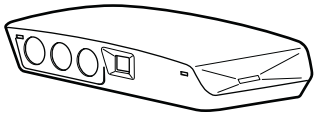
Installation manual

Daikin Altherma LAN adapter



BRP069A61
BRP069A62

Installation manual
Daikin Altherma LAN adapter

English

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).

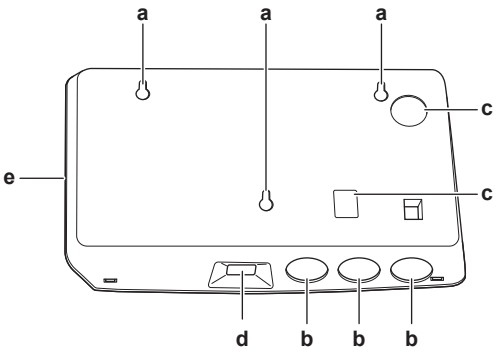
2 About the adapter

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:

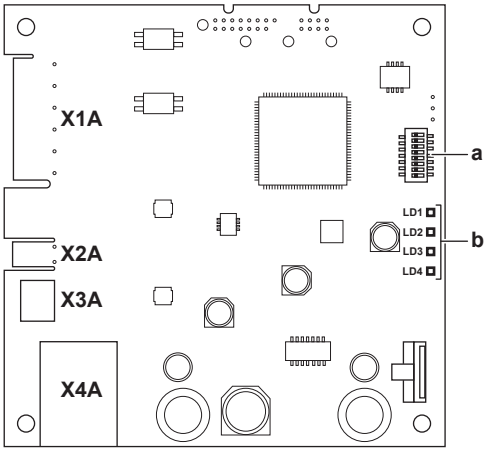
Model	Functionality
BRP069A61	App control + Smart Grid application
BRP069A62	App control only

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.
LD2 品	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: Smart Grid functionality of the indoor unit is controlled by the LAN adapter. ▪ LED OFF: system operating in normal operation conditions (space heating/cooling, production of domestic hot water), or running in the "Normal operation"/"Free running" Smart Grid operation mode.

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

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 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 the installer reference guide.

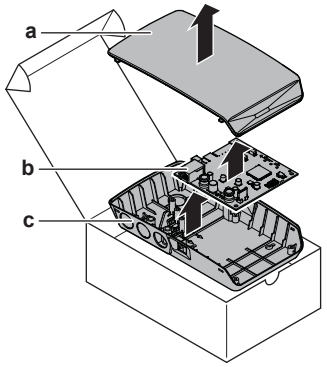
3 About the box

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.

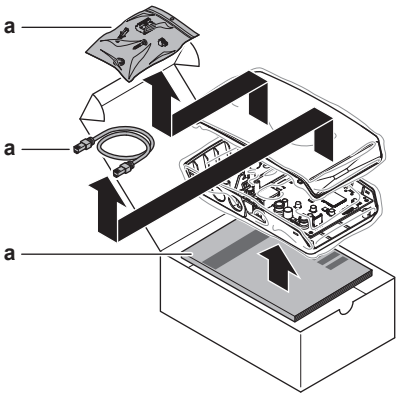
3.1 To unpack the adapter

1 Unpack the LAN adapter.



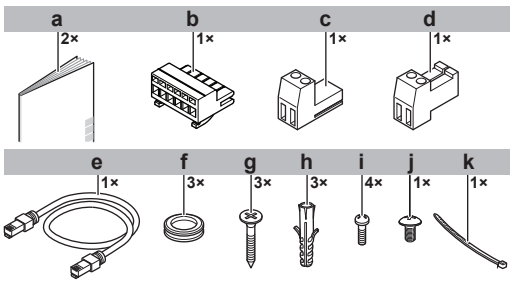
a Front casing
b PCB
c Rear casing

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	—

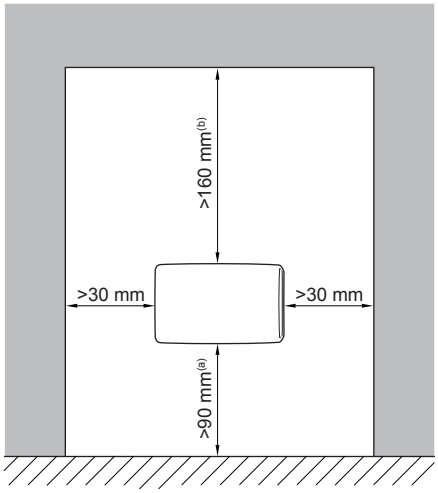
4 Preparation

4.1 Installation site requirements

INFORMATION

Also read the maximum cable length requirements set out in "4.2 Overview of electrical connections" [▶ 4].

- Mind the following spacing installation guidelines:



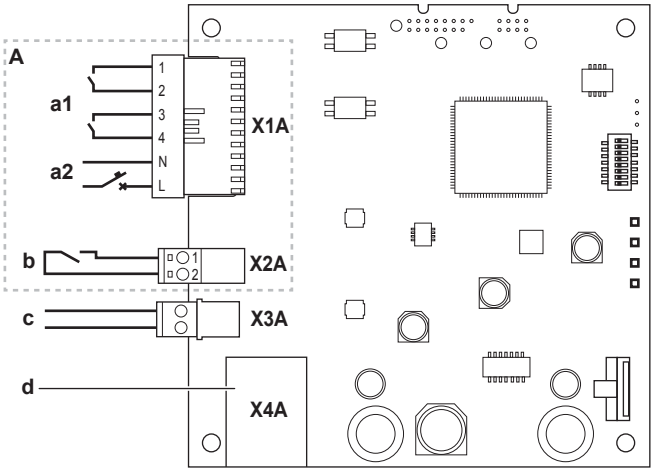
a Provide enough space to connect the Ethernet cable without exceeding its minimum bend radius (typically 90 mm)

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.
- 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 mm²	2(b)	200 m
Electricity meter (X2A)	0.75~1.25 mm²	2(b)	100 m
Solar inverter/energy management system + 230 V AC detection voltage (X1A)	0.75~1.5 mm²	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" [▶ 5].

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.

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)

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

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 the installer reference guide.

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.

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
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

For more information, see the installer reference guide.

5 Installation

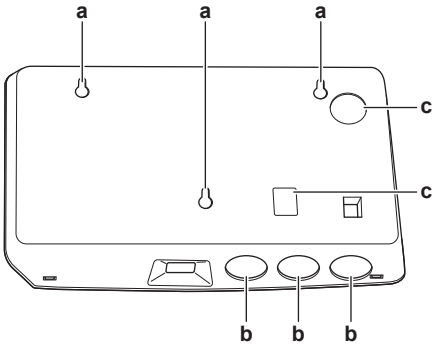
5.1 Mounting the adapter

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

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.

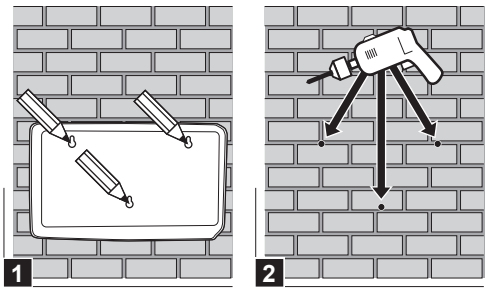
NOTICE

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.

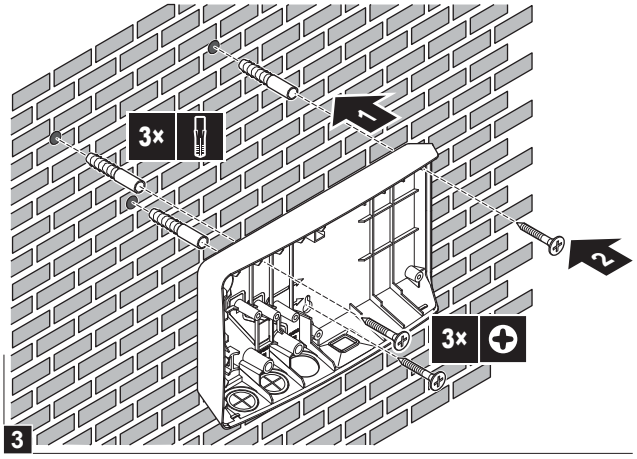
5.1.1 To mount the rear casing to the wall

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

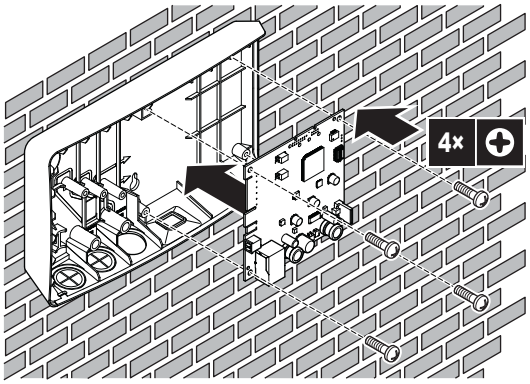
2 Drill the holes.



3 Mount the rear casing to the wall with the screws and plugs from the accessory bag.



5.1.2 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.

5.2 Connecting the electrical wiring

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.

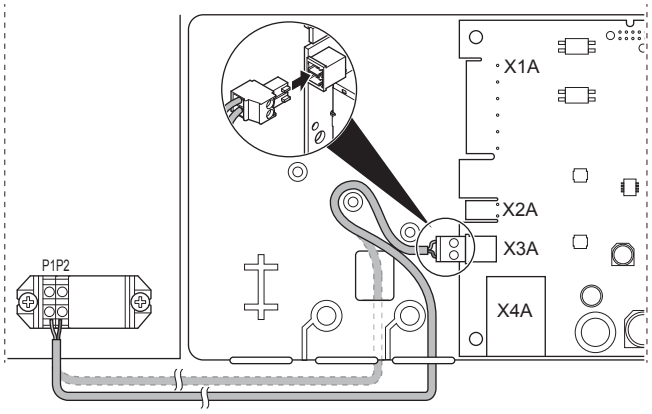
5.2.1 To connect the indoor unit

INFORMATION

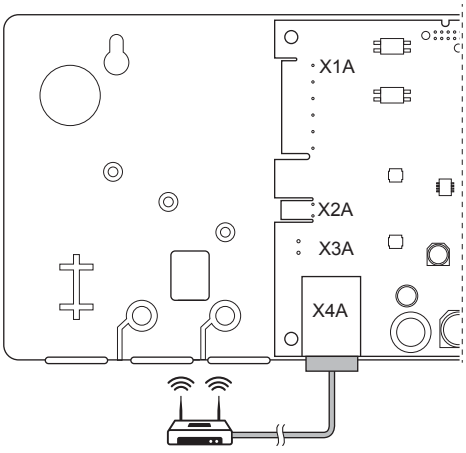
- The indoor unit's P1P2 terminal can be connected to maximum 2 controllers.
- In the indoor unit switch box, the cable is connected to the same terminals the user interface is connected to (P1P2). For more information, see the installation manual of the indoor unit.
- The 2 wires from the cable are 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.



5.2.2 To connect the router



NOTICE

To prevent communication problems due to cable breakdown, do NOT exceed the minimum bend radius of the Ethernet cable.

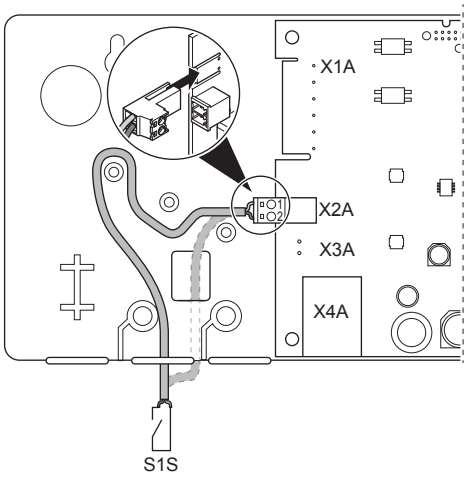
5.2.3 To connect the electricity meter

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.



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.

5.2.4 To connect the solar inverter/energy management system

INFORMATION

This connection is ONLY supported by LAN adapter BRP069A61.

INFORMATION

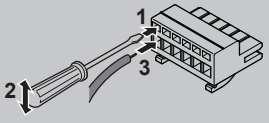
How the digital inputs are connected to X1A depends on the Smart Grid application. The connection described in the instructions below is for the system to run in the "Recommended ON" operation mode. For more information, see the installer reference guide.

WARNING

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

WARNING

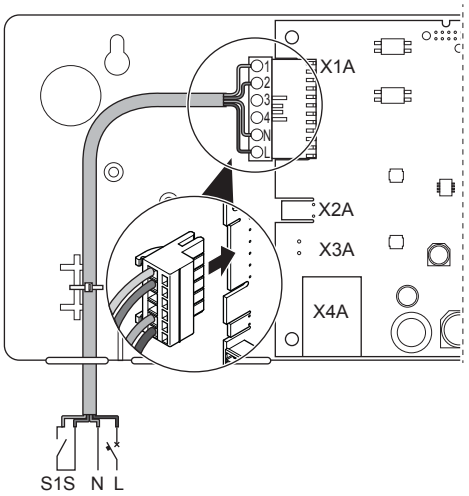
When connecting the wiring to LAN adapter terminal X1A, make sure each wire is securely fastened to the appropriate terminal. Use a screwdriver to open the wire clamps. Make sure the bare copper wire is fully inserted into the terminal (bare copper wire CANNOT be visible).



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.



5.3 Finishing adapter installation

5.3.1 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.

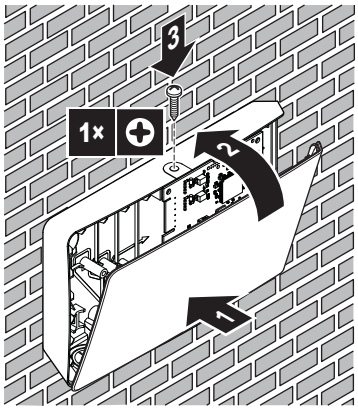
Serial number

INFORMATION

The serial number is used during the configuration of the LAN adapter. For more information, see the installer reference guide.

5.3.2 To close the adapter

1 Put the front casing to the rear casing and tighten the screw.



EAC

4P463935-1 G 00000006

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

4P463935-1G 2023.11