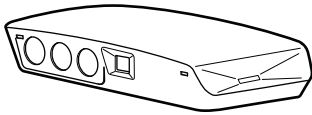




Installation manual

Daikin Altherma LAN adapter



BRP069A61
BRP069A62

Installation manual
Daikin Altherma LAN adapter

English

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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)
- **Installation manual:**
 - Installation instructions
 - Format: Paper (supplied in the kit)
- **Installer reference guide:**
 - Installation instructions, configuration, application guidelines,...
 - Format: 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).

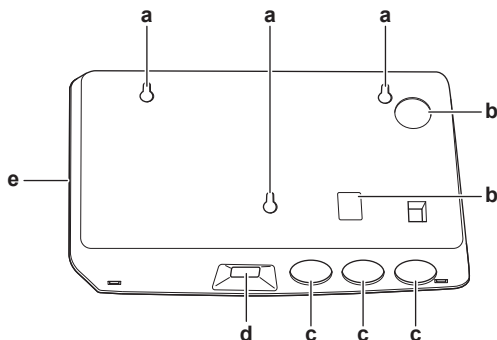
2 About the product

The Daikin Altherma LAN adapter allows for smartphone control of Daikin Altherma systems and, depending on the model, can be used in various Smart Grid applications, such as the storage of self-generated electrical energy as thermal energy (e.g. as domestic hot water).

The LAN adapter is available in two versions:

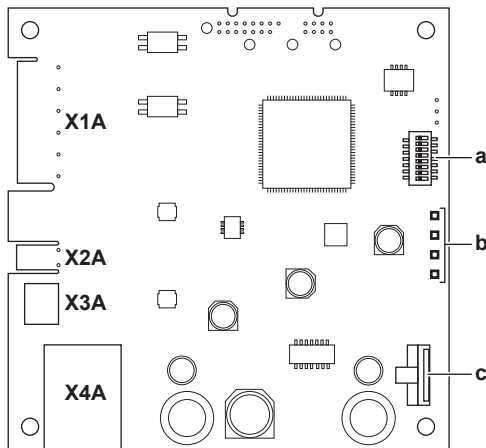
Model	Functionality
BRP069A61	Smartphone control + Smart Grid applications
BRP069A62	Smartphone control only

Components: casing



- a Wall mounting holes
- b Knockout holes (wiring from the rear)
- c Knockout holes (wiring from the bottom)
- d Ethernet connection
- e Status LEDs


Components: PCB



- a DIP switch
- b Status LEDs
- c microSD card slot

Status LEDs

LED	Description	Behaviour
♥	Indication of power to the adapter, and of normal operation.	<ul style="list-style-type: none"> ▪ LED flashing: normal operation. ▪ LED not flashing: no operation.
□	Indication of TCP/IP communication with the router.	<ul style="list-style-type: none"> ▪ LED ON: normal communication. ▪ LED flashing: communication problem.

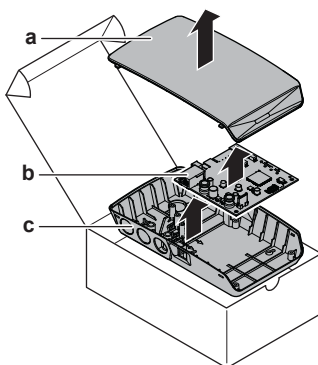
LED	Description	Behaviour
P1P2	Indication of communication with the indoor unit.	<ul style="list-style-type: none"> LED ON: normal communication. LED flashing: communication problem.
 (a)	Indication of Smart Grid activity.	LED ON: Smart Grid functionality of the indoor unit is controlled by the LAN adapter.

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

3 About the box

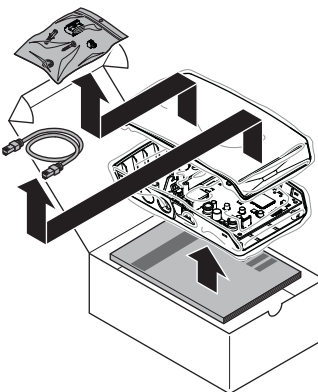
3.1 To unpack the LAN adapter

1 Unpack the LAN adapter.

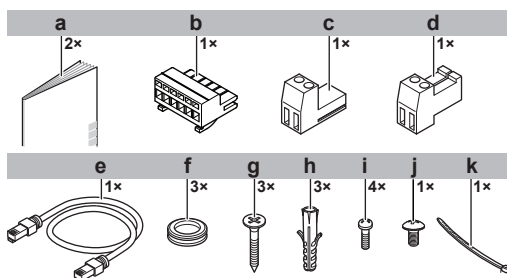


a Front casing
b PCB
c Rear casing

2 Separate the accessories.



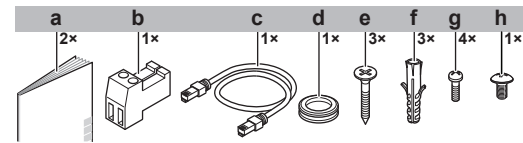
Accessories: BRP069A61



a Installation manual
b 6-pole slide connector for X1A
c 2-pole slide connector for X2A
d 2-pole plug connector for X3A
e Ethernet cable
f Grommets

g Screws to mount rear casing
h Plugs to mount rear casing
i Screws to mount PCB
j Screw to close front casing
k Cable tie

Accessories: BRP069A62



a Installation manual
b 2-pole plug connector for X3A
c Ethernet cable
d Grommet
e Screws to mount rear casing
f Plugs to mount rear casing
g Screws to mount PCB
h Screw to close front casing

4 Preparation

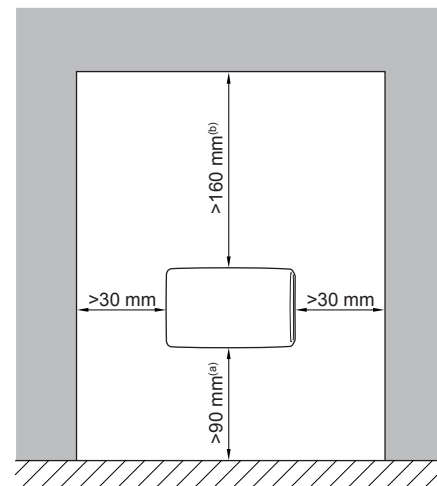
4.1 Installation site requirements



INFORMATION

Also read the maximum cable length requirements set out in "4.2 Overview of electrical connections" on page 4.

• Mind the following spacing installation guidelines:



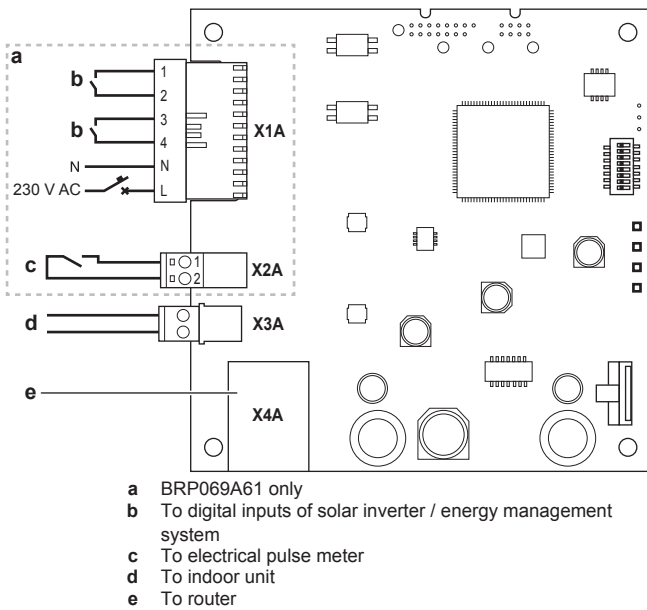
- (a) Provide enough space to connect the Ethernet cable without exceeding its minimum bend radius (typically 90 mm)
- (b) Provide enough space to open the casing with a flat-blade screwdriver (typically 160 mm)

- 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 temperature ranging from 5~35°C.

5 Installation

4.2 Overview of electrical connections

Connectors



Connections

Connection	Cable section	Wires	Maximum cable length
Accessory cables			
Router (X4A)	—	—	50/100 m ^(a)
Field-supplied cables			
Indoor unit (X3A)	0.75~1.25 mm ²	2 ^(b)	200 m
Electrical meter (X2A)	0.75~1.25 mm ²	2 ^(c)	100 m
Digital inputs (X1A)	0.75~1.5 mm ²	Depends on application ^(d)	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 LAN adapter and 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) These wires MUST be sheathed. Recommended strip length: 6 mm.
- (d) All wiring to X1A MUST be H05VV. Required strip length: 7 mm. For more information, see "4.2.4 Digital inputs" on page 4.

4.2.1 Router

For the connection of the LAN adapter, the router requires a free LAN port.

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 to be connected to the indoor unit via a 2-wire cable. There is NO separate power supply: the adapter gets its power from the indoor unit.

4.2.3 Electrical meter

If the LAN adapter is connected to an electrical pulse meter (field supply), make sure the meter meets the following requirements:

Item	Specification	
Type	Pulse meter (5 V DC pulse detection)	
Possible number of pulses	<ul style="list-style-type: none"> ▪ 0.1 pulse/kWh ▪ 1 pulse/kWh ▪ 10 pulse/kWh ▪ 100 pulse/kWh ▪ 1000 pulse/kWh 	
Pulse duration	Minimum On time	10 ms
	Minimum OFF time	100 ms
Measurement type	Depends on the installation: <ul style="list-style-type: none"> ▪ Single-phase AC meter ▪ Three-phase AC meter (balanced loads) ▪ Three-phase AC meter (unbalanced loads) 	

4.2.4 Digital inputs

Connector X1A is for the connection of the LAN adapter to the digital inputs of a solar inverter / energy management system, and allows for use of the Daikin Altherma system in various Smart Grid applications.

X1A/N+L supply a detection voltage to the input contact of X1A. The 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~6A).

The rest of the wiring to X1A differs depending on the Smart Grid application. For more information, see the installer reference guide.

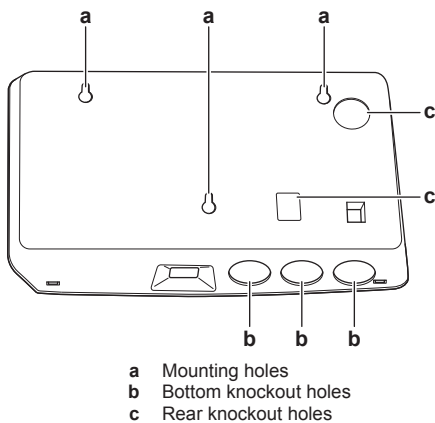
5 Installation

5.1 Mounting the LAN 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	<ul style="list-style-type: none"> 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 routed and inserted from the rear	<ul style="list-style-type: none"> 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).



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.

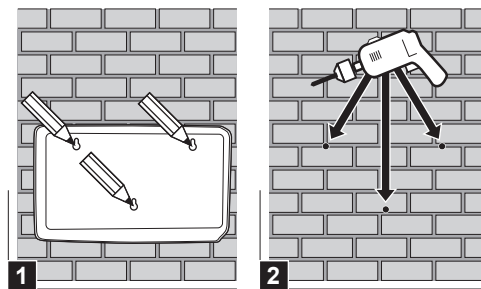


! NOTICE

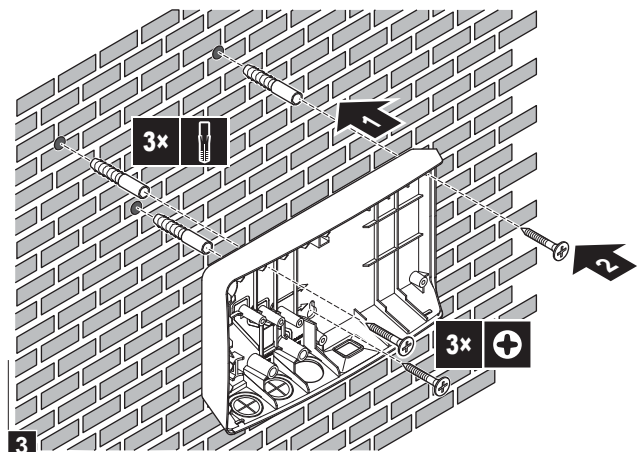
Wiring from the rear. When removing knockout holes, make sure to remove any sharp edges that might arise around the holes, this to protect the wiring from damage.

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.

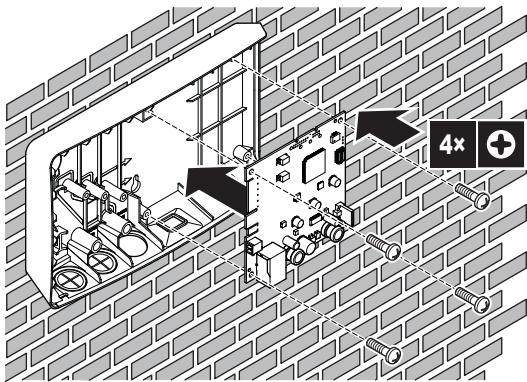


- 3 Mount the rear casing to the wall with the screws and plugs from the accessory bag.



5 Installation

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.

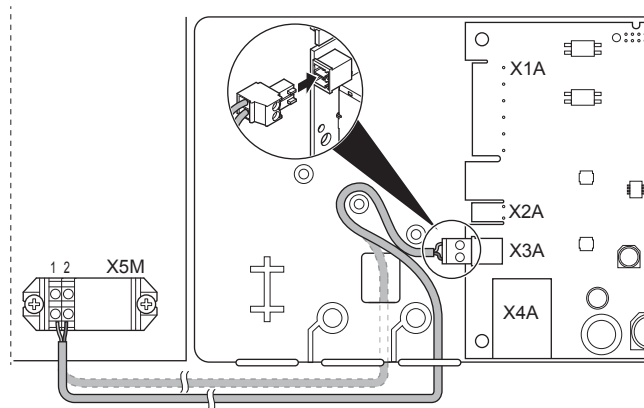
5.2.1 To connect the indoor unit



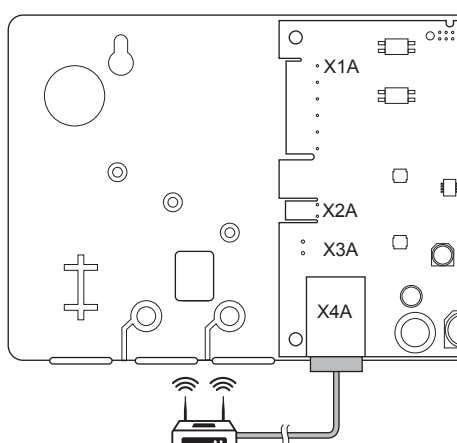
INFORMATION

- In the indoor unit switch box, the cable is connected to the same terminals the user interface is connected to. For more information, see the installation manual of the indoor unit.
- The two wires from the cable are NOT polarised. When connecting them to the terminals, their polarity does NOT matter.

- When entering the wiring from the bottom: inside the LAN adapter casing, ensure strain relief by routing the cable along the indicated cable path.
- Connect indoor unit terminals X5M/1+2 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.

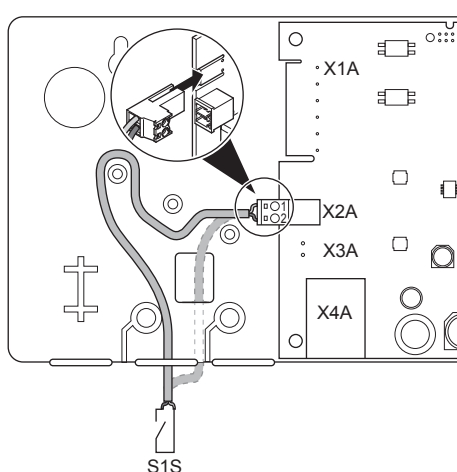
5.2.3 To connect the electrical meter



INFORMATION

This connection is only supported by LAN adapter BRP069A61.

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

i **INFORMATION**

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

5.2.4 To connect the digital inputs

i **INFORMATION**

This connection is only supported by LAN adapter BRP069A61.

i **INFORMATION**

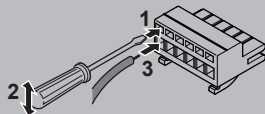
How the digital inputs are connected to X1A depends on the Smart Grid application. The connection described in the instructions below is for the system to run in the "Recommended ON" operation mode. For more information, see the installer reference guide.

! **WARNING**

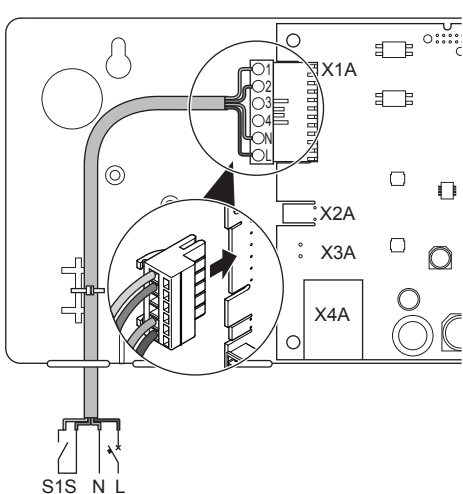
Make sure X1A/N+L are protected by a fast acting circuit breaker (rated current 100 mA~6A).

! **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.
- 3 For the system to run in the "Recommended ON" operation mode (Smart Grid application), connect the digital input to the X1A/1+2 LAN adapter digital input.



5.3 Finishing the LAN adapter installation

5.3.1 LAN 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.

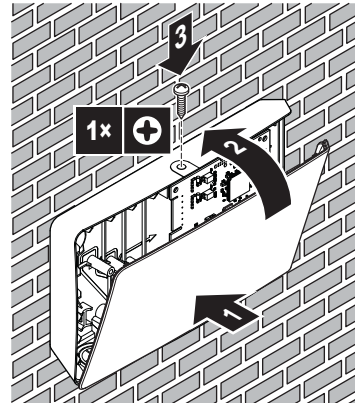
Serial number

i **INFORMATION**

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

5.3.2 To close the LAN adapter

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



6 Starting up the system

At all times make sure the LAN adapter software is up-to-date. For how to perform a software update and configure the system, see the installer reference guide.



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