

Installation Guide

KoolKey
Type **EKA 200**



KoolKey is a gateway and programming device to:

- Connect the Danfoss electronic controller to a PC and act as a gateway when working online using the KoolProg® application on the PC.
- Act as programming key to program parameter settings (configuration) into the Danfoss electronic controllers in the production and field.

Supported controller types:

- | | |
|--------------------------------------|----------------------|
| 1. ERC 111, 112, 113 | 2. ERC 211, 213, 214 |
| 3. EETc 11, 12, 21, 22 & EETa 2W, 3W | 4. EKF 1A, 2A |

Warning:

1. Ensure to disconnect non-isolated controllers (ERC 11X & EET) from mains power, before connecting to KoolKey.
2. Do not leave the interface cable hanging from powered-up controller.

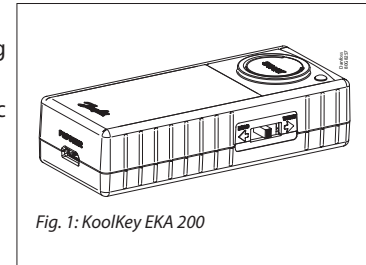


Fig. 1: KoolKey EKA 200

KoolKey as a Gateway

Gateway mode makes it possible to work online with the connected controller through KoolProg® on a PC.

KoolProg® allows following functions:

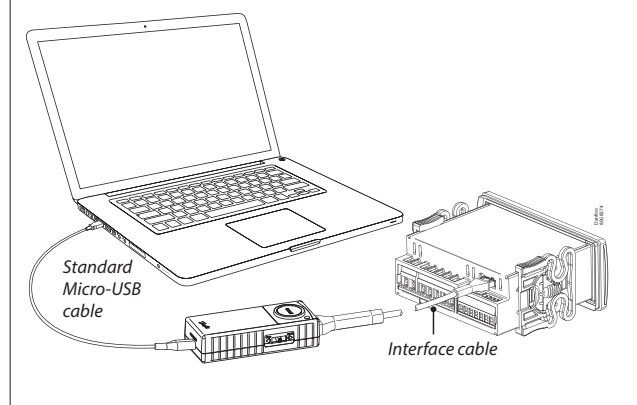
- Set Parameters – Create, view and edit controller settings.
- Copy to Controller – Program settings file created offline to the connected controller.
- Online service – Monitor real time operations of the controllers and make adjustments to the parameter settings while connected.

Connection:

- Connect the KoolKey using a standard USB cable to the USB port of a PC installed with KoolProg® software
- Connect the controller to KoolKey other end using the interface cable of the respective controller type
- The controller gets power from the PC via connected KoolKey

(Refer to the KoolProg® [User Guide](#) for detailed instructions on how to use KoolProg.
Download KoolProg® at: koolprog.danfoss.com)

Fig. 2: KoolKey as gateway



KoolProg® as Programming Key

The programming key function is used for transferring parameter settings files from the KoolKey to the controller and vice versa.

Transfer or copy the parameter file in below format to KoolKey like any other storage device.

We recommend to save only the file intended for the target controller.

a. Steps to program a powered-up controller:

1. Connect the KoolKey to the controller communication port (TTL/di port) using an interface cable.
2. Power up the controller using 120 V/230 V power supply.
3. Move the slider switch to required position and short press (1 sec) the start button to transfer data.
4. After successful data transfer, switch off the controller power supply and remove the KoolKey.

Note: While programming EET compact (EETc) and EKF controllers, KoolKey requires to be connected to a power source as mentioned in Fig. 4.

b. Steps to program an unpowered controller (write function only):

1. Connect a Power bank or a 5 V power supply to KoolKey USB port.
2. Connect the Koolkey to the controller's TTL/di port using an interface cable.
3. Write function gets initiated as soon as the KoolKey is connected to controller (no need to press the start button).

Supported parameter file formats

Controller	File format	Naming convention
EETa, EETc	.xml	080Nxxxx.xml
ERC 11x	.xml / .erc	080Gxxxx.xml / xxxx.erc
ERC 21x	.xml / .erc	080Gxxxx.xml / xxxx.erc
EKF1A, EKF2A	.xml	080Gxxxx.xml

Note: xxxx is the last four digits of controller's code no.

Fig. 3: Controller with main power

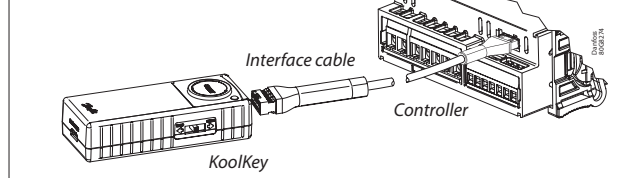
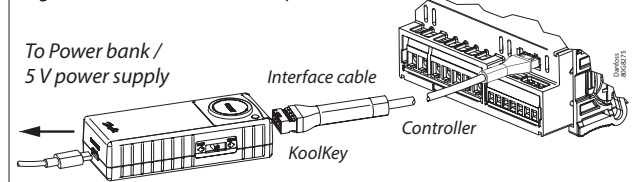


Fig. 4: Controller without main power



Parameter file transfer steps and LED indications:

Function	Action	Illustration	LED info
Power-up	<p>KoolKey can be powered up by connecting to an external power bank (Mass programming mode) or a powered-up controller (Copy key mode)¹⁾.</p> <p>¹⁾ Not supported by EETc.</p>		<ul style="list-style-type: none"> The LED will flash red slowly, indicating that KoolKey is powered up. After a few seconds, the LED will turn steady green, indicating successful connection and data transfer readiness
Write and Read function	<p>a. Write function:</p> <ul style="list-style-type: none"> Move the slider switch to "Write" position Short press the start button (1 s) to transfer data from the KoolKey to the controller <p>Note: When KoolKey is connected to a power bank, the write functions get initiated automatically as soon as the KoolKey is connected to a controller without pressing the start button.</p>		<p>Yellow LED flashes rapidly. Indicating parameter file download</p>
	<p>b. Read Function:</p> <ul style="list-style-type: none"> Move the slider switch to "Read" position Short press the start button (1 s) to transfer data from the controller to the KoolKey <p>Note: Read function is not supported when KoolKey is powered up from a power bank.</p>		<p>Yellow LED blinks rapidly. Indicating parameter file download</p>
File transfer confirmation	<p>Successful file transfers (Write function can take up to 10 s and read function can take 15 – 20 s to successfully complete)</p>		<p>Constant green</p>
	<p>Unsuccessful file transfer (Check connection and ensure compatible programing file saved in KoolKey).</p>		<p>Rapid red flashes</p>

Ordering

Description	Code no.
KoolKey EKA 200	080N0020
Interface cable for EET/EKF -1m	080N0324
Interface cable for ERC21x-1m	080N0326
Interface cable for ERC11x- 1m	080N0328