Installer reference guide

Daikin Altherma LAN adapter
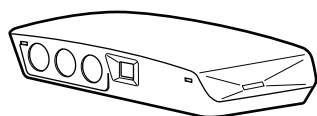
BRP069A61
BRP069A62

Table of contents

1 About the documentation

1.1 About this document

> ⚠️ **WARNING**
>
> Make sure installation, servicing, maintenance, repair and applied materials follow the instructions from Daikin (including all documents listed in "Documentation set") and, in addition, comply with applicable legislation and are performed by qualified persons only. In North American region UL/CSA 60335-2-40 and ASHREA 15 + 34 are the applicable standard.

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)
- **Installation manual:**
  - Installation instructions
  - Format: Paper (supplied in the kit)
- **Installer reference guide:**
  - Installation instructions, configuration, application guidelines…
  - Format: Digital files on https://www.daikin.eu. Use the search function 🔍 to find your model.

The latest revision of the supplied documentation is published on the regional Daikin website and is available via your dealer.

The original instructions are written in English. All other languages are translations of the original instructions.

Technical engineering data

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

2 About the adapter

The LAN adapter allows for app control of the heat pump system and, depending on the model, allows for the integration of the heat pump system in a Smart Grid application.

The LAN adapter is available in 2 versions:

Model	Functionality
BRP069A61	App control + Smart Grid application
BRP069A62	App control only

Components: casing
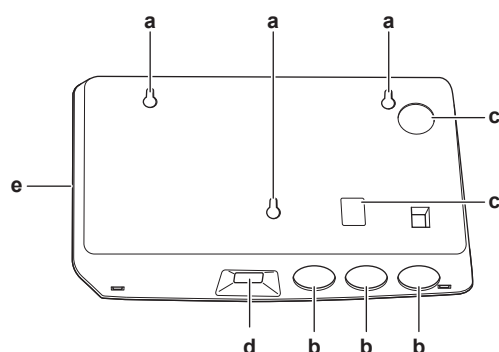
a	Wall mounting holes
b	Knockout holes (wiring from the bottom)
c	Knockout holes (wiring from the rear)
d	Ethernet port
e	Status LEDs

Components: PCB
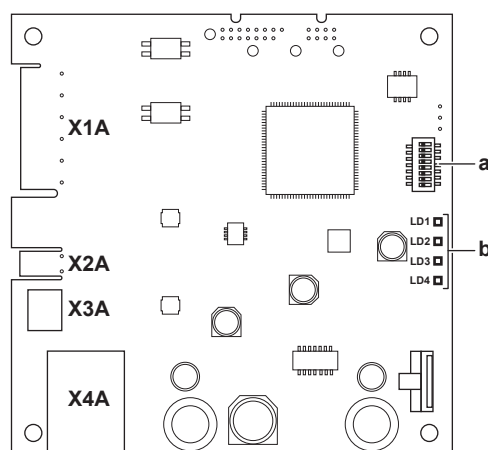
X1A~X4A	Connectors
a	DIP switch
b	Status LEDs

Status LEDs

LED	Description	Behaviour
LD1 ♡	Indication of power to the adapter, and of normal operation.	▪ LED flashing: normal operation. ▪ LED NOT flashing: no operation.

LED	Description	Behaviour
LD2 ⊟	Indication of TCP/IP communication with the router.	• LED ON: normal communication. • LED flashing: communication problem.
LD3 **P1P2**	Indication of communication with the indoor unit.	• LED ON: normal communication. • LED flashing: communication problem.
LD4[a] ⚡	Indication of Smart Grid activity.	• LED ON: system running in the "Recommended ON", "Forced ON", or "Forced OFF" Smart Grid operation mode. • LED OFF: system running in the "Normal operation" Smart Grid operation mode, or operating in normal operation conditions (space heating/cooling, production of domestic hot water). • LED flashing: LAN adapter performing a Smart Grid compatibility check.

[a] This LED is only active for BRP069A61 (present for BRP069A62, but ALWAYS inactive).

> **ℹ INFORMATION**
> • The DIP switch is used to configure the system. For more information, see "6 Configuration" [▶ 28].
> • When the LAN adapter performs a Smart Grid compatibility check, LD4 flashes. This is NOT erroneous behaviour. After a successful check, LD4 will either stay ON or go OFF. When it keeps flashing for more than 30 minutes, the compatibility check failed, and NO Smart Grid operation is possible.

2.1 Compatibility

Make sure the heat pump system is compatible for use with the LAN adapter (app control and/or Smart Grid applications). For more information, see the installer reference guide of the heat pump system.

2.2 System layout

Integrating the LAN adapter into the heat pump system allows for the following applications:

• App control (only)

• Smart Grid application (only)

• App control + Smart Grid application

2.2.1 App control (only)
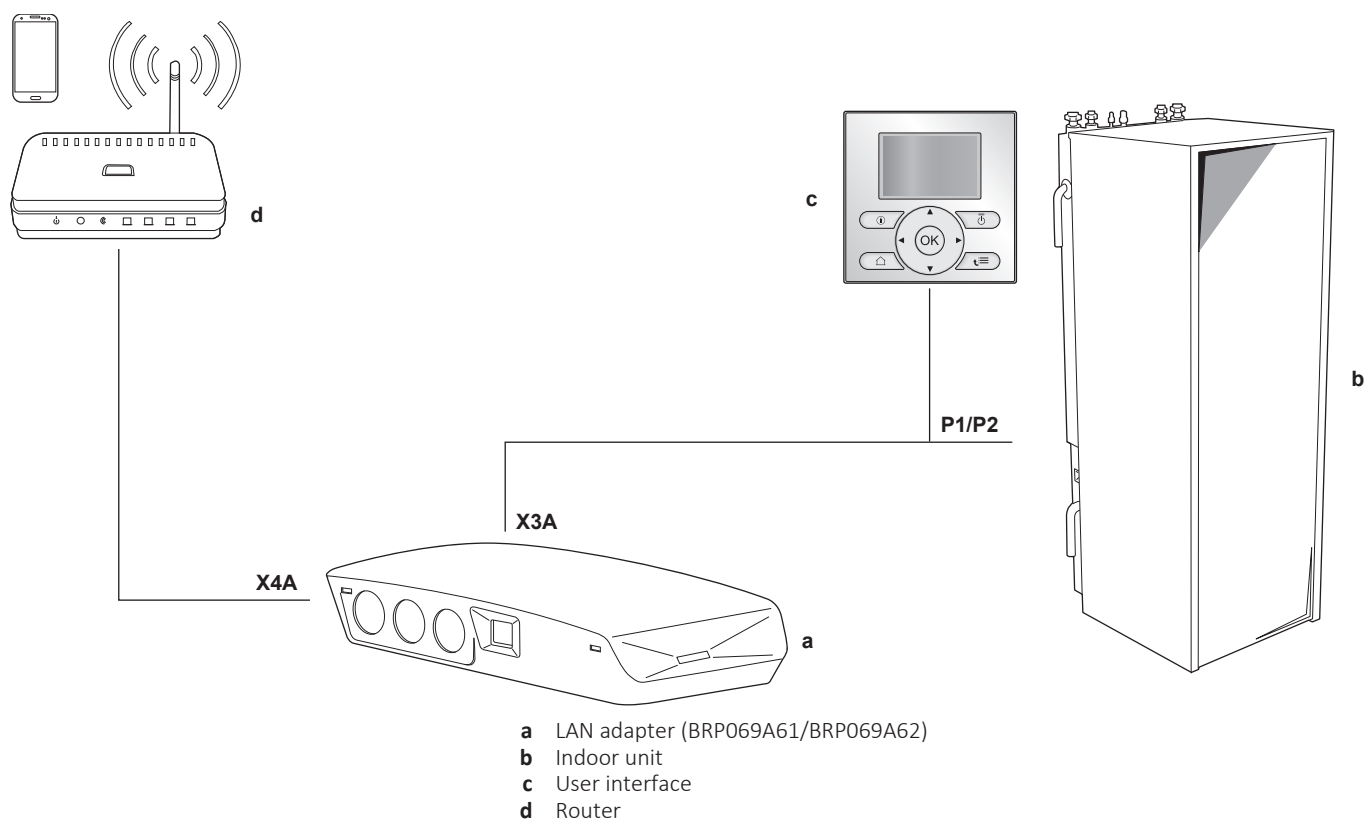
a LAN adapter (BRP069A61/BRP069A62)
b Indoor unit
c User interface
d Router

2.2.2 Smart Grid application (only)

a LAN adapter (BRP069A61)
b Indoor unit
c User interface
d Electricity meter (optional)
e Solar inverter/energy management system
f Circuit breaker
g Solar panels

2.2.3 App control + Smart Grid application

a	LAN adapter (BRP069A61)
b	Indoor unit
c	User interface
d	Router
e	Electricity meter (optional)
f	Solar inverter/energy management system
g	Circuit breaker
h	Solar panels
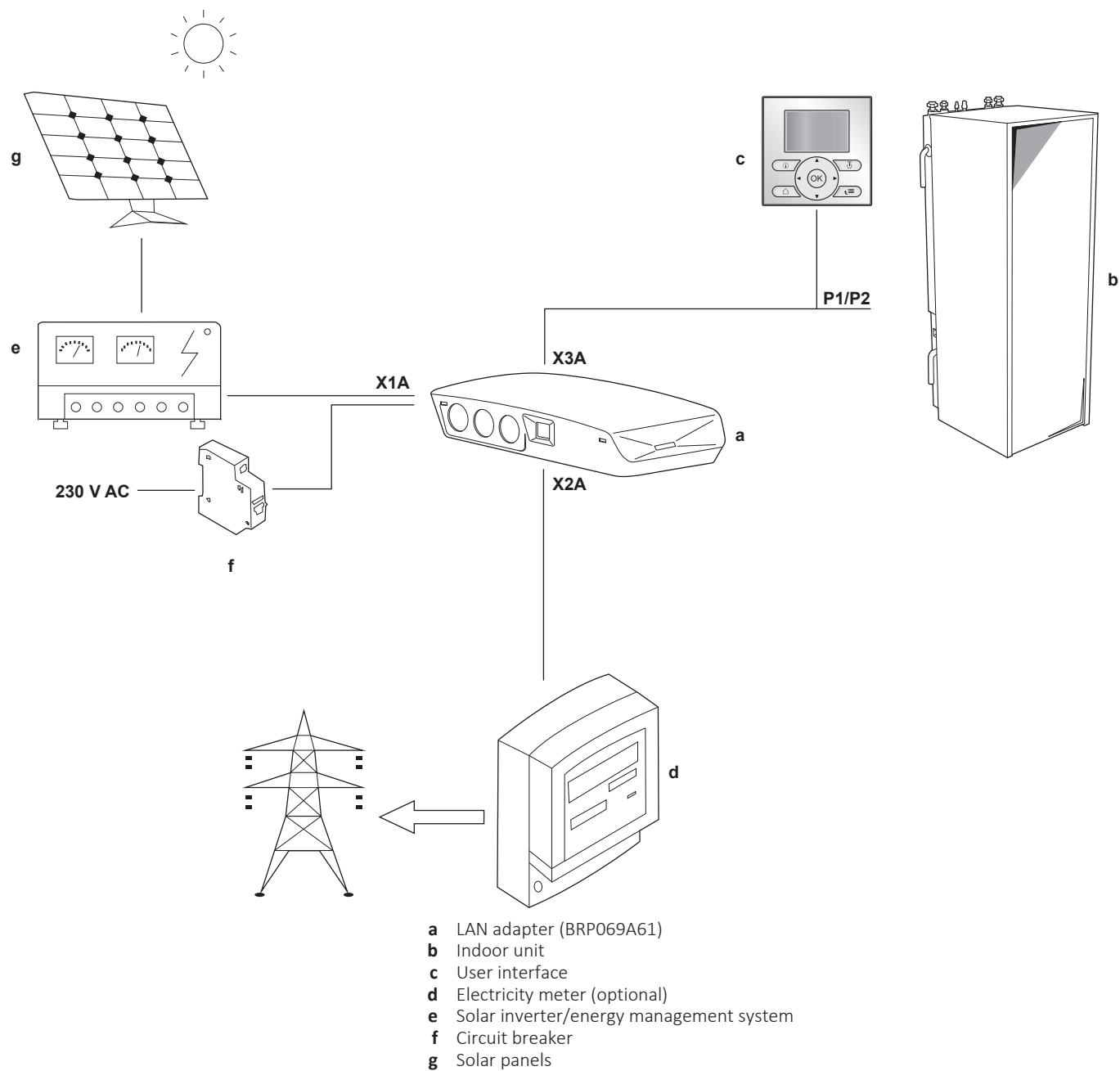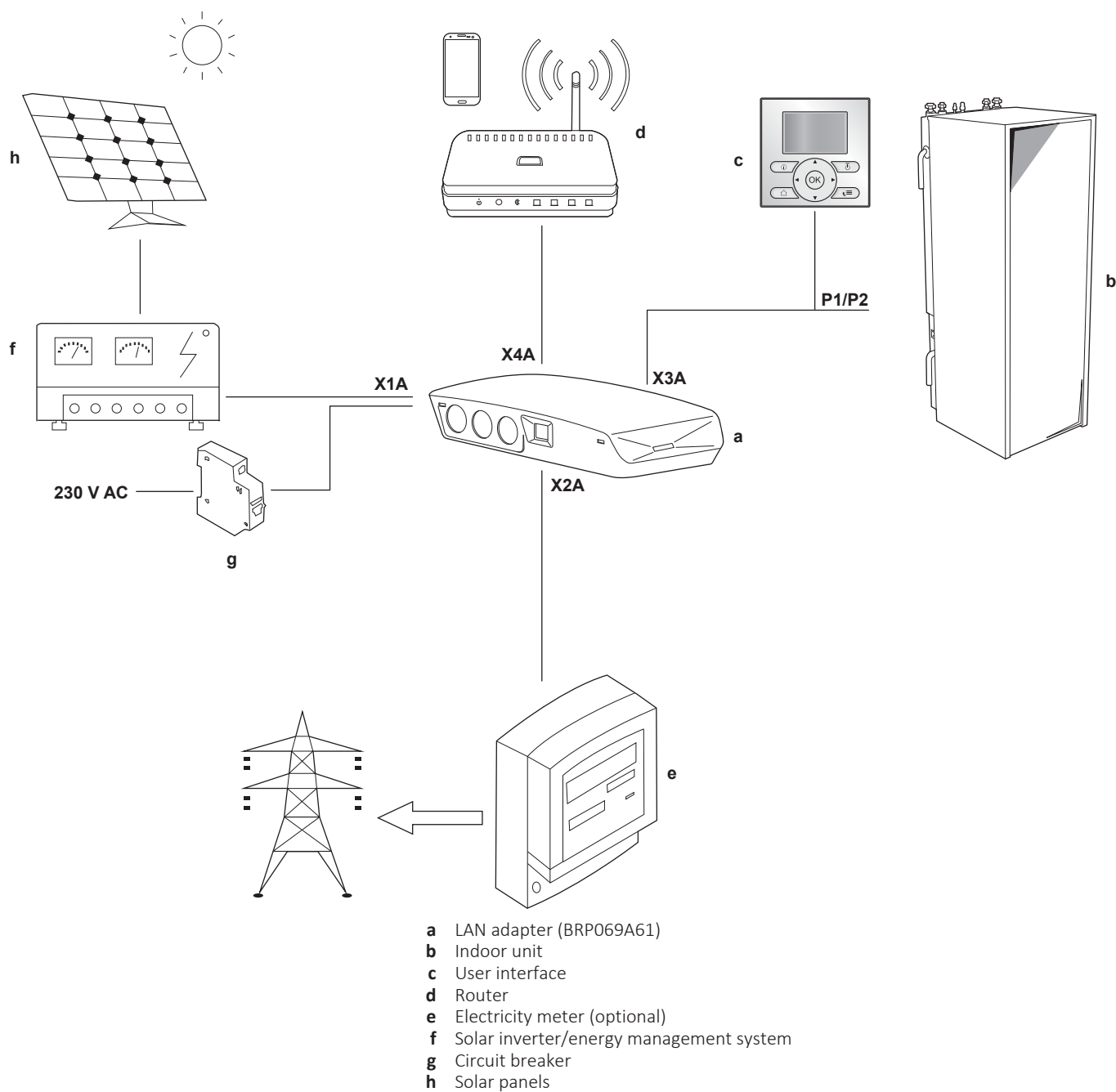
2.3 System requirements

The requirements posed on the heat pump system depend on the LAN adapter application/system layout.

App control

Item	Requirement
LAN adapter software	It is recommended to ALWAYS keep the LAN adapter software up-to-date.

Smart Grid application

Item	Requirement
LAN adapter software	It is recommended to ALWAYS keep the LAN adapter software up-to-date.
Domestic hot water settings	To allow for energy buffering in the domestic hot water tank, on the user interface, make sure to set: ▪ [E-05]=1 ▪ [E-06]=1
Power consumption control settings	On the user interface, make sure to set: ▪ [4-08]=1 ▪ [4-09]=1

> **INFORMATION**
>
> For instructions on how to perform a software update, see "6.4 Updating software" [▸ 29].

2.4 On-site installation requirements

What you need on site to install the LAN adapter depends on the system layout.

BRP069A61		BRP069A62
Always		
PC/laptop with Ethernet connector		
Router (DHCP enabled)		
At least one 2-wire cable (for the connection of the LAN adapter to the indoor unit (P1/P2))		
Smartphone with the ONECTA app		
Depending on the system layout		
IF connection to an electricity meter (X2A)	Electricity meter	—
	2-wire cable	—
IF connection to a solar inverter/energy management system (X1A)	2-wire cable	—
	Circuit breaker (100 mA~6 A, type B)	—

INFORMATION

- For an overview of the possible system layouts, see "2.2 System layout" [▶ 6]. For more information about the electrical wiring, see "4.2 Overview of electrical connections" [▶ 15].

- The function of the router in the system depends on the system layout. In case of app control (only), the router is a mandatory system component, required for the communication between heat pump system and smartphone. In case of Smart Grid application (only), the router is NOT a mandatory component, but only used for configuration purposes. In case of app control + Smart Grid application, you need the router both as a system component and for configuration purposes.

- The smartphone and ONECTA app are used to perform a LAN adapter software update (if required). Therefore, ALWAYS take a smartphone plus app to the installation site, also when the adapter is only used for the Smart Grid application.

- Some tools and components might already be available on site. Before going on site, find out which components are already at hand, and which ones you need to provide (e.g. router, electricity meter, …).

3 About the box

Keep the following in mind:

- At delivery, the unit MUST be checked for damage and completeness. Any damage or missing parts MUST be reported immediately to the claims agent of the carrier.
- Bring the packed unit as close as possible to its final installation position to prevent damage during transport.
- Prepare in advance the path along which you want to bring the unit to its final installation position.

3.1 To unpack the adapter

1 Unpack the LAN adapter.
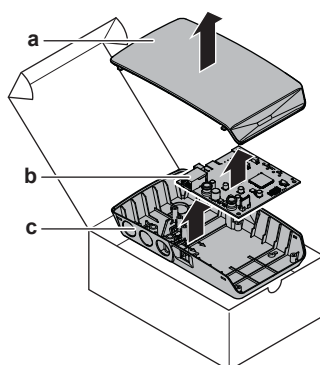
a	Front casing
b	PCB
c	Rear casing

2 Separate the accessories.
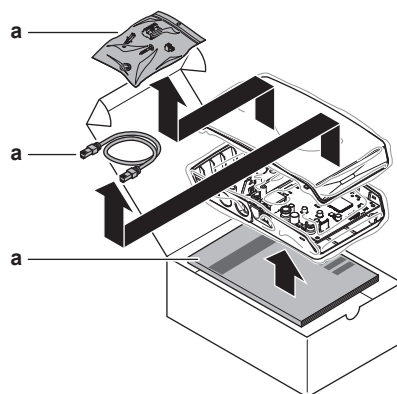
a	Accessories

Accessories
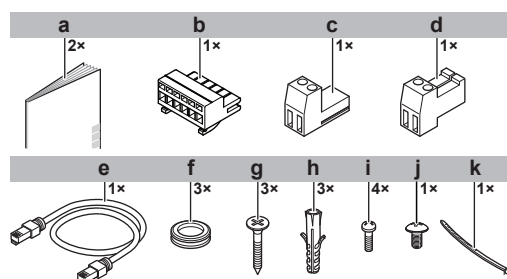
	Accessory	BRP069A61	BRP069A62
a	Installation manual	O	O
b	6-pole slide connector for X1A	O	—
c	2-pole slide connector for X2A	O	—
d	2-pole slide connector for X3A	O	O
e	Ethernet cable	O	O
f	Grommets	O	O
g	Screws to mount rear casing	O	O
h	Plugs to mount rear casing	O	O
i	Screws to mount PCB	O	O
j	Screw to close front casing	O	O
k	Cable tie	O	—

4 Preparation

4.1 Installation site requirements

> **i INFORMATION**
>
> Also read the maximum cable length requirements set out in "4.2 Overview of electrical connections" [▶ 15].

- Mind the following spacing installation guidelines:
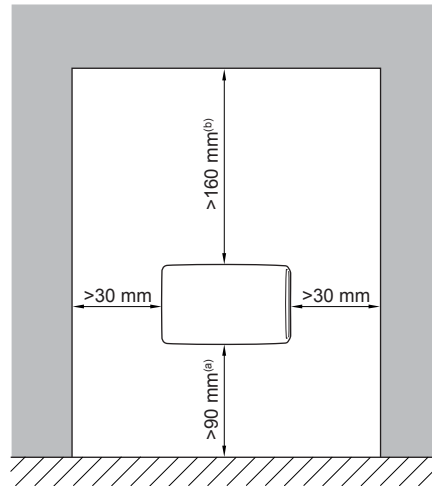
    a   Provide enough space to connect the Ethernet cable without exceeding its minimum bend radius (typically 90 mm)
    b   Provide enough space to open the casing with a flat-blade screwdriver (typically 160 mm)

- The LAN adapter is designed to be wall-mounted in dry, indoor locations only. Make sure the installation surface is a flat and vertical non-combustible wall.
- The LAN adapter is designed to be mounted in the following orientation only: with the PCB on the right-hand side in the casing, and the Ethernet connector facing the floor.
- The LAN adapter is designed to operate in ambient temperatures ranging from 5~35°C.

Do NOT install the adapter in the following places:

- In places with high humidity (max. RH=95%), such as bathrooms.
- In places where frost is possible.
- The controller is designed to be wall-mounted in dry, indoor locations only.
- Make sure the installation surface is a flat and vertical non-combustible wall.
- Mind the spacing installation guidelines as defined in Figure 8. When mounting multiple controllers in close proximity to each other, ensure a minimum of 5 mm space between the different controllers.

4.2 Overview of electrical connections

Connectors
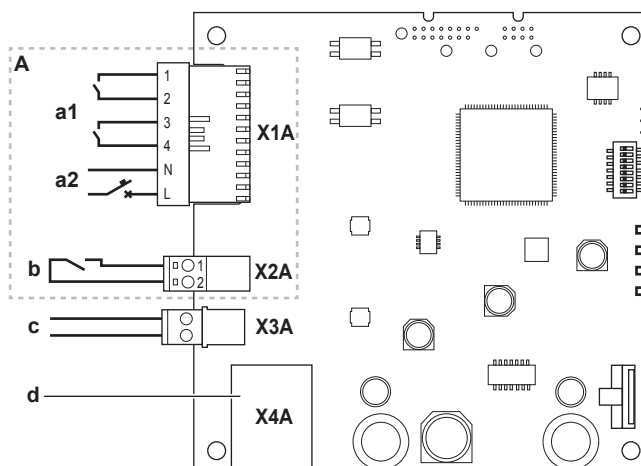
A	Smart Grid application only
a1	To solar inverter/energy management system
a2	230 V AC detection voltage
b	To electricity meter
c	To indoor unit (P1/P2)
d	To router

Connections

Connection	Cable section	Wires	Maximum cable length
Accessory cables			
Router (X4A)	—	—	50/100 m[a]
Field-supplied cables			
Indoor unit (P1/P2) (X3A)	0.75~1.25 mm^2	2[b]	200 m
Electricity meter (X2A)	0.75~1.25 mm^2	2[b]	100 m
Solar inverter/ energy management system + 230 V AC detection voltage (X1A)	0.75~1.5 mm^2	Depends on application[c]	100 m

[a] The Ethernet cable delivered as an accessory is 1 m long. It is, however, possible to use a field-supplied Ethernet cable. In this case, respect the maximum allowed distance between the LAN adapter and the router, which is 50 m in case of Cat5e cables, and 100 m in case of Cat6 cables.

[b] These wires MUST be sheathed. Recommended strip length: 6 mm.

[c] All wiring to X1A MUST be H05VV. Required strip length: 7 mm. For more information, see "4.2.4 Solar inverter/energy management system" [▶ 18].

4.2.1 Router

Make sure the LAN adapter can be connected via a LAN connection.

The minimum category for the Ethernet cable is Cat5e.

The function of the router in the system depends on the system layout.

System layout	Function
App control (only)	The router is a **mandatory system component**, required for the communication between heat pump system and smartphone. For more information, see "2.2 System layout" [▶ 6].
Smart Grid application (only)	The router is NOT a mandatory system component, but only used as a **tool for configuration purposes**. For more information, see "6 Configuration" [▶ 28].
App control + Smart Grid application	The router is both a **mandatory system component** (app control) and a **tool for configuration purposes** (Smart Grid application). For more information, see "2.2 System layout" [▶ 6] and "6 Configuration" [▶ 28].

If the router is a system component, it can be integrated in the system in the following ways:

Wired

- **a** LAN adapter
- **b** Indoor unit
- **c** Router

Wireless

- **a** LAN adapter
- **b** Indoor unit
- **c** Router
- **d** Wireless bridge

Power line

a LAN adapter
b Indoor unit
c Router
d Power line adapter
e Power line
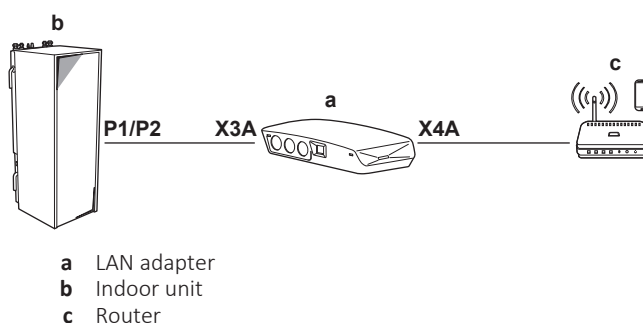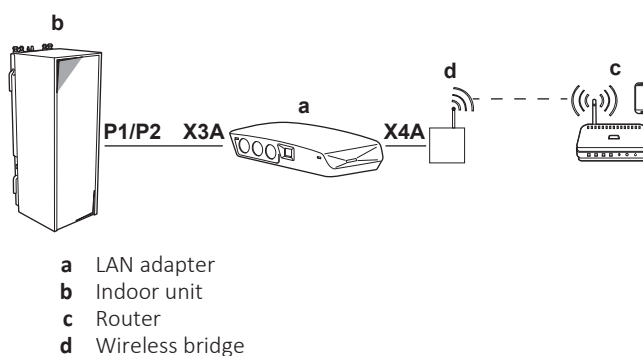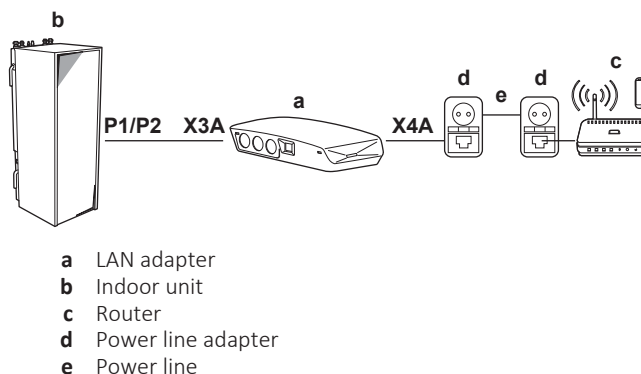
i	**INFORMATION**
	It is recommended to connect the LAN adapter to the router directly. Depending on the wireless bridge or power line adapter model, the system might not function properly.

4.2.2 Indoor unit

For power and communication with the indoor unit, the LAN adapter is connected to the indoor unit's P1/P2 terminals via a 2-wire cable. There is NO separate power supply: the adapter gets its power from the indoor unit's P1/P2 terminals.

4.2.3 Electricity meter

If the LAN adapter is connected to an electricity meter, make sure it is an **electrical pulse meter**.

Requirements:

Item		Specification
Type		Pulse meter (5 V DC pulse detection)
Possible number of pulses		▪ 100 pulse/kWh ▪ 1000 pulse/kWh
Pulse duration	Minimum On time	10 ms
	Minimum OFF time	100 ms
Measurement type		Depends on the installation: ▪ 1N~ AC meter ▪ 3N~ AC meter (balanced loads) ▪ 3N~ AC meter (unbalanced loads)

i	**INFORMATION**
	It is required that the electricity meter has a pulse output that can measure the total energy injected INTO the grid.

Suggested electricity meters

Phase	ABB reference
1N~	2CMA100152R1000 B21 212-100
3N~	2CMA100166R1000 B23 212-100

4.2.4 Solar inverter/energy management system

> **i** **INFORMATION**
>
> Before installation, confirm that the solar inverter/energy management system is equipped with the digital outputs required to connect it to the LAN adapter. For more information, see "7 Smart Grid application" [▶ 37].

Connector X1A is for the connection of the LAN adapter to the digital outputs of a solar inverter/energy management system, and allows for the integration of the heat pump system in a Smart Grid application.

X1A/N+L supply a 230 V AC detection voltage to the input contact of X1A. The 230 V AC detection voltage enables the detection of the state (open or close) of the digital inputs and does NOT supply power to the rest of the LAN adapter PCB.

Make sure X1A/N+L are protected by a fast acting circuit breaker (rated current 100 mA~6 A, type B).

The rest of the wiring to X1A differs depending on the digital outputs available on the solar inverter/energy management system and/or on the Smart Grid operation modes that you want the system to run in. For more information, see "7 Smart Grid application" [▶ 37].

5 Installation

5.1 Overview: Installation

The installation of the LAN adapter consists of the following stages:

1 Mounting the rear casing to the wall
2 Mounting the PCB to the rear casing
3 Connecting electrical wiring
4 Mounting the front casing to the rear casing

5.2 Mounting the adapter

5.2.1 About mounting the adapter

The LAN adapter is mounted to the wall by way of the mounting holes (a) in the rear casing. Before mounting the rear casing to the wall, you have to remove some knockout holes (b)(c), depending on how you want to route the wiring and insert it into the adapter.

You can route and insert the wiring from the bottom or from the rear. Respect the following rules and restrictions:

Wiring	Possibilities and restrictions
Wiring routed and inserted from the bottom	▪ ONLY for surface wiring routed from the bottom. ▪ When routing wiring from the bottom, ALWAYS let it enter the adapter via the holes in the bottom of the casing (b). It is NOT allowed to clamp this wiring between the casing and the wall and let it enter via the holes in the rear (c). ▪ The wiring for X1A and X4A MUST be routed and inserted from the bottom. The wiring for X2A and X3A CAN be routed and inserted from the bottom (or from the rear). ▪ When routing and inserting wiring from the bottom, remove the required knockout holes in the bottom of the casing (b) and replace them with the grommets from the accessory bag.

Wiring	Possibilities and restrictions
Wiring routed and inserted from the rear	▪ ONLY for in-wall wiring entering the adapter from the rear. ▪ The wiring for X2A and X3A CAN be routed and inserted from the rear (or from the bottom). The wiring for X1A and X4A CANNOT be routed and inserted from the rear. ▪ It is NOT allowed to route wiring from the bottom, clamp it between the casing and the wall, and let it enter via the holes in the rear (c).
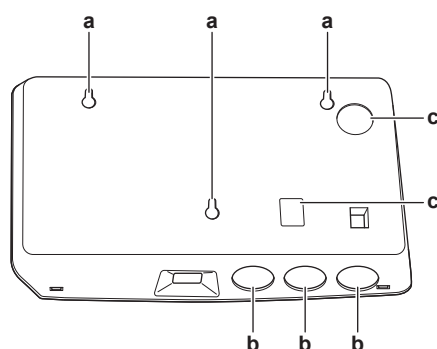
a Mounting holes
b Bottom knockout holes
c Rear knockout holes

ℹ INFORMATION

Wiring from the bottom. ALWAYS replace any removed knockout holes with the grommets delivered in the accessory bag. Before inserting the grommets into the holes, cut them open with a utility knife, so that you can let the wiring enter the adapter through the grommets. The grommets MUST be inserted into the holes before you insert the wiring into the adapter.

⚠ NOTICE

Wiring from the rear. When removing knockout holes, make sure to remove any sharp edges that might arise around the holes, this to protect the wiring from damage.

ℹ INFORMATION

▪ Letting the wiring enter the adapter from the rear allows you to hide the wiring in the wall.

▪ It is NOT possible to let the Ethernet cable enter from the rear. The Ethernet cable is ALWAYS connected from the bottom.

5.2.2   To mount the rear casing to the wall

1   Hold the rear casing against the wall and mark the position of the holes.

2   Drill the holes.
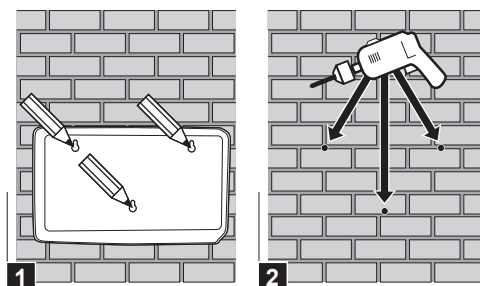
3   Mount the rear casing to the wall with the screws and plugs from the accessory bag.
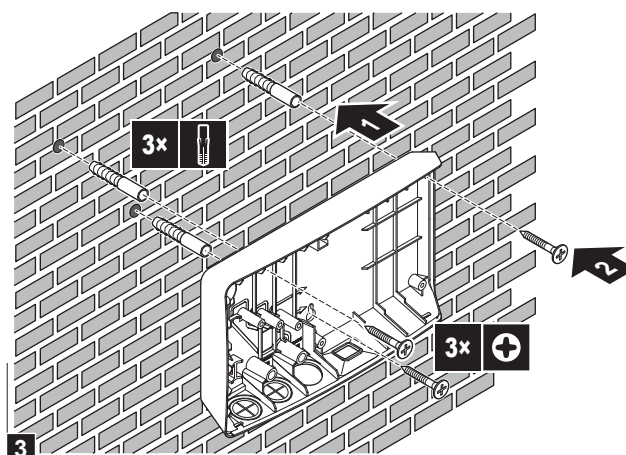
5.2.3   To mount the PCB to the rear casing
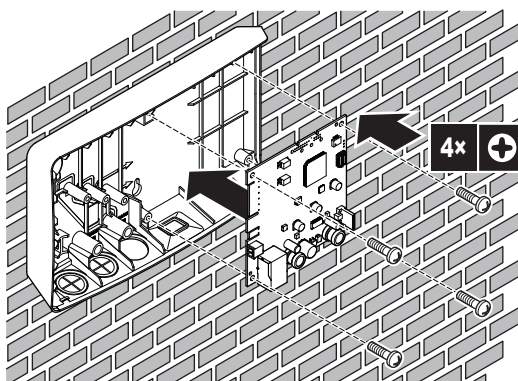
> ⊙ **NOTICE: Risk of electrostatic discharge**
>
> Before mounting the PCB, touch an earthed part (a radiator, the casing of the indoor unit, ...) to eliminate static electricity and protect the PCB from damage. ONLY handle the PCB by its sides.

5.3 Connecting the electrical wiring

5.3.1 About connecting the electrical wiring

Typical workflow

Connecting the electrical wiring typically consists of the following stages:

System layout	Typical workflow
App control (only)	▪ Connecting the adapter to the indoor unit (P1/P2). ▪ Connecting the adapter to a router.
Smart Grid application (only)	▪ Connecting the adapter to the indoor unit (P1/P2). ▪ Connecting the adapter to a solar inverter/energy management system. ▪ Connecting the adapter to an electricity meter (optional). For more information about the Smart Grid application, see "7 Smart Grid application" [▶ 37].
App control + Smart Grid application	▪ Connecting the adapter to the indoor unit (P1/P2). ▪ Connecting the adapter to a router. ▪ Connecting the adapter to a solar inverter/energy management system, if required by the Smart Grid application. ▪ Connecting the adapter to an electricity meter, if required by the Smart Grid application (optional). For more information about the Smart Grid application, see "7 Smart Grid application" [▶ 37].

5.3.2 Precautions when connecting the electrical wiring

> **ℹ INFORMATION**
>
> Also read the precautions and requirements in the following chapters:
>
> ▪ General safety precautions
>
> ▪ Preparation

> ⚠ **DANGER: RISK OF ELECTROCUTION**
>
> Do NOT turn on the power supply (both the power supplied by the indoor unit to X3A and the detection voltage supplied to X1A) before you have connected all the wiring and closed the adapter.

> **!** **NOTICE**
>
> To prevent damage to the PCB, it is NOT allowed to connect the electrical wiring with the connectors already connected to the PCB. First connect the wiring to the connectors, then connect the connectors to the PCB.

> **⚠** **WARNING**
>
> To prevent damage and/or injury, do NOT make any connections to X1A and X2A on LAN adapter BRP069A62.

5.3.3   To connect the indoor unit

> **i** **INFORMATION**
>
> - The indoor unit's P1P2 terminal can be connected to maximum 2 controllers.
>
> - In the indoor unit switch box, the cable is connected to the same terminals the user interface is connected to (P1P2). For more information, see the installation manual of the indoor unit.
>
> - The 2 wires from the cable are NOT polarised. When connecting them to the terminals, their polarity does NOT matter.

1   When entering the wiring from the bottom: inside the LAN adapter casing, ensure strain relief by routing the cable along the indicated cable path.

2   Connect indoor unit terminals P1/P2 to LAN adapter terminals X3A/1+2.
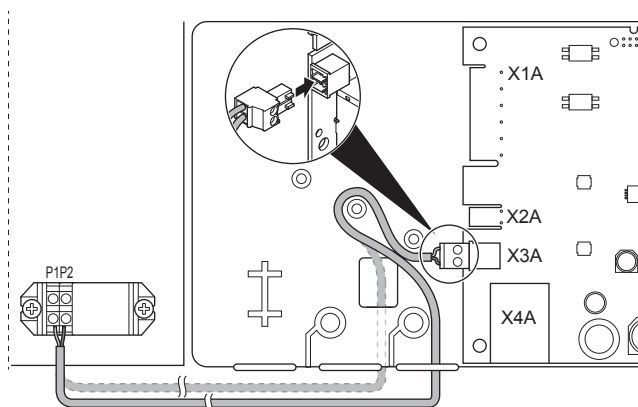
5.3.4   To connect the router
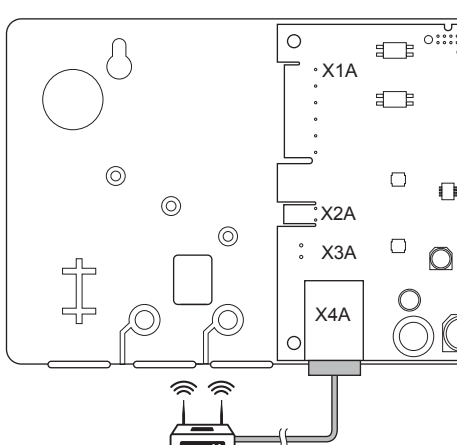
> **!** **NOTICE**
>
> To prevent communication problems due to cable breakdown, do NOT exceed the minimum bend radius of the Ethernet cable.

5.3.5 To connect the electricity meter

> **i** **INFORMATION**
>
> This connection is ONLY supported by LAN adapter BRP069A61.

1 When entering the wiring from the bottom: inside the LAN adapter casing, ensure strain relief by routing the cable along the indicated cable path.

2 Connect the electricity meter to LAN adapter terminals X2A/1+2.
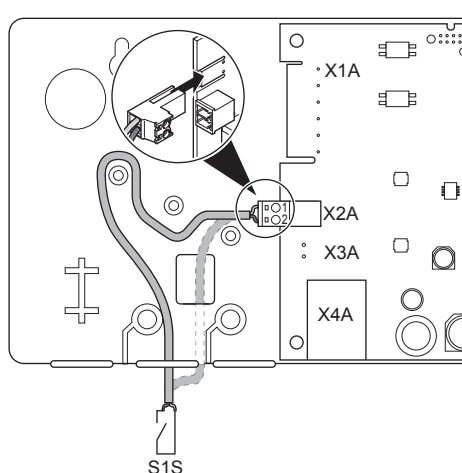
> **i** **INFORMATION**
>
> Mind the polarity of the cable. The positive wire MUST be connected to X2A/1; the negative wire to X2A/2.

> **⚠** **WARNING**
>
> Make sure to connect the electricity meter in the correct direction, so that it measures the total energy injected INTO the grid.

5.3.6 To connect the solar inverter/energy management system

> **i** **INFORMATION**
>
> This connection is ONLY supported by LAN adapter BRP069A61.

> **i** **INFORMATION**
>
> How the solar inverter/energy management system is connected to X1A depends on the Smart Grid application. The connection described in the instructions below is for the system to run in the "Recommended ON" operation mode. For more information, see "7 Smart Grid application" [▶ 37].

> **⚠** **WARNING**
>
> Make sure X1A/N+L are protected by a fast acting circuit breaker (rated current 100 mA~6 A, type B).

DAIKIN

> ⚠️ **WARNING**
>
> When connecting the wiring to LAN adapter terminal X1A, make sure each wire is securely fastened to the appropriate terminal. Use a screwdriver to open the wire clamps. Make sure the bare copper wire is fully inserted into the terminal (bare copper wire CANNOT be visible).
>
>
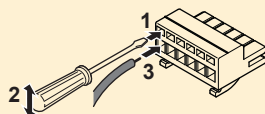
1 Ensure strain relief by fastening the cable with a cable tie to the cable tie mounting.

2 Provide a detection voltage to X1A/N+L. Make sure X1A/N+L are protected by a fast acting circuit breaker (100 mA~6 A, type B).

3 For the system to run in the "Recommended ON" operation mode (Smart Grid application), connect the digital outputs of the solar inverter/energy management system to LAN adapter digital inputs X1A/1+2 LAN.
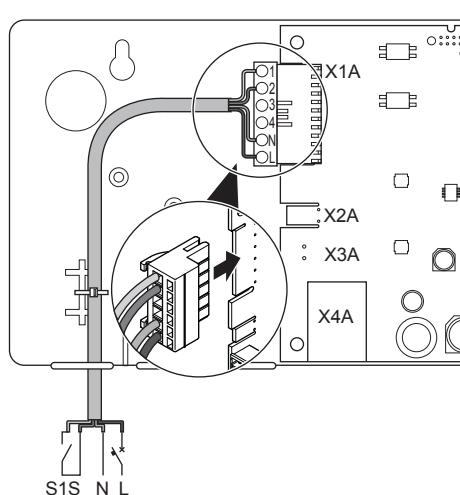
To connect to a voltage free contact (Smart Grid application)

If the solar inverter/energy management system has a voltage free contact, connect the LAN adapter as follows:

a To voltage free contact
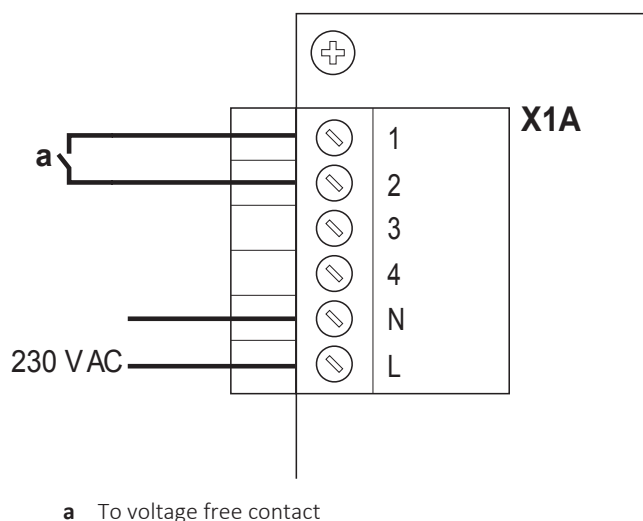
> ℹ️ **INFORMATION**
>
> The voltage free contact should be able to switch 230 V AC – 20 mA.

To connect to a controllable wall socket (Smart Grid application)

If a wall socket is available that is controlled by the solar inverter/energy management system, connect the LAN adapter as follows:
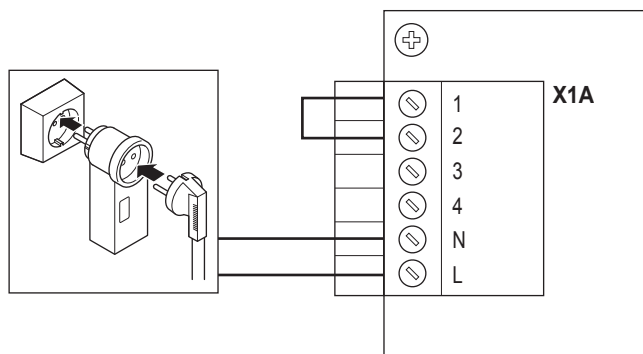
> **!** **NOTICE**
>
> Make sure a fast acting fuse or circuit breaker is present in the setup (or as part of the wall socket, or install an external one (rated current 100 mA~6 A, type B)).

5.4 Finishing adapter installation

5.4.1 Adapter serial number

Before closing the LAN adapter, note down its serial number. This number can be found on the adapter's Ethernet connector (bottommost number on X4A). Note it down in the table below.

Serial number

> **i** **INFORMATION**
>
> The serial number is used during the configuration of the LAN adapter. For more information, see "6 Configuration" [▶ 28].

5.4.2 To close the adapter

1   Put the front casing to the rear casing and tighten the screw.
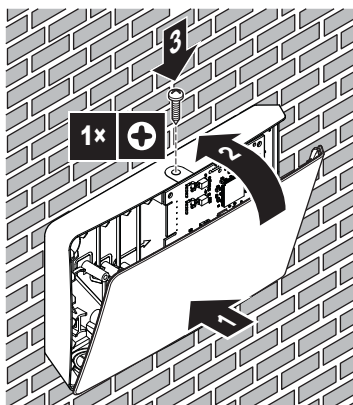
5.5 Opening the adapter

5.5.1 About opening the adapter

The average installation procedure does NOT involve opening the adapter. However, in case you do have to open it, follow below procedure.

> ⚡ **DANGER: RISK OF ELECTROCUTION**
>
> Before opening the LAN adapter, turn OFF all power supply (both the power received from the indoor unit to X3A and the detection voltage supplied to X1A, if applicable).

5.5.2 To open the adapter

1 Remove the screw with a screwdriver.

2 Pull the top of the front casing towards you.
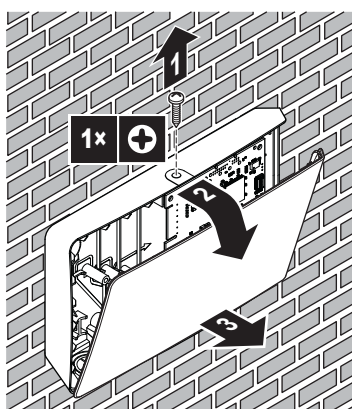
6 Configuration

> **i** **INFORMATION**
>
> Use only those combinations of controls and programs which are mentioned in the manufacturer's instruction manual.

6.1 Overview: Configuration

LAN adapter configuration depends on the LAN adapter application/system layout.

If	Then
The LAN adapter is used for app control	See "6.2 Configuring the adapter for app control" [▶ 28].
The LAN adapter is used for the Smart Grid application	See "6.3 Configuring the adapter for the Smart Grid application" [▶ 29].

Additionally, this chapter contains instructions for how to:

Topic	Chapter
Update software	"6.4 Updating software" [▶ 29]
Access the configuration web interface	"6.5 Configuration web interface" [▶ 30]
Consult system information	"6.6 System information" [▶ 31]
Perform a factory reset	"6.7 Factory reset" [▶ 32]
Make network settings	"6.8 Network settings" [▶ 34]
Remove the LAN adapter from the heat pump system.	"6.9 Removal" [▶ 36]

> **i** **INFORMATION**
>
> If 2 LAN adapters are present in the same LAN network, configure them separately.

6.2 Configuring the adapter for app control

When the LAN adapter is used for app control (only), there is hardly any configuration required. After correct installation and system start-up, all system components (LAN adapter, router, and ONECTA app) should be able to find each other automatically by way of their IP address.

If the system components fail to connect to each other automatically, you can connect them to each other manually by making use of a fixed IP address. In this case, provide LAN adapter, router, and ONECTA app with the same fixed IP address. For how to provide the LAN adapter with a fixed IP address, see "6.8 Network settings" [▶ 34].

6.3 Configuring the adapter for the Smart Grid application

When the LAN adapter is used for the Smart Grid application, configure the LAN adapter on the dedicated configuration web interface.

▪ For instructions on how to access the configuration web interface, see "6.5 Configuration web interface" [▶ 30].

▪ For an overview of Smart Grid settings, see "7.1 Smart Grid settings" [▶ 38].

▪ For more information on the Smart Grid application, see "7 Smart Grid application" [▶ 37].

If required, perform a software update. For instructions, see "6.4 Updating software" [▶ 29].

> **i** **INFORMATION**
>
> For a good understanding of the Smart Grid application, and to be able to properly configure the LAN adapter, it is recommended to first read up on the Smart Grid application in "7 Smart Grid application" [▶ 37].

6.4 Updating software

To update LAN adapter software, use the ONECTA app.

> **i** **INFORMATION**
>
> ▪ To update LAN adapter software with the ONECTA app, you need a router. In case the LAN adapter is only used for the Smart Grid application (and a router is not part of the system), temporarily add a router to the setup according to "2.2.3 App control + Smart Grid application" [▶ 9].
>
> ▪ The ONECTA app will automatically check the LAN adapter software version and ask for an update, if required.

> **i** **INFORMATION**
>
> For the indoor unit and user interface to function with the LAN adapter, it is required that their software meets requirements. ALWAYS make sure the unit and user interface have the latest software version. For more information, see https://my.daikin.eu/denv/en_US/home/applications/software-finder/service-software/unit-software/heating/MMI-software-daikin-altherma-LT.html.

6.4.1 To update adapter software

Prerequisite: A router is (temporarily) part of the layout, you have a smartphone with the ONECTA app, and the app notified you that new LAN adapter software is available.

1 Follow the update procedure in the app.

Result: The new software is automatically downloaded to the LAN adapter.

Result: To implement changes, the LAN adapter automatically performs a power reset.

Result: The LAN adapter software is now updated to the latest version.

> **i** **INFORMATION**
>
> During the software update, the LAN adapter and the app CANNOT be operated. It is possible that the user interface of the indoor unit displays error U8-01. When the update is finished, this error code will disappear automatically.

6.5 Configuration web interface

On the configuration web interface you can make the following settings:

Section	Settings
Information	Consult various system parameters
Upload adapter SW	Perform a LAN adapter software update
Factory reset	Perform a LAN adapter factory reset
Network settings	Make various network settings (e.g. set a fixed IP address)
Smart Grid	Make settings related to the Smart Grid application

> **i** **INFORMATION**
>
> The configuration web interface is available for 2 hours after powering on the LAN adapter. To make the configuration web interface available again after it has expired, the LAN adapter requires a power reset. To perform a power reset, turn OFF/ON the power going to the LAN adapter via indoor unit terminals P1/P2. It is NOT required to reset the 230 V AC detection voltage.

6.5.1 Accessing the configuration web interface

Normally, you should be able to access the configuration web interface by browsing to its URL: http://altherma.local. If this does not work out, navigate to the configuration web interface by using the LAN adapter's IP address. The IP address depends on network configuration.

Access via URL

Prerequisite: Your computer is connected to the same router (same network) the LAN adapter is connected to.

Prerequisite: The router supports DHCP.

1 In your browser, go to http://altherma.local

Access via LAN adapter IP address

Prerequisite: Your computer is connected to the same router (same network) the LAN adapter is connected to.

Prerequisite: You have retrieved the IP address of the LAN adapter.

1 In your browser, go to the IP address of the LAN adapter.

To retrieve the IP address of the LAN adapter:

Retrieval via	Instruction
The ONECTA app	▪ In the home screen of the app, tap the pencil icon to go to the "Edit unit" screen. ▪ Under "Units", tap the unit that is connected to the LAN adapter of which you want to retrieve the IP address. ▪ In the "Manage unit" screen, find the LAN adapter IP address under "Network gateway information".
The DHCP client list of your router	Find the LAN adapter in the DHCP client list of the router.

Access via DIP switch + custom static IP address

Prerequisite: Your computer is directly connected to the LAN adapter with an Ethernet cable, and is NOT connected to any network (wifi, LAN, …).

Prerequisite: The power to the LAN adapter is OFF.

1 Set DIP switch 4 to "ON".

2 Turn ON the power to the LAN adapter.

3 In your browser, go to http://169.254.10.10.

> ⓘ **NOTICE**
>
> Use appropriate tooling to set the DIP switches to another position. Beware of electrostatic discharge.

> ⓘ **INFORMATION**
>
> The LAN adapter only checks the configuration of the DIP switch after a power reset. To configure the DIP switch, therefore make sure the power to the adapter is OFF.

> ⓘ **INFORMATION**
>
> For BRP069A61, "power" is both the power supplied by the indoor unit AND the 230 V AC detection voltage supplied to X1A.

6.6 System information

To consult system information, go to "Information" on the configuration web interface.

Information

LAN adapter firmware: 17003905_PP

Smart grid: enabled

IP address: 10.0.0.7

MAC address: 00:23:7e:f8:09:5d

Serial number: 170300003

User interface SW: v01.19.00

User interface EEPROM: AS1705847-01F

Hydro SW: ID66F2

Hydro EEPROM: AS1706432-25A

Information	Description/translation
LAN adapter	
LAN adapter firmware	LAN adapter software version
Smart grid	Check if the LAN adapter can be used for the Smart Grid application
IP address	LAN adapter IP address
MAC address	LAN adapter MAC address
Serial number	Serial number
User interface	
User interface SW	User interface software
User interface EEPROM	User interface EEPROM
Indoor unit	
Hydro SW	Indoor unit hydro module software version
Hydro EEPROM	Indoor unit hydro module EEPROM

6.7 Factory reset

Perform a factory reset as follows:
- Via the DIP switch (preferred method);
- Via the configuration web interface;
- Via the ONECTA app.

> **i** **INFORMATION**
>
> Mind that when you perform a factory reset, ALL current settings and configuration will be reset. Use this function with care.
>
> Performing a factory reset might be useful in the following cases:
> - You can't find the LAN adapter (anymore) in the network;
> - The LAN adapter lost its IP address;
> - You want to reconfigure the Smart Grid application;
> - …

6.7.1 To perform a factory reset

Via the DIP switch (preferred method)

1   Turn OFF the power to the LAN adapter.

2   Set DIP switch 2 to "ON".

3   Turn ON the power.

4   Wait for 15 seconds.

5   Turn OFF the power.

6   Set the switch back to "OFF".

7   Turn ON the power.

> **(!) NOTICE**
>
> Use appropriate tooling to set the DIP switches to another position. Beware of electrostatic discharge.

> **(i) INFORMATION**
>
> The LAN adapter only checks the configuration of the DIP switch after a power reset. To configure the DIP switch, therefore make sure the power to the adapter is OFF.

> **(i) INFORMATION**
>
> For BRP069A61, "power" is both the power supplied by the indoor unit AND the 230 V AC detection voltage supplied to X1A.

Via the configuration web interface

1   Go to "Factory reset" on the configuration web interface.

2   Click the reset button.

Factory reset

This will set the LAN adapter back to default settings. Unit settings remains the same. After this a reboot will be executed.

[Reset]

Information	Translation
This will set the LAN adapter back to default settings. Unit settings remains the same. After this a reboot will be executed.	This will reset the LAN adapter to default settings. Indoor unit settings remain the same. After the reset, a reboot is executed.

> **(i) INFORMATION**
>
> For instructions on how to access the configuration web interface, see "6.5.1 Accessing the configuration web interface" [▶ 30].

Via the app

Open the ONECTA and perform a factory reset.

6.8 Network settings

Normally, the LAN adapter applies network settings automatically, and no changes to these are required. If required, however, it is possible to configure network settings as follows:

▪ Via the configuration web interface (various settings);

▪ Via the DIP switch (custom static IP address only).

Note on the LAN adapter IP address

Assign an IP address to the LAN adapter in one of the following ways:

IP address	Description + method
DHCP protocol (default)	The system automatically assigns the LAN adapter an IP address by way of the DHCP protocol. This is the default situation, and set on the configuration web interface. See "Via the configuration web interface" [▶ 34].
Static IP address	Bypass the DHCP protocol and manually assign a static IP address to the LAN adapter. Do this via the configuration web interface. See "Via the configuration web interface" [▶ 34].
Custom static IP address	Bypass any IP settings made on the configuration web interface and assign a custom static IP address to the LAN adapter. Do this via the DIP switch. See "Via the DIP switch" [▶ 35].

> **i** **INFORMATION**
>
> Normally, network/IP settings are automatically applied and require no changes. Only make changes to the network/IP settings when absolutely required (e.g. when the system does not detect the LAN adapter automatically).

6.8.1 To configure network settings

Via the configuration web interface

1 Go to "Network settings" on the configuration web interface.

2 Configure network settings.

Network settings

DHCP active   ⊙ Automatic   ○ Manually

Static IP address   [10] . [0] . [0] . [7]

Subnetmask   [255] . [255] . [255] . [0]

Default gateway   [10] . [0] . [0] . [1]

Primary DNS   [10] . [0] . [0] . [1]

Secondary DNS   [10] . [0] . [0] . [1]

[Submit]

Information	Translation/description
DHCP active	DHCP active
Automatic	Automatic
Manually	Manually
Static IP address	Static IP address
Subnet Mask	Subnetmask
Default gateway	Default gateway
Primary DNS	Primary DNS
Secondary DNS	Secondary DNS

INFORMATION

By default "DHCP active" is set to "Automatic" and IP settings are configured automatically and dynamically by way of the DHCP protocol. When setting "DHCP active" to "Manually", you bypass the DHCP protocol. Instead, define a static IP address for the LAN adapter in the fields next to "Static IP address".

When you set a static IP address for the LAN adapter, you make access to the configuration web interface via the URL (http://altherma.local) impossible. Therefore, when setting a static IP address, note it down somewhere, this for easy future access to the configuration web interface.

Via the DIP switch

The DIP switch allows you to assign a custom static IP address to the LAN adapter. This IP address is "**169.254.10.10**". When you choose to do this, you bypass any IP settings made on the configuration web interface.

To assign the custom static IP address to the LAN adapter:

1   Turn OFF the power to the LAN adapter.

2   Set DIP switch 2 to "ON".

3   Turn ON the power.

NOTICE

Use appropriate tooling to set the DIP switches to another position. Beware of electrostatic discharge.

> **i** **INFORMATION**
>
> The LAN adapter only checks the configuration of the DIP switch after a power reset. To configure the DIP switch, therefore make sure the power to the adapter is OFF.

> **i** **INFORMATION**
>
> For BRP069A61, "power" is both the power supplied by the indoor unit AND the 230 V AC detection voltage supplied to X1A.

6.9 Removal

When you connect/disconnect the LAN adapter to/from the indoor unit, the system should register its presence/absence automatically. However, when you remove the LAN adapter from a system that controlled by a user interface with model number EKRUCBL*, you have to configure this manually. For more information, see the documentation of the heat pump system.

6.9.1 To remove the adapter from the system

1 On the (EKRUCBL*) user interface, go to `Installer settings` > `System layout` > `Options`.

2 In the options list, select `LAN adapter`.

3 Select "No".

7 Smart Grid application

> **INFORMATION**
>
> This information ONLY applies to LAN adapter BRP069A61.

> **INFORMATION**
>
> To use the LAN adapter for the Smart Grid application, it is required that DIP switch 1 is set to "OFF" (default the case). Alternatively, to disable the possibility of using the LAN adapter for the Smart Grid application, it is possible to set DIP switch 1 to "ON".

> **NOTICE**
>
> Use appropriate tooling to set the DIP switches to another position. Beware of electrostatic discharge.

The LAN adapter allows for the connection of the heat pump system to a solar inverter/energy management system, and enables it to run in various Smart Grid operation modes. In this way, all system components work together to limit the injection of (self-generated) power into the grid, instead converting this power into thermal energy by making use of the thermal storage capacity of the heat pump. This is called "energy buffering".

The system can buffer energy in the following ways:

- Heat up the domestic hot water tank
- Heat up the room
- Cool down the room

The Smart Grid application is controlled by the solar inverter/energy management system, that monitors the grid, and sends commands to the LAN adapter. The adapter is connected to the solar inverter/energy management system (digital outputs) by way of connector X1A (digital inputs).

Solar inverter/energy management system (digital outputs)	X1A (digital inputs)
Digital output 1	SG0 (X1A/1+2)
Digital output 2	SG1 (X1A/3+4)

The solar inverter/energy management system controls the state of the digital inputs of the LAN adapter. Depending on the state of the inputs (open or closed), the heat pump system can run in the following Smart Grid operation modes:

Smart Grid operation mode	SG0 (X1A/1+2)	SG1 (X1A/3+4)
Normal operation/Free running NO Smart Grid application	Open	Open
Recommended ON Energy buffering in the domestic hot water tank and/or the room, WITH power limitation.	Closed	Open

Smart Grid operation mode	SG0 (X1A/1+2)	SG1 (X1A/3+4)
Forced OFF Deactivation of outdoor unit and electrical heater operation in case of high energy tariffs.	Open	Closed
Forced ON Energy buffering in the domestic hot water tank, WITHOUT power limitation.	Closed	Closed

> **i** **INFORMATION**
>
> For the system to run in all 4 possible Smart Grid operation modes, the solar inverter/energy management system needs to have 2 digital outputs available. If only 1 output is available, then you can only connect to SG0, and the system can only run in the "Normal operation/Free running" and "Recommended ON" operation modes. For the system to run in "Forced OFF" and "Forced ON", a connection to SG1 is required (for those operation modes, SG1 needs to get "closed").

> **i** **INFORMATION**
>
> In case the system layout includes a controllable wall socket, and the solar inverter/energy management system activates this socket, SG0 gets "closed" and the system runs in the "Recommended ON" operation mode. If the solar inverter/energy management system deactivates the socket, SG0 (and SG1) get "opened" and the system runs in the "Normal operation/Free running" operation mode (due to the 230 V C detection voltage to X1A/L+N getting cut off).

7.1 Smart Grid settings

To make changes to Smart Grid settings, go to Smart Grid on the configuration web interface.

Smart Grid

Pulse meter setting No meter

Electrical heaters allowed ⊙ No ○ Yes

Room buffering allowed ⊙ No ○ Yes

Static power limitation 1.5kW

Submit

Information	Translation
Pulse meter setting	Pulse meter setting
No meter	No meter
Electrical heaters allowed - No/Yes	Electrical heaters allowed – No/Yes
Room buffering allowed - No/Yes	Room buffering allowed – No/Yes
Static power limitation	Static power limitation

> **ℹ️ INFORMATION**
>
> For instructions on how to access the configuration web interface, see "6.5.1 Accessing the configuration web interface" [▶ 30].

7.1.1 Energy buffering

Depending on Smart Grid settings (configuration web interface), energy buffering either happens in the domestic hot water tank only, or in the domestic hot water tank and in the room. You can choose whether or not to have the electrical heaters assist with the buffering of energy in the domestic hot water tank.

Energy buffering	System requirements	Description

Domestic hot water tank	▪ Make sure a domestic hot water tank is part of the system.
	▪ On the user interface, make sure to set:
	  - [E-05]=1
	  - [E-06]=1
	▪ Unit control method (user interface setting [C-07]): no requirements, but mind the information below "Buffering in case [C-07] = 0 OR 1" [▶ 42].
		The system produces domestic hot water. The tank heats up the water up to the maximum tank temperature.

Room (heating)	▪ Allow for buffering in the room on the configuration web interface. ▪ Unit control method: on the user interface, make sure [C-07]=2	The system heats up the room up to the comfort setpoint.[a]
Room (cooling)	▪ Allow for buffering in the room on the configuration web interface. ▪ Unit control method: on the user interface, make sure [C-07]=2	The system cools down the room down to the comfort setpoint.[b]

[a] In case the actual room temperature is below the comfort heating setpoint. If this value cannot be set on the user interface of your unit, the default value is 21°C.

[b] In case the actual room temperature is above the comfort cooling setpoint. If this value cannot be set on the user interface of your unit, the default value is 24°C.

Use case 1

Depending on Smart Grid settings, energy buffering either happens in the domestic hot water tank only, or in the domestic hot water tank and in the room. You can choose whether or not to have the electrical heaters assist with the buffering of energy in the domestic hot water tank.

Energy buffering	System requirements	Description

Domestic hot water tank	• Make sure a domestic hot water tank is part of the system.
	• On the user interface, make sure to set:
	  - [E-05]=1
	  - [E-06]=1
	• Unit control method (user interface setting [C-07]): no requirements, but mind the information below.
		The system produces domestic hot water. The tank heats up the water up to the maximum tank temperature (depending on the tank type).

Room (heating)	• Allow for buffering in the room. • Unit control method: on the user interface, make sure [C-07]=2 (room thermostat control)	The system heats up the room up to the comfort setpoint.[a]
Room (cooling)	• Allow for buffering in the room. • Unit control method: on the user interface, make sure [C-07]=2 (room thermostat control)	The system cools down the room down to the comfort setpoint.[b]

[a] In case the actual room temperature is below the comfort heating setpoint.
[b] In case the actual room temperature is above the comfort cooling setpoint.

> **NOTICE**
>
> In case of removing the DHW tank from a wall-mounted unit set-up, you MUST reinstall the MMI software.

> **INFORMATION**
>
> Room buffering is ONLY possible if the unit control method [C-07]=2 (room thermostat control). This means that if an external room thermostat (Daikin or third party) is configured for the main zone, room buffering is ONLY possible in the additional zone.

Buffering in case [C-07] = 0 OR 1

When, on the user interface, [C-07] = 0 OR 1 (the unit control method is leaving water temperature control OR external room thermostat control), then the system can only buffer energy in the domestic hot water tank, and only in the following two separate cases:

• Space heating/cooling operation is turned OFF

OR

• During space heating operation:
  - Outdoor temperature > space heating setting [4-02]
  - Room frost protection is not active

DAIKIN

- During space cooling operation:
  - Outdoor temperature < space cooling setting [F-01]

> **ℹ INFORMATION**
>
> - The system will ONLY buffer energy when the indoor unit is NOT in normal operation. Normal operation has priority over energy buffering.
> - Normal operation CAN be any of the following: `Space heating/cooling` (setpoint is not reached), `Domestic hot water` operation (setpoint is not reached during a scheduled operation or a reheat operation), or safety functions (e.g. `Antifrost` or `Disinfection`).
> - The maximum temperature during domestic hot water tank buffering is the maximum tank temperature for the applicable tank type.
> - The space heating/cooling setpoint during room buffering is the buffering setpoint for the room.
> - The system will ONLY buffer energy during space heating if the space heating setpoint is lower than the space heating comfort setpoint. The system will ONLY buffer energy during space cooling if the space cooling setpoint is higher than the space cooling comfort setpoint.

> **ℹ INFORMATION**
>
> **Tank/room buffering priority**:
>
> - The system starts tank buffering first. When tank buffering is at its maximum capacity, then the system switches to room buffering (if enabled).
> - Tank buffering can switch to room buffering prior to reaching the maximal capacity because of internal unit logic. In normal operation, the maximum running time for domestic hot water is applicable. See the installer reference guide of the indoor unit for more details.
> - When room buffering is ongoing and the tank drops below its maximum capacity (e.g. someone takes a shower), then the system stays at room buffering for a certain amount of time before it switches back to tank buffering.

> **ℹ INFORMATION**
>
> **Tank buffering:**
>
> - When **Reheat only** or **Reheat + scheduled** is used, the boiler can use energy from the grid until the setpoint is reached. If **Schedule only** is used, a cold boiler can be the result if the schedule is NOT well set.
> - Due to the nature of the system, the tank CAN cool down in some cases because of a too short reheat cycle.

> **ℹ INFORMATION**
>
> To avoid undesired grid consumption and frequent start/stops of the electrical heater due to variations on the voltage tolerance of the grid, several countermeasures were implemented. As a result, the electrical heater will not be used for space heating, even if this is allowed via the user interface.

> **ℹ INFORMATION**
>
> Because of cloudy weather circumstances or sudden peaks in household consumption, the excess PV power CAN fluctuate. To avoid frequent switching of the unit operation, a timer is implemented so that buffering will ONLY stop when the excess PV power drops below the threshold for at least 5 minutes. Due to this, the unit CAN temporarily consume energy from the grid to continue buffering.

Use case 2

Energy buffering happens in the domestic hot water tank only.

Energy buffering	System requirements	Description

Domestic hot water tank	▪ Make sure a domestic hot water tank is part of the system.
	▪ On the user interface, make sure to set:
	  - [E-05]=1
	  - [E-06]=1
		The system produces domestic hot water. The tank heats up the water up to the maximum tank temperature (depending on the tank type).

> **ℹ INFORMATION**
>
> ▪ The system will ONLY buffer energy when the indoor unit is NOT in normal operation. Normal operation has priority over energy buffering.
>
> ▪ Normal operation CAN be either: `Domestic hot water` operation (setpoint is not reached during a scheduled operation or a reheat operation), or safety functions (e.g. `Antifrost` or `Disinfection`).
>
> ▪ The maximum temperature during domestic hot water tank buffering is the maximum tank temperature for the applicable tank type.

> **ℹ INFORMATION**
>
> Energy buffering in the domestic hot water tank will ONLY happen when the excess PV power, which is the difference between the generated solar power and the househould power consumption, exceeds the fixed threshold of 1.45 kW. This value ensures there is enough grid injection to operate the immersed heater and includes a safety margin to allow for 10% grid variation.

> **ℹ INFORMATION**
>
> Because of cloudy weather circumstances or sudden peaks in household consumption, the excess PV power CAN fluctuate. To avoid frequent switching of the unit operation, a timer is implemented so that buffering will ONLY stop when the excess PV power drops below the threshold for at least 5 minutes. Due to this, the unit CAN temporarily consume energy from the grid to continue buffering.

Buffering in case [C-07] = 0 OR 1

When, on the user interface, [C-07] = 0 OR 1 (the unit control method is leaving water temperature control OR external room thermostat control), then the system can only buffer energy in the domestic hot water tank, and only in the following two separate cases:

▪ Space heating/cooling operation is turned OFF

OR

▪ During space heating operation:
  - Outdoor temperature > space heating setting [4-02]
  - Room frost protection is not active

▪ During space cooling operation:
  - Outdoor temperature < space cooling setting [F-01]

> **i** **INFORMATION**
>
> - The system will ONLY buffer energy when the indoor unit is not in normal operation. Normal operation has priority over energy buffering. Normal operation can be any of the following:
>
> - Normal operation can be any of the following: `Space heating/cooling` (setpoint is not reached), `Domestic hot water` operation (setpoint is not reached during a scheduled operation or a reheat operation), or safety functions (e.g. `Antifrost` or `Disinfection`).
>
> - On the configuration web interface, the buffering is default set to "domestic hot water tank only".
>
> - The maximum temperature during domestic hot water tank buffering is the maximum tank temperature for the applicable tank type.
>
> - The space heating/cooling setpoint during room buffering is the comfort setpoint for the room. Units that cannot set these values via the user interface take 21°C (for heating) and 24°C (for cooling) as default values.
>
> - The system will ONLY buffer energy during space heating if the space heating setpoint is lower than the heating comfort setpoint. The system will ONLY buffer energy during space cooling if the space cooling setpoint is higher than the cooling comfort setpoint.

7.1.2 Power limitation

In the "Recommended ON" operation mode, the power consumption of the heat pump system is limited either statically or dynamically. In both cases, it is possible to include the power consumption of the electrical heaters in the calculation (default NOT the case).

IF	THEN
Static power limitation (Static power limitation)	The power consumption of the indoor unit is limited statically based on a fixed value (default 1.5 kW) that is set in the configuration web interface. During energy buffering, the power consumption of the indoor unit will NOT exceed this limit. The value for this setting is only used if the system does not include an electricity meter (on the configuration web interface: Pulse meter setting: "No meter"). Otherwise, make use of dynamic power limitation.
Dynamic power limitation (Pulse meter setting)	The power limitation is auto-adaptive, and dynamically performed based on the power injection into the grid, measured by the electricity meter. To minimise the power injection into the grid, the indoor unit operates as much as possible.

> **i** **INFORMATION**
> - In the "Forced ON" operation mode, energy buffering happens WITHOUT power limitation.
> - To get the most out of the energy buffering it is recommended to make use of dynamic power limitation by way of an electricity meter.
> - The electrical heaters will ONLY operate when the power limitation is higher than the power rating of the heaters.
> - For ERLQ011~016 and EBLQ+EDLQ011~016CA(3)V3+W1 outdoor units, the power limitation functionality is NOT available. When these outdoor units are used in a Smart Grid system, they will operate without power limitation. Electrical heater assistance, however, will be disabled.

> ⚠ **WARNING**
> Make sure to connect the electricity meter in the correct direction, so that it measures the total energy injected INTO the grid.

> **i** **INFORMATION**
> - For dynamic power limitation to be possible, a single connection point to the grid is required (one connection point for the photovoltaic system AND the domestic appliances). To function properly, the Smart Grid algorithm requires the net sum of generated AND consumed energy. The algorithm will NOT work when there are separate meters for generated energy and consumed energy.
> - Since dynamic power limitation is performed based on electricity meter input, you do NOT have to set the power limitation value in the configuration web interface.

7.2 Operation modes

Operation modes:

- Heating and cooling (air to air).
- Fan only operation (air to air).

This operation manual offers a non-exhaustive overview of the main functions of the system.

For more information about the user interface, see the operation manual of the installed user interface.

7.2.1 "Normal operation/Free running" mode

In the "Normal operation"/"Free running" operation mode, the indoor unit operates as normal, according to its owner's settings and schedules. No Smart Grid functionalities are enabled.

7.2.2 "Recommended ON" mode

In the "Recommended ON" operation mode, the heat pump system makes use of solar/grid power (when it is available, as measured by the solar inverter/energy management system) to produce domestic hot water and/or heat up or cool down the space. The amount of solar/grid power that is used for buffering depends on the domestic hot water tank and/or the room temperature. To align solar/grid capacity and the power consumption by the heat pump system, the power consumption of the indoor unit is limited either statically (by a fixed value set in the

configuration web interface) or dynamically (auto-adaptively, as measured by the electricity meter – if part of the system layout).

7.2.3 "Forced OFF" mode

In the "Forced OFF" operation mode, the solar inverter/energy management system trigger the system to deactivate the operation of the outdoor unit compressor and the electrical heaters. This is especially useful in case of energy management systems that react to high energy tariffs, or in case of grid overload (signaled by the energy distributor to the energy management system). Once active, "Forced OFF" mode will cause the system to stop space heating/cooling, as well as domestic hot water production.

> **i** **INFORMATION**
>
> Once running in one of the Smart Grid operation modes, the system will keep running in that mode until the input state of the LAN adapter is changed. Beware that if the system runs in "Forced OFF" mode for a long time, comfort issues can occur.

7.2.4 "Forced ON" mode

In the "Forced ON" operation mode, the heat pump system makes use of solar/grid power (when it is available, as measured by the solar inverter/energy management system) to produce domestic hot water. The amount of solar/grid power that is used for buffering depends on the domestic hot water tank. In contrast to the "Recommended ON" operation mode, there is NO power limitation: the system will heat up the domestic hot water tank to the maximum temperature. The outdoor unit compressor and the electrical heaters are not limited in their power consumption.

The "Forced ON" operation mode is particularly useful in case of energy management systems that react to low energy tariffs, in case of grid overload (signalled by the energy distributor to the energy management system), or when multiple houses are connected to the grid that are controlled simultaneously, this to stabilise the grid.

> **i** **INFORMATION**
>
> Once running in one of the Smart Grid operation modes, the system will keep running in that mode until the input state of the LAN adapter is changed.

7.3 System requirements

The Smart Grid application poses the following requirements to the heat pump system:

Item	Requirement
LAN adapter software	It is recommended to ALWAYS keep the LAN adapter software up-to-date.

Item	Requirement
Domestic hot water settings	To allow for energy buffering in the domestic hot water tank, on the user interface, make sure to set: ▪ [E-05]=1 ▪ [E-06]=1
Power consumption control settings	On the user interface, make sure to set: ▪ [4-08]=1 ▪ [4-09]=1

8 Troubleshooting

8.1 Overview: Troubleshooting

This chapter describes what to do in case of problems.

It contains information about:

▪ Solving problems based on symptoms

▪ Solving problems based on error codes

8.2 Solving problems based on symptoms

8.2.1 Symptom: Cannot access the web page

Possible causes	Corrective action
The LAN adapter is not powered (heartbeat LED not blinking).	Make sure that the LAN adapter is correctly connected to the indoor unit, and that the power of all connected equipment is turned ON.
The configuration web interface is ONLY available for 2 hours after every power reset. Its timer can have run out.	Perform a power reset on the LAN adapter.
The LAN adapter is NOT connected to the network (network connection LED NOT blinking).	Connect the LAN adapter to a router.
The LAN adapter is NOT connected to the router or the router does NOT support DHCP.	Connect the LAN adapter to a router that supports DHCP.
The computer is NOT connected to the same router as the LAN adapter.	Connect the computer to the same router as the LAN adapter.

> **ℹ INFORMATION**
>
> If none of the corrective actions work, try performing a power reset of the total system.

8.2.2 Symptom: The app does not find the LAN adapter

In the rare case that the ONECTA app does not find the LAN adapter automatically, connect router, LAN adapter, and app manually by way of a fixed IP address.

1 In the router, check the IP address that is currently assigned to the LAN adapter.

2 Access the configuration web interface with this IP address.

3 On the configuration web interface, set "DHCP active" to "Manually".

4 In the router, assign a static IP address to the LAN adapter.

5 On the configuration web interface, in the fields next to "Static IP address", set the same static IP address.

6 In the ONECTA app (Settings menu), assign the same IP address to the LAN adapter.

7 Reset the power to the LAN adapter.

Result: Router, LAN adapter, and ONECTA app share the same fixed IP address and should be able to find each other.

8.3 Solving problems based on error codes

8.3.1 Error codes of the indoor unit

If the indoor unit loses its connection with the LAN adapter, the following error code appears on the user interface:

Error code	Detailed error code	Description

U8	01	`Connection with adapter lost`
		
		`Please contact your dealer.`

8.3.2 Error codes of the adapter

LAN adapter errors are indicated by the status LEDs. There is a problem if one or more status LEDs have the following behaviour:

LED	Error behavior	Description
♡	Heartbeat LED NOT blinking	No normal operation. Try resetting the LAN adapter or contact your dealer.
⊟	Network LED flashing	Communication problem. Check the network connection.
P1P2	Indoor unit communication LED flashing	Communication problem with the indoor unit.
⚡	Smart Grid LED flashing for more than 30 minutes.	Smart Grid compatibility problem. Try resetting the LAN adapter or contact your dealer.

> **i** **INFORMATION**
> - The DIP switch is used to configure the system. For more information, see "6 Configuration" [▶ 28].
> - When the LAN adapter performs a Smart Grid compatibility check, LD4 flashes. This is NOT erroneous behaviour. After a successful check, LD4 will either stay ON or go OFF. When it keeps flashing for more than 30 minutes, the compatibility check failed, and NO Smart Grid operation is possible.

For a complete description of the status LEDs, check "2 About the adapter" [▶ 5].

9 Technical data

A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible). The **full set** of the latest technical data is available on the Daikin Business Portal (authentication required).
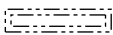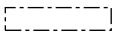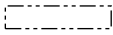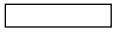
9.1 Wiring diagram
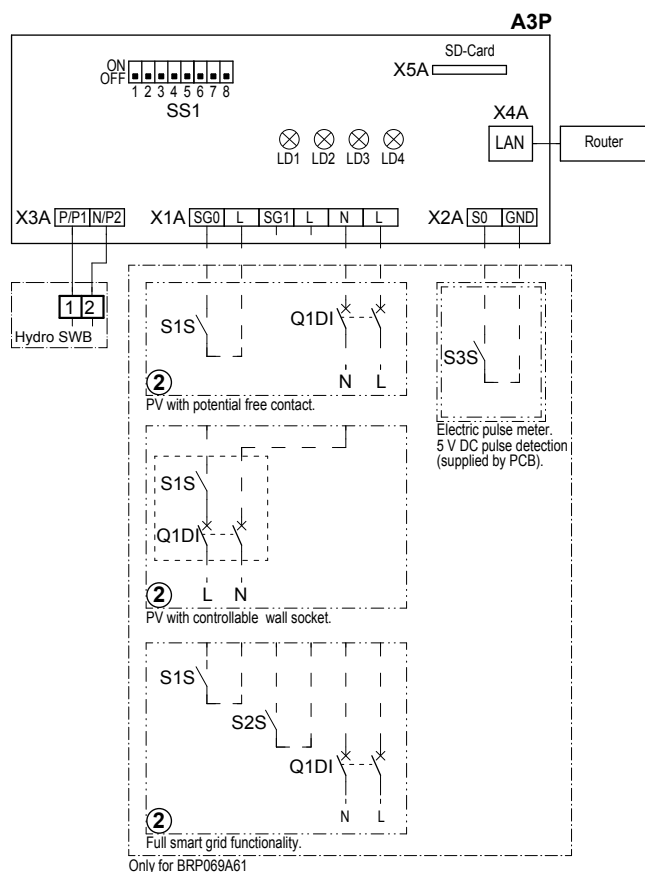
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A3P		LAN adapter PCB
LD1~LD4		PCB LED
Q1DI	#	Circuit breaker
SS1 (A3P)		DIP switch
S1S	#	SG0 contact
S2S	#	SG1 contact
S3S	*	Electrical pulse meter input
X*A		Connector
	*	Optional
	#	Field supply

Notes to go through before starting the unit

English	Translation
X1M	Main terminal
X2M	Field wiring terminal for AC
X5M	Field wiring terminal for DC
—··—··—··—	Earth wiring
——— 15 ———	Wire number 15
— — — — — —	Field supply
⟶ **/12.2	Connection ** continues on page 12 column 2
①	Several wiring possibilities
[⋮⋮⋮⋮⋮⋮]	Option
[·—··—··—·]	Not mounted in switch box
[·—·—·—·—·]	Wiring depending on model
[_____]	PCB

EAC
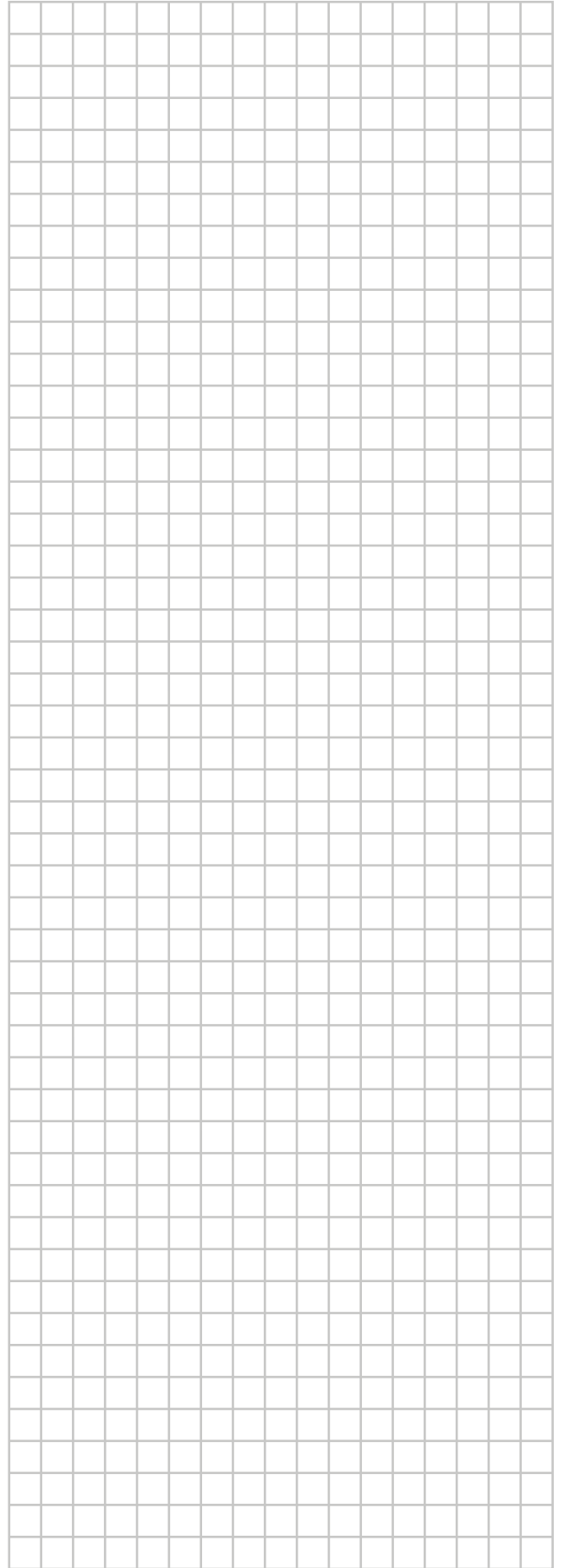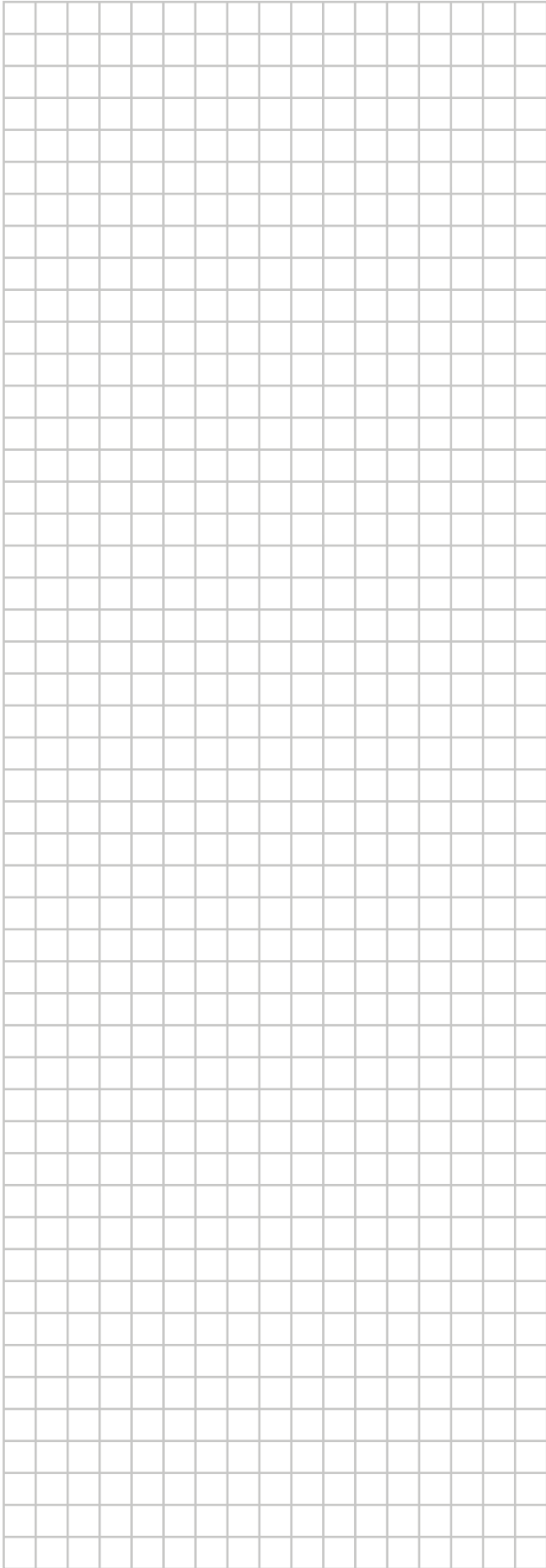
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4P464229-1E 2023.11