT depend on the outdoor ambient temperature for cooling

In Weather dependent mode, the desired leaving water temperature depends on the outdoor ambient temperature.

#	Code	Description
[2.4]	N/A	Setpoint mode <ul style="list-style-type: none"> 0: Fixed 1: WD heating, fixed cooling 2: Weather dependent

When weather dependent operation is active, low outdoor temperatures will result in warmer water and vice versa. During weather dependent operation, the user has the possibility to shift the water temperature up or down by a maximum of 10°C.

Schedule

Indicates if the desired leaving water temperature is according to a schedule. Influence of the LWT setpoint mode [2.4] is as follows:

- In Fixed LWT setpoint mode, the scheduled actions consist of desired leaving water temperatures, either preset or custom.
- In Weather dependent LWT setpoint mode, the scheduled actions consist of desired shift actions, either preset or custom.

#	Code	Description
[2.1]	N/A	<ul style="list-style-type: none"> 0: No 1: Yes

5.2.6 Configuration wizard: Additional zone

The most important settings for the additional leaving water zone can be set here.

Emitter type

For more info about this functionality, see ["5.2.5 Configuration wizard: Main zone" on page 16](#).

#	Code	Description
[3.7]	[2-0D]	<ul style="list-style-type: none"> 0: Underfloor heating 1: Fancoil unit 2: Radiator

Control

The control type is displayed here, but cannot be adjusted. It is determined by the control type of the main zone. For more info about the functionality, see "5.2.5 Configuration wizard: Main zone" on page 16.

#	Code	Description
[3.9]	N/A	<ul style="list-style-type: none"> 0: Leaving water if the control type of the main zone is Leaving water. 1: External room thermostat if the control type of the main zone is External room thermostat or Room thermostat.

Setpoint mode

For more info about this functionality, see "5.2.5 Configuration wizard: Main zone" on page 16.

#	Code	Description
[3.4]	N/A	<ul style="list-style-type: none"> 0: Fixed 1: WD heating, fixed cooling 2: Weather dependent

If you choose WD heating, fixed cooling or Weather dependent, the next screen will be the detailed screen with weather-dependent curves. Also see "5.2.7 Detailed screen with weather-dependent curve" on page 17.

Schedule

Indicates if the desired leaving water temperature is according to a schedule. Also see "5.2.5 Configuration wizard: Main zone" on page 16.

#	Code	Description
[3.1]	N/A	<ul style="list-style-type: none"> 0: No 1: Yes

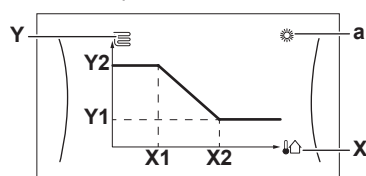
5.2.7 Detailed screen with weather-dependent curve

When weather dependent operation is active the desired tank temperature is determined automatically depending on the averaged outdoor temperature. When the outdoor temperature is lower the tank temperature will need to be higher as the water pipes will be colder and vice versa.

The weather-dependent curves are defined by two setpoints:

- Setpoint (X1, Y2)
- Setpoint (X2, Y1)

Weather-dependent curve:



Possible actions on this screen	
	Go through the temperatures.
	Change the temperature.
	Go to the next temperature.
	Confirm changes and proceed.

Item	Description
a	Possible weather dependent zones: <ul style="list-style-type: none"> : Main zone or additional zone heating : Main zone or additional zone cooling : Domestic hot water
X, X1, X2	Outdoor ambient temperature
Y, Y1, Y2	Desired tank temperature or leaving water temperature. The symbol shown here corresponds to the heat emitter for that zone: <ul style="list-style-type: none"> : Underfloor heating : Fan coil unit : Radiator : Domestic hot water tank

5.2.8 Configuration wizard: Tank

This part only applies to systems with an optional domestic hot water tank installed.

Heat up mode

The domestic hot water can be prepared in 3 different ways. They differ from each other by the way the desired tank temperature is set and how the unit acts upon it.

#	Code	Description
[5.6]	[6-0D]	Heat up mode <ul style="list-style-type: none"> 0: Reheat only: Only reheat operation is allowed. 1: Schedule + reheat: The domestic hot water tank is heated according to a schedule and between the scheduled heat up cycles, reheat operation is allowed. 2: Schedule only: The domestic hot water tank can ONLY be heated according to a schedule.

See the operation manual for more details.



INFORMATION

Risk of space heating capacity shortage for domestic hot water tank without internal booster heater: In case of frequent domestic hot water operation, frequent and long space heating/cooling interruption will happen when selecting the following:

Tank > Heat up mode > Reheat only.

Comfort setpoint

Only applicable when domestic hot water preparation is Schedule only or Schedule + reheat. When programming the schedule, you can make use of the comfort setpoint as a preset value. When you later want to change the storage setpoint, you only have to do it in one place.

The tank will heat up until the **storage comfort temperature** has been reached. It is the higher desired temperature when a storage comfort action is scheduled.

Additionally, a storage stop can be programmed. This feature puts a stop to tank heating even if the setpoint has NOT been reached. Only program a storage stop when tank heating is absolutely undesirable.

5 Configuration

#	Code	Description
[5.2]	[6-0A]	Comfort setpoint <ul style="list-style-type: none">30°C~[6-0E]°C

Eco setpoint

The **storage economic temperature** denotes the lower desired tank temperature. It is the desired temperature when a storage economic action is scheduled (preferably during day).

#	Code	Description
[5.3]	[6-0B]	Eco setpoint <ul style="list-style-type: none">30°C~min(50,[6-0E])°C

Reheat setpoint

Desired reheat tank temperature, used:

- in Schedule + reheat mode, during reheat mode: the guaranteed minimum tank temperature is set by the Reheat setpoint minus the reheat hysteresis. If the tank temperature drops below this value, the tank is heated up.
- during storage comfort, to prioritize the domestic hot water preparation. When the tank temperature rises above this value, domestic hot water preparation and space heating/cooling are executed sequentially.

#	Code	Description
[5.4]	[6-0C]	Reheat setpoint <ul style="list-style-type: none">30°C~min(50,[6-0E])°C

5.3 Settings menu

You can set additional settings using the main menu screen and its submenus. The most important settings are presented here.

5.3.1 Main zone

Thermostat type

Only applicable in external room thermostat control.



NOTICE

If an external room thermostat is used, the external room thermostat will control the room frost protection. However, the room frost protection is only possible if the leaving water temperature control on the unit's user interface is turned ON.

#	Code	Description
[2.A]	[C-05]	External room thermostat type for the main zone: <ul style="list-style-type: none">1: 1 contact: The used external room thermostat can only send a thermo ON/OFF condition. There is no separation between heating or cooling demand.2: 2 contacts: The used external room thermostat can send a separate heating/cooling thermo ON/OFF condition.

5.3.2 Additional zone

Thermostat type

Only applicable in external room thermostat control. For more info about the functionality, see ["5.3.1 Main zone" on page 18](#).

#	Code	Description
[3.A]	[C-06]	External room thermostat type for the additional zone: <ul style="list-style-type: none">1: 1 contact2: 2 contacts

5.3.3 Information

Dealer information

The installer can fill in his contact number here.

#	Code	Description
[8.3]	N/A	Number that users can call in case of problems.

5.4 Menu structure: Overview installer settings

[9] Installer settings	[9.2] Domestic hot water
Configuration wizard Domestic hot water Backup heater Booster heater Emergency Balancing Water pipe freeze prevention Benefit kWh power supply Power consumption control Energy metering Sensors Bivalent Alarm output Auto restart Power saving function Disable protections Forced defrost Overview field settings	Domestic hot water DHW pump DHW pump schedule Solar
	[9.3] Backup heater
	Backup heater type Voltage Configuration Capacity step 1 Additional capacity step 2 Equilibrium Equilibrium temperature Operation
	[9.4] Booster heater
	Capacity BSH allowance schedule BSH eco timer Operation
	[9.6] Balancing
	Space heating priority Priority temperature Offset BSH setpoint Anti-recycle timer Minimum running timer Maximum running timer Additional timer
	[9.8] Benefit kWh power supply
	Benefit kWh power supply Allow heater Allow pump
	[9.9] Power consumption control
	Power consumption control Type Limit Limit 1 Limit 2 Limit 3 Limit 4 Priority heater
	[9.A] Energy metering
	Electricity meter 1 Electricity meter 2
	[9.B] Sensors
	External sensor Ext. amb. sensor offset Averaging time
	[9.C] Bivalent
	Bivalent Boiler efficiency Temperature Hysteresis



INFORMATION

Solar kit settings are shown but are NOT applicable for this unit. Settings shall NOT be used or changed.



INFORMATION

Depending on the selected installer settings and unit type, settings will be visible/invisible.

6 Commissioning

6 Commissioning



NOTICE

NEVER operate the unit without thermistors and/or pressure sensors/switches. Burning of the compressor might result.



INFORMATION

The software is equipped with an "installer-on-site" mode ([9.G]: Disable protections), that disables automatic operation by the unit. At first installation, setting Disable protections is by default set to Yes, meaning automatic operation is disabled. All protective functions are then disabled. If the user interface home pages are off, the unit will NOT operate automatically. To enable automatic operation and the protective functions, set Disable protections to No.

36 hours after the first power-on, the unit will automatically set Disable protections to No, ending "installer-on-site" mode and enabling the protective functions. If – after first installation – the installer returns to the site, the installer has to set Disable protections to Yes manually.

6.1 Checklist before commissioning

After the installation of the unit, first check the following items. Once all below checks are fulfilled, the unit MUST be closed, ONLY then can the unit be powered up.

<input type="checkbox"/>	You read the complete installation instructions, as described in the installer reference guide .
<input type="checkbox"/>	The indoor unit is properly mounted.
<input type="checkbox"/>	The outdoor unit is properly mounted.
<input type="checkbox"/>	The following field wiring has been carried out according to this document and the applicable legislation: <ul style="list-style-type: none"> Between the local supply panel and the outdoor unit Between indoor unit and outdoor unit Between the local supply panel and the indoor unit Between the indoor unit and the valves (if applicable) Between the indoor unit and the room thermostat (if applicable) Between the indoor unit and the domestic hot water tank (if applicable)
<input type="checkbox"/>	The system is properly earthed and the earth terminals are tightened.
<input type="checkbox"/>	The fuses or locally installed protection devices are installed according to this document, and have NOT been bypassed.
<input type="checkbox"/>	The power supply voltage matches the voltage on the identification label of the unit.
<input type="checkbox"/>	There are NO loose connections or damaged electrical components in the switch box.
<input type="checkbox"/>	There are NO damaged components or squeezed pipes on the inside of the indoor and outdoor units.
<input type="checkbox"/>	Backup heater circuit breaker F1B (field supply) is turned ON.
<input type="checkbox"/>	Only for tanks with built-in booster heater: Booster heater circuit breaker F2B (field supply) is turned ON.
<input type="checkbox"/>	The correct pipe size is installed and the pipes are properly insulated.

<input type="checkbox"/>	There is NO water leak inside the indoor unit.
<input type="checkbox"/>	The shut-off valves are properly installed and fully open.
<input type="checkbox"/>	The air purge valve is open (at least 2 turns).
<input type="checkbox"/>	The pressure relief valve purges water when opened.
<input type="checkbox"/>	The minimum water volume is guaranteed in all conditions. See "To check the water volume" in "3.2 Preparing water piping" on page 4 .
<input type="checkbox"/>	The domestic hot water tank is filled completely.

6.2 Checklist during commissioning

<input type="checkbox"/>	The minimum flow rate during backup heater/defrost operation is guaranteed in all conditions. See "To check the water volume and flow rate" in "3.2 Preparing water piping" on page 4 .
<input type="checkbox"/>	To perform an air purge .
<input type="checkbox"/>	To perform a test run .
<input type="checkbox"/>	To perform an actuator test run .
<input type="checkbox"/>	Underfloor screed dryout function The underfloor screed dryout function is started (if necessary).

6.2.1 To check the minimum flow rate

1	Confirm according to the hydraulic configuration which space heating loops can be closed due to mechanical, electronic, or other valves.	—
2	Close all space heating loops that can be closed (see previous step).	—
3	Start the pump test run operation (see "6.2.4 To perform an actuator test run" on page 21).	—
4	During pump test run operation, go to Sensors.	
5	Select the flow rate information. During test run operation, the unit can operate below the minimum required flow rate.	
6	Modify the bypass valve setting to reach the minimum required flow rate + 2 l/min.	—

Minimum required flow rate

20 l/min






6.2.2 To perform an air purge

Conditions: Make sure all operation is disabled. Go to the Operation menu and turn off Room, Space heating/cooling and Tank operation.

1	Set the user permission level to Installer. See "To change the user permission level" on page 13 .	—
2	Go to [A.3]: Commissioning > Air purge.	
3	Select OK to confirm. Result: The air purge starts. It stops automatically when air purge cycle is finished.	
	To stop the air purge manually:	—
1	Go to Stop air purge.	
2	Select OK to confirm.	



6.2.3 To perform an operation test run

Conditions: Make sure all operation is disabled. Go to the Operation menu and turn off Room, Space heating/cooling and Tank operation.

1	Set the user permission level to Installer. See " To change the user permission level " on page 13.	—
2	Go to [A.1]: Commissioning > Operation test run.	
3	Select a test from the list. Example: Heating.	
4	Select OK to confirm. Result: The test run starts. It stops automatically when done (±30 min). To stop the test run manually:	
1	Go to Stop test run.	
2	Select OK to confirm.	

If the installation of the unit has been done correctly, the unit will start up during test operation in the selected operation mode. During test mode, the correct operation of the unit can be checked by monitoring its leaving water temperature (heating/cooling mode) and tank temperature (domestic hot water mode).






To monitor the temperature:

1	Go to Sensors.	
2	Select the temperature information.	

6.2.4 To perform an actuator test run

Conditions: Make sure all operation is disabled. Go to the Operation menu and turn off Room, Space heating/cooling and Tank operation.

Purpose of the actuator test run is to confirm the operation of the different actuators (e.g., when you select Pump, a test run of the pump will start).

1	Set the user permission level to Installer. See " To change the user permission level " on page 13.	—
2	Go to [A.2]: Commissioning > Actuator test run.	
3	Select a test from the list. Example: Pump.	
4	Select OK to confirm. Result: The actuator test run starts. It stops automatically when done (±30 min). To stop the test run manually:	
1	Go to Stop test run.	
2	Select OK to confirm.	

Possible actuator test runs

- Booster heater test
- Backup heater 1 test
- Backup heater 2 test
- Pump test








INFORMATION

Make sure that all air is purged before executing the test run. Also avoid disturbances in the water circuit during the test run.

- Shut off valve test
- Diverter valve test
- Bivalent signal test
- Alarm output test
- C/H signal test
- DHW pump test

6.2.5 To perform an underfloor heating screed dryout

Conditions: Make sure all operation is disabled. Go to the Operation menu and turn off Room, Space heating/cooling and Tank operation.

1	Set the user permission level to Installer. See " To change the user permission level " on page 13.	—
2	Go to [A.4]: Commissioning > UFH screed dryout.	
3	Set a dryout program: go to Program and use the UFH screed dryout programming screen.	
4	Select OK to confirm. Result: The underfloor heating screed dryout starts. It stops automatically when done. To stop the test run manually:	
1	Go to Stop UFH screed dryout.	
2	Select OK to confirm.	



NOTICE

To perform an underfloor heating screed dryout, room frost protection needs to be disabled ([2-06]=0). By default, it is enabled ([2-06]=1). However, due to the "installer-on-site" mode (see "Commissioning"), room frost protection will be automatically disabled for 36 hours after the first power-on.

If the screed dryout still needs to be performed after the first 36 hours of power-on, manually disable room frost protection by setting [2-06] to "0", and KEEP it disabled until the screed dryout has finished. Ignoring this notice will result in cracking of the screed.



NOTICE

For the underfloor heating screed dryout to be able to start, make sure the following settings are met:

- [4-00]=1
- [C-02]=0
- [D-01]=0
- [4-08]=0
- [4-01]≠1

7 Hand-over to the user

Once the test run is finished and the unit operates properly, please make sure the following is clear for the user:

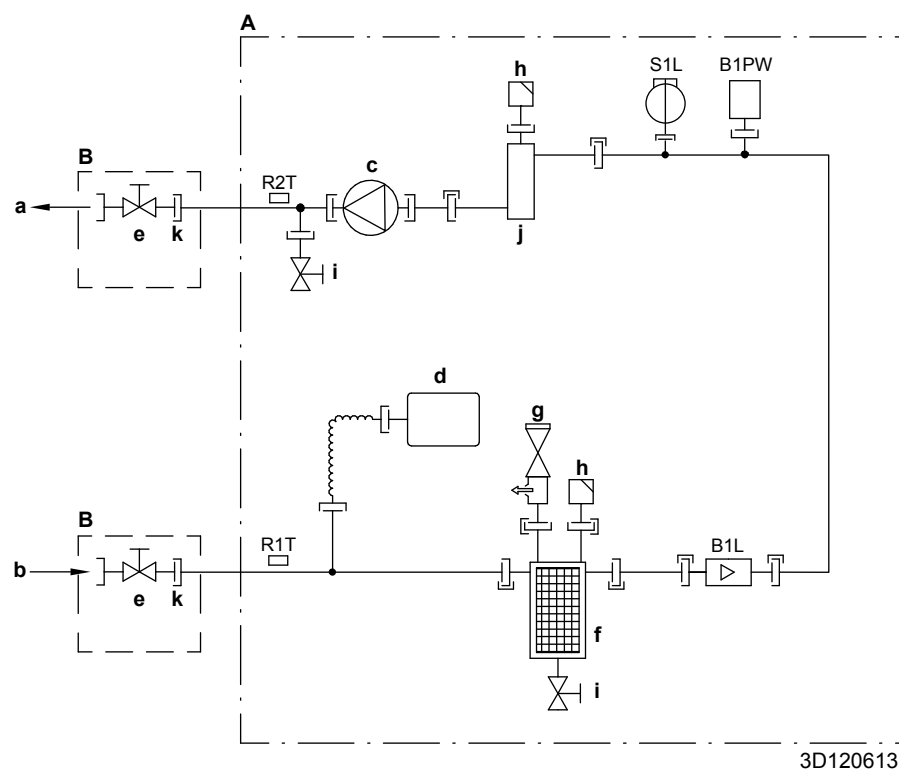
- Fill in the installer setting table (in the operation manual) with the actual settings.
- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he can find the complete documentation at the URL mentioned earlier in this manual.
- Explain the user how to properly operate the system and what to do in case of problems.
- Show the user what to do for the maintenance of the unit.
- Explain the user about energy saving tips as described in the operation manual.

8 Technical data

8 Technical data

A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible). The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

8.1 Piping diagram: Indoor unit



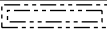


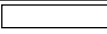
- A** Water side
- B** Field installed
- a** Space heating water OUT
- b** Water IN connection
- c** Pump
- d** Expansion vessel
- e** Shut-off valve, male-female 1" (if equipped)
- f** Magnetic filter/dirt separator
- g** Safety valve
- h** Air purge
- i** Drain valve
- j** Backup heater
- k** Loose nut 1"

- B1L** Flow sensor
- B1PW** Space heating water pressure sensor
- R1T** Thermistor (heat exchanger – water OUT)
- R2T** Thermistor (backup heater – water OUT)
- S1L** Flow switch
- |— Screw connection
- >>— Flare connection
- |— Quick coupling
- Brazed connection

8.2 Wiring diagram: Indoor unit

See the internal wiring diagram supplied with the unit (on the inside of the indoor unit upper front panel). The abbreviations used are listed below.

Notes to go through before starting the unit

English	Translation
Notes to go through before starting the unit	Notes to go through before starting the unit
X1M	Main terminal
X2M	Field wiring terminal for AC
X5M	Field wiring terminal for DC
X6M	Backup heater power supply terminal
X7M/X8M	Booster heater power supply terminal
-----	Earth wiring
-----	Field supply
①	Several wiring possibilities
	Option
	Not mounted in switch box
	Wiring depending on model
	PCB
Note 1: Connection point of the power supply for the BUH/BSH should be foreseen outside the unit.	Note 1: Connection point of the power supply for the backup heater should be foreseen outside the unit.
Backup heater power supply	Backup heater power supply
<input type="checkbox"/> 3V3 (1N~, 230 V, 3 kW)	<input type="checkbox"/> 3V3 (3~, 230 V, 6 kW)
<input type="checkbox"/> 6T1 (3~, 230 V, 6 kW)	<input type="checkbox"/> 6T1 (3~, 230 V, 6 kW)
<input type="checkbox"/> 6V3 (1N~, 230 V, 6 kW)	<input type="checkbox"/> 6V3 (1N~, 230 V, 6 kW)
<input type="checkbox"/> 6WN (3N~, 400 V, 6 kW)/9WN (3N~, 400 V, 9 kW)	<input type="checkbox"/> 6WN/9WN (3N~, 400 V, 6 kW)
User installed options	User installed options
<input type="checkbox"/> LAN adapter	<input type="checkbox"/> LAN adapter
<input type="checkbox"/> Domestic hot water tank	<input type="checkbox"/> Domestic hot water tank
<input type="checkbox"/> Remote user interface	<input type="checkbox"/> User interface used as room thermostat
<input type="checkbox"/> Ext. indoor thermistor	<input type="checkbox"/> External indoor thermistor
<input type="checkbox"/> Ext outdoor thermistor	<input type="checkbox"/> External outdoor thermistor
<input type="checkbox"/> Digital I/O PCB	<input type="checkbox"/> Digital I/O PCB
<input type="checkbox"/> Demand PCB	<input type="checkbox"/> Demand PCB
<input type="checkbox"/> Bottom plate heater	<input type="checkbox"/> Bottom plate heater
Main LWT	Main leaving water temperature
<input type="checkbox"/> On/OFF thermostat (wired)	<input type="checkbox"/> On/OFF thermostat (wired)
<input type="checkbox"/> On/OFF thermostat (wireless)	<input type="checkbox"/> On/OFF thermostat (wireless)
<input type="checkbox"/> Ext. thermistor	<input type="checkbox"/> External thermistor
<input type="checkbox"/> Heat pump convactor	<input type="checkbox"/> Heat pump convactor
<input type="checkbox"/> Safety thermostat	<input type="checkbox"/> Safety thermostat
Add LWT	Additional leaving water temperature
<input type="checkbox"/> On/OFF thermostat (wired)	<input type="checkbox"/> On/OFF thermostat (wired)
<input type="checkbox"/> On/OFF thermostat (wireless)	<input type="checkbox"/> On/OFF thermostat (wireless)
<input type="checkbox"/> Ext. thermistor	<input type="checkbox"/> External thermistor
<input type="checkbox"/> Heat pump convactor	<input type="checkbox"/> Heat pump convactor

Position in switch box

English	Translation
Position in switch box	Position in switch box

Legend

A1P		Main PCB
A2P	*	On/OFF thermostat (PC=power circuit)
A3P	*	Heat pump convactor
A4P	*	Digital I/O PCB
A8P	*	Demand PCB
A10P		MMI (= user interface connected to the indoor unit) – Power supply unit PCB
A11P		MMI (= user interface connected to the indoor unit) – Main PCB
A13P	*	LAN adapter
A14P	*	User interface PCB
A15P	*	Receiver PCB (wireless On/OFF thermostat)
BSK (A3P)	*	Solar pump station relay
CN* (A4P)	*	Connector
DS1(A8P)	*	DIP switch
F1B	#	Overcurrent fuse backup heater
F2B	#	Overcurrent fuse booster heater
F1U, F2U (A4P)	*	Fuse 5 A 250 V for digital I/O PCB
K1M, K2M		Contacteur backup heater
K3M		Contacteur booster heater
K5M		Safety contacteur backup heater
K*R (A4P)		Relay on PCB
M2P	#	Domestic hot water pump
M2S	#	2-way valve for cooling mode
M3S	#	3-way valve for floorheating/domestic hot water
PC (A15P)	*	Power circuit
PHC1 (A4P)	*	Optocoupler input circuit
Q2L		Thermal protector booster heater
Q4L	#	Safety thermostat
Q*DI	#	Earth leakage circuit breaker
R1H (A2P)	*	Humidity sensor
R1T (A2P)	*	Ambient sensor On/OFF thermostat
R2T (A2P)	*	External sensor (floor or ambient)
R6T	*	External indoor or outdoor ambient thermistor
S1S	#	Preferential kWh rate power supply contact
S2S	#	Electrical meter pulse input 1
S3S	#	Electrical meter pulse input 2
S6S~S9S	*	Digital power limitation inputs
SS1 (A4P)	*	Selector switch
TR1		Power supply transformer
X6M	#	Backup heater power supply terminal strip
X7M/X8M	#	Booster heater power supply terminal strip
X*, X*A, X*Y, Y*		Connector
X*M		Terminal strip

* Optional
Field supply

8 Technical data

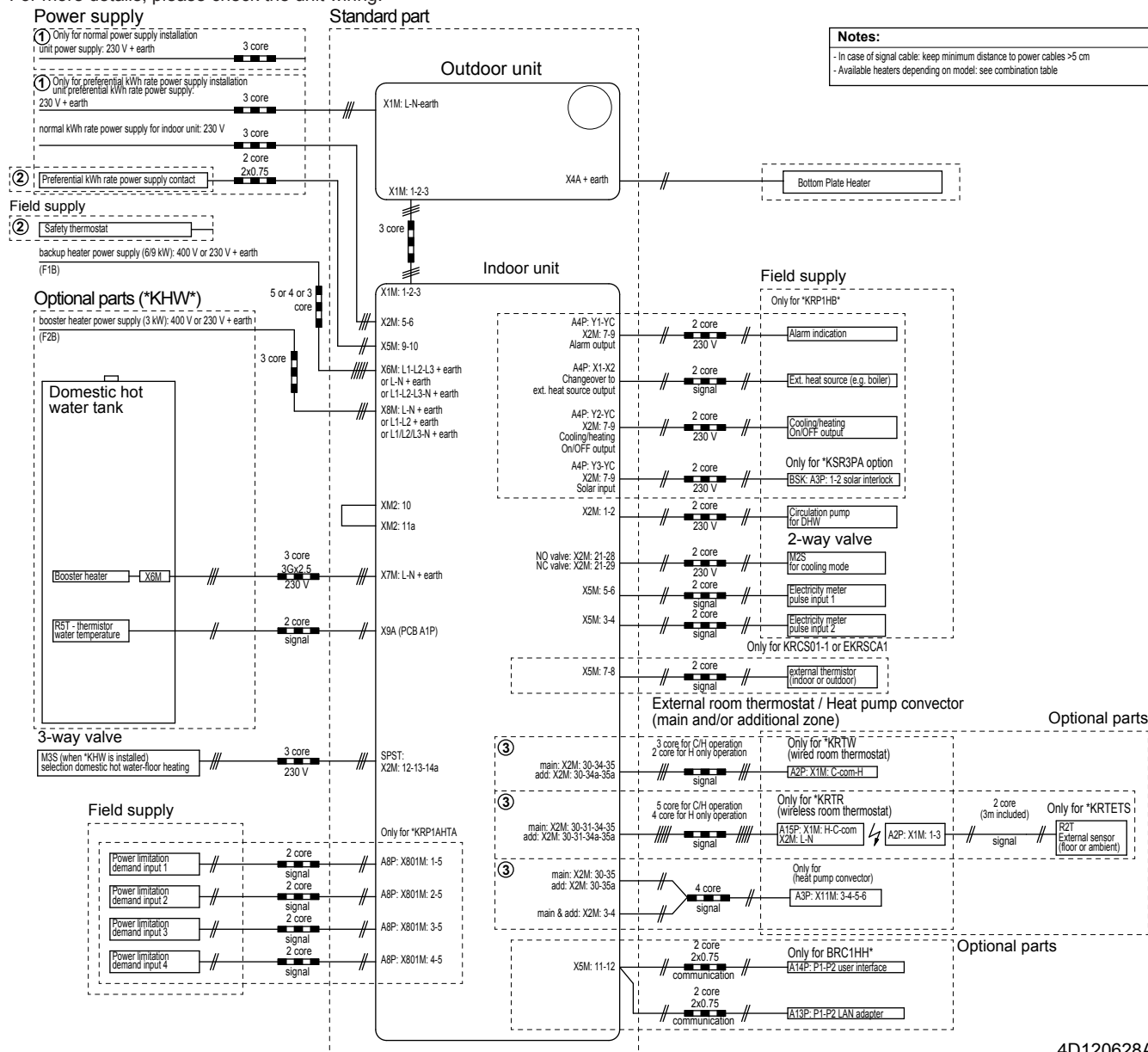
Translation of text on wiring diagram

English	Translation
(1) Main power connection	(1) Main power connection
For preferential kWh rate power supply	For preferential kWh rate power supply
Indoor unit supplied from outdoor	Indoor unit supplied from outdoor
Normal kWh rate power supply	Normal kWh rate power supply
Only for normal power supply (standard)	Only for normal power supply (standard)
Only for preferential kWh rate power supply (outdoor)	Only for preferential kWh rate power supply (outdoor)
Outdoor unit	Outdoor unit
Preferential kWh rate power supply contact: 16 V DC detection (voltage supplied by PCB)	Preferential kWh rate power supply contact: 16 V DC detection (voltage supplied by PCB)
SWB	Switch box
Use normal kWh rate power supply for indoor unit	Use normal kWh rate power supply for indoor unit
(2) Backup heater power supply	(2) Backup heater power supply
Only for ***	Only for ***
(3) User interface	(3) User interface
Only for LAN adapter	Only for the LAN adapter
Only for remote user interface EKRUDAS	Only for the user interface used as room thermostat (EKRUDAS)
(4) Domestic hot water tank	(4) Domestic hot water tank
3 wire type SPST	3 wire type SPST
Booster heater power supply	Booster heater power supply
Only for ***	Only for ***
SWB	Switch box
(5) Ext. thermistor	(5) External thermistor
SWB	Switch box
(6) Field supplied options	(6) Field supplied options
12 V DC pulse detection (voltage supplied by PCB)	12 V DC pulse detection (voltage supplied by PCB)
230 V AC supplied by PCB	230 V AC supplied by PCB
Continuous	Continuous current
DHW pump output	Domestic hot water pump output
DHW pump	Domestic hot water pump
Electrical meters	Electrical meters
For safety thermostat	For safety thermostat
Inrush	Inrush current

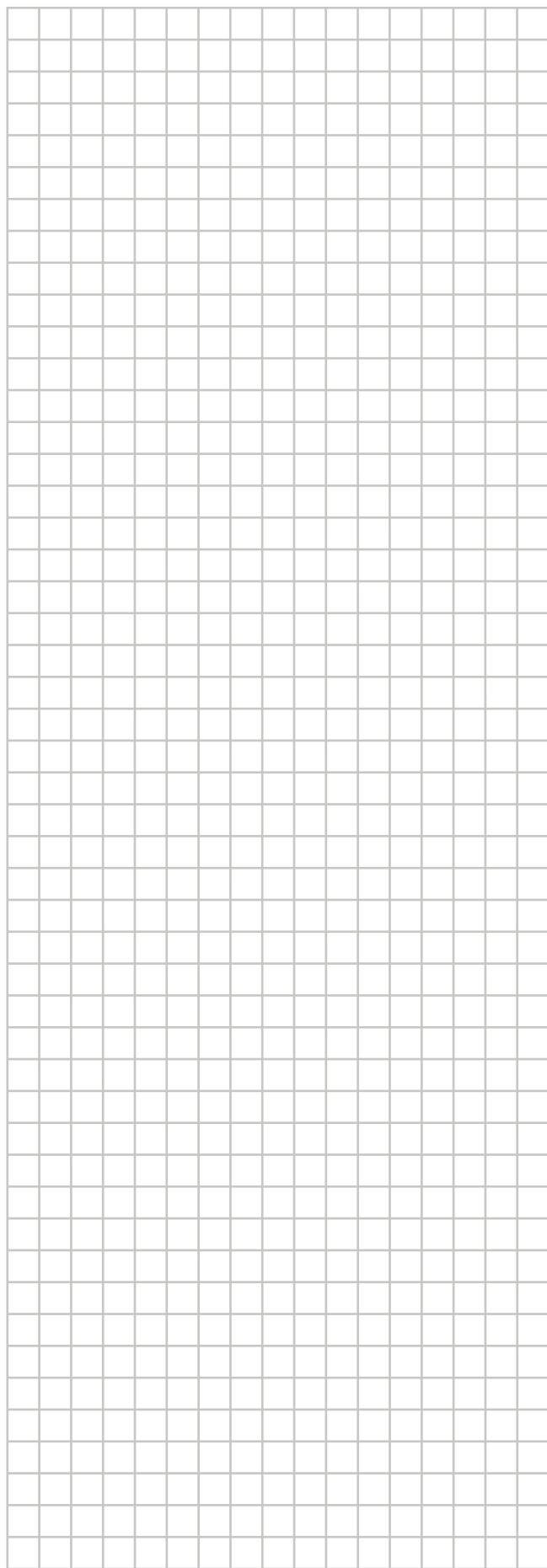
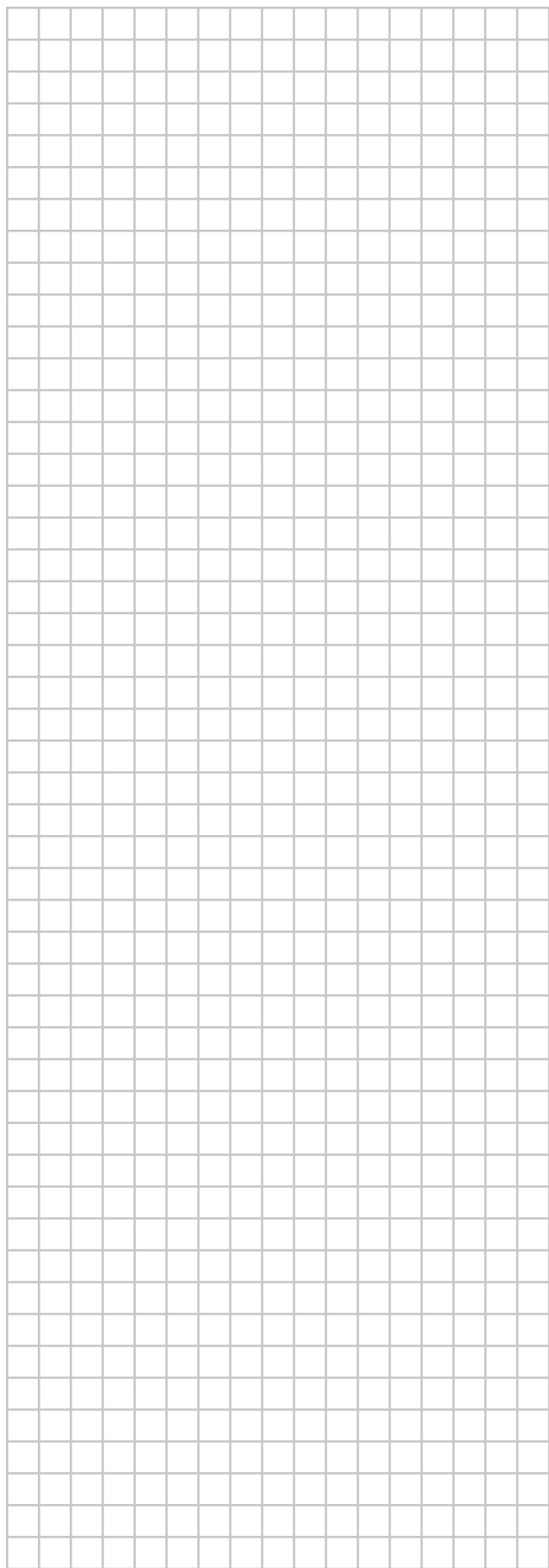
English	Translation
Max. load	Maximum load
Normally closed	Normally closed
Normally open	Normally open
Safety thermostat contact: 16 V DC detection (voltage supplied by PCB)	Safety thermostat contact: 16 V DC detection (voltage supplied by PCB)
Shut-off valve	Shut-off valve
SWB	Switch box
(7) Option PCBs	(7) Option PCBs
Alarm output	Alarm output
Changeover to ext. heat source	Changeover to external heat source
Max. load	Maximum load
Min. load	Minimum load
Only for demand PCB option	Only for demand PCB option
Only for digital I/O PCB option	Only for digital I/O PCB option
Options: ext. heat source output, solar pump connection, alarm output	Options: external heat source output, solar pump connection, alarm output
Options: On/OFF output	Options: On/OFF output
Power limitation digital inputs: 12 V DC / 12 mA detection (voltage supplied by PCB)	Power limitation digital inputs: 12 V DC / 12 mA detection (voltage supplied by PCB)
Refer to operation manual	Refer to operation manual
Solar input	Solar input
Solar pump connection	Solar pump connection
Space C/H On/OFF output	Space cooling/heating On/OFF output
SWB	Switch box
(8) External On/OFF thermostats and heat pump convector	(8) External On/OFF thermostats and heat pump convector
Additional LWT zone	Additional leaving water temperature zone
Main LWT zone	Main leaving water temperature zone
Only for external sensor (floor/ambient)	Only for external sensor (floor or ambient)
Only for heat pump convector	Only for heat pump convector
Only for wired On/OFF thermostat	Only for wired On/OFF thermostat
Only for wireless On/OFF thermostat	Only for wireless On/OFF thermostat

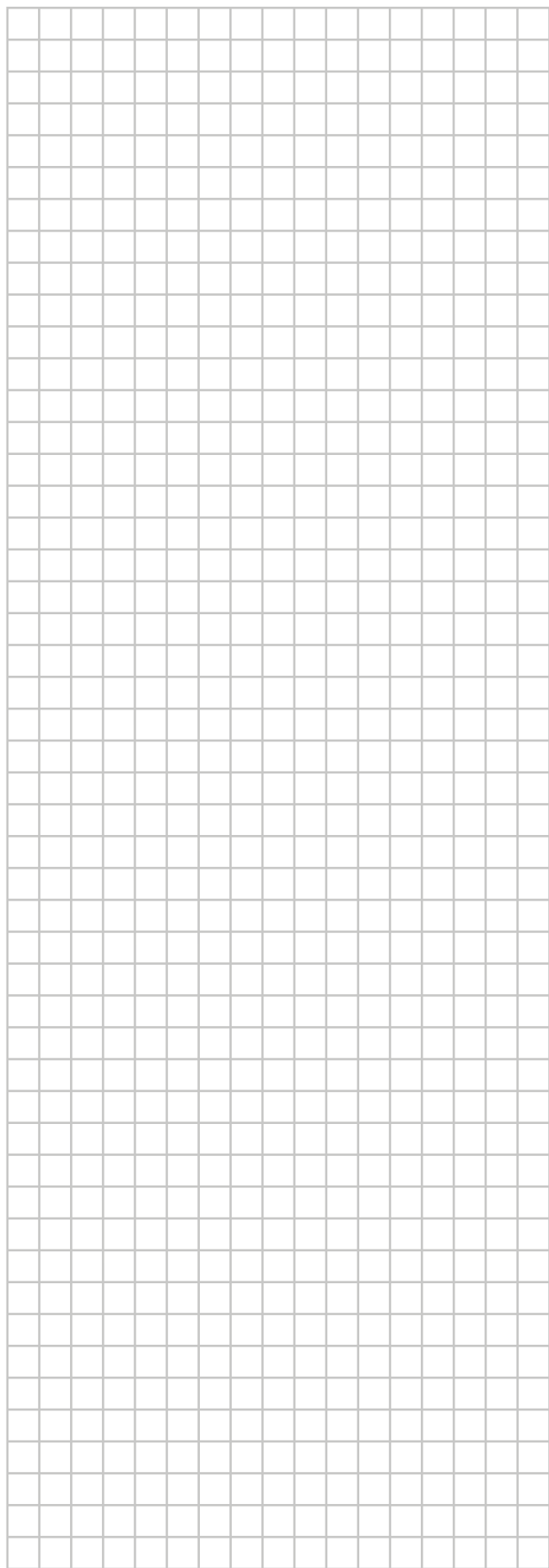
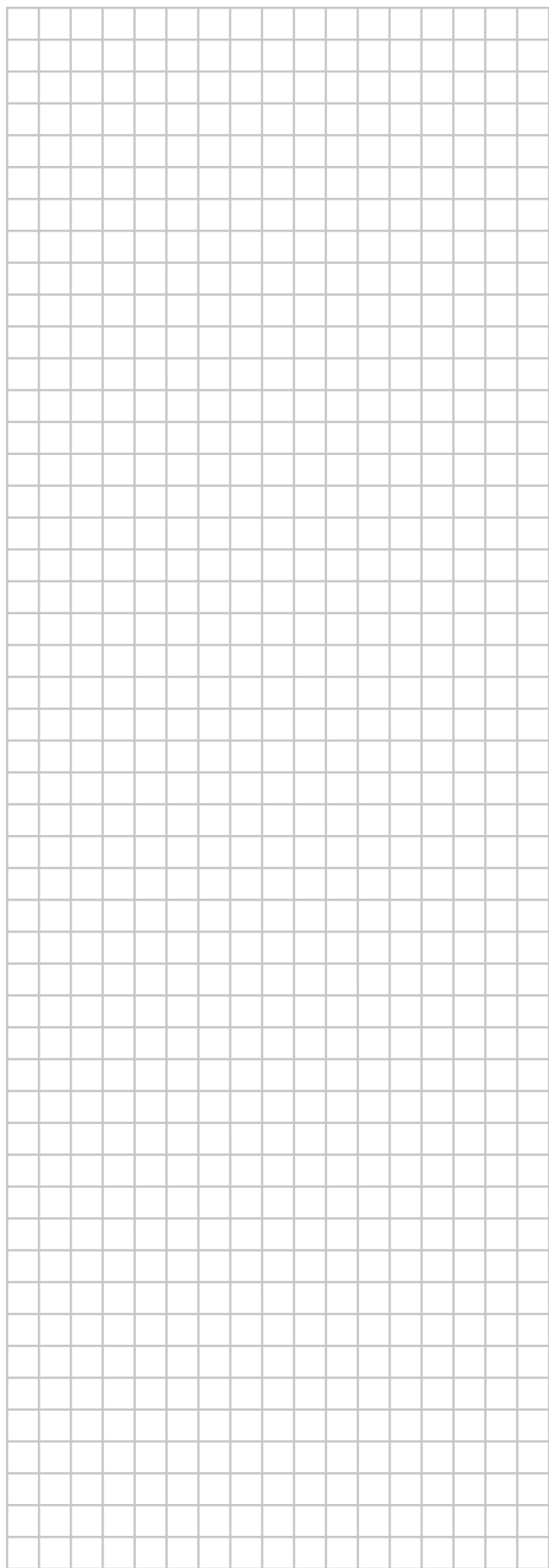
Electrical connection diagram

For more details, please check the unit wiring.



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