

Installation Guide

# Danfoss Link™ Mobile Phone Butler





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## 1 Introduction

The Danfoss Link™ MPB (Mobile Phone Butler) is a GSM device designed for control of the AWAY Function in a Danfoss Link™ system. To install and use the Danfoss Link™ MPB correctly, the instructions given in this manual are to be strictly followed.

With a simple command sent via SMS, it is possible to turn the AWAY Function ON/OFF. Via SMS it is also possible to know the AWAY Function status (ON/OFF).

The Danfoss Link™ MPB is a low-power radio transceiver. When it is operating, it sends and receives radio frequency energy. Operating the Danfoss Link™ MPB close to radios, televisions, telephones or electronic devices in general may cause interference. The Danfoss Link™ MPB may be subject to interference that affects its performance.



Do not install the Danfoss Link™ MPB close to pacemakers, auditory prostheses or medical devices, as the Danfoss Link™ MPB may interfere with the operation of these devices.

The Danfoss Link™ MPB operates by means of a radio signal, no mobile telephone operator is capable of ensuring a connection at all times. For this reason, the Danfoss Link™ MPB cannot be used in life support systems.

## 2 Installation

For correct operation, the Danfoss Link™ MPB requires a plug-in SIM card (not included) enabled to receive and send SMS messages. Before inserting the SIM card, disable (if present) the PIN code protection by using another mobile phone.

Install the Danfoss Link™ MPB on an interior wall sheltered from the sunlight and all sources of heat and corrosive substances.

Ensure that cables are installed outside possible electromagnetic fields, in which case, use shielded cables.

Install the Danfoss Link™ MPB within the temperature range of -5 °C to +55 °C.

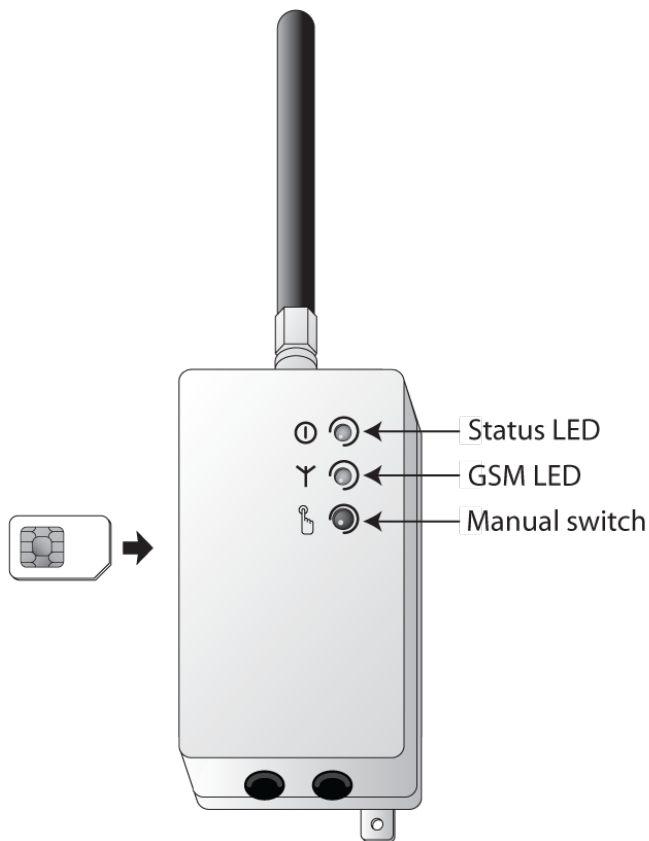
### Procedure

1. Ensure that the Danfoss Link™ MPB is turned OFF.
2. Insert the SIM card correct in the slot.
3. Screw the antenna on the relative connector (without applying excessive force).
4. Place the Danfoss Link™ MPB on a firm surface making sure that a good signal of the GSM operator is present.
5. Connect to Danfoss Link™ SCM (Simple Communication Module) or Danfoss Link™ HC (Hydronic Controller) with due observance of all necessary regulations.
6. Connect the Danfoss Link™ MPB using the power supply, checking the cables polarity.



It is important to use the power supply delivered with the Danfoss Link™ MPB.

## 3 Interfaces



### Status LED

Status LED	Description
Red LED	Contact on COM-NC (AWAY)
Green LED	Contact on COM-NO (HOME)

Tab. 1: Status LED

### GSM LED

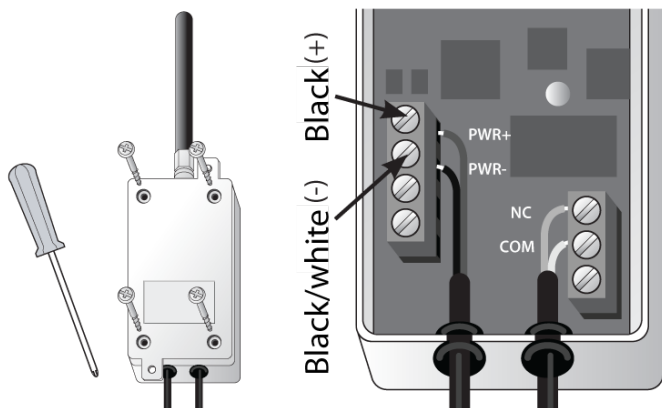
GSM LED	Description
Red LED	The Danfoss Link™ MPB is receiving no signal and/or is not registered on the network
Red LED, flashing	<b>Flashing error code:</b> <ol style="list-style-type: none"> <li>1. The GSM signal is not detected</li> <li>2. The SIM card is protected by a PIN code</li> <li>3. The SIM card is not present</li> <li>4. The SIM card does not work</li> <li>5. System error, restart the Danfoss Link™ MPB</li> <li>6. The SIM card is protected by a PUK code</li> </ol>
Green LED	The Danfoss Link™ MPB is receiving or sending an SMS
Green LED, flashing	The number of flashes identifies the level of GSM field (it may range from 1 to 5)

Tab. 2: GSM Signal Level

### Manual switch

- To switch the output status by pressing the Manual switch between 1.5 and 5 sec.

## 4 Wiring



The Danfoss Link™ MPB is provided with a bistable relay output.

1. Unscrew the four screws.
2. Connect the Danfoss Link™ SCM or the Danfoss Link™ HC to NC and COM.
3. Connect the power supply to PWR+ and PWR- .

## 5 SMS Commands

### Default settings

After the first installation, default settings are as follows:

- Password: 0000
- Output: OFF (COM-NC closed, Status LED is red)

Default settings can be changed via SMS.

The default settings can be restored at any moment by proceeding as follows:

- Turn off the Danfoss Link™ MPB
- Press and hold down the manual switch
- Power up the Danfoss Link™ MPB (Status LED remains unlit for approx. 5 sec.)
- When the Status LED lights up, release the manual switch

The settings, including the password, have been restored to the default settings.

Settings are saved in the internal memory of Danfoss Link™ MPB. In case of power failure, the memorized settings are restored when switching on.

### Commands



SMS commands should be sent to the cell phone number corresponding to the SIM card inserted in the Danfoss Link™ MPB.

The format of the SMS command is: PASSWORD # COMMAND

Command	Function	Example (Password 0000)
1	Switch ON the output relay (COM-NO closed, COM-NC open), green LED. Danfoss ON (HOME).	0000#1
0	Switch OFF the output relay (COM-NO open, COM-NC closed), red LED. Danfoss OFF (AWAY).	0000#0

Command	Function	Example (Password 0000)
?	The Danfoss Link™ MPB replies a Status Notification SMS, containing the output status and information regarding the functions activated	0000#?
Pxxxx	Set the password, 4 digits (Ex. from 0000 to 1234). The Danfoss Link™ MPB sends an SMS showing the new password.	0000#P1234



After executing a command, the Danfoss Link™ MPB always replies with a notification SMS.

### Error notification SMS

The Danfoss Link™ MPB replies an error notification SMS if the command sent does not exist or cannot be activated, or if the command parameter is not valid. Content of this notification SMS is: *ERROR!*

If the command SMS starts with a wrong password, (4 digits followed by #) the notification SMS is: *Invalid password!*



The Danfoss Link™ MPB does not send any type of notification SMS if the SMS received is not recognized as valid (ex. do not start with 4 digits).

### Status notification SMS

The Danfoss Link™ MPB replies a status notification SMS after executing any of the commands.

Status	Notification SMS
Output ON - NC output open	Danfoss ON (HOME)
Output OFF - NC output closed	Danfoss OFF (AWAY)

Tab. 3: Notification SMS

### Smartphone app

For Android phones and iPhones you can download the **Danfoss ButlerApp** for easy communication with the Danfoss Link™ MPB.

## 6 Technical Specifications

Type	Specifications
Operating voltage	12 V DC
Operation voltage (net adapter)	90 - 264 V AC
Standby consumption	Max. 0.5 W
Contact load capacity (max)	0.5 A - 250 V AC 1 A - 30 V DC

Type	Specifications
Ambient temperature	-5 to +55 °C when humidity is < 95%
Transport temperature	-30 to +70 °C when humidity is < 90%
Transmission frequency	900 MHz, 1800 MHz
Transmission power	Max. 2 W
Pollution degree	Residential (pollution degree 2)
Software classification	A
IP class	20
Dimensions (l x h x d)	87.5 mm x 90 mm x 40 mm
Weight	0.136 kg

## 7 Declaration of Conformity

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Hereby, ELBRO AG declares that the **Danfoss Link™ MPB** is compliance with the essential requirements and other relevant provisions of Directives RTTE 1999/5/EC and EMC 2004/108/EC.



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