

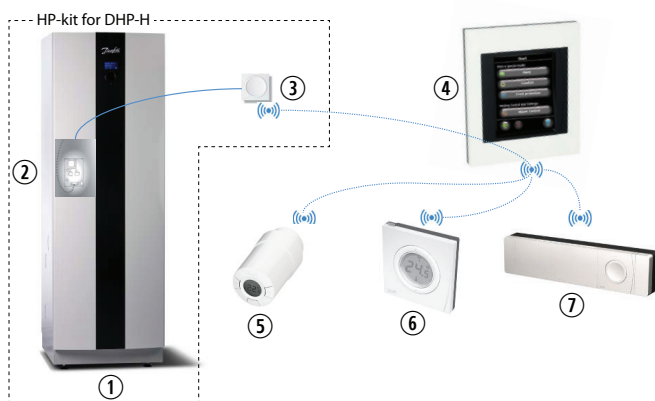


Danfoss Link™ HP-kit

Installation instructions

Introduction

The Danfoss Link HP kit (HP)* is one of the accessories available for Danfoss Link™. The kit enables your heat pump to communicate wirelessly** with other Danfoss Link™ units in your heating system. An example of a wireless solution for DHP-H is shown in the figure below.



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Key to symbols

① Heat Pump (HP)	⑤ <i>living connect</i> ®
② GateWay	⑥ Room Sensor (RS)
③ DCM03	⑦ Hydronic Controller (HC)
④ Link Central Controller (CC)	


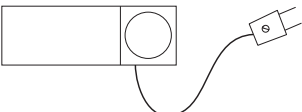
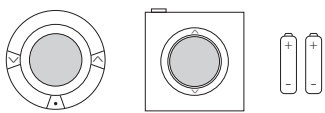
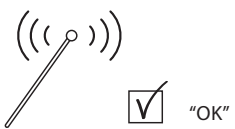
* The heat pump kit can also be used with Danfoss Online 2, with the exception of product numbers 086L2381 and 086L2382.

** Please note that all buildings may have obstructions which can impact on communication and the maximum transmission distance. If you encounter problems with wireless communication, the wireless signal can be amplified by means of Danfoss Link CF-RU repeater units.

Note the following when installing the Danfoss Link™ HP kit:

- Installation and positioning must be done in accordance with applicable laws and regulations.
- The Danfoss Link™ HP kit only works in conjunction with heat pumps DHP-H/L/A 2009 or later, using software version 1.34 or later, and DHP-AQ with software version 2.2 or later. The Danfoss Link™ HP kit is not suitable for heat pumps with a cooling function (DHP-C and heat pumps with a cooling module).

Quick Installation Guide

<p>1</p>  <p>Install the components of the Danfoss Link™ HP kit</p>	<p>2</p> <p>Install all mains powered units first and add them to the network</p> 
<p>3</p> <p>Create rooms and add battery-powered units one at a time</p> 	<p>4</p> <p>Perform the network test with the Danfoss Link™ CC in its final location</p> 

Tip!

- The ⓘ key on the Danfoss Link™ CC panel can be used at any time during installation.
- Always check for the latest software version at www.link.danfoss.com before installation. See the section on software upgrades in the Danfoss Link™ CC Installation Manual.

Safety precautions

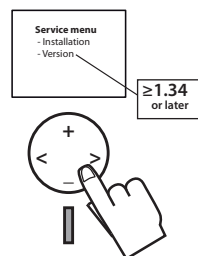
- ⚠ Installation must be carried out in accordance with applicable laws and regulations, as well as these instructions.
- ⚠ The terminal blocks are live and can be highly dangerous due to the risk of electric shock. The power supply must be disconnected before commencing electrical installation.

Installation, HP kit for Danfoss DHP-H/L/A

The HP kit's main components comprise a GateWay card, fitted inside the heat pump, and a DCM03, which communicates wirelessly with the other parts of the heating system.

Danfoss Link™ CC is used to control the system. Ensure that this control unit has the latest software installed to avoid problems when installing the HP kit.

1. Check the software version on the control unit display. Press the left arrow on the heating pump control until the display changes to "Service menu".
 2. Press "minus" until the cursor reaches the "Version" menu.
 3. Press the "right arrow". This will bring up the software version in the display.
- Danfoss Link™ to
DHP-H/L/A requires software version 1.34 or later.



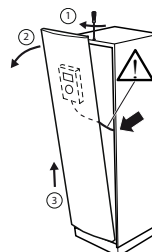
Contents	
Verify the contents of the HP kit. The delivery must contain the following:	
Description	Quantity
DCM03	1
DCM03 cable	1
GateWay (incl. power cable)	1
GateWay cable	1
Mounting clips	4
This manual	1

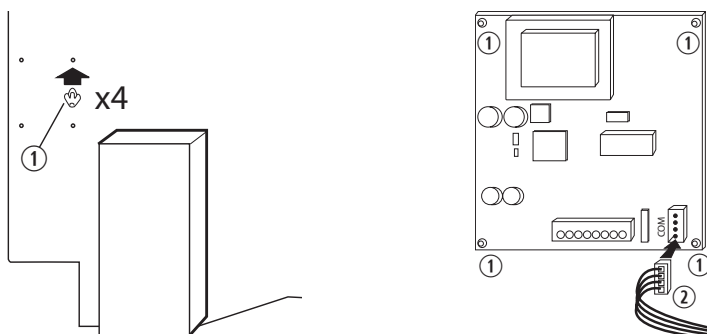
Location

Mount the GateWay card inside the heat pump on the prepared holes in the electrical panel. The DCM03 unit must be positioned outside the heat pump in order to be able to communicate wirelessly with Danfoss Link™ CC. The DCM03 unit must not be installed on the heat pump as the metal cabinet may suppress the wireless signals. A network test will show if the location provides the necessary signal conditions.

Fitting the GateWay card

1. Open the cover by turning the open/close mechanism, after which the cover can be lifted off. Be careful with the display cable behind the cover.

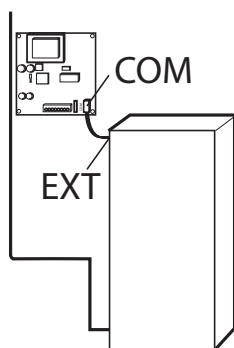




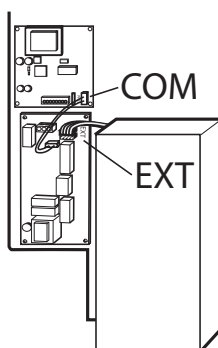
2. Fit 4 x "plastic clips" ① in the prepared holes in the electrical panel.
3. Press the GateWay card into the clip until the card ① locks into place.
4. Attach the GateWay cable to the card in the socket marked COM ②.

Connecting the GateWay cable

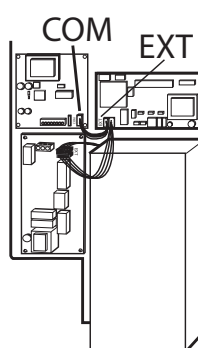
5. Depending on the configuration, i.e. which other cards are already in the heat pump, connect the other end of the GateWay cable as follows (A, B or C):



A. Heat pump without electronic expansion card (Standard):
Connect the GateWay cable directly to the terminal marked EXT on the relay card.



B. Heat pump with electronic expansion card:
Connect the GateWay cable to the contact marked EXT on the expansion card.

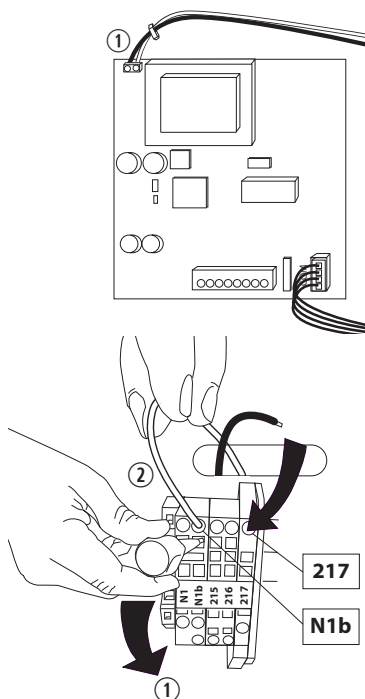


C. Air/water heat pump with expansion card.
If the expansion card and defrost card are already installed in the heat pump, connect the GateWay cable to the contact marked EXT on the defrost card.

Electrical Installation

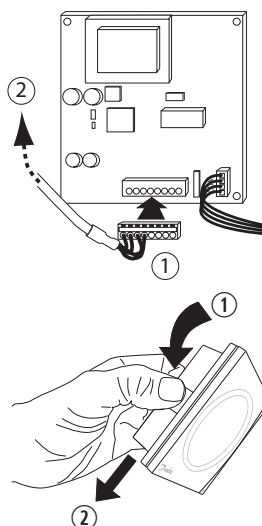
⚠ Read the safety precautions before beginning the electrical installation.

1. Connect the enclosed wires to the GateWay card contact marked 230VAC ①.
2. Connect the other end of the cable to the terminal block on the electrical panel.
3. Connect the blue cable to connection point N1b and the black cable to connection point 217 in the terminal bank.
4. To connect the cables:
 - Insert a flat screwdriver in the hole below the hole in which the cable is to be installed. Next, press the screwdriver downwards to release locking mechanism ①.
 - Insert the stripped section of the cable into the upper hole while pulling the screwdriver out at the same time. Make sure that the cable is securely in place in the terminal.

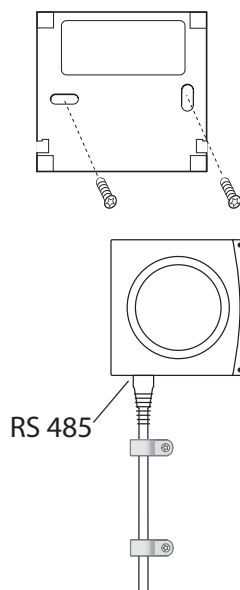


Fitting DCM03

1. Attach the DCM03 cable to the GateWay card ①. Route the DCM03 cable ② up through the inside of the heat pump and out again through the cable bushing on the top.
2. Remove the rear panel of the DCM03 unit by pressing in the spring-loaded plates on the sides ① and pull the rear panel downwards ② so that it can be removed.




3. Using the rear panel as a template, mark perpendicular drill holes at a suitable height on the wall close to the heat pump.
4. Drill holes with a diameter suitable for the rawlplugs and screws to be used. The size and type of screw will depend on the wall material. Screws and rawlplugs are not included in the installation kit.
5. Insert the rawlplugs into the drilled holes and screw the rear panel securely into position.
6. Re-fit the front.
7. Connect the DCM03 cable to the outlet marked RS 485 on the DCM03 unit.
8. Secure the cable to the wall using cable clamps.



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Start-up

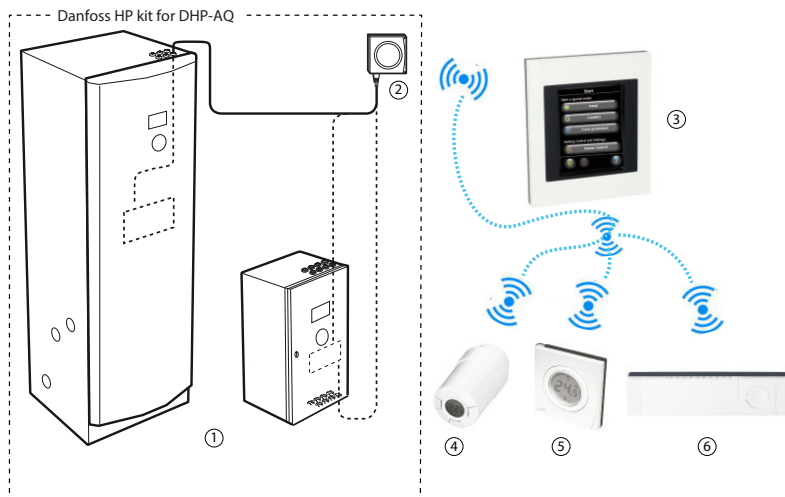
 Before connecting power to the GateWay card, make sure that the electrical installation has been carried out correctly and that there is no risk of injury or damage.

1. Start the heat pump as specified in the heat pump installation guide.
2. Connect to Danfoss Link™ CC (see Chapter “**Connection to Danfoss Link™ CC**”)

Danfoss HP kit for DHP-AQ

The installation kit ① for the DHP-AQ series consists of a power supply, where a DIN rail is connected to the DHP-AQ control (MAXI +60, MIDI or MINI). The DCM03 unit ② is wall-mounted outside the control unit so that it can communicate wirelessly with the Danfoss Link™ CC 3 panel. The Danfoss Link™ CC ③ panel communicates with the other Danfoss Link™ components in the heating system.

An example of a heating system with wireless units is shown in the figure below. The Danfoss Link™ components are indicated with a dotted line.

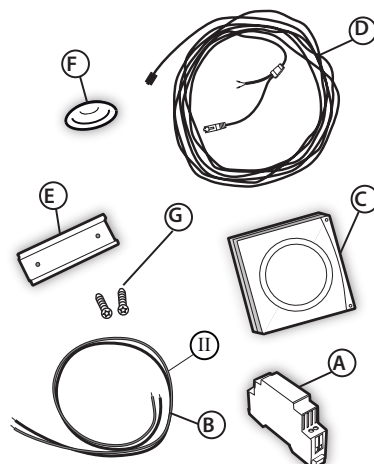


Legend			
① Heat pump	④ living connect®		
② DCM03	⑤ Room sensor (RS)		
③ Link Central Controller (CC)	⑥ Hydronic controller (HC)		

Delivery check

Check the delivery contents of 086L2382:

Description	Qty.	Pos.
AC/DC transformer (power supply DCM03)	1	A
Cable 230VAC - ACDC switching supply DCM03	1	B
Connection cable DHP-AQ-DCM03	1	C
DIN rail (for ACDC transformer assembly)	1	D
Membrane nipple	1	E
Screws	1	F
Installation manual	4	G
	1	-

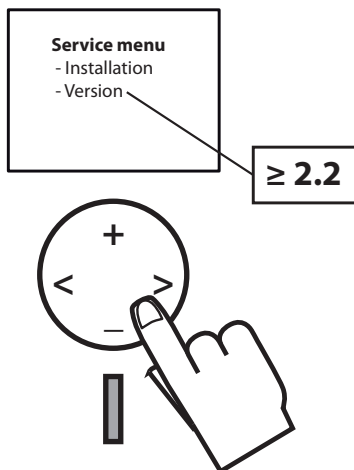


Safety instructions

- ⚠ Installation must be carried out in accordance with applicable laws and regulations, as well as these instructions.
- ⚠ The cables are live and may cause fatal electrical shock. The heat pump power supply must be switched off before commencing electrical installation.

Software version

1. Check the software version on the DHP-AQ control display. Press the left arrow on the heating pump control until the display changes to "Service menu".
2. Press "minus" until the cursor reaches the "Version" menu.
3. Press the "right arrow". This will bring up the software version in the display. Link™ for DHP-AQ requires a software version of 2.2 or newer.

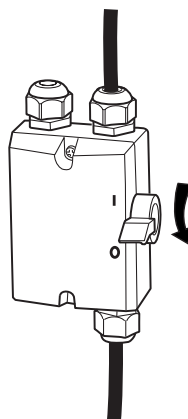


Location

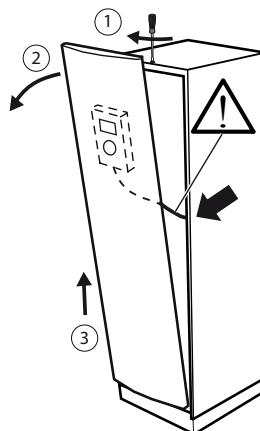
The power supply must be mounted inside the heat pump control in the prepared holes in the electrical panel. The DCM03 device is designed to be mounted on a wall as close as possible to the heat pump. The distance is limited by the length of the DCM03 connection cable.

Installing the power supply

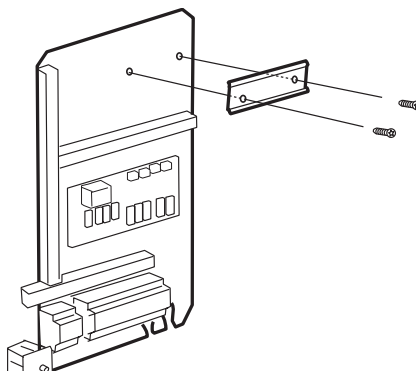
1. Switch off the power to the heat pump.
- ⚠ Read the safety instructions before connecting any wiring.



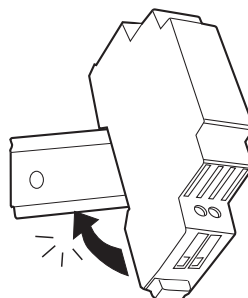
1. The cover is opened by turning the open/close mechanism, after which the cover can be lifted off. Be careful with the display cable behind the cover.



2. Mount the DIN rail in the prepared holes in the electrical panel. Fasten the rail using screws and a suitable tool. Self-tapping screws may also be used.

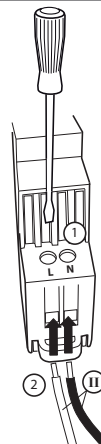


2. Attach the converter by first placing it on the upper part of the fitting and then snapping it into position.

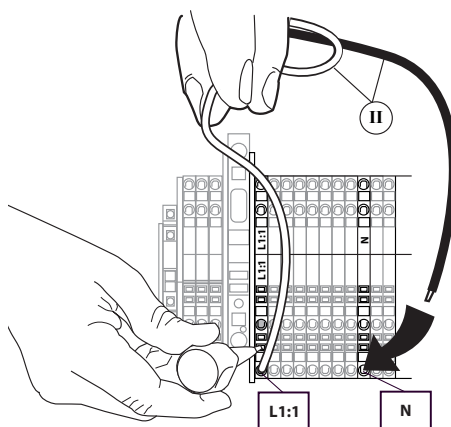


Wiring

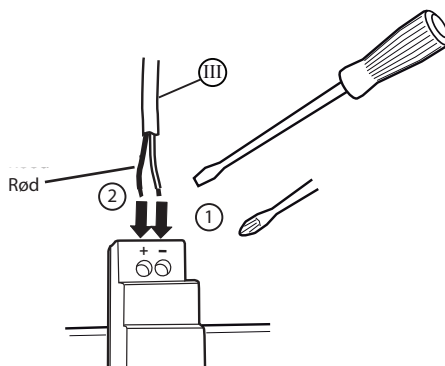
1. Connect the grey wire to the L terminal and the blue wire to the N terminal.



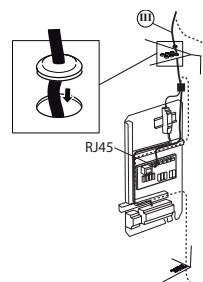
2. Route the cables through the electrical cabinet and connect the grey wire to L 1:1 and the blue wire to N on the connector bank.



3. Connect the DCM03 cable, red to + (positive) and white to - (negative).

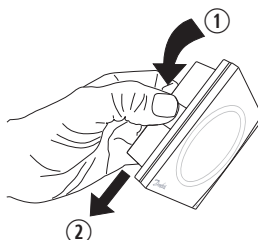


8. Connect the DCM03 cable to the free RJ45 connection on the relay card. Pass the cable up through the cable lead-in and through the membrane nipple. Adjust the length and press the membrane nipple back.

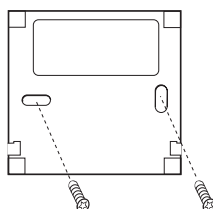


Fitting DCM03

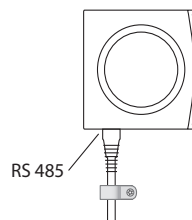
1. Remove the DCM03 unit rear panel by pressing in the spring-loaded plates on the side of the unit and pulling the rear panel downwards until it can be removed.
2. Using the rear panel as a template, mark perpendicular boreholes at a suitable height on the wall next to the heat pump.



3. Drill a hole with a diameter that can accommodate the rawlplugs and screws to be used. Screws and rawlplugs are not included in the installation kit.
4. Insert the plugs in the holes and fasten the rear panel.



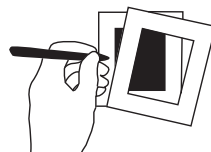
5. Re-fit the front.
6. Connect the DCM03 cable to the outlet marked RS 485 on the DCM03 unit.
7. Secure the cable with cable clamps at a suitable distance on the wall.



Connection to Danfoss Link™ CC

⚠ Before connecting to a power outlet, make sure that the electrical installation has been carried out correctly and that there is no risk of injury or damage.

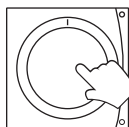
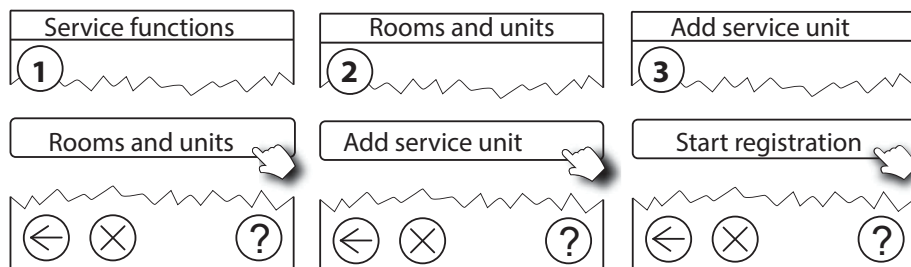
- Start the heat pump
- Remove the front panel from the Danfoss Link™ CC by carefully pulling it off. Pull near the edges of the panel.
- Press the Setup button for three seconds to open the service area.



Note!

*The heat pump must be added to the network as a **service unit**. For more information about connecting to networks see the accompanying Danfoss Link™ CC Installation Manual.*

Add any dedicated repeaters (CF-RU) BEFORE adding the heat pump to the wireless network.



Click here to add the DCM03 module to **Danfoss Link™ CC**.

Note!

During installation, the distance between Danfoss Link™ CC and DCM03 must not exceed 1.5 metres.

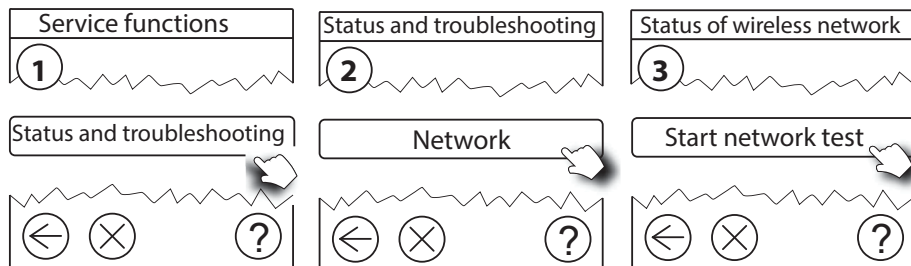
Connecting other units to Danfoss Link™ CC, wireless connection

Connect other service and room units, e.g. HC floor heating and living connect radiator thermostats. Start with the service units. For more information about connecting other units, see the accompanying Danfoss Link™ CC installation instructions.

Conducting a network test after adding a new unit

Once the installation is complete, a network test must be carried out to ensure that communication between all added units and Danfoss Link CC™ is stable.

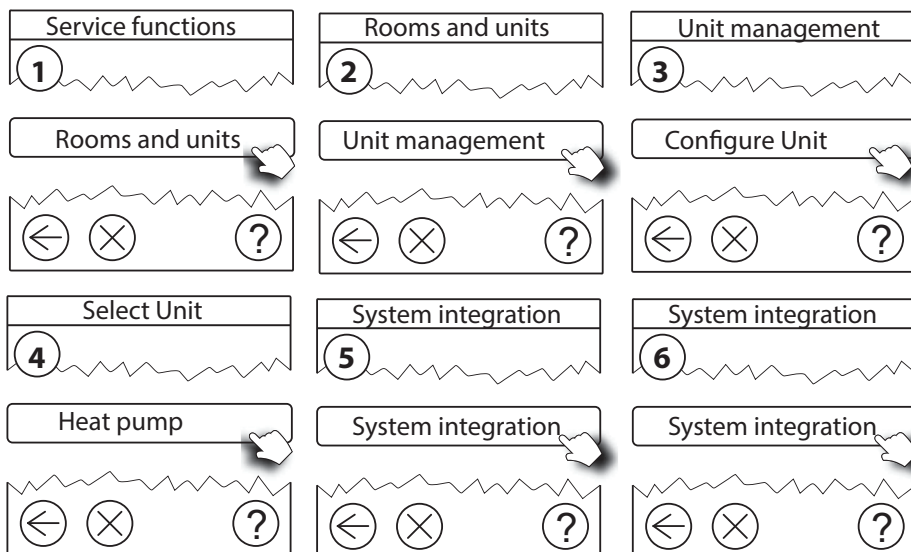
Note! Do not carry out the network test until Danfoss Link™ CC has been fitted in its final position.



When the network test completes, Danfoss Link™ CC waits for the battery-powered units to be activated and registered. Follow the on-screen instructions. If the network test completes without problems, no further interaction will be required. If the network test runs slowly, Danfoss Link™ CC will guide you through the troubleshooting procedures and provide useful tips as to how to speed up the process.

Entering basic settings in Danfoss Link™ CC

The heat pump has now been added to the wireless system and is ready to be integrated with other units in the system (e.g. Danfoss HC floor heating and/or *living connect*® radiator thermostats). This is done via the Service menu using the following settings:



Troubleshooting

If an error occurs in communication with the GateWay card, the heat pump and DCM03, this may be indicated in a number of different ways.

If the heating system is in operation when the error occurs, a yellow warning icon will be shown in the Danfoss Link™ CC display.

Refer to the instructions in chapter 7.1 in the installation manual for Danfoss Link™ CC for more information about the error and suggestions for suitable remedial measures.

If the wireless communication between Danfoss Link™ CC and DCM03 does not work, check the following:

1. Cable connections
2. Check that the units are connected to the mains and that they are switched on (LEDs illuminating correctly).
3. Check that DCM is set to Danfoss Link™ integration and not to Danfoss Online. By pressing the DCM button quickly three times, you will switch between showing status for Danfoss Online and Danfoss Link™ integration. The LEDs on DCM03 (both red and green) flash rapidly 3 times when status changes from Danfoss Online to Danfoss Link™ integration. When switching from Danfoss Link™ integration to Danfoss Online, the lights flash twice and more slowly.
4. Check LED on the GateWay card:
 - Start-up: Flashing, on 90% off 10%.
 - Approval DCM-HP: on 50% off 50% (rapid).
 - Approval failed: on 75% off 25% (flashes twice (slowly) with a long pause in between).
 - Send settings to DCM: on 50% off 50% (slow).
 - Everything OK: 100% (constant light).
5. Check whether DCM03 has been registered correctly in the Danfoss Link CC™ panel in accordance with the Danfoss Link™ CC Installation Manual, Chapter 4, "Adding service units".
6. Has a network test been performed to check whether all units in the heating system are working? See the Danfoss Link™ CC Installation Manual, Chapter 4.9 "Performing a network test".
7. There may be too much distance between DCM03 and Danfoss Link™ CC, or wireless communication may be obstructed because of physical objects or other obstructions. Try a new location for the DCM03 until a good signal strength is obtained. If this is not possible due to physical components of the building, use a repeater (CF-RU). Install this repeater between the Danfoss Link™ CC and the DCM03 unit.
8. In rare cases, it may be necessary to delete the heat pump as a service unit and then re-install it. Follow the instructions in Chapter 5.3 in the Danfoss Link™ CC Installation Manual about how to remove a service unit.

NOTE! If you restore the factory settings, you must also re-install all the units.

9. The faulty component in the HP kit may need to be replaced. First, delete the service unit as described in the Danfoss Link™ CC Installation Manual. Next, add a replacement unit.

Using Danfoss Link™ CC with Online 2

* The following does not apply to HP kits with product numbers: 086L2381 and 086L2382, as these are not compatible with Online 2.

When DanfossLink™ CC are used in conjunction with Online 2*, they can be integrated in the following two ways:

- System integration
- No system integration

“No system integration” is the default method during installation. When system integration is selected, Danfoss Link™ CC manages most functions in the heat pump. In this case, the functions controlled by Danfoss Link CC™ are locked in relation to Online. The table below shows the relationship between disabled and enabled functions from an Online perspective.

Tab	Section	Function	System integr.	No system integr.
Status		Indoor temperature (value: ROOM (+/-))	No	Yes
Details	Heat curve	Curve	No	Yes
		Min	No	Yes
		Max	No	Yes
		+5 °C	No	Yes
		0 °C	No	Yes
		-5 °C	No	Yes
		Heat stop	Yes	Yes
		Room factor	No	Yes
Danfoss DHP-AQ	Calendar control	Temperature decrease	No	Yes
		Hot water block	Yes	Yes
		Quiet mode	Yes	Yes
		EVU mode	Yes	Yes
			Yes	Yes
Danfoss DHP-H, L	Calendar control	Temperature decrease	No	Yes

No = Function cannot be changed via Online when the system is in “system integration”

Yes = Function can be changed Online regardless of whether system integration has been enabled or not

Using the Online application, you can change the integration options and go from “System integration” to “No system integration” and take control of the function settings and vice versa.

Recycling instructions



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When the crossed-out wastepaper basket symbol is shown on the product, it means that the product is subject to European Parliament and Council Directive 2002/96/EC. Locate your nearest recycling centre for electrical and electronic products. Adhere to local regulations and do not put old products (e.g. batteries) in your general household waste. By properly disposing of your old products you can help to reduce negative impacts on the environment and public health.

Danfoss Heat Pumps
Box 950
671 29 ARVIKA
Phone +46 570 81300
E-mail: dhpinfo@danfoss.com
Internet: www.heating.danfoss.com

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