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Kool Prog
PC
Software
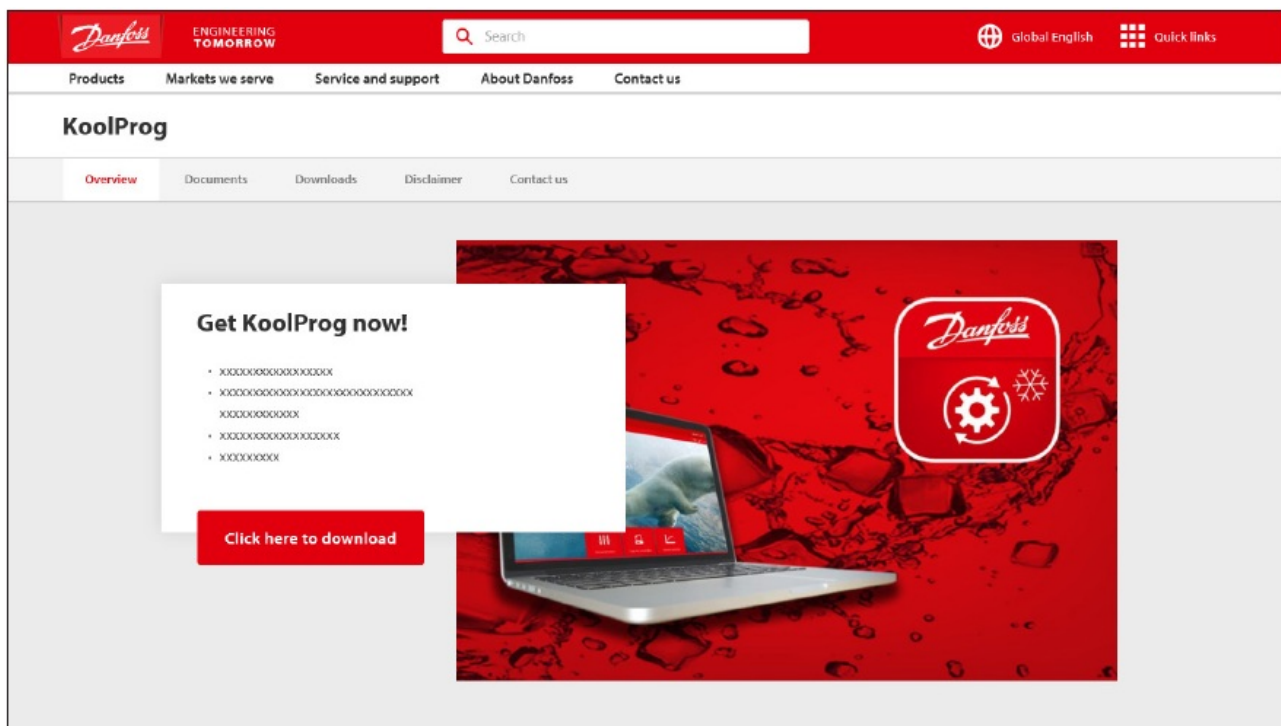
Danfoss Kool Prog PC Software User Guide

Contents

Danfoss Kool Prog PC Software

Product Information

Specifications:

- Operating Systems: Windows 7, Windows 10 (32-bit and 64-bit)
- RAM: 8 GB
- Hard Drive Space: 200 GB – 250 GB
- Required Software: MS Office 2010 and above
- Interface: USB 3.0

Product Usage Instructions

Downloading the Software:
Download the KoolProgSetup.exe file from the following location: **http://koolprog.danfoss.com**

System Requirements:
This software is intended for a single user and requires the following system specifications:

- Operating Systems: Windows 7, Windows 10 (32-bit and 64-bit)
- RAM: 8 GB
- Hard Drive Space: 200 GB – 250 GB
- Required Software: MS Office 2010 and above
- Interface: USB 3.0

Note: Macintosh operating system is not supported.

Connection with Controllers:
When connecting controllers, follow these steps:

1. Connect the USB cable to the PC's USB port.
2. Connect the controller to the PC.

CAUTION: Ensure that only one controller is connected at any time.

Mass Programming of Controllers:
To mass program ERC controllers using the EKA key:

1. Connect the EKA programming key to the USB port of the PC/laptop.
2. Transfer the file in .erc format from the computer to the programming key.

For detailed instructions on transferring files to specific ERC controllers, refer to the provided documentation.

FAQ:

- **Q: What should I do if I encounter a Security warning during installation?**

  A: Click on "Install this driver software anyway" to proceed with the installation.
- **Q: Can I run the setup directly from a Windows server or network file server?**

  A: It is not recommended to run the setup directly from a Windows server or network file server.

Introduction

Configuring and testing the Danfoss electronic controllers has never been so easy with the new KoolProg PC software. With one KoolProg software, you can now take advantage of new intuitive features such as the selection of favorite parameter lists, writing online as well as offline program files, and monitoring or simulating alarm status activities. These are only some of the new features that will minimize the time R&D and production will spend on development, programming, and testing the Danfoss range of commercial refrigeration controllers. Supported Danfoss products: ETC 1H, ERC 111/112/113, ERC 211/213/214, EKE 1A/B/C, AK-CC55. The following instructions will guide you through the installation and first time usage of KoolProg®.

Downloading .exe file
Download KoolProgSetup.exe file from the location: **http://koolprog.danfoss.com**
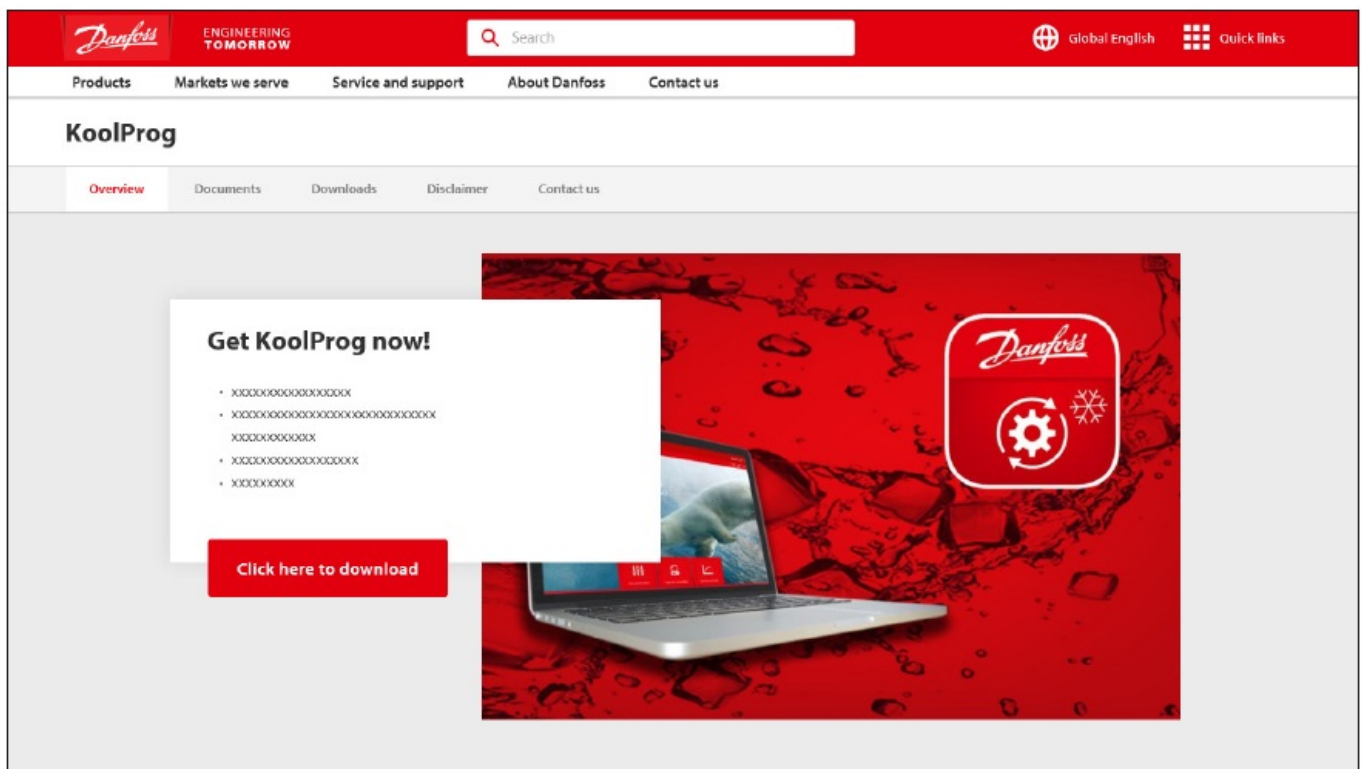
System requirements

This software is intended for a single user and recommended system requirements as below.

| OS	Windows 7, Windows 10, 32 bit and 64 bit
RAM	8 GB RAM
HD Space	200 GB and 250 GB
Required software	MS Office 2010 and above
Interface	USB 3.0

Macintosh operating system is not supported.
Running the setup directly from windows server or network file server is not recommended.

Installing software

- **Double click on the KoolProg® setup icon**

  Run the installation wizard and follow the onscreen instructions to complete the KoolProg® installation.
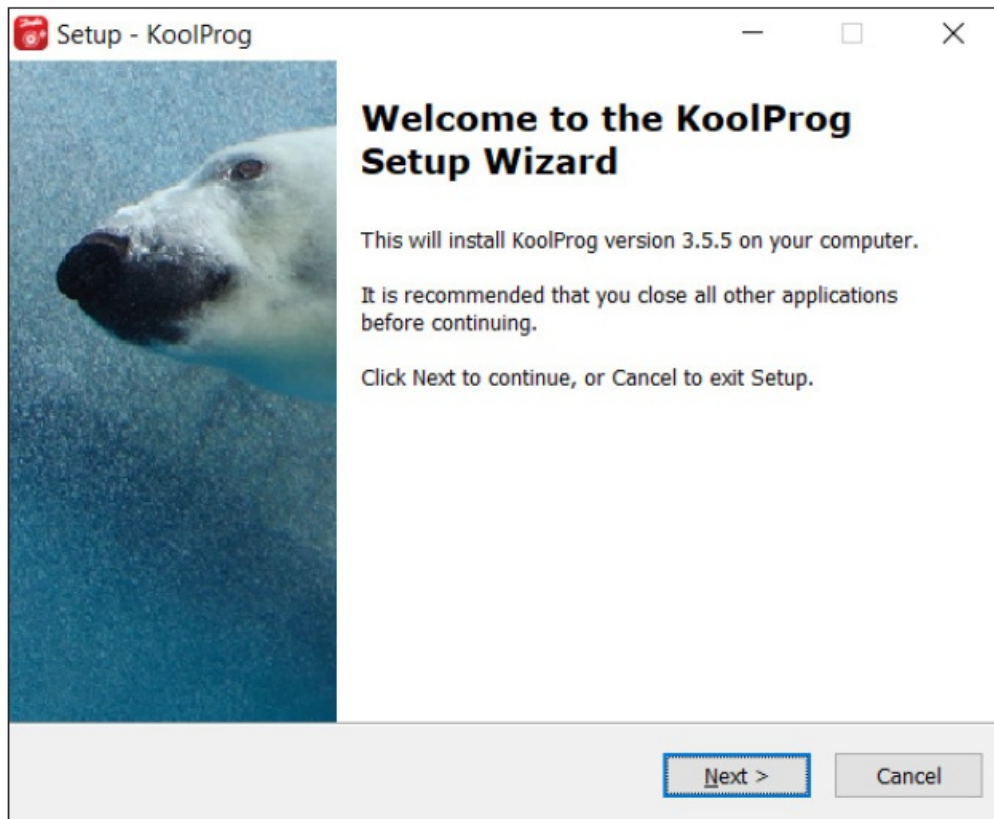
Note: If you encounter a "Security warning" during installation, please click on "Install this driver software anyway".

Connection with controllers

**Fig 1. Connection for ERC and ETC using Danfoss gateway**
(Code No. 080G9711)
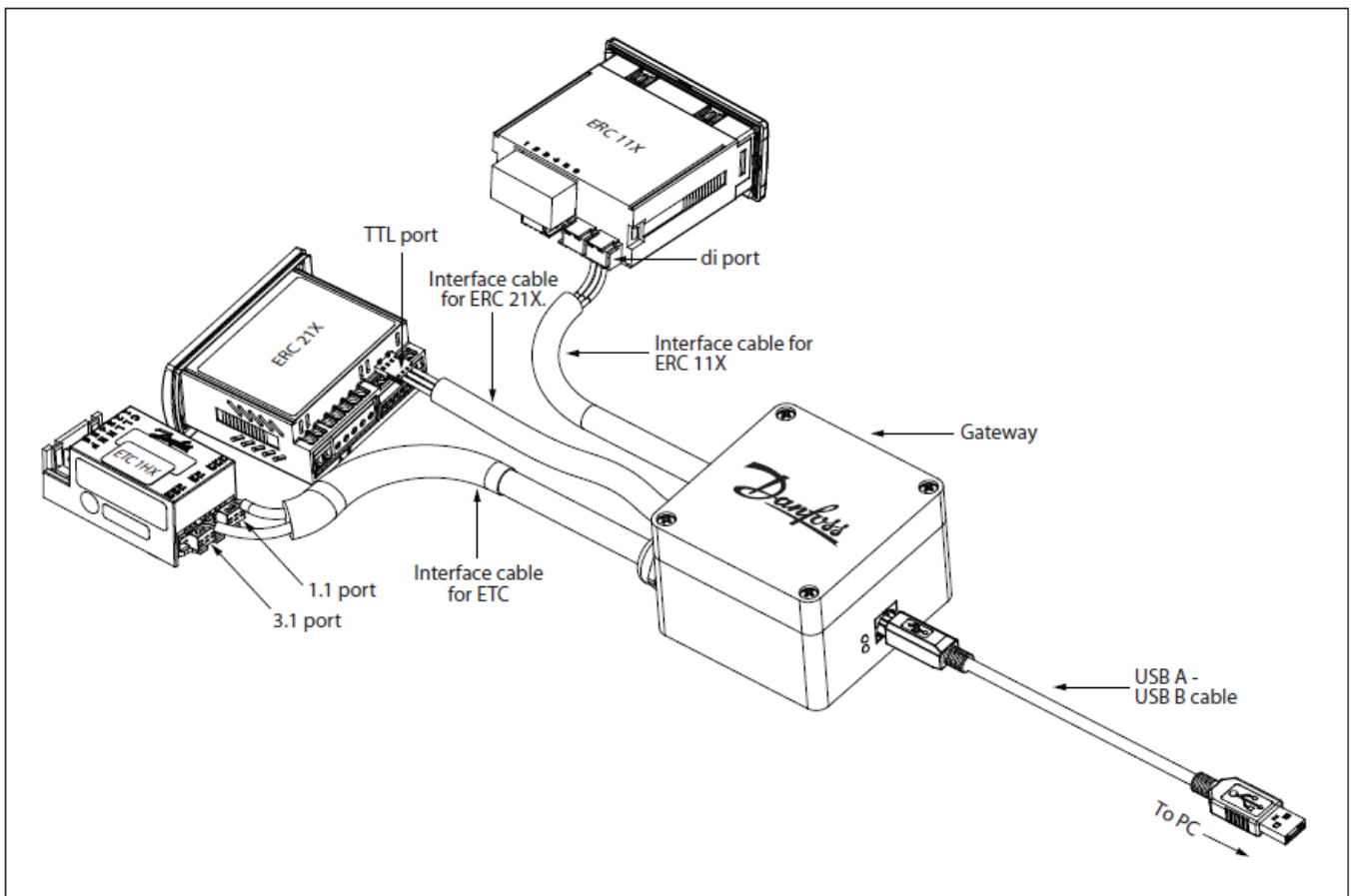
1. Connect USB cable to the PC's USB port
2. Connect the controller.

    CAUTION: Please ensure that only one controller is connected at any time.

Fig 2. Mass programming of ERC using EKA 183A/B connection

Connect EKA programming key to USB port of PC/laptop and transfer the file in .erc format from computer to the programming key.
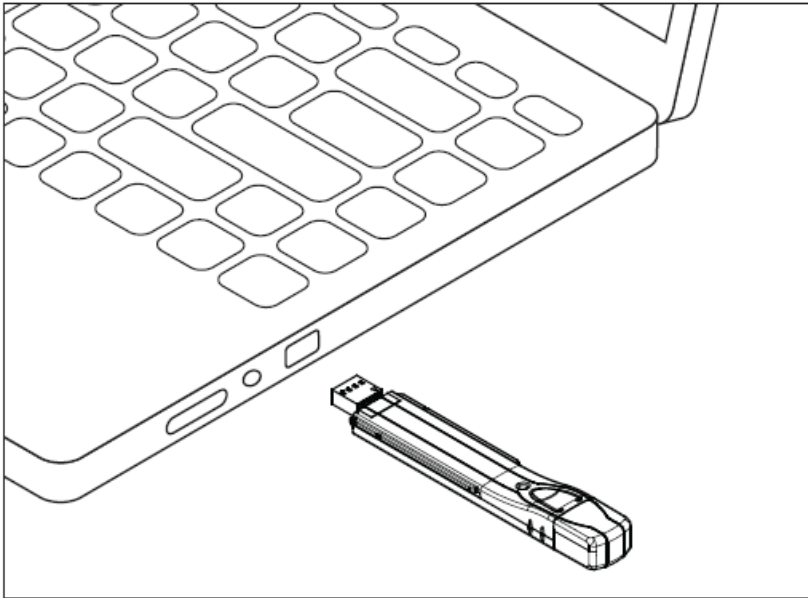
Transferring the file from EKA key to ERC controller:
Fig 2a. Transferring to ERC 11X
Insert EKA 183A(080G9740) into docking station (080G9701). Place ERC 11X controller on docking station and keep it pressed down until the successful programming indicator turns green.
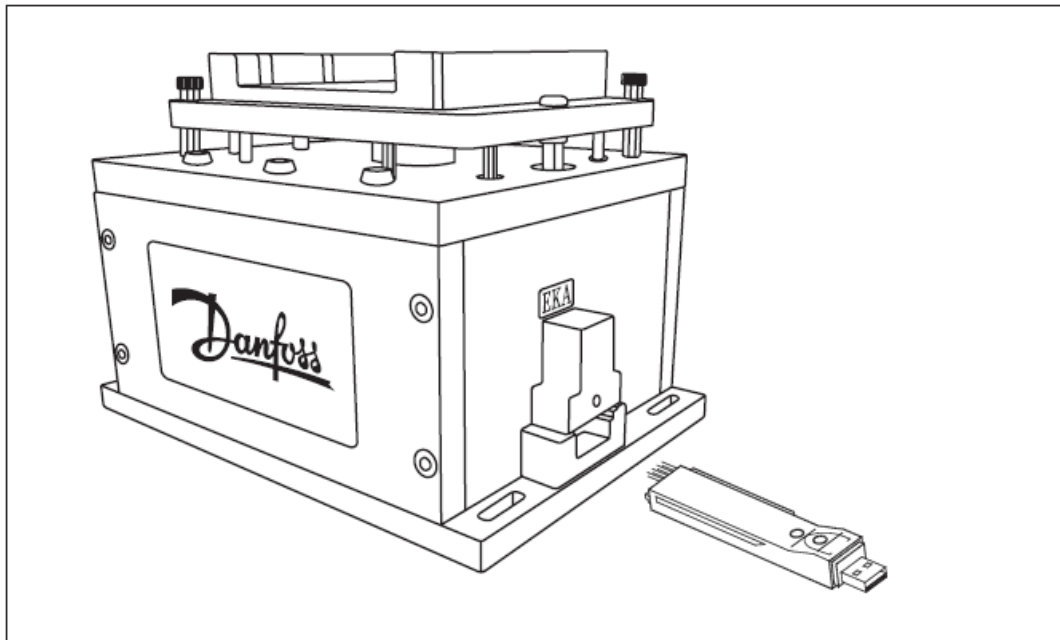
Fig 2b. Transferring to ERC 21X:
Insert EKA 183B (080G9741) into the TTL port of ERC 21X as shown in image below. Press the button to initiate transfer of file from EKA 183B to ERC21X.
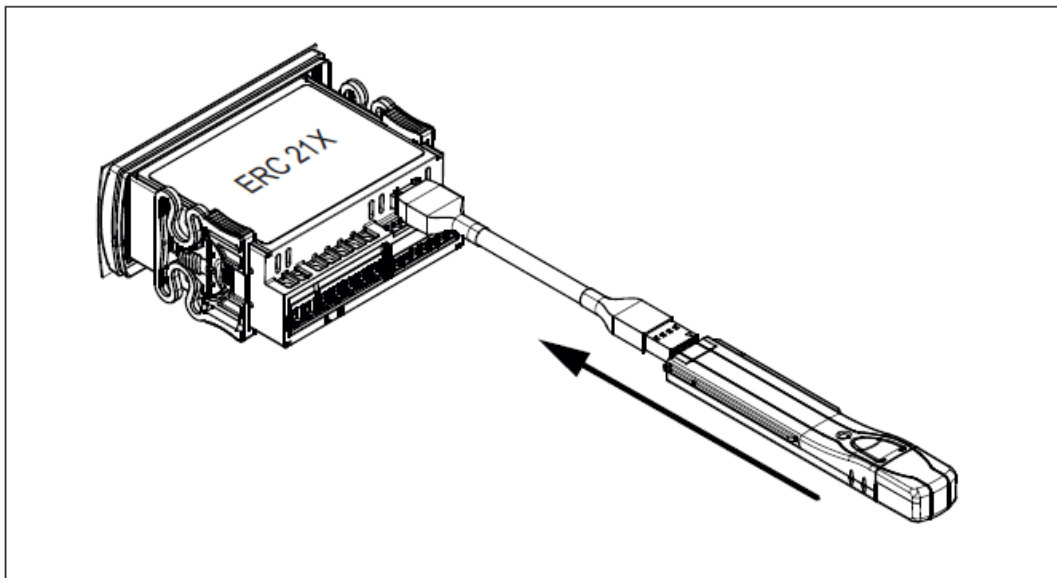
For more information please refer to EKA 183B(080G9741) instruction sheet provided in the kit.

Fig 3. Connection for EKE using interface type MMIMYK
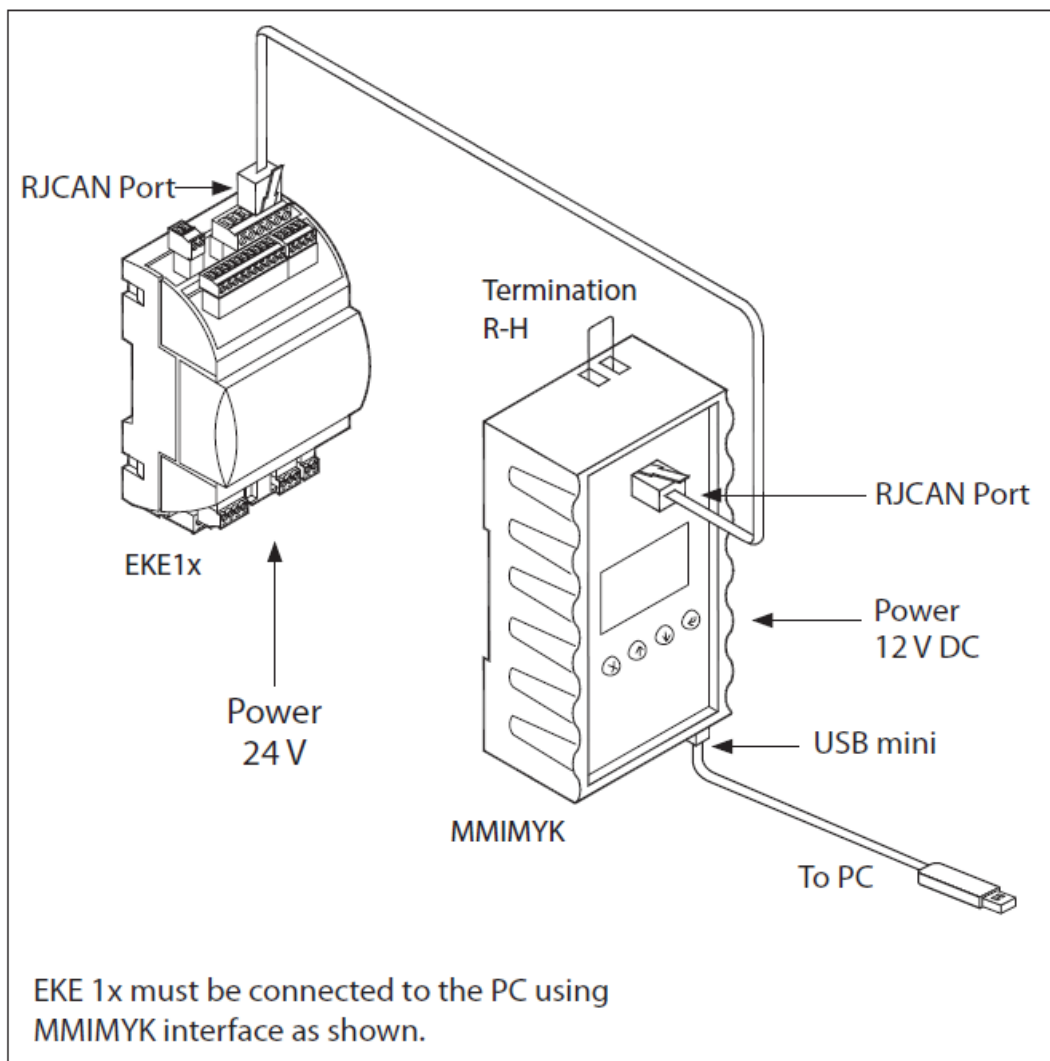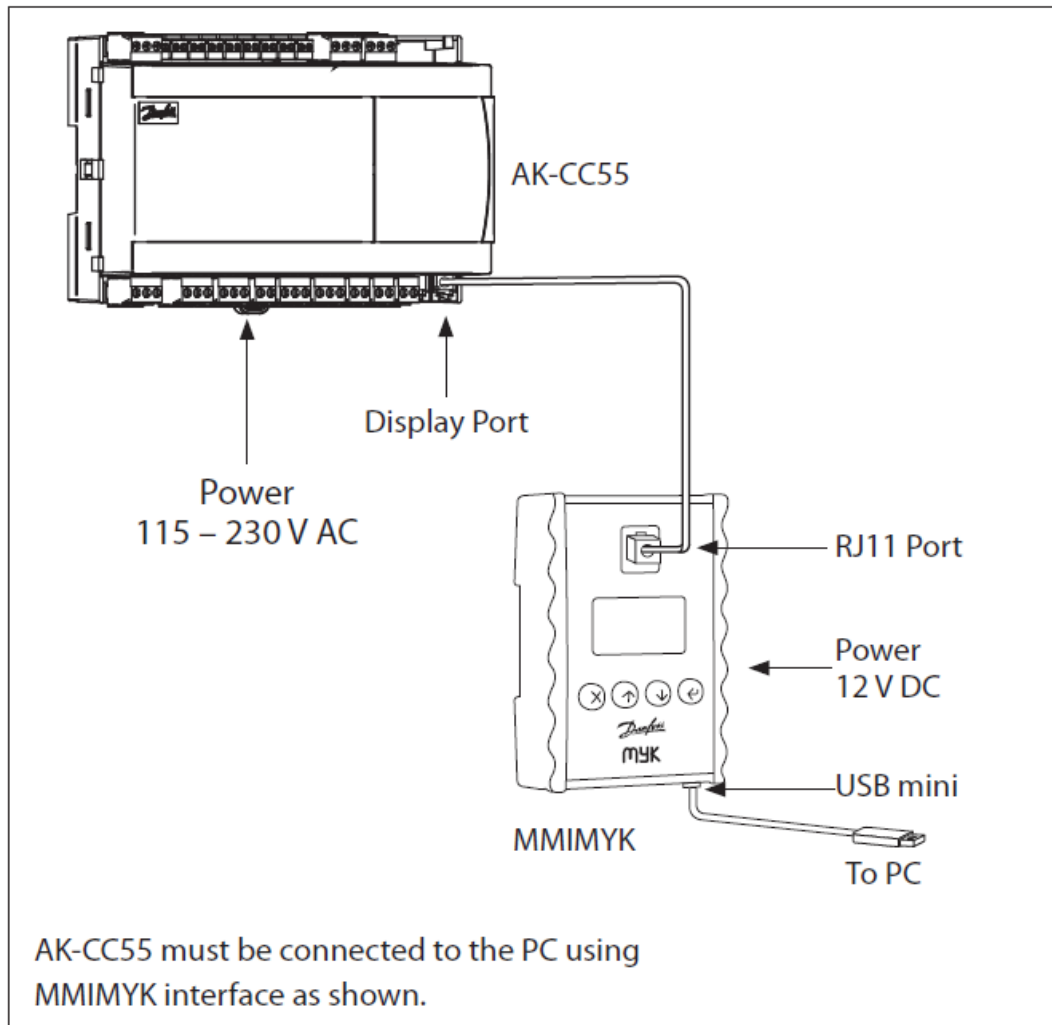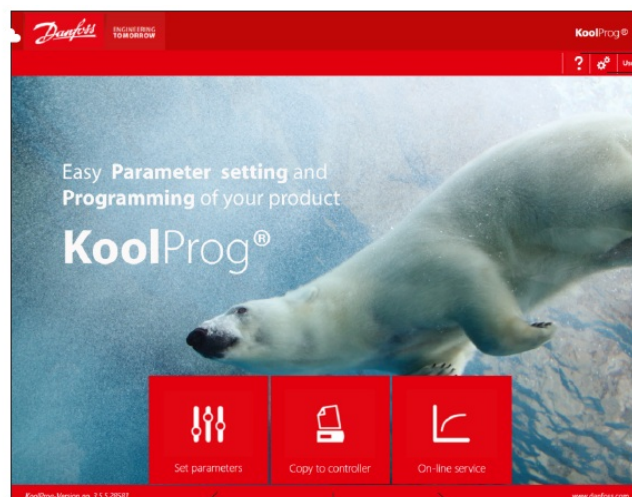(Code No. 080G0073)

RJCAN Port

Termination
R-H

RJCAN Port

EKE1x

Power
12 V DC

Power
24 V

USB mini

MMIMYK

To PC

EKE 1x must be connected to the PC using
MMIMYK interface as shown.

Fig 4. Connection for AK-CC55 using interface type MMIMYK
(Code No. 080G0073)

AK-CC55

Display Port

Power
115 – 230 V AC

RJ11 Port

Power
12 V DC

USB mini

MMIMYK

To PC

AK-CC55 must be connected to the PC using
MMIMYK interface as shown.

Starting the program

Help

Preferences

Double click on
the desktop icon
to launch KoolProg
application
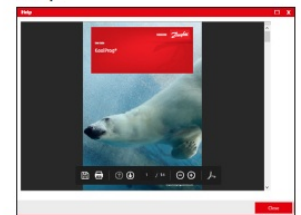
The program's features

To create new
parameter setting files
either importing from
controller or offline.

To program
parameter setting
file and upgrade
firmware in the
connected controller

To edit settings/trend graphs
of controller parameters in
real-time.

Password protection: If the program is password protected, it is possible to specify two different access levels: one with a password and one without a password.

Accessibility

- Users with a password have access to all features.
- Users without a password have limited access and may only be able to use the 'Copy to controller' feature.
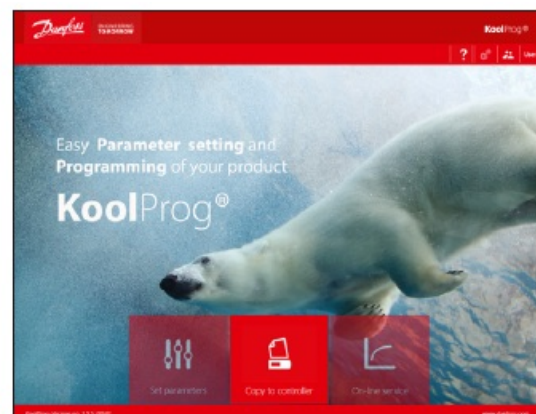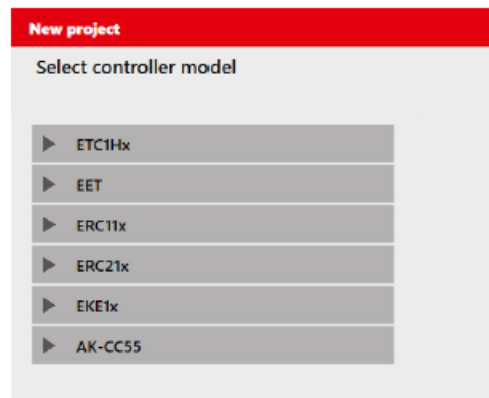

Set parameters
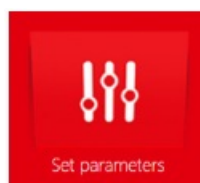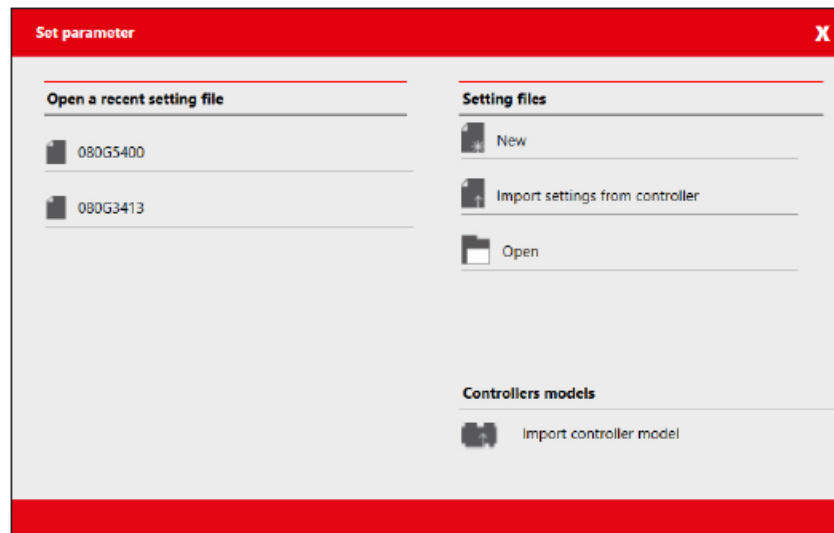
This feature allows you to configure parameter settings for your application. Click one of the icons in the right column to create a fresh configuration offline or import settings from a connected controller or open an already saved project. You can see projects you have already created under "Open a recent setting file".

New

- Create new project by selecting:
    - Controller type
    - Part number (code number)
    - PV (product version) number
    - SW (software) version
- Once you have selected a file, you need to name the project.
- Click 'Finish' to proceed to view and set parameters.

Note: Only standard code numbers are available to choose from in the "Code Number" field. To work offline with a non-standard code number (customer specific code number), use one of the following two methods:

1. Connect the controller of same code number with KoolProg using Gateway, and use "Import settings from Controller" to create a configuration file from it.
2. Use "Open" feature to open an existing locally saved file on your PC of same code number and create a new file from it.

The new file, saved on your PC locally, can be accessed offline in future without having to connect the controller.

Import settings from controller
Allows you to import a configuration from connected controller to KoolProg and to modify the parameters offline. Select "Import settings from controller" to import all parameters and its details from the connected controller to the PC.
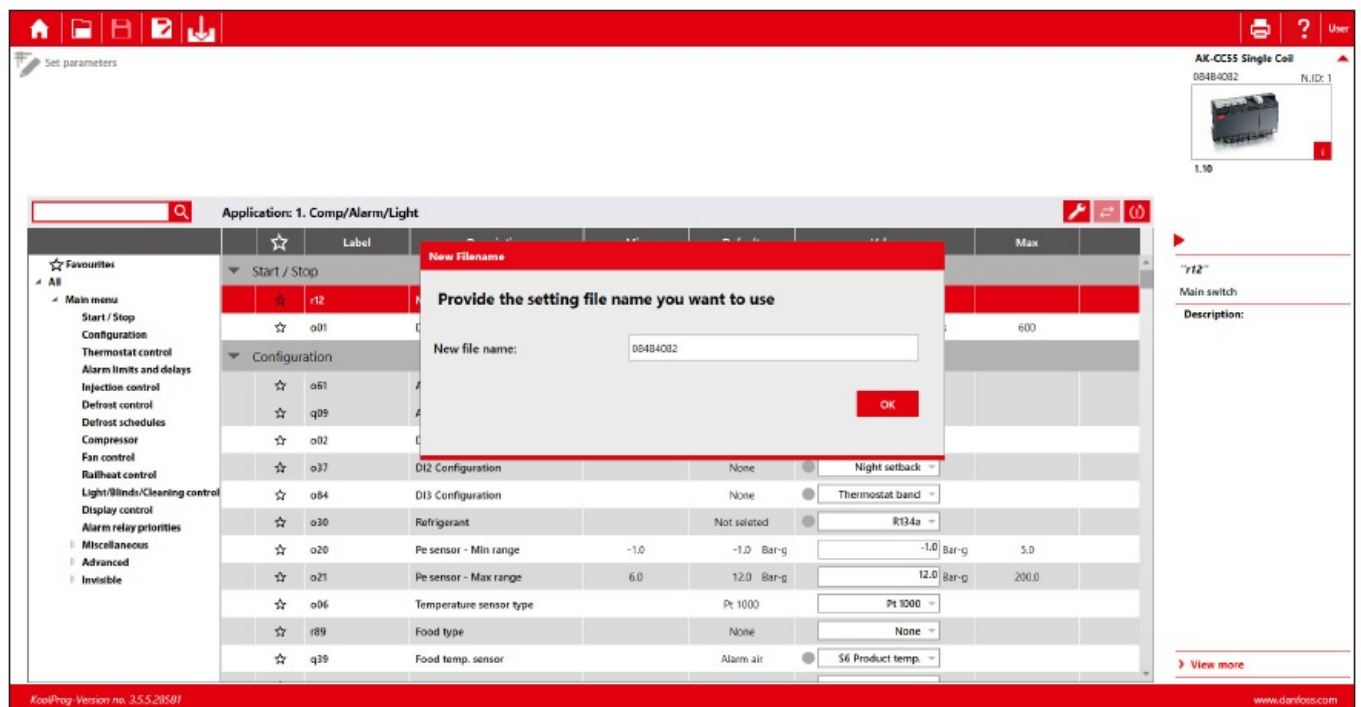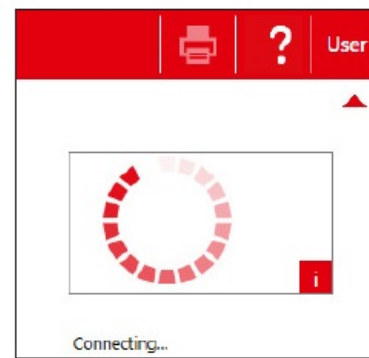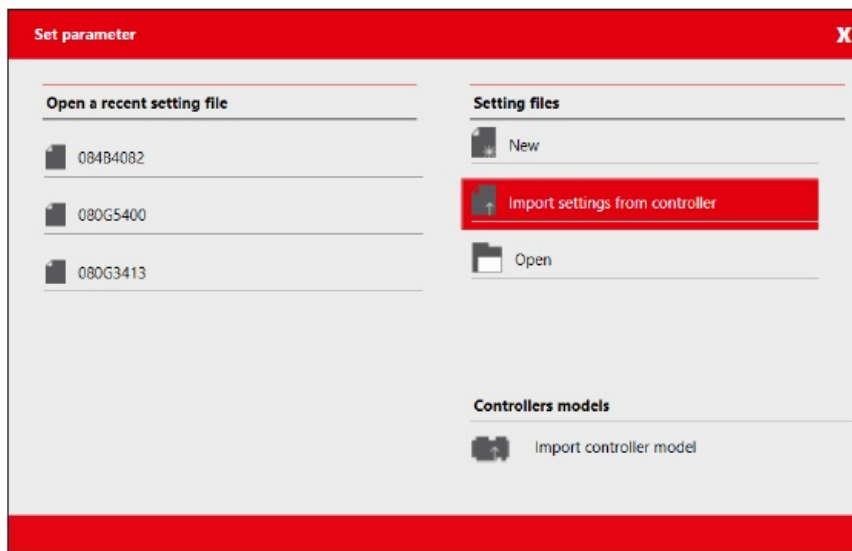
After "Import completed", save the imported setting file by providing the file name in the pop-up message box.
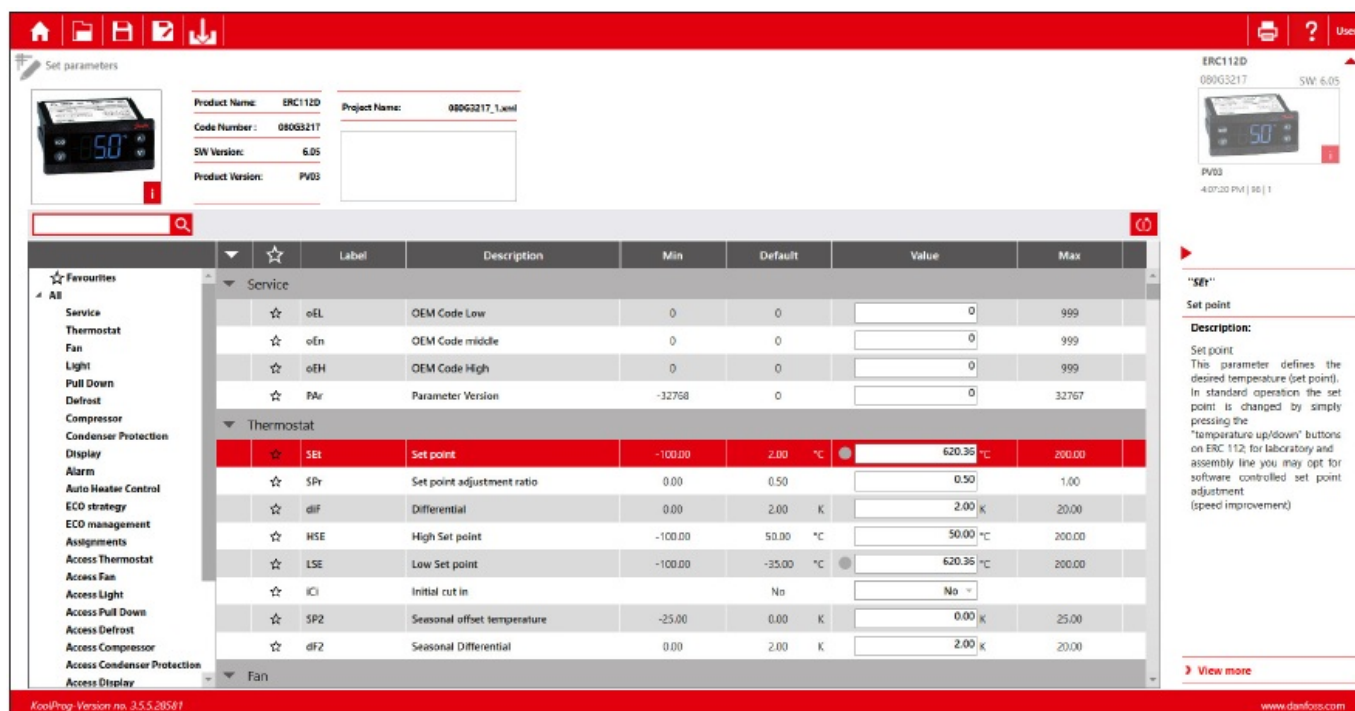
Now the parameter settings can be worked upon offline and can be written back to the controller by pressing

"Export" . While working offline, the connected controller is shown grayed out and changed parameter values are not written to the controller until the export button is pressed.

Open
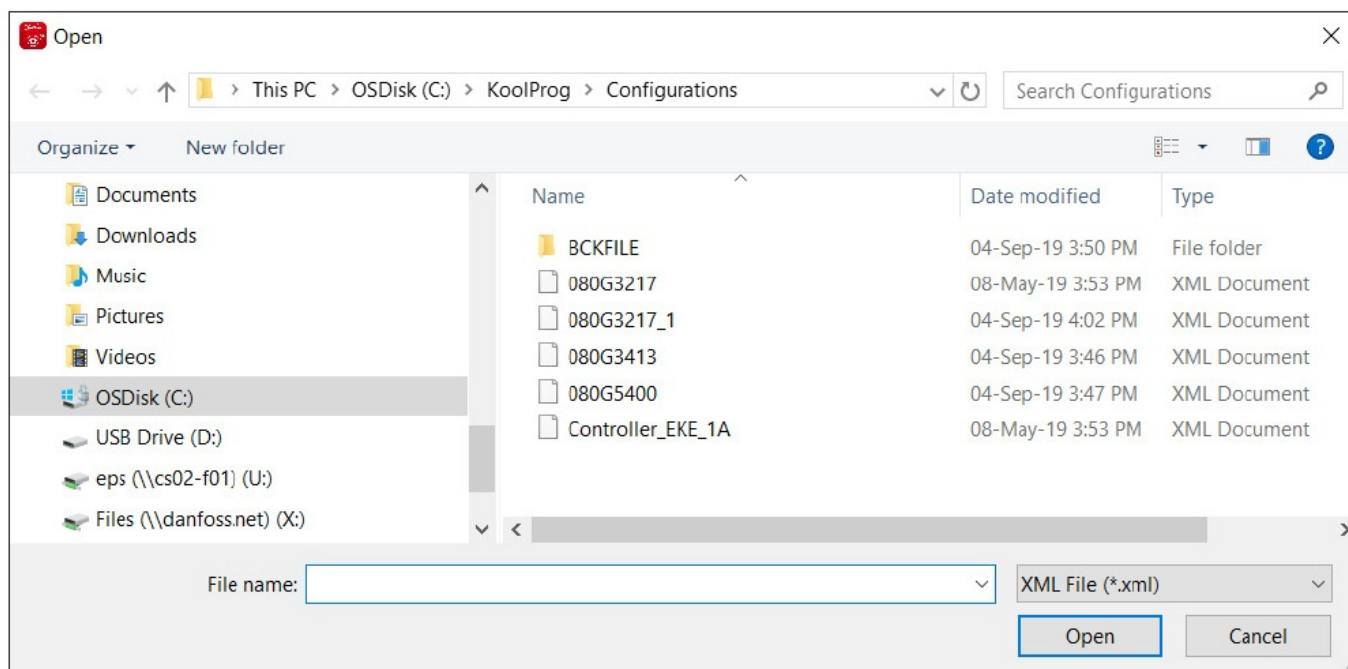
Open" command lets you open setting files already saved to the computer. Once the command is clicked, a window will appear with a list of saved setting files.

All projects are stored here in the folder: "KoolProg/Configurations" by default. You can change the default file

saving location in "Preferences" .

You can also open the setting files you have received from another source and saved in any folder using the browse option. Please note that KoolProg supports multiple file formats (xml, cbk) for different controllers. select

the appropriate setting file format of the controller you are using.

Note: .erc/.dpf format files of ERC/ETC controller are not visible here. A '.erc' or '.dpf' file saved on your PC can be opened in one of the following ways:

1. Select "New Project" and go all the way to Parameter list view of the same controller model. Select Open button 📁 to browse and open .erc/.dpf file on your PC.

2. Select "Upload from controller" if you are connected to the same controller online and go to the parameter list view. Select Open button 📁 to browse desired .erc/.dpf file and view it in KoolProg.

3. Select "Open" to open any other .xml file of the same controller, reach parameter list view screen, and there select Open button to browse and select .erc/ .dpf file to view and edit these files.

Import controller model (only for AK-CC55):
This allows you to import controller model (cdf) offline and generate database in KoolProg. This will allow you to create setting file offline without having controller connected to KoolProg. KoolProg can import the controller model (cdf file) saved to PC or any storage device.
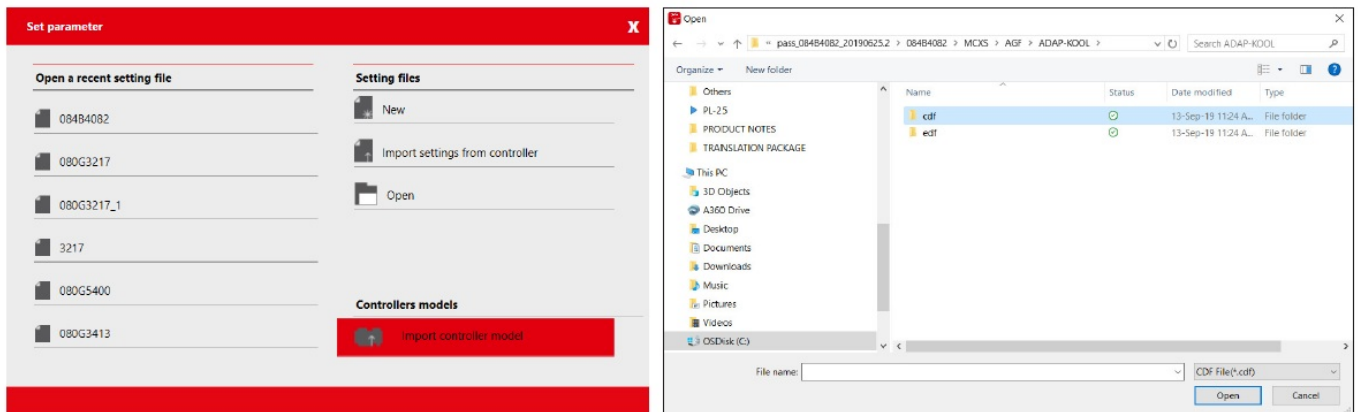

Info

Headline

Home: The "Home" Command will take you back to the Start Menu.
Open: The "Open" command lets you open an existing project.
Save: The "Save" command lets you save all the changes in the active project.
Save as: The "Save as" Command allows you to save your controller settings as a new project.
Export: This command copies the parameter settings to the connected controller.

i = Controller information.

Informational Photos

The project's data is shown on the left.
The controller the program is connected to is shown on the right.

If the data are identical, these can then be transmitted to the controller.
If they are **not** identical, then these cannot be transmitted. A warning message pops up.
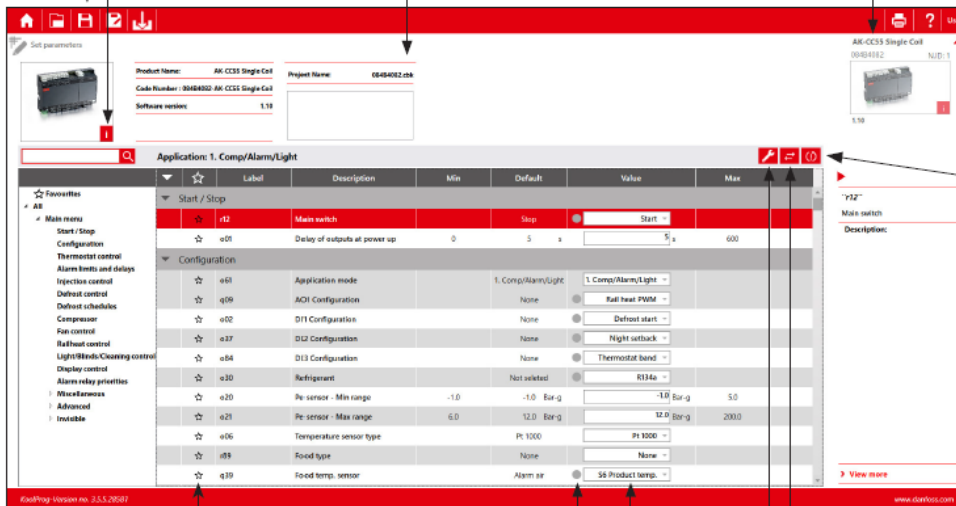
Arrow Up/Down
By clicking the arrow, you can hide the two photos and display more parameters in the window.
Clicking it again causes the photos to reappear.

Factory reset
This command will reset the project/controller values to default factory settings.

Arrow Left/Right
By clicking the arrow, you can hide the description of the selected parameters.
Clicking it again causes the description to reappear.

View more
This command gives the complete technical description of the controller.

Convert setting files (only for AK-CC55):
To convert setting files from one SW version to another software version of same controller type.

Quick setup wizard (only for AK-CC55):
Helps to set up the controller quickly by configuring a few critical parameters and starting the system.

Parameter settings field

Dot Symbol
A dot symbol will appear in front of a value if it has been modified and is no longer identical to its factory default setting.

Hint - Search Function
You can search for and display a specific parameter with the search function.
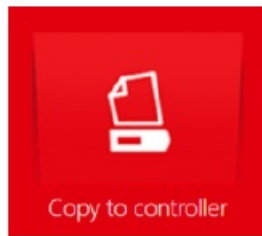Type in the first few letters of the name of the parameter and click "Search".

Favourites
You can select a number of parameters by ticking the ones you want in the "stars" column.

Afterwards they will be visible in the "Favourites" folder (first column at the top).

Quick setup wizard (only for AK-CC55):

User can run the quick setup both offline and online to set up the controller for the required application before moving on to the detailed parameter settings.

Convert setting files (only for AK-CC55):

User can convert the setting files from one software version to another software version of same controller type. Can convert settings from both ways (lower to higher SW version and higher to lower SW version.

1. Open the setting file which needs to be converted in KoolProg under "Set parameter".

2. Click on convert setting .

3. Select the project name, code number and SW version of the setting file that needs to be generated and click OK.

4. Pop up message with summary of added, changed and removed parameters displayed at the end of conversion.

Copy to controller

Copy to controller

Here you can copy the setting files to the connected controller as well as upgrade the controller firmware.
Firmware upgrade feature is only available for the selected controller model.

Copy the setting files: Select the setting file you want to program with the "BROWSE" command.
You can save a setting file in "Favorite Files" by clicking on the "Set as Favourite" button. The project will be added to the list and can be easily assessed later.
(Click on the trash icon to remove a project from the list).

Once you have selected a setting file, the key details of the selected file are displayed.

The key details of the selected setting file are shown here.

The key details of the connected controller are shown here.

Please ensure the connected controller's details match with the selected setting file.
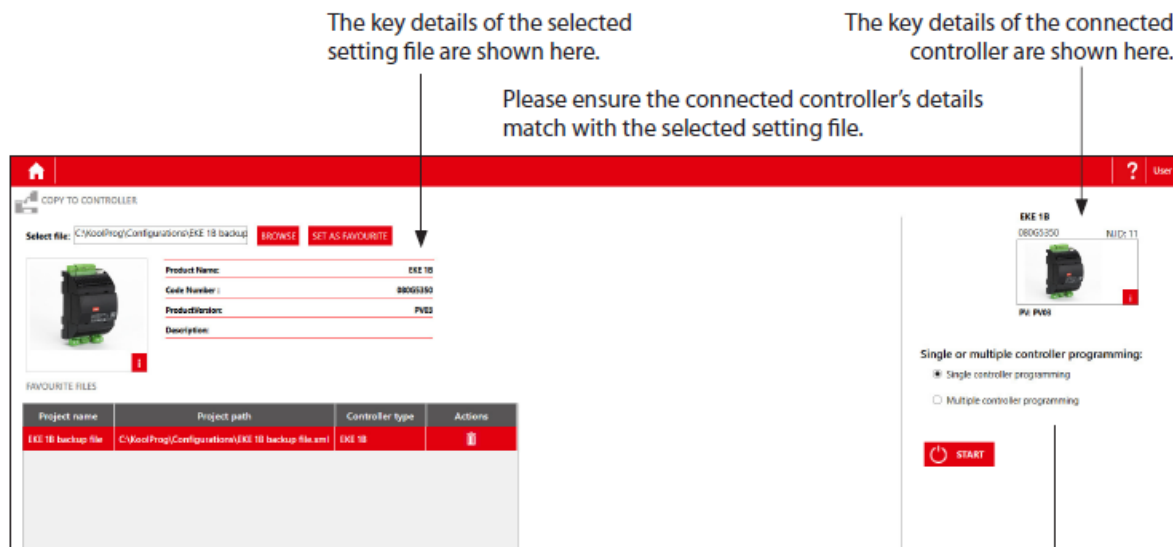
If the project file and the connected controller match, data from the project file will be transmitted to the controller when you click the "START" button.

The program checks whether data can be transmitted.
If not, a warning message pops up.

Multiple Controller Programming
If you want to program multiple controllers with the same settings, use "Multiple Controller Programming."
Set the number of controllers to be programmed, connect the controller and click "START" to program the file - wait for the data to be transferred.

Connect the next controller and click "START" again.

Counter reset to start position ("0" or "Set counter" value).

Firmware upgrade (only for AK-CC55):

1. Browse the firmware file (Bin file) you want to program, selected firmware file details are displayed on the left hand side.
2. If the selected firmware file is compatible with connected controller, KoolProg enables the start button and will update the firmware. If it is not compatible, the start button remains disabled.
3. After the successful firmware update, controller restarts and displays the updated details of the controller.
4. This feature can be fully protected by password. If KoolProg is password protected, when you browse the firmware file, koolProg prompts for the password and one can load the firmware file only after entering correct password.

On-line service
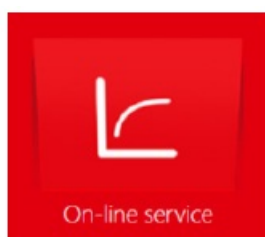
Allows you to monitor the real-time operation of the controller while it is running.

- You can monitor inputs and outputs.
- You can display a line chart based on parameters you have selected.
- You can configure settings directly in the controller.
- You can store line charts and settings and then analyze them.

Open
Allows you to view prior line charts you have made from collected data.

Save as
Allows you to save a project file containing all of the controller's settings.

Arrow Up/Down
Clicking the arrow allows you to hide the photo and the top block of information, so that more space is available on screen for parameters view.
Clicking the arrow again makes it reappear.

The Trend Feature
If you want to chart the trend for a measurement, you can select what you want to view from this table. Tick the box of any parameter you would like to include in the chart. You can select a maximum of 10 parameters.

Line Chart
Click the "Line Chart" button to switch over to the trend view. You can begin charting any measurements you want in the trend view.

Alarms (only for AK-CC55):
Under the Alarms tab, the user can view the active and historical alarms present in the controller with a time stamp.

IO Status and Manual Override:

User can get an instant overview of configured inputs and outputs and their status under this group. User can test the output function and electrical wiring by putting controller into manual override mode and controlling the output manually by switching them ON and OFF.

Trend Charts

The program only saves data if the "Save chart" box is checked.
If you want to save the collected data in another file format, use the "Save As" command. This enables you to save data in either a .CSV or .PNG file format. After saving an image, the chart can be viewed later in selected file format.

You can change how often you want to record a value by changing the log interval.

You can change the duration for which the data has to be collected by changing the log period.

You can start or stop data logging by clicking the corresponding buttons.

You can set the time interval for the time labels on the x-axis by modifying 'Label.'

You can define the time period shown on the screen before the view refreshes by changing the Zoom Level.

You can stop a parameter from trending by unchecking the box in front of that parameter.

Unknown controller support

(Only for ERC 112 & ERC 113 controllers)
If a new controller is connected, the database of which is not already available in the KoolProg, you can still connect to the controller in online mode. Select either "Upload from Controller" in set parameters or "Service and test" to view parameter list of the connected controller. All new parameters of connected controller will be displayed under separate menu group "New Parameters". User can edit the parameter settings of connected controller and save the setting file on PC to mass program using "Programming EKA 183A (Code no. 080G9740)". **Note:** saved setting file created in this way cannot be reopened in KoolProg.

Fig 5a. Unknown controller connection under "Upload from controller":

Fig 5b. Unknown controller connection under "Service and test":

Please contact your nearest sales representative for further assistance.

Please contact your nearest sales representative for further assistance.

http://koolprog.danfoss.com

Documents / Resources

Danfoss Kool Prog PC Software [pdf] User Guide
Kool Prog PC Software, Kool Prog PC Software, Prog PC Software, PC Software, Software

References

- **User Manual**