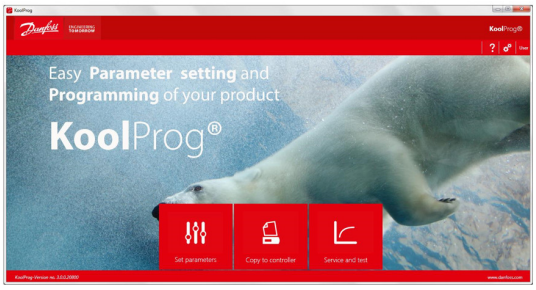


Danfoss KoolProg Software User Guide

KoolProg Software
User Guide

Contents

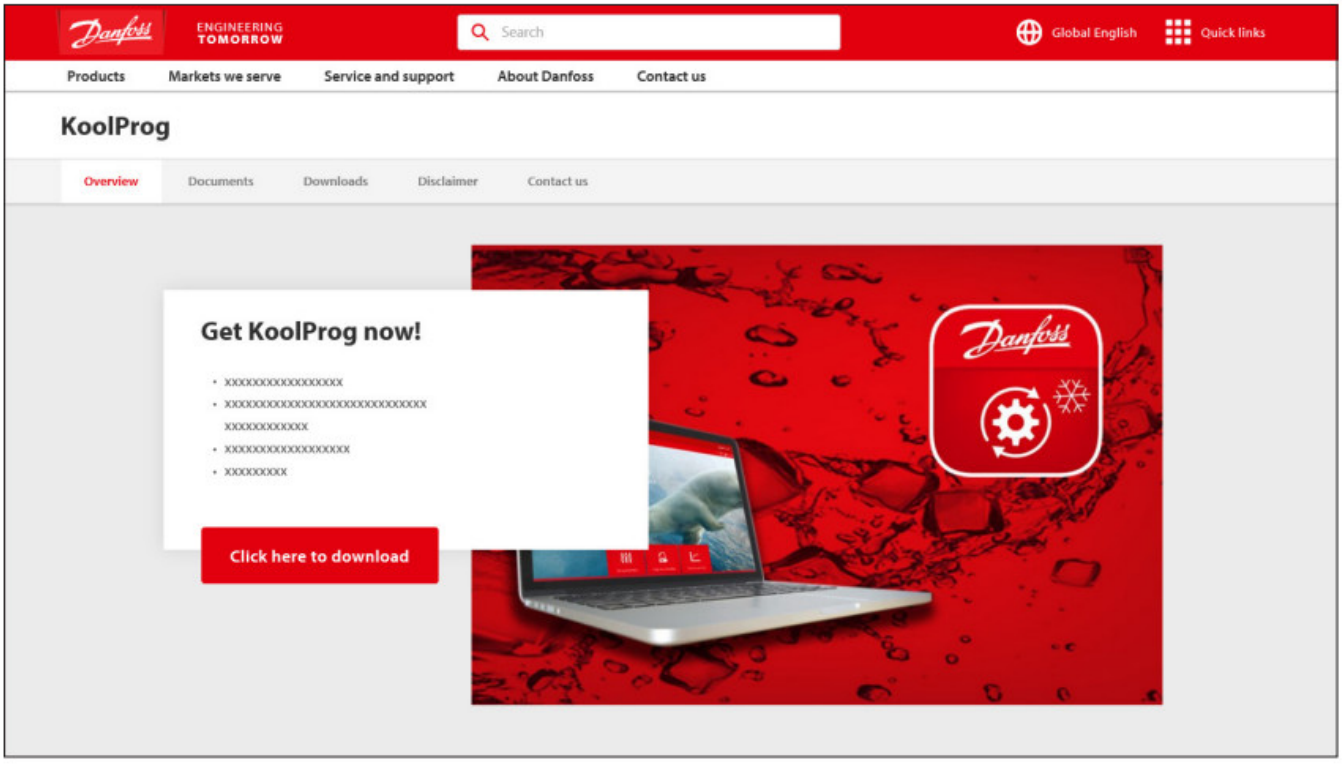
Introduction

Configuring and testing the Danfoss electronic controllers has never been as easy as 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 off-line 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, EETc/EETa, ERC 111/112/113, ERC 211/213/214, EKE 1A/B/C, AK-CC55, EKF 1A/2A.
The following instructions will guide you through the installation and first-time usage of KoolProg®.

Downloading .exe file

Download the 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.

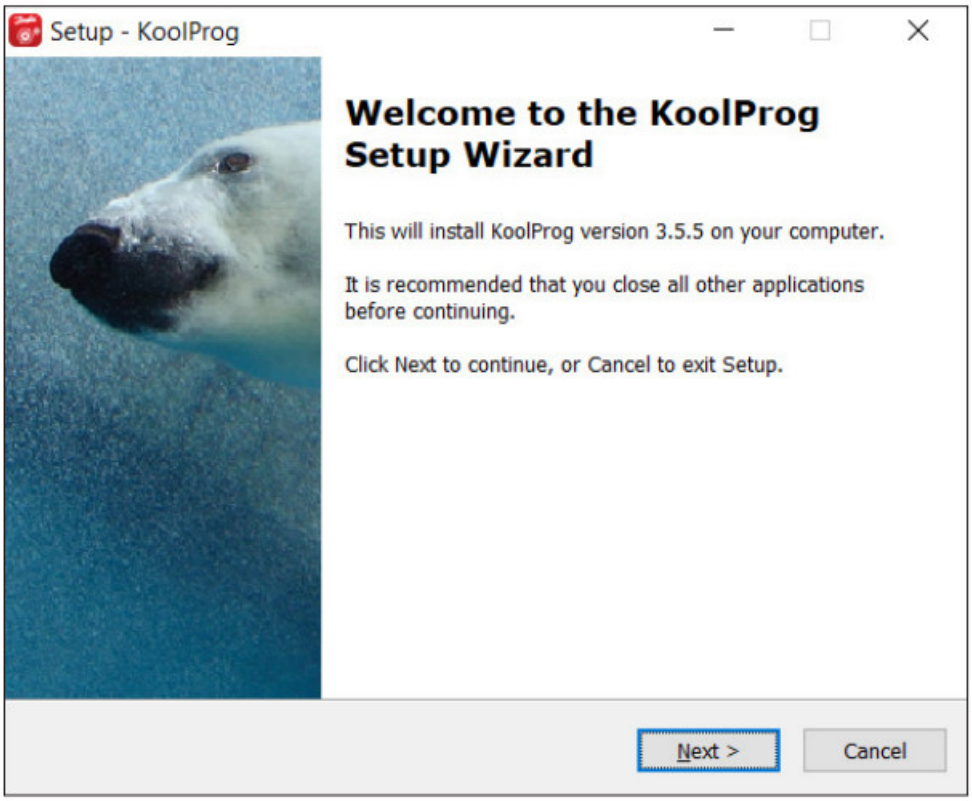
OS	Windows 10, 64 bit
RAM	8 GB RAM
HD Space	200 GB and 250 GB
Required software	MS Office 2010 and above
Interface	USB 3.0

Macintosh operating system is not supported.

Running the set-up directly from a Windows server or network file server is not recommended.

Installing software

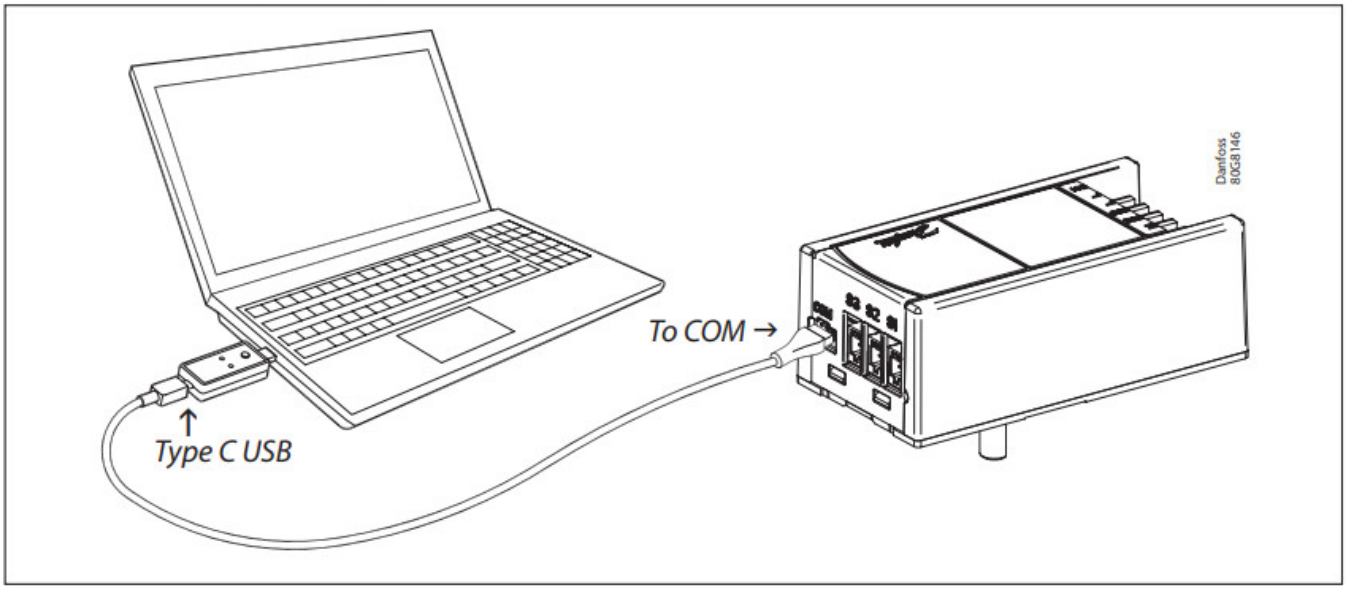
- Double-click on the KoolProg® set-up icon.
  Run the installation wizard and follow the on-screen instructions to complete the KoolProg® installation.



Note: If you encounter a “Security warning” during installation, please click on “Install this driver software anyway”.

Connection with controllers

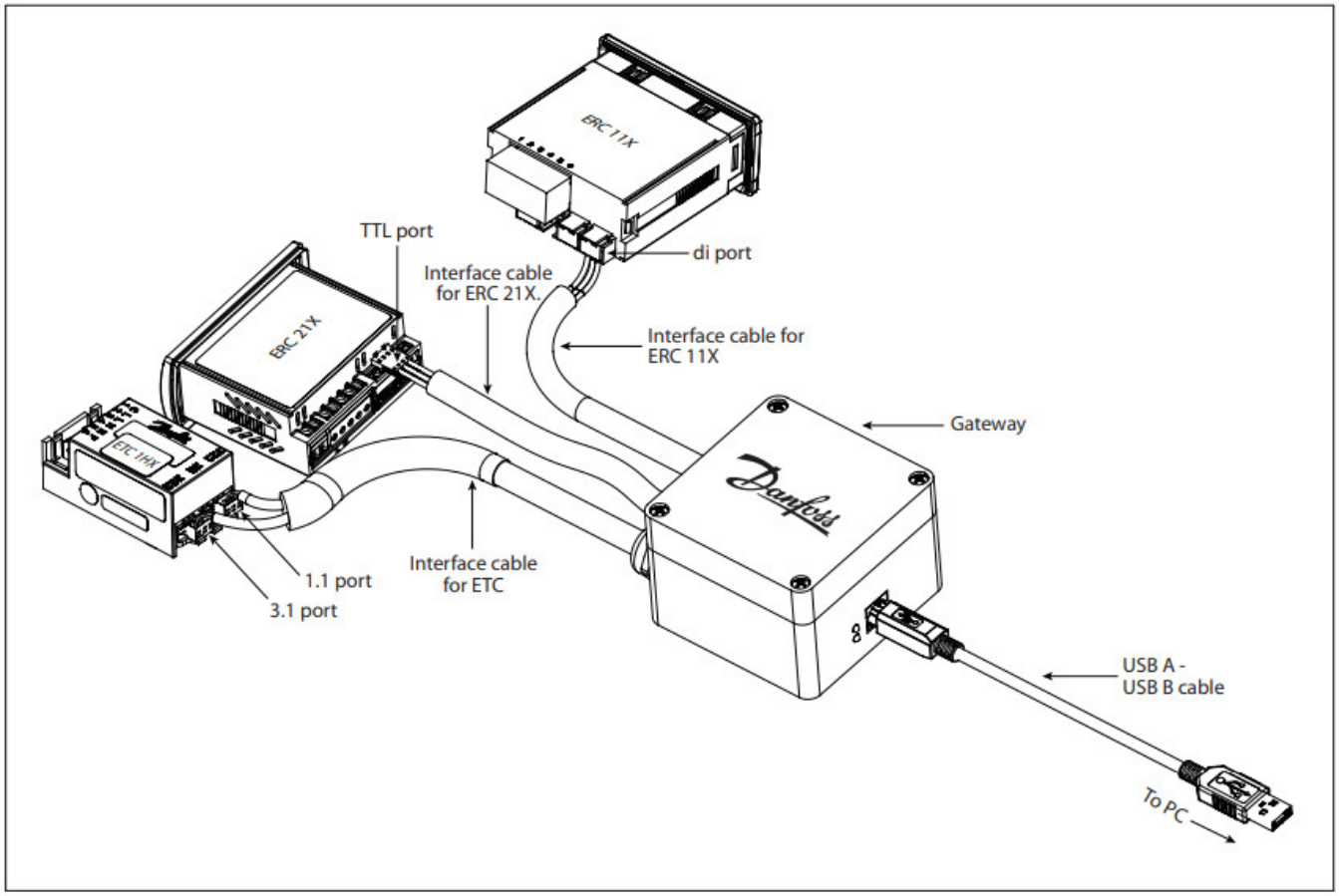
Fig 1: For EET using KoolKey and cable



1. Connect the KoolKey to the PC’s USB port

2. Connect the controller to KoolKey using a communication cable

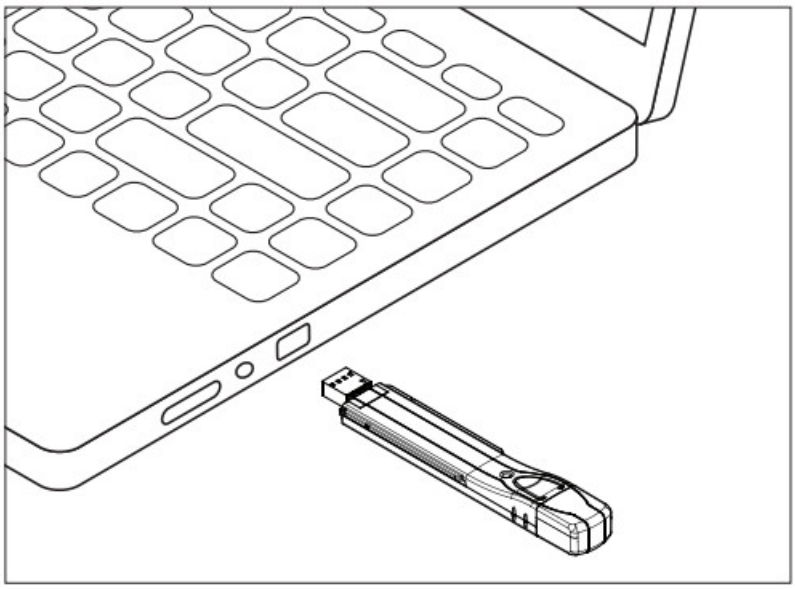
Fig 2: For ERC and ETC using Danfoss gateway
(Code No. 080G9711)



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

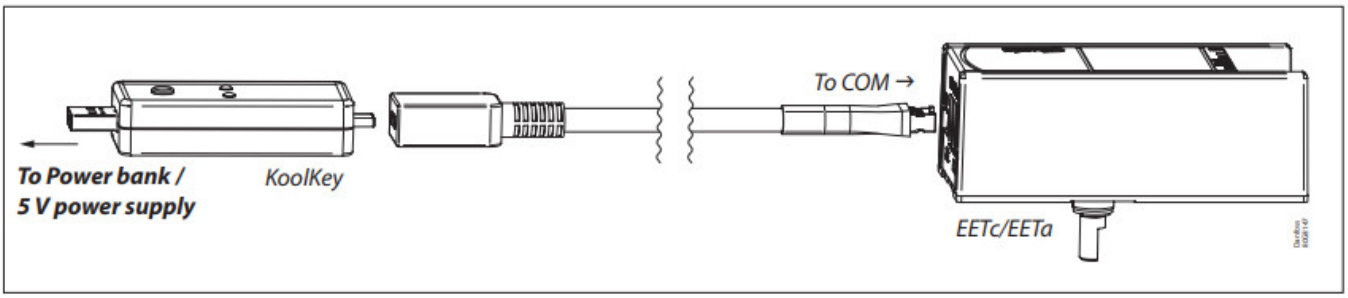
CAUTION: Please ensure that only one controller is connected at any time.

Fig 3: Mass programming of EET and ERC controllers
For EET:
Insert the KoolKey to the PC's USB port and save the config file created using KoolProg in **080Nxxxx.xml** format where xxxx is the code no. of the controller.
For ERC:
Connect EKA programming key to the PC's USB port and save the config file created using KoolProg in xxxx.erc format.
Note: xxxx are the last four digits of the controller's code no.



Transferring the file from KoolKey to an EET controller:
For EETa the controller has to be powered with main power or KoolKey must power with a 5 V supply.
For EETc the KoolKey has to be mandatorily powered up with a 5 V supply.

CAUTION: Do not power the KoolKey and controller together.



For more details, please refer to the KoolKey user guide: BC349529829398.

Transferring the file from the EKA key to the ERC controller:
Fig 3a: Transferring to ERC 11X
Insert EKA 183A(080G9740) into docking station (080G9701).
Place the ERC 11X controller on the docking station and keep it pressed down until the successful programming indicator turns green.

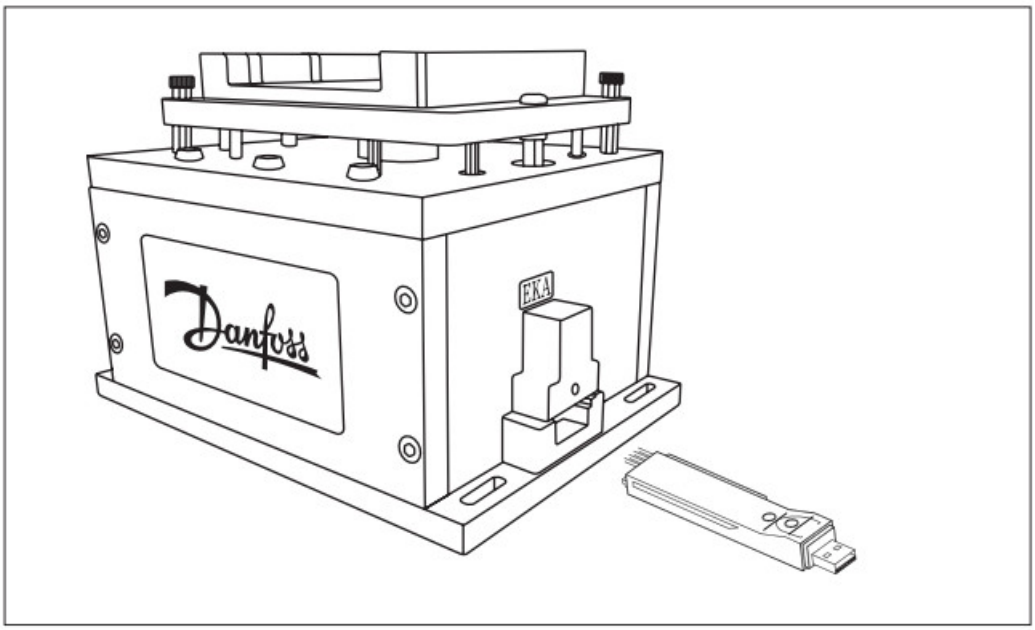
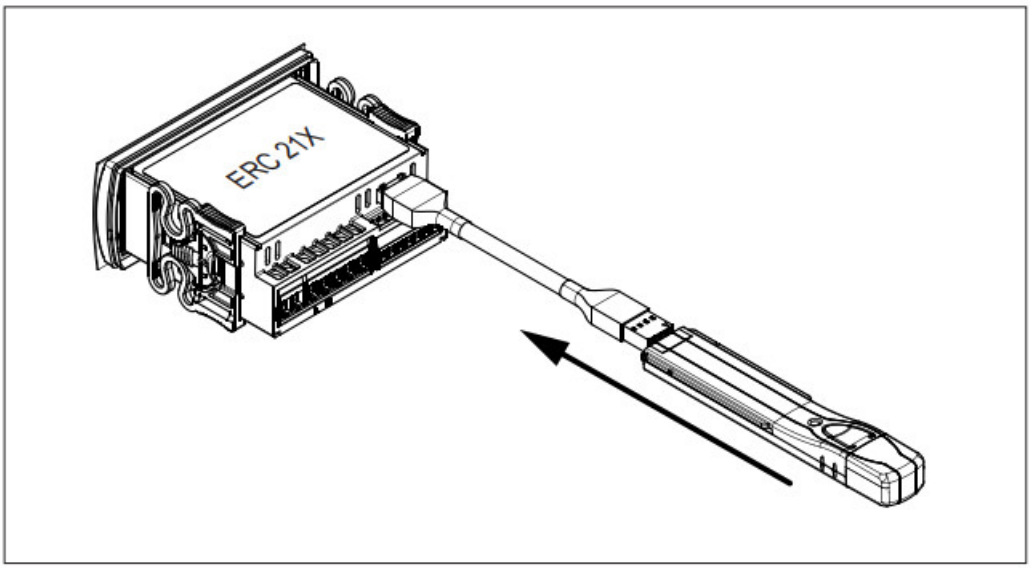
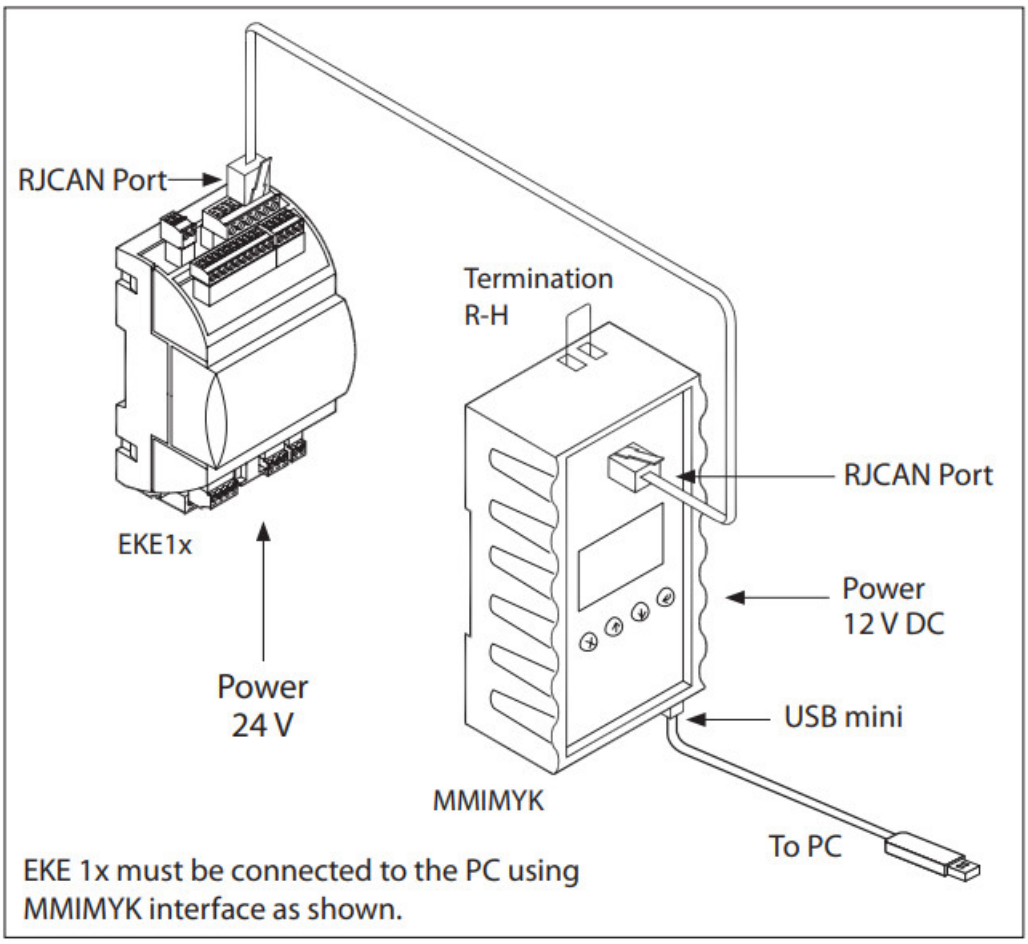


Fig 3b: Transferring to ERC 21X:
Insert EKA 183B (080G9741) into the TTL port of ERC 21X as shown in the image below.
Press the button to initiate a transfer of the file from EKA 183B to ERC21X.



For more information, please refer to the EKA 183B (080G9741) installation guide provided in the kit.

Fig 4: Connection for EKE using interface type MMIMYK (Code No. 080G0073)



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

Fig 5: Connection for AK-CC55 using interface type MMIMYK (Code No. 080G0073)

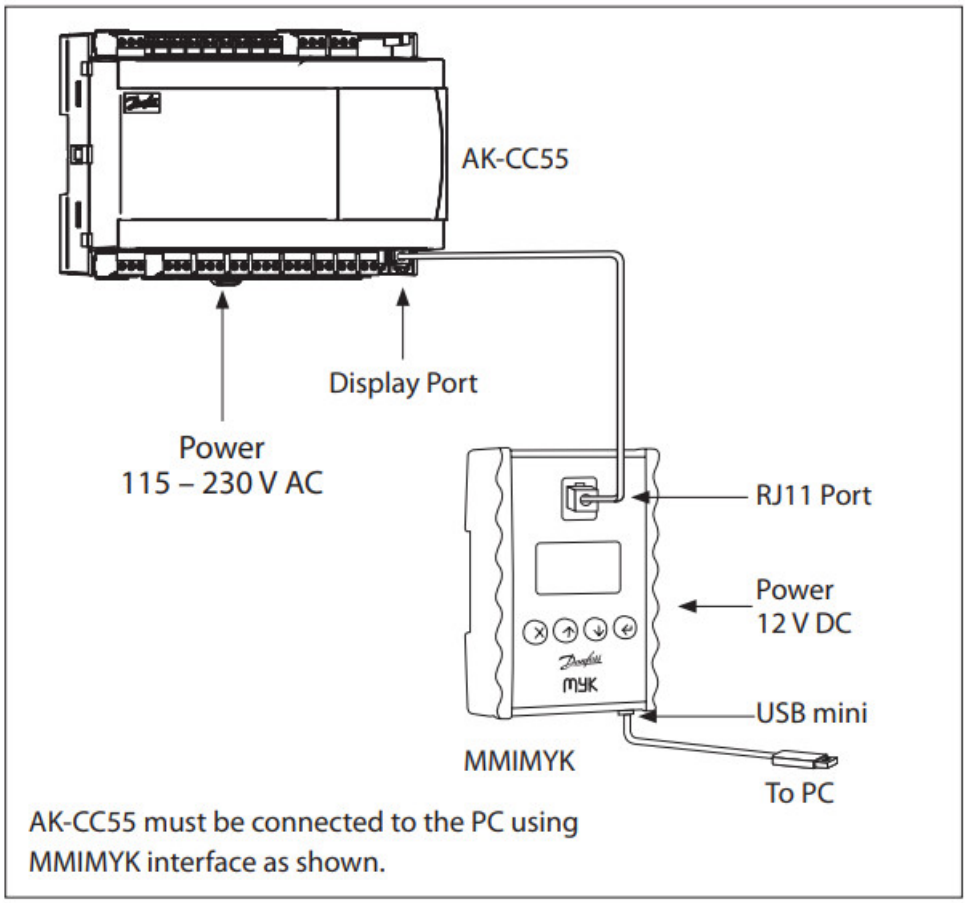
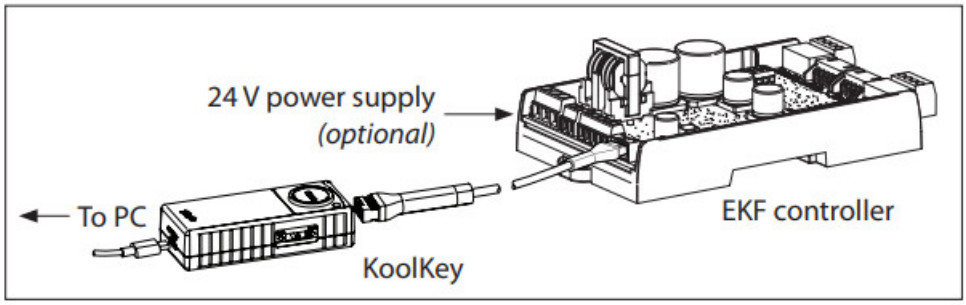
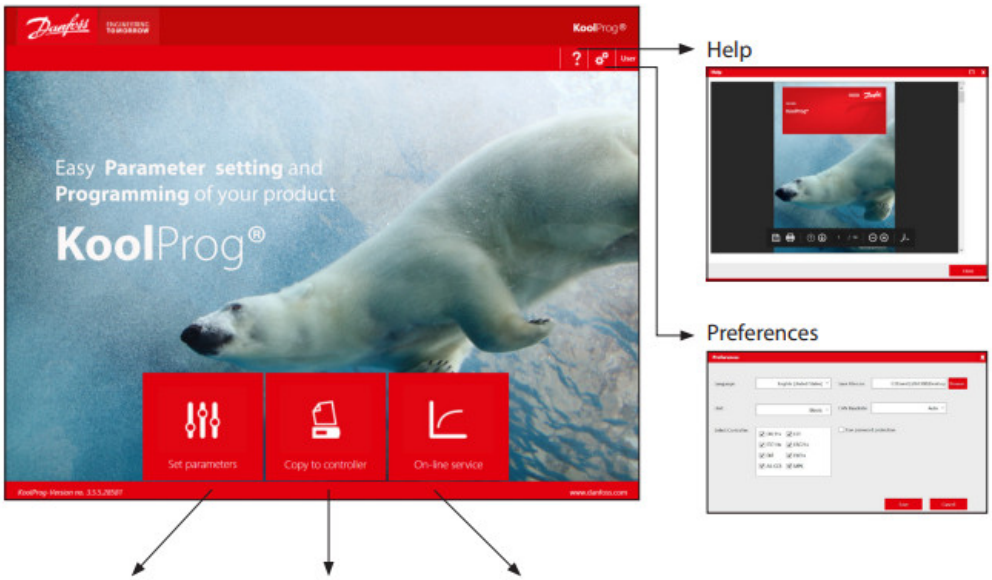


Fig 6: Connection for EKF1A/2A using KoolKey as a Gateway.



5.0 Starting the program

Double click on the desktop icon to launch the KoolProg application.

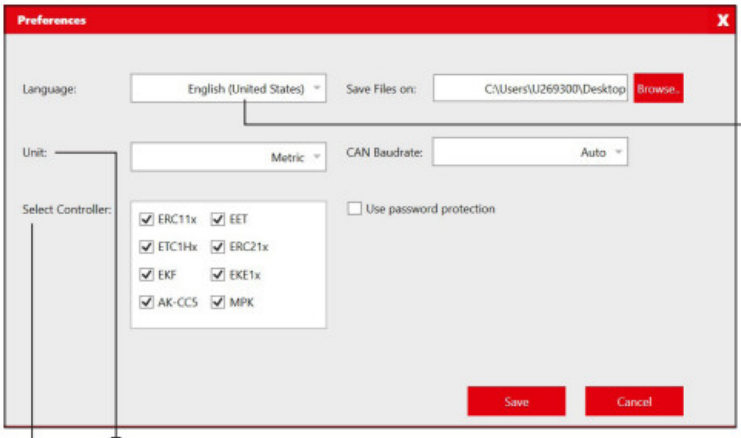


The program's features

To create new parameter setting files either by importing them from the controller or off-line.

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

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



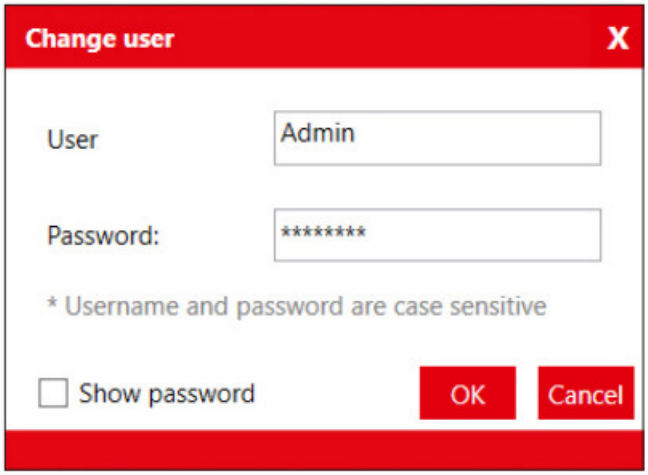
Choose the preferred language

Select the units you prefer to work with:
Metric (°C and bar)
Imperial (°F and PSI)

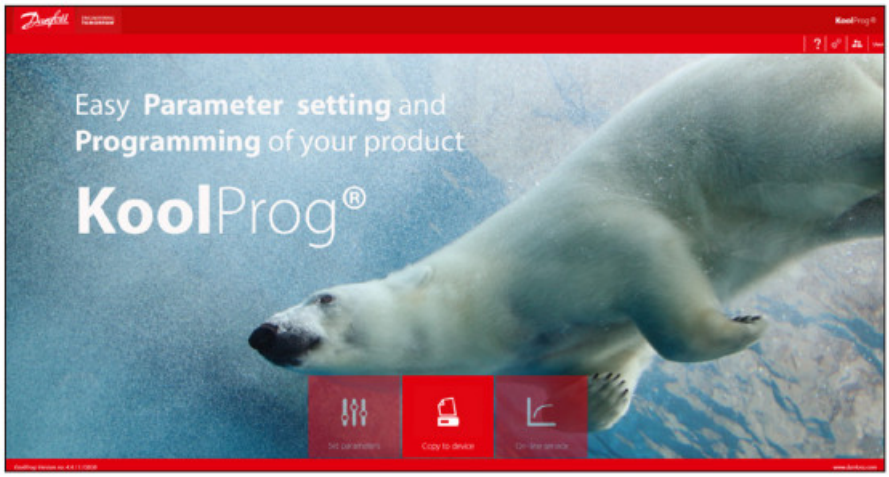
Select the controller type you are using. By default all controller types are selected, however by selecting only the controller type you are connecting will reduce the connection time.

Accessibility

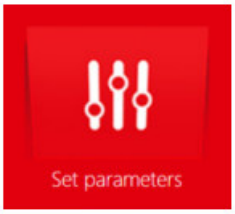
Users with a password have access to all features.

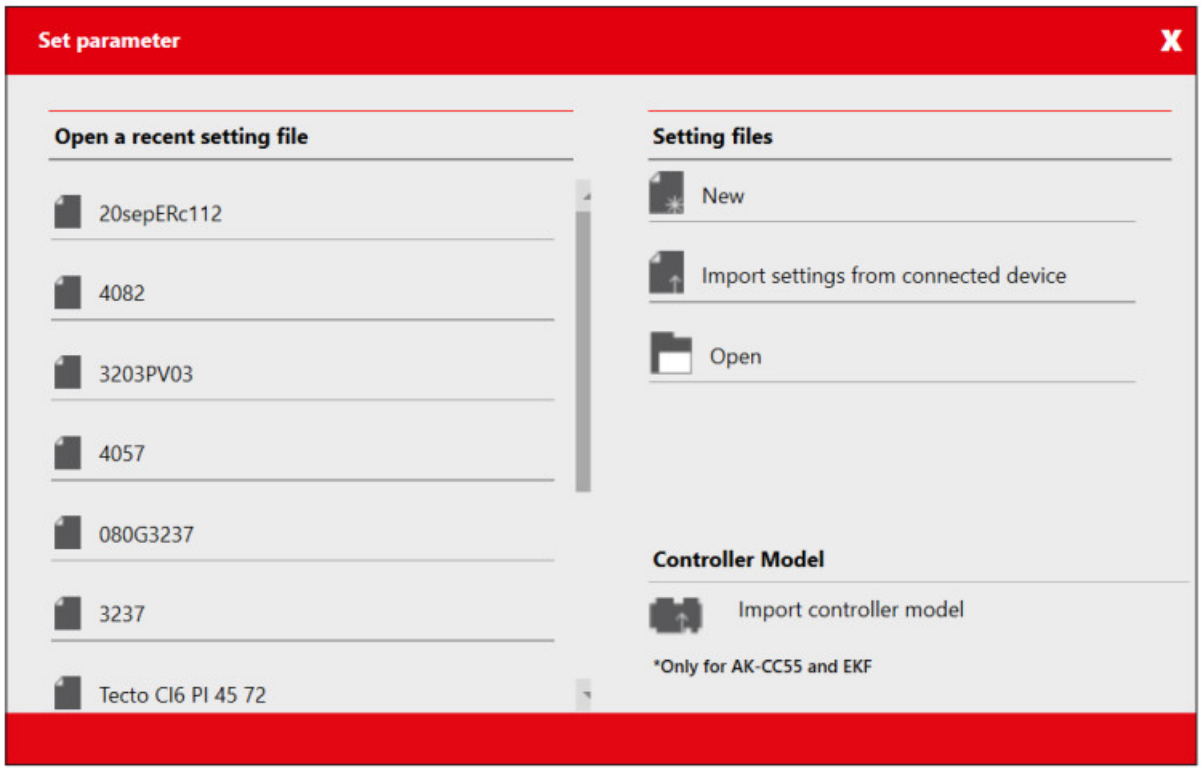


Users without a password have limited access and may only be able to use the ‘Copy to controller’ feature.



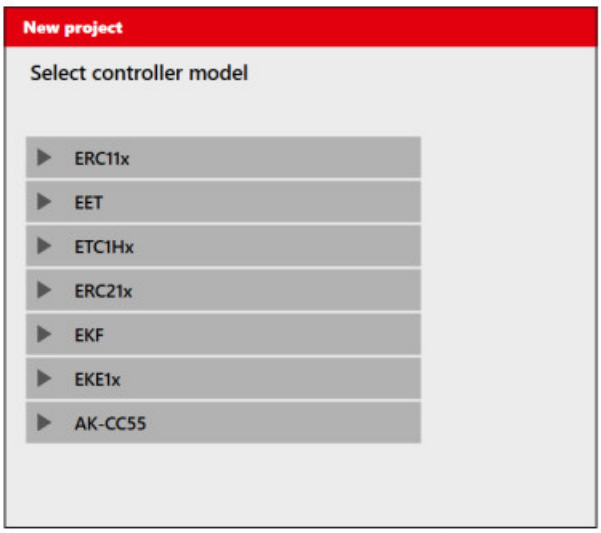
Set parameters





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

New

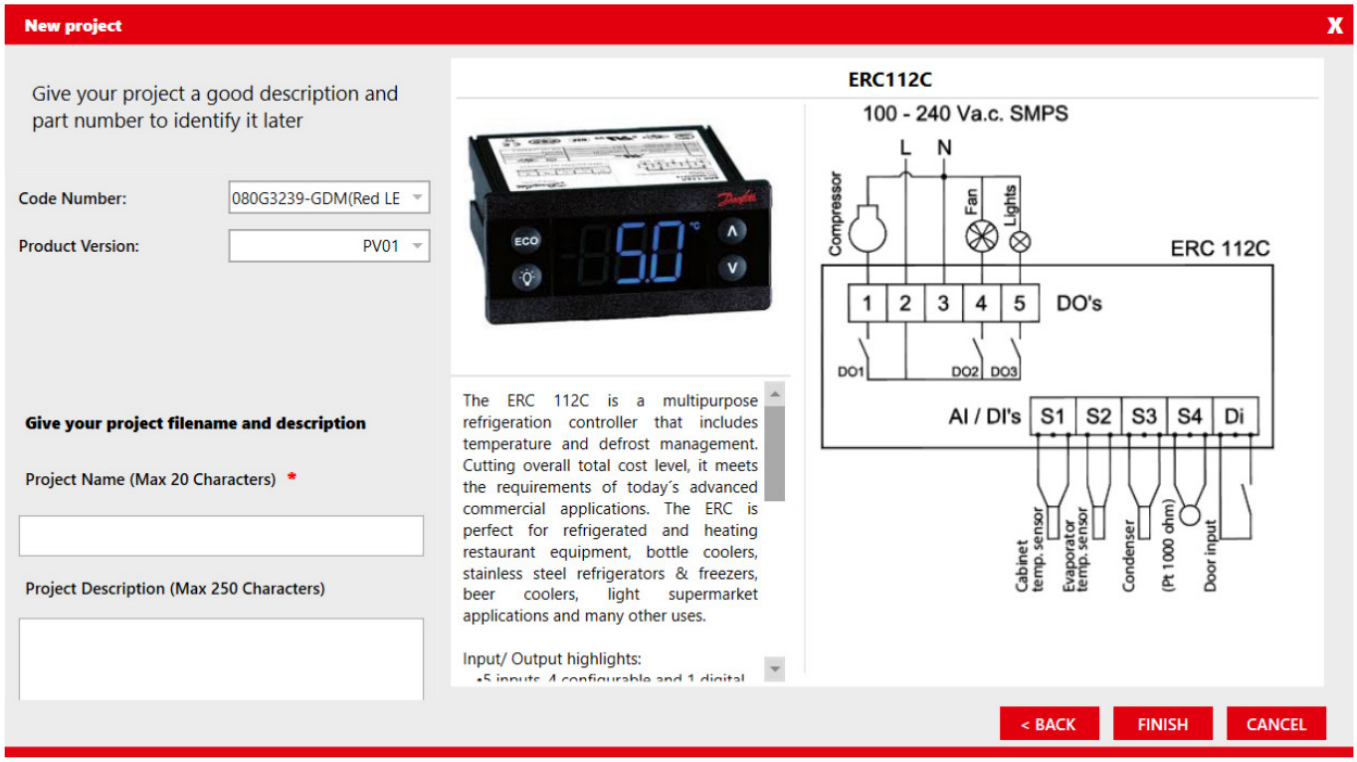


Create a new project by selecting:

- 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.



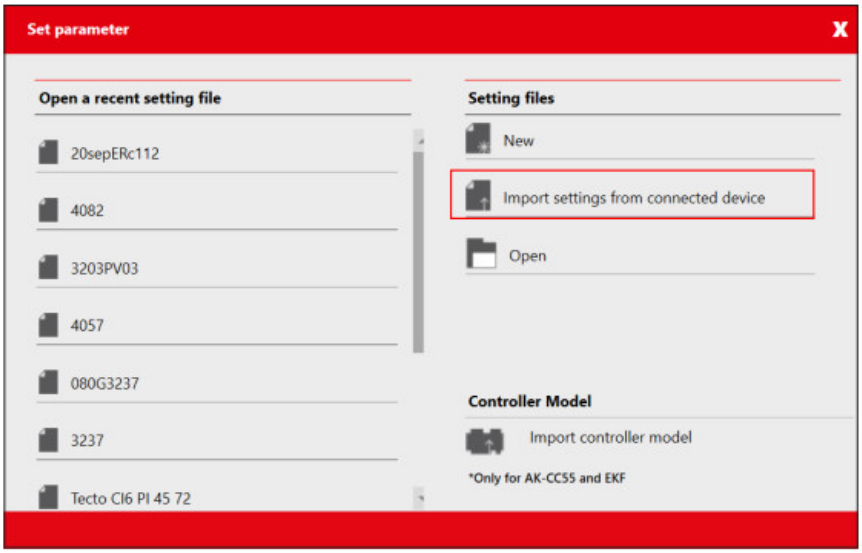
Note: Only standard code numbers are available to choose from in the “Code Number” field. To work off-line with a non-standard code number (customer-specific code number), use one of the following two methods:

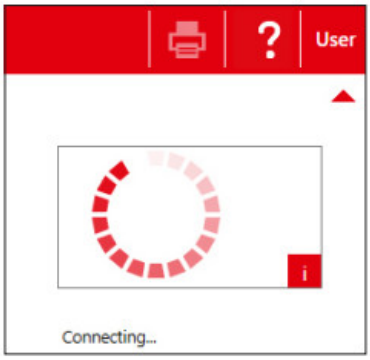
1. Connect the controller of the same code number with KoolProg using Gateway, and use “Import settings from Controller” to create a configuration file from it.
2. Use the “Open” feature to open an existing locally saved file on your PC of the same code number and create a new file from it.

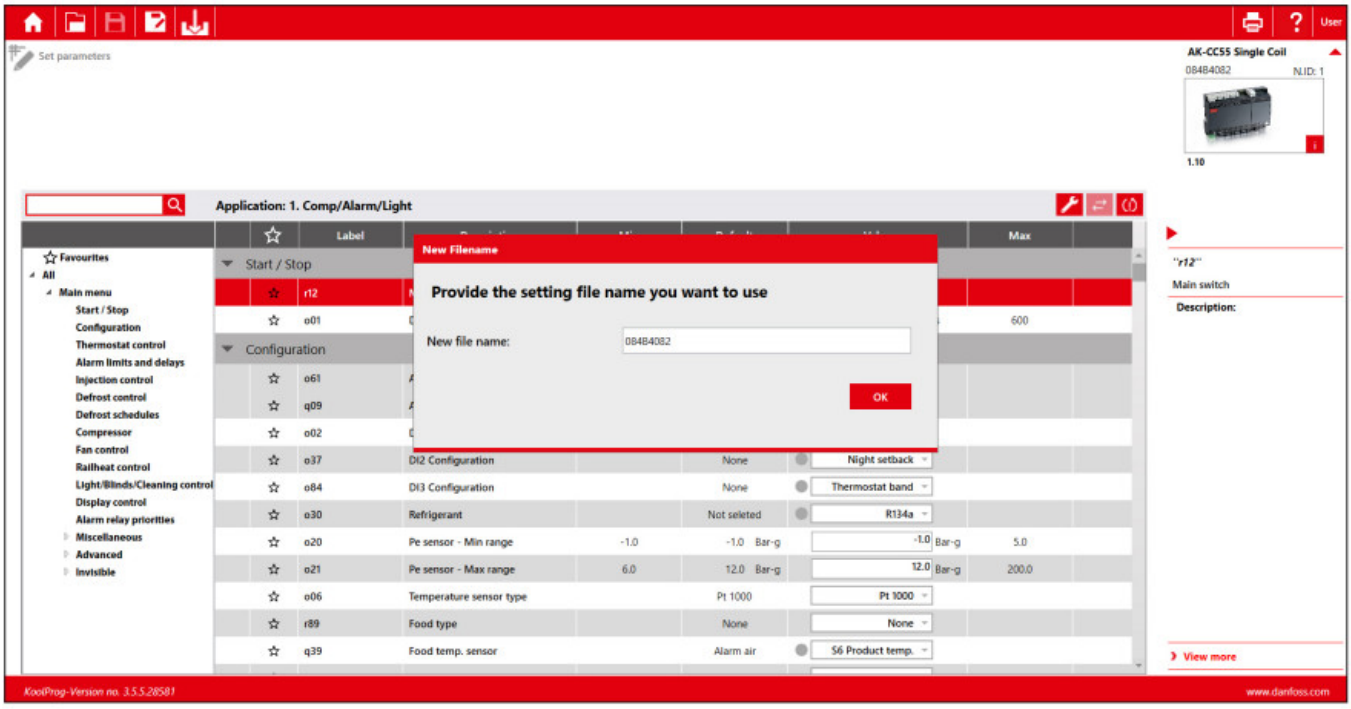
   The new file, saved on your PC locally, can be accessed offline in the future without having to connect the controller.

Import settings from the controller

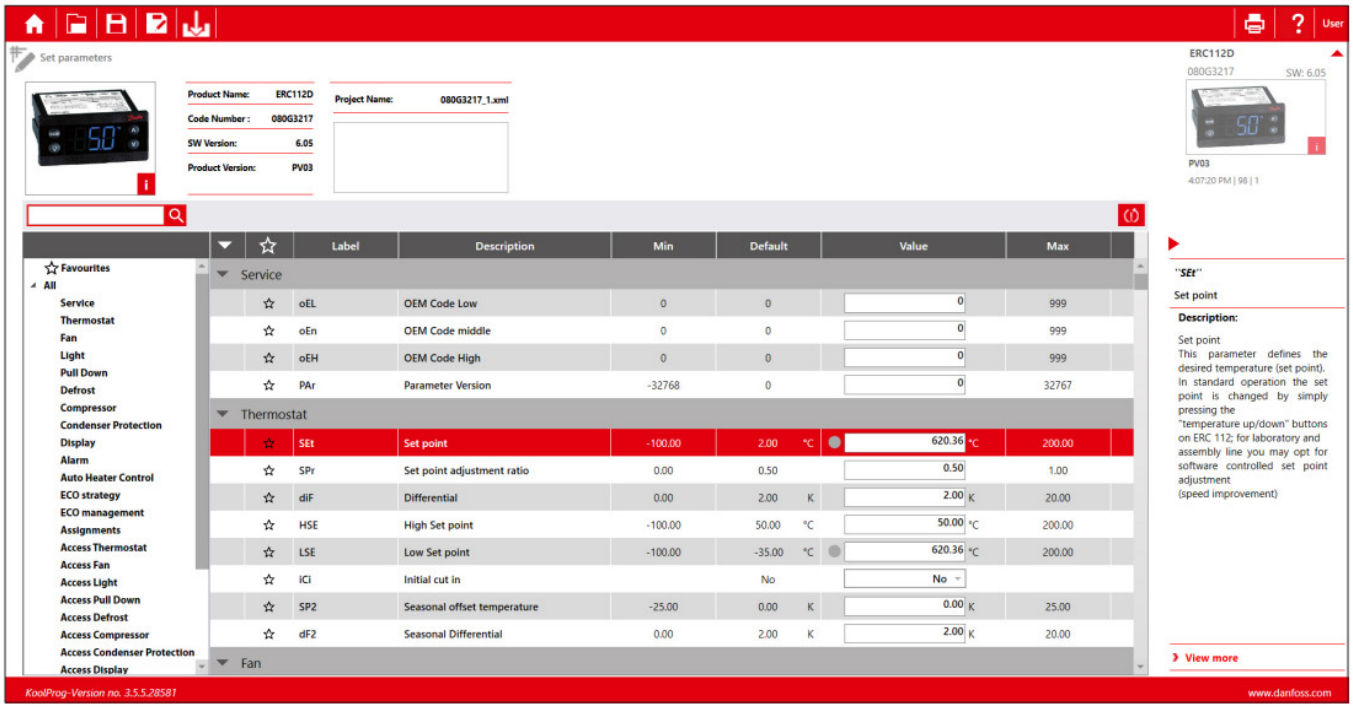
Allows you to import a configuration from a connected controller to KoolProg and to modify the parameters offline. Select “Import settings from controller” to import all parameters and the details from the connected controller to the PC.





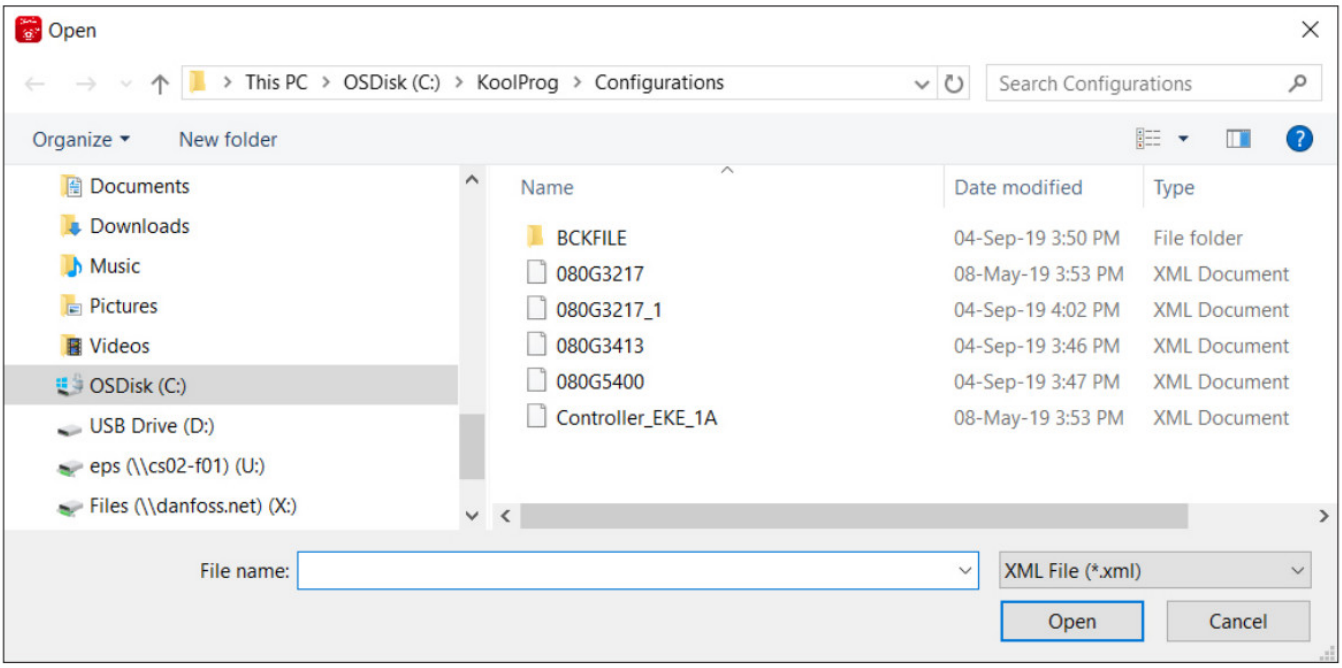


After “Import completed”, save the imported setting file by providing the file name in the pop-up message box.



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



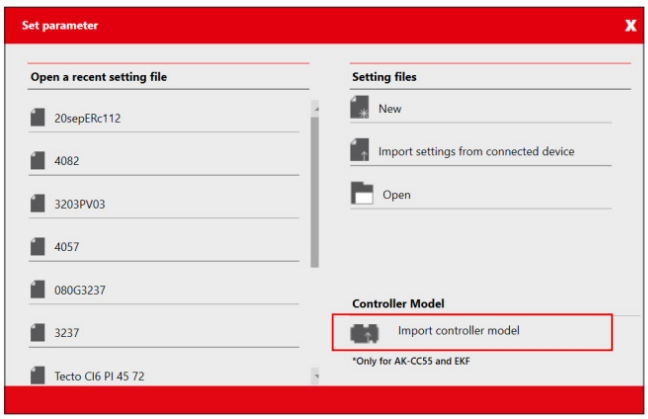
The "Open" command lets you open setting files already saved to the computer. Once the command is clicked, a window will appear with a list of saved setting files.

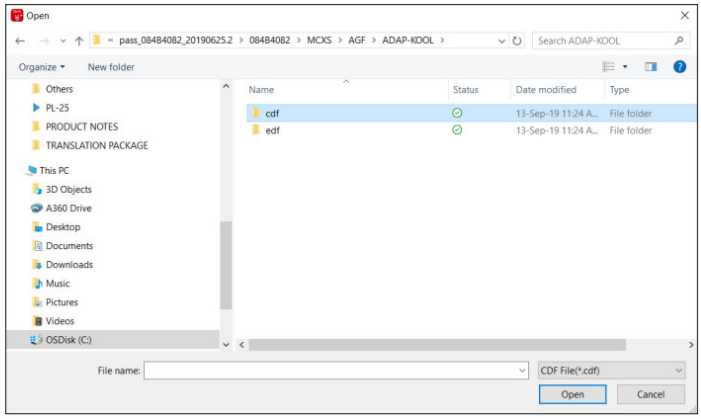
All projects are stored here in the folder: "KoolProg/Configurations" by default. You can change the default file saving location in "Preferences" . You can also open the setting files you have received from another source and saved in any folder using the browse option. Please note that KoolProg supports multiple file formats (xml, cbk) for different controllers. select the appropriate setting file format of the controller you are using.

Note: the .erc /.dpf format files of the 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 the Parameter list view of the same controller model. Select the Open button to browse and open the .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 the Open button to browse the desired .erc/.dpf file and view it in KoolProg.
3. Select “Open” to open any other .xml file of the same controller, reach the parameter list view screen, and there select the Open button to browse and select the .erc/.dpf file to view and edit these files.

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





Set parameters - continued

Info

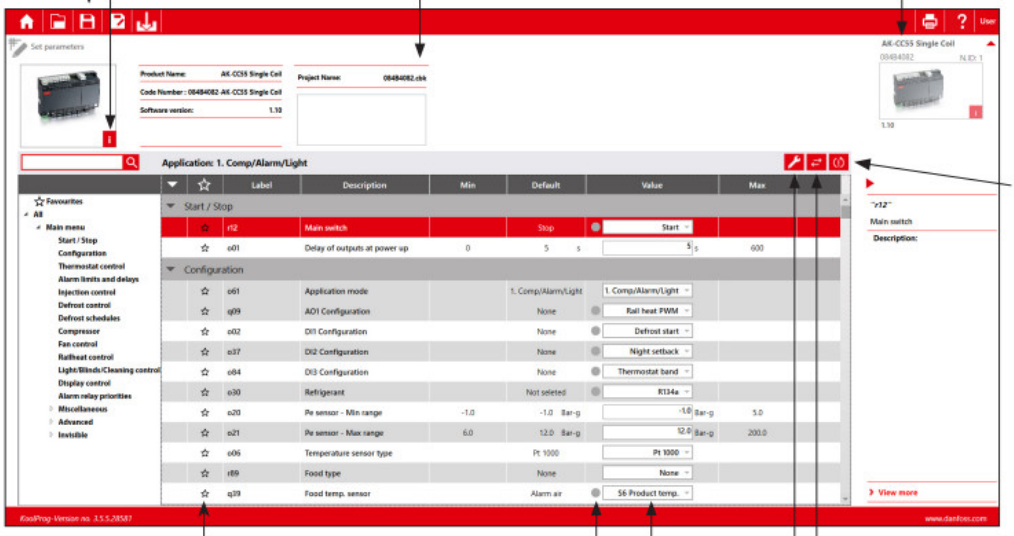
Headline

- 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.

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

i = Controller information.

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 re-appear.

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 re-appear.

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

Convert setting files (only for AK-CC55 and ERC 11x):
To convert setting files from one SW version to another SW version of same controller type.

Quick set-up 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

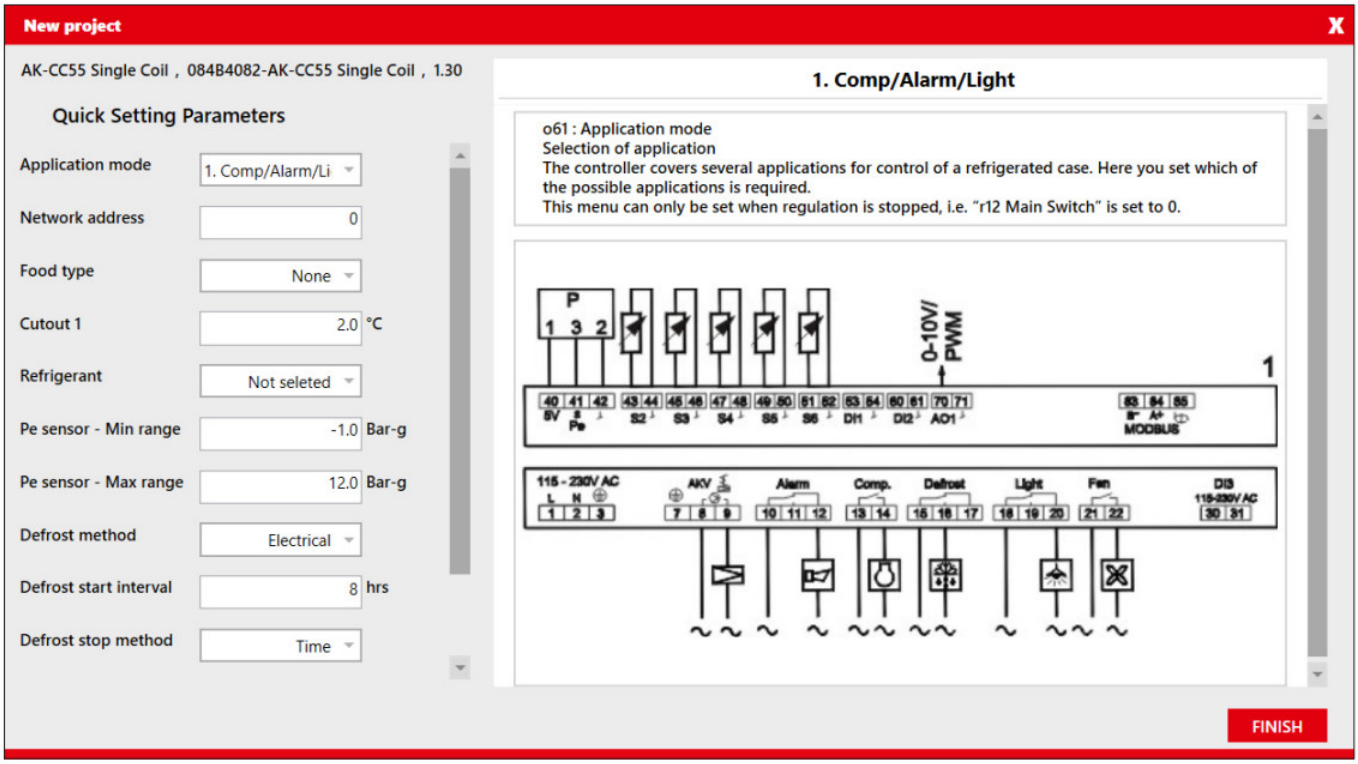
Dot Symbol
A dot symbol will appear in front of a value if it has been modified and is no longer identical to its factory default setting.

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).

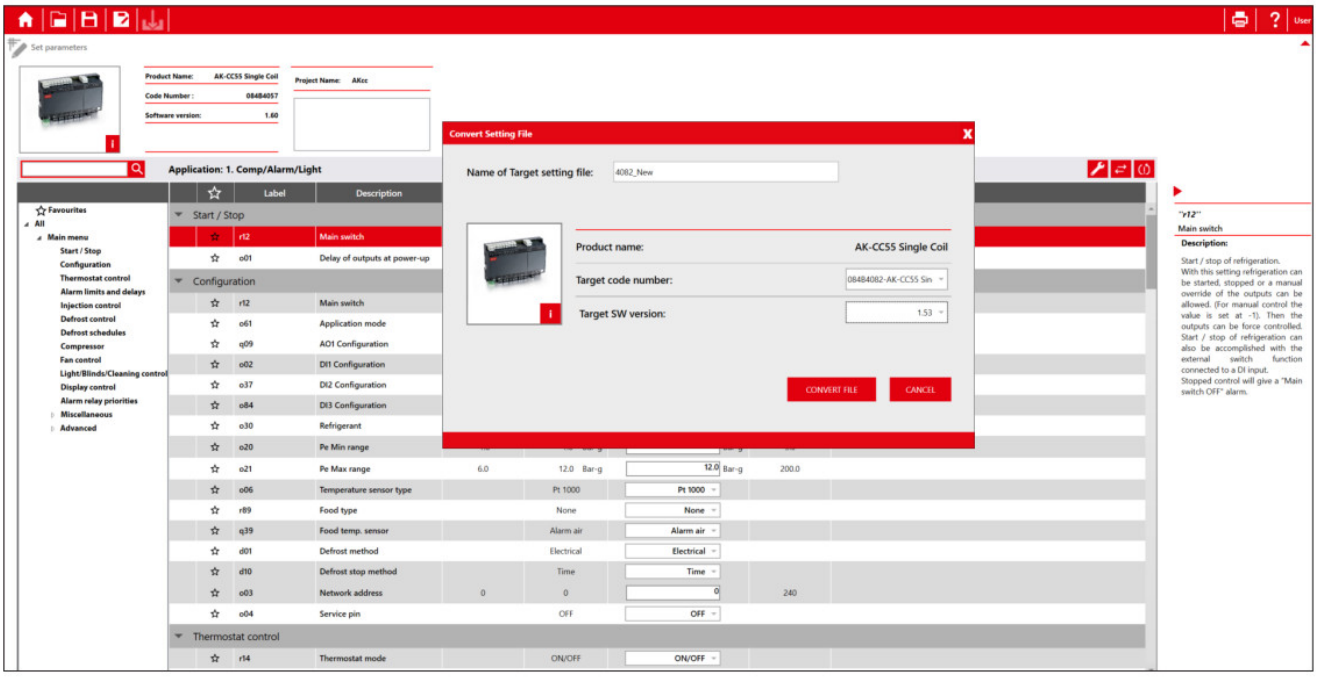
Hint - Search Function
You can search for and display a specific parameter with the search function.
Type in the first few letters of the name of the parameter and click "Search".

Quick set-up wizard (only for AK-CC55):
The user can run the quick set-up both off-line and online to set up the controller for the required application before moving on to the detailed parameter settings.

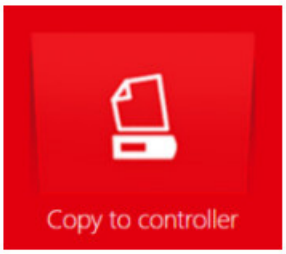


Convert setting files (only for AK-CC55 and ERC 11x):
The user can convert the setting files from one software version to another software version of the same controller type
and can convert settings from both ways (lower to higher SW version and higher to lower SW version.

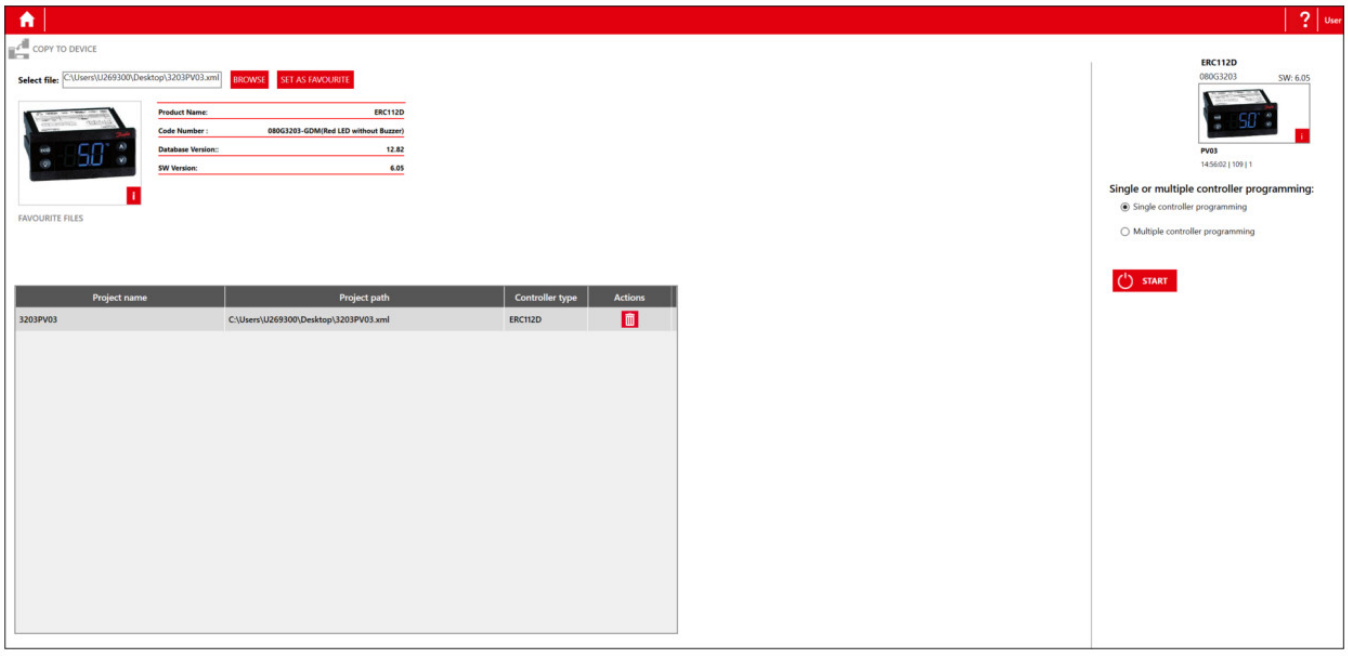
1. Open the setting file which needs to be converted in KoolProg under "Set parameter".
2. Click on the converting setting  .
3. Select the project name, code number, and SW version / Product version of the setting file that needs to be generated and click OK.
4. A pop-up message with a summary of the conversion will be displayed at the end of the conversion.
5. Converted file is displayed on the screen. Any parameter with an orange dot indicates that the value of that parameter is not copied from the source file. It is suggested to review those parameters and make the necessary changes before closing the file if required.



Copy to device



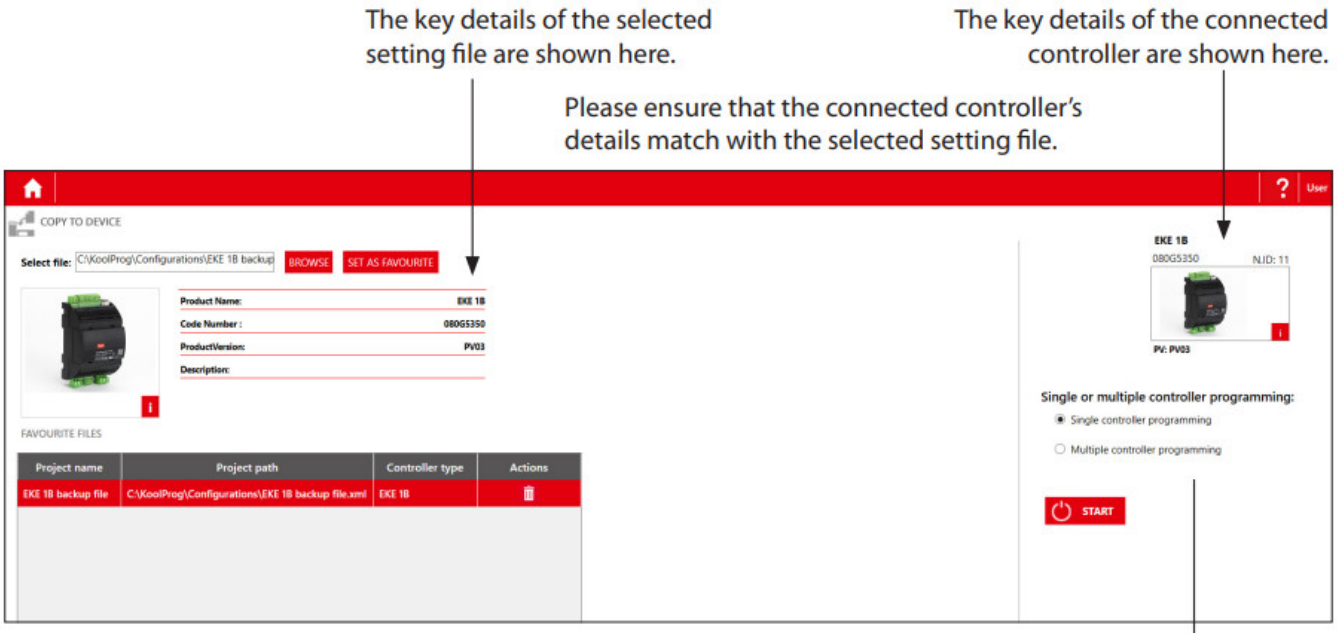
Here you can copy the setting files to the connected controller as well as upgrade the controller firmware. The firmware upgrade feature is only available for the selected controller model.



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 accessed 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.

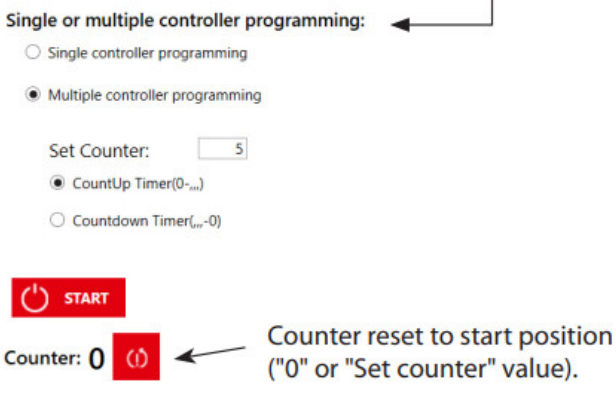


If the project file and the connected controller match, data from the project file will be transmitted to the controller when you click the "START" button.

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

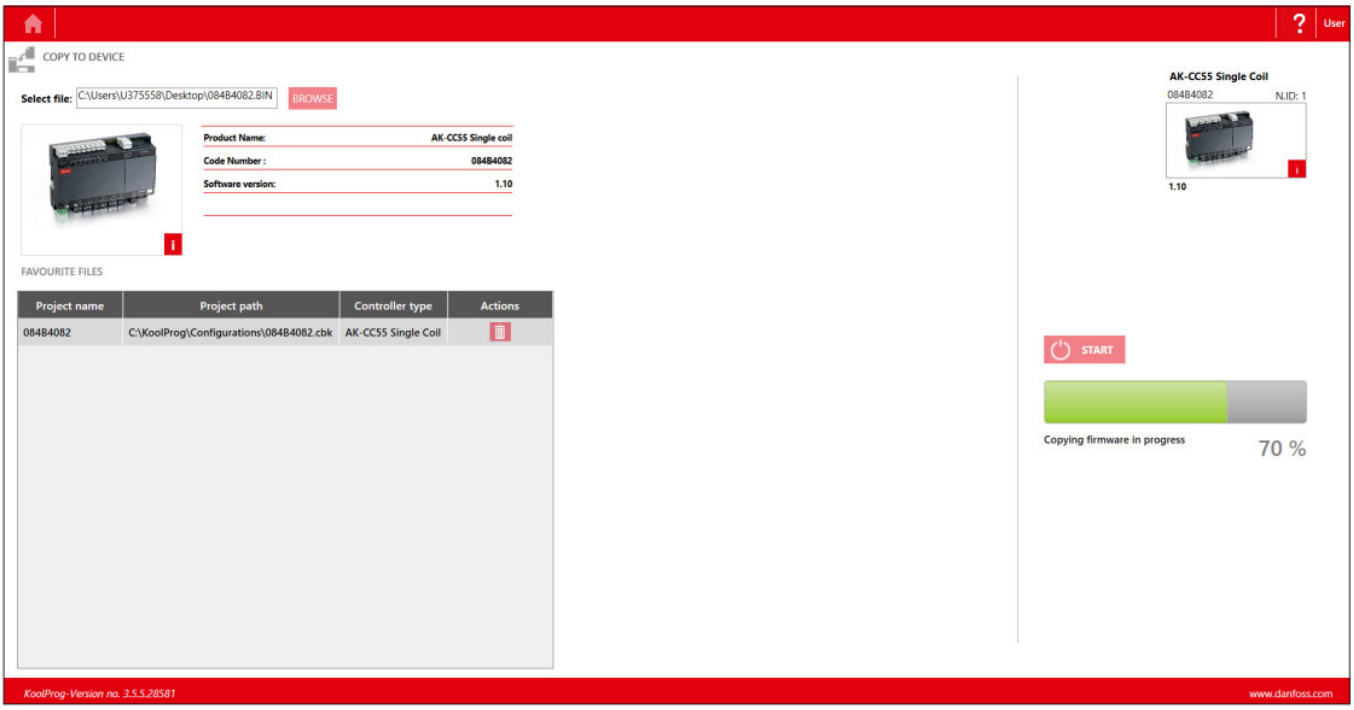
Multiple Controller Programming
If you want to program multiple controllers with the same settings, use "Multiple Controller Programming."
Set the number of controllers to be programmed, connect the controller and click "START" to program the file - wait for the data to be transferred.

Connect the next controller and click "START" again.



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 the connected controller, KoolProg enables the start button and will update the firmware. If it is not compatible, the start button remains disabled.
3. After a successful firmware update, the controller restarts and displays the updated details of the controller.
4. This feature can be fully protected by a password. If KoolProg is password protected, then when you browse the firmware file, KoolProg prompts for the password and you can only load the firmware file after entering the correct password.



Online service

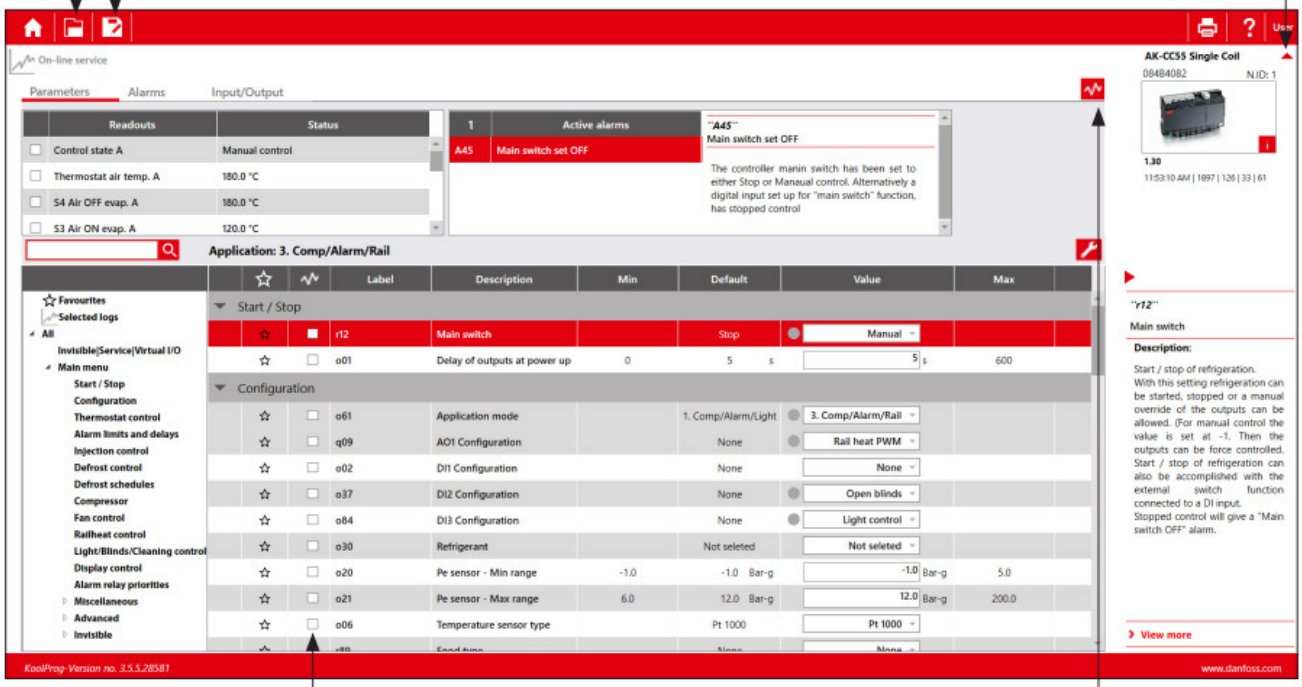
This allows you to monitor the real-time operation of the controller while it is running.

- You can monitor inputs and outputs.
- You can display a line chart based on the 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 the controller's settings.

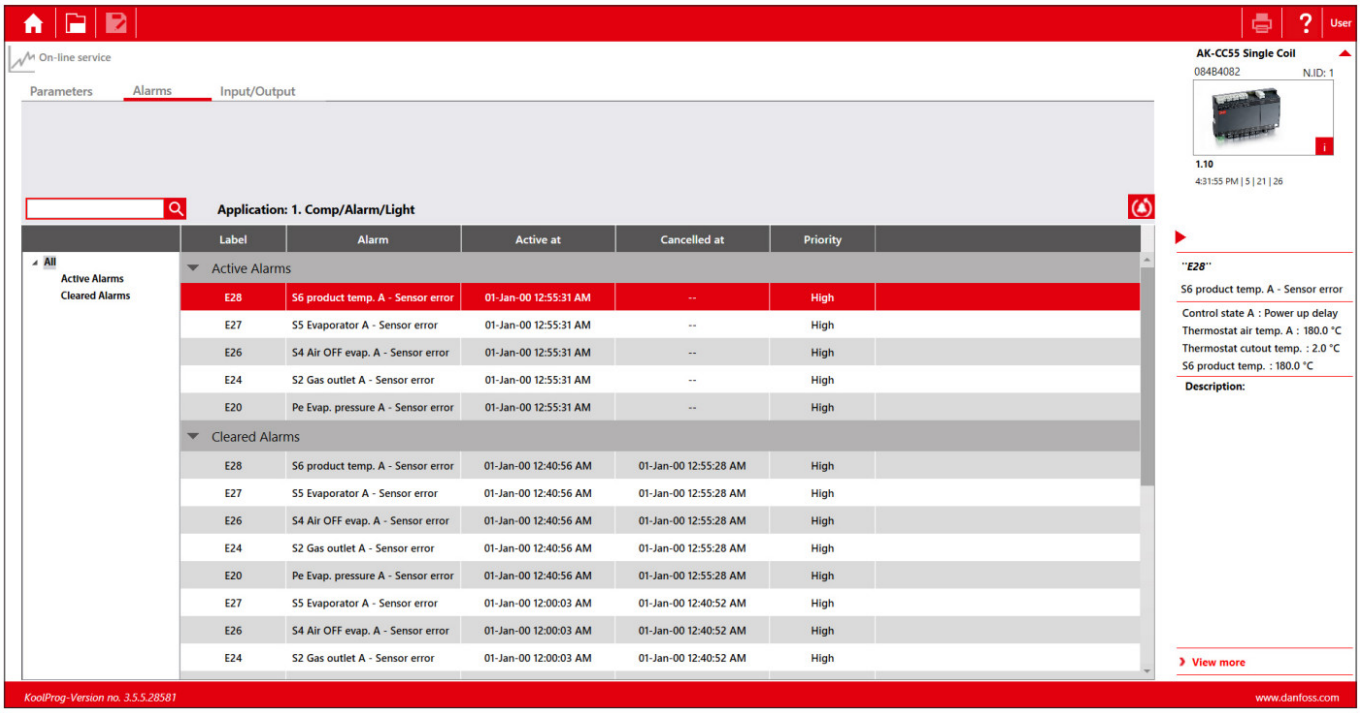
Arrow Up/Down
Clicking the arrow allows you to hide the photo and the top block of information, so that more space is available on screen for parameter views.
Clicking the arrow again makes it re-appear.



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.

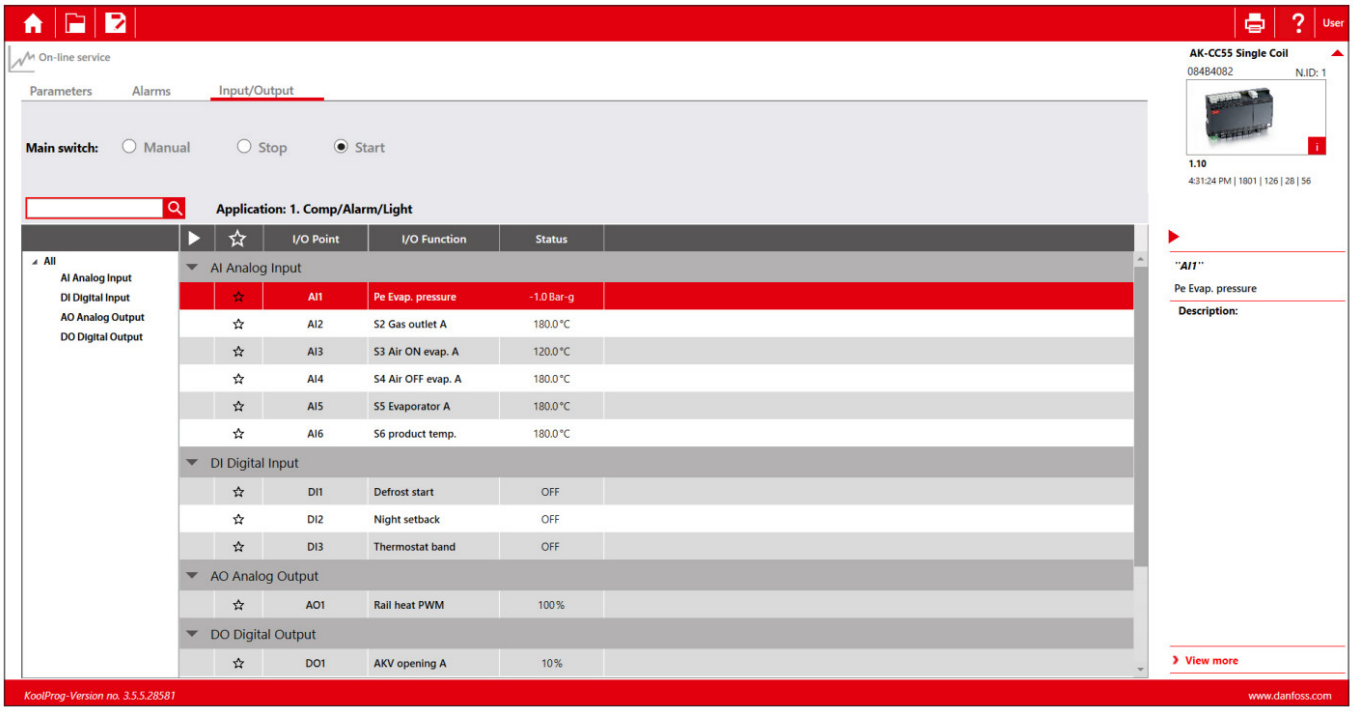
Alarms (only for AK-CC55):
Under the "Alarms" tab, the user can view the active and historical alarms present in the controller with a time stamp.



IO Status and Manual Override:

The user can get an instant overview of configured inputs and outputs and their status under this group.

The user can test the output function and electrical wiring by putting the 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 a .csv/.png file format.

After saving an image, the chart can be viewed later in the selected file format.

Trend Charts

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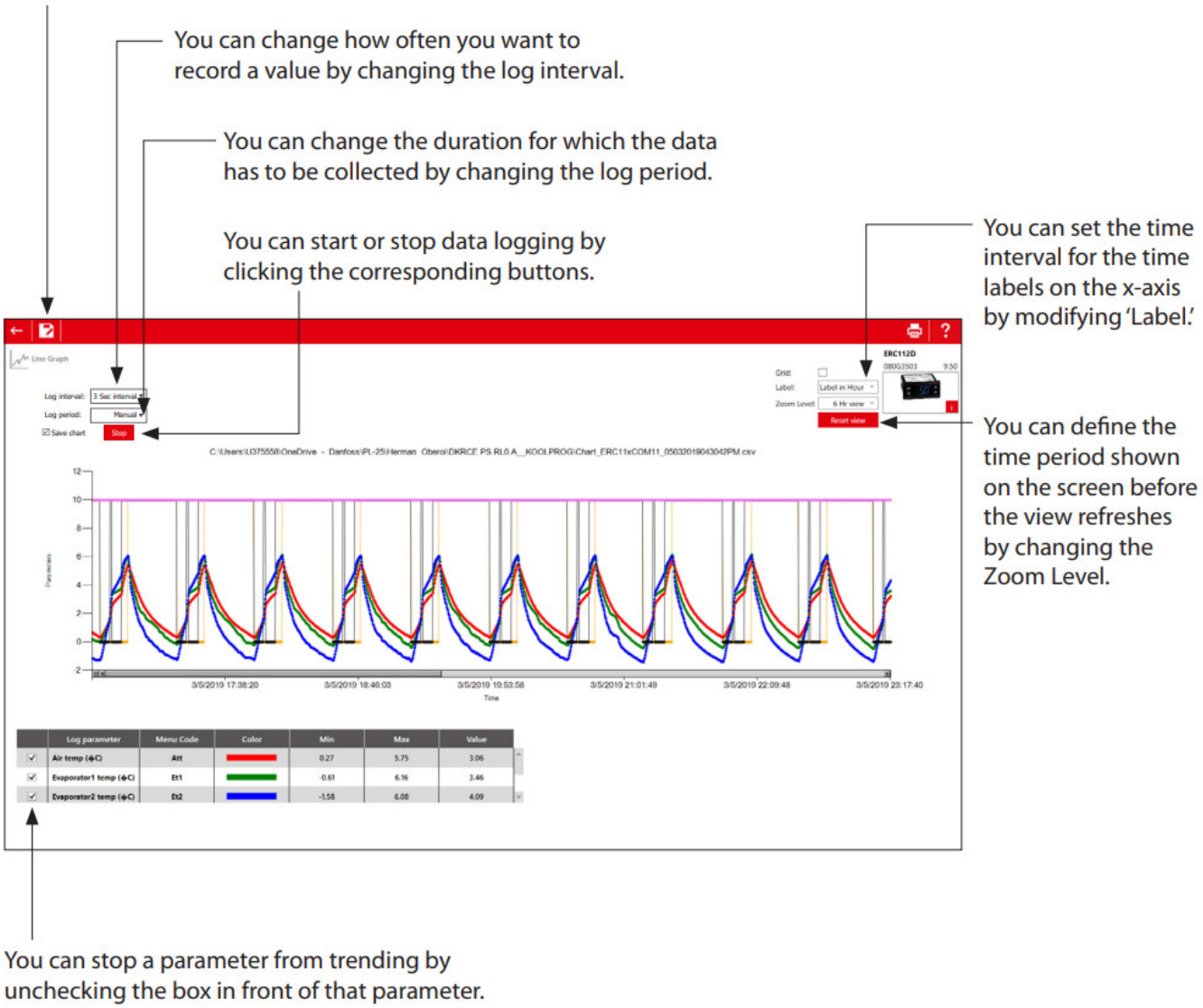
If you want to save the collected data in another file format, use the "Save As" command. This enables you to save data in a *.csv/.png* file format.
After saving an image, the chart can be viewed later in selected file format.



Unknown controller support

(Only for ERC 112 & ERC 113 controllers)
If a new controller is connected, the database of this is not already available in the KoolProg, but you can still connect to the controller in on-line mode. Select either "Upload from Controller" in set parameters or "Service and test" to view the parameter list of the connected controller. All new parameters of the connected controller will be displayed under the separate menu group "New Parameters". The user can edit the parameter settings of the connected controller and save the setting file on the PC to mass program using "Programming EKA 183A (Code no. 080G9740)".
Note: a saved setting file created in this way cannot be re-opened in KoolProg.
Fig 6a: Unknown controller connection under "Upload from controller":

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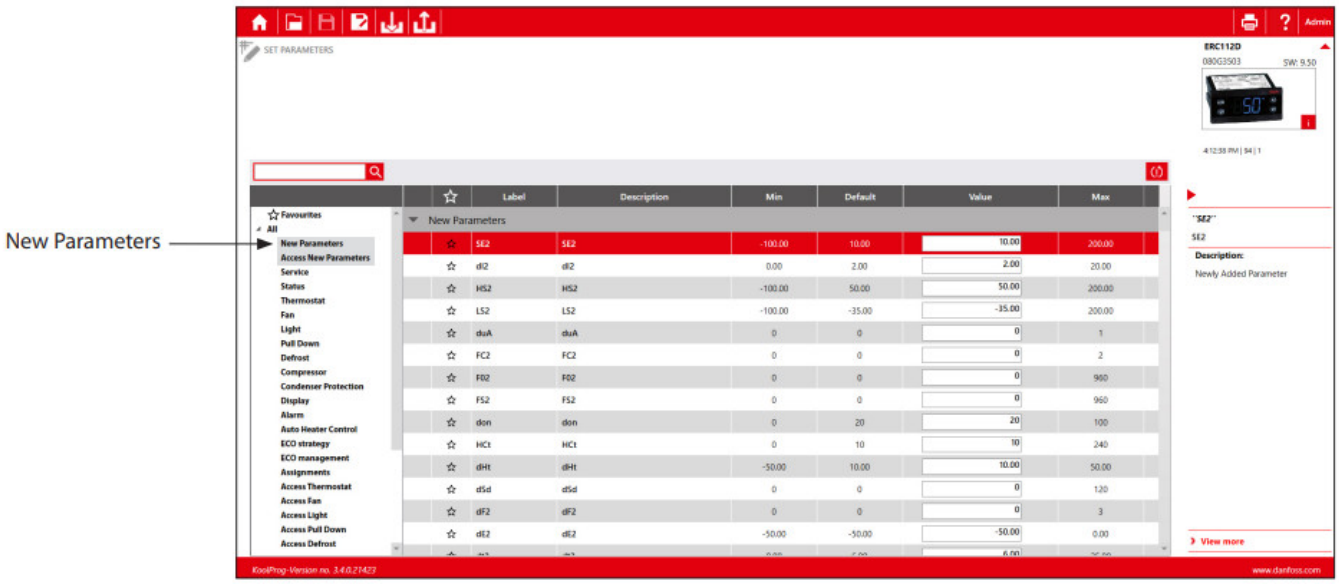
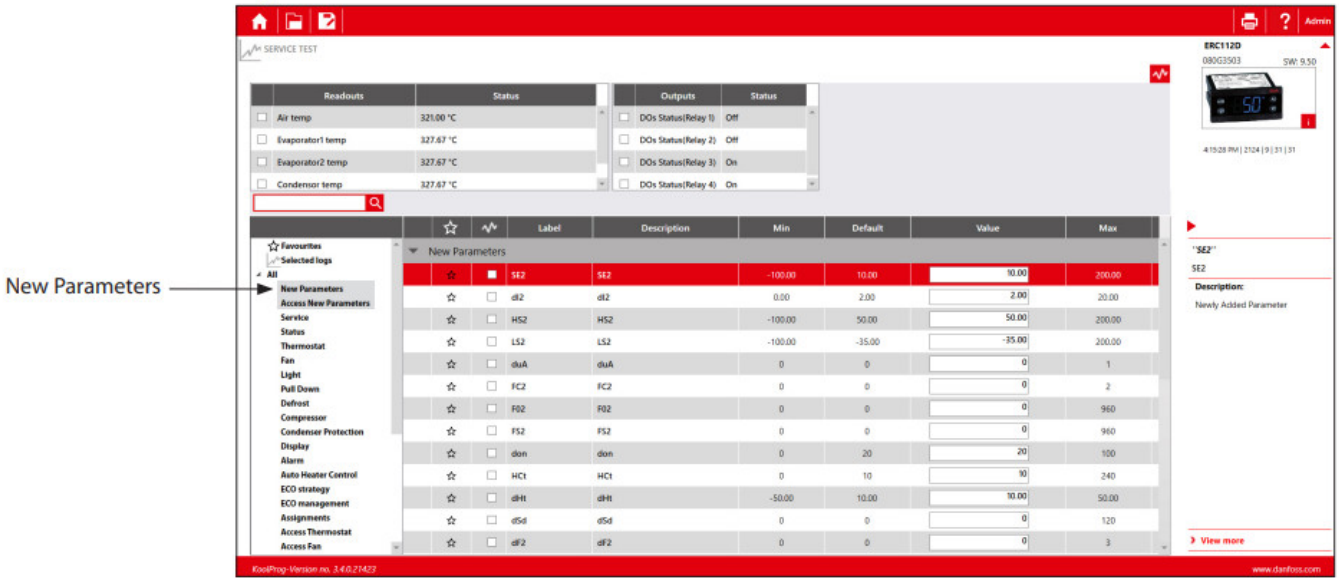


Fig 6b: Unknown controller connection under "Service and test":



Please contact your nearest sales representative for further assistance.

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Documents / Resources

	Danfoss KoolProg Software [pdf] User Guide KoolProg Software, Software
	Danfoss KoolProg Software [pdf] User Guide KoolProg Software, KoolProg, Software

References

- KoolProg software - electronic controllers | Danfoss