Utility Software 3.x

Getting started

Application notes

DEIF — Improve Tomorrow

1. General information

2. Utility Software 3 for PCs

3. Controller application software

1. General information

1.1   Scope

This document covers the following products:

- iE 150
- iE 150 Marine
- AGC 150
- ASC 150
- AGC-4 Mk II *
- ASC-4
- ALC-4

NOTE   * We used an AGC-4 Mk II controller for the screenshots in this document.

1.2   Warnings, legal information, and safety

1.2.1   Symbols for general notes

NOTE   This shows general information.

More information
This shows where you can find more information.

Example

This shows an example.

How to ...
This shows a link to a video for help and guidance.

1.2.2   Symbols for hazard statements

⚠️ **DANGER!**

This shows dangerous situations.

If the guidelines are not followed, these situations will result in death, serious personal injury, and equipment damage or destruction.

⚠️ **WARNING**

This shows potentially dangerous situations.

If the guidelines are not followed, these situations could result in death, serious personal injury, and equipment damage or destruction.

⚠️ **CAUTION**
This shows low level risk situation. If the guidelines are not followed, these situations could result in minor or moderate injury.

| **NOTICE** |
|---|
| **This shows an important notice**

Make sure to read this information. |

1.2.3 Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.

The English version of this document always contains the most recent and up-to-date information about the product. DEIF does not take responsibility for the accuracy of translations, and translations might not be updated at the same time as the English document. If there is a discrepancy, the English version prevails.

2. Utility Software 3 for PCs

2.1 Introduction

Utility Software 3 (USW) is a program for PCs that can be used to configure, monitor, and manage the controllers.
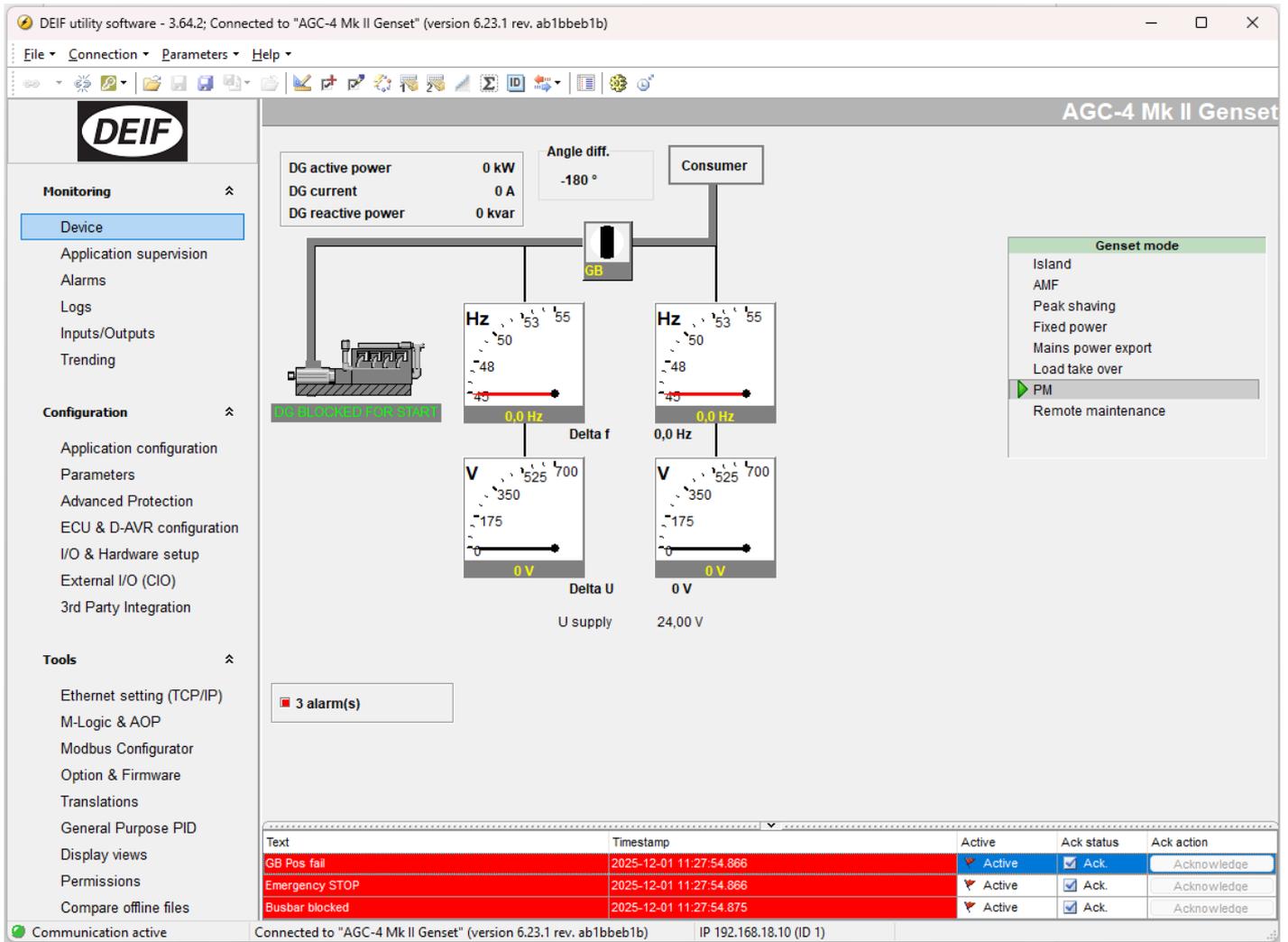
2.2 Supported Windows systems

The supported Windows versions are (32 and 64 bit variants):

- Windows 11
- Windows 10
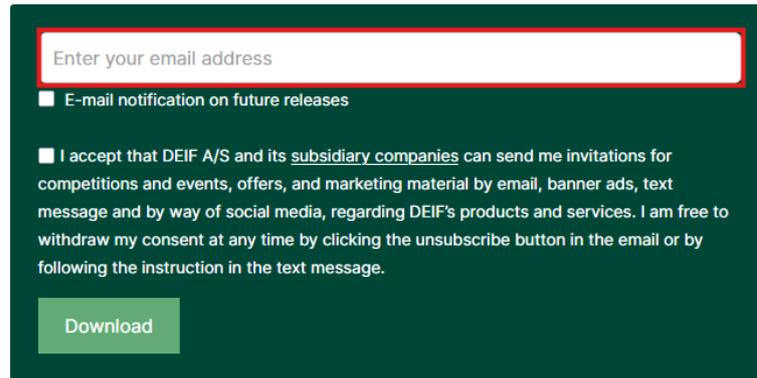
2.3 Get USW from DEIF

Find the USW

Open the page for the USW on the DEIF website: www.deif.com/software/?product=17525

1. Select *Multi-line 2 Utility Software v.3.x.* in the middle column.
2. Select the latest version of USW in the right column.
3. A page opens for the software version. This page includes the related products, the changelog, and the licence agreement.
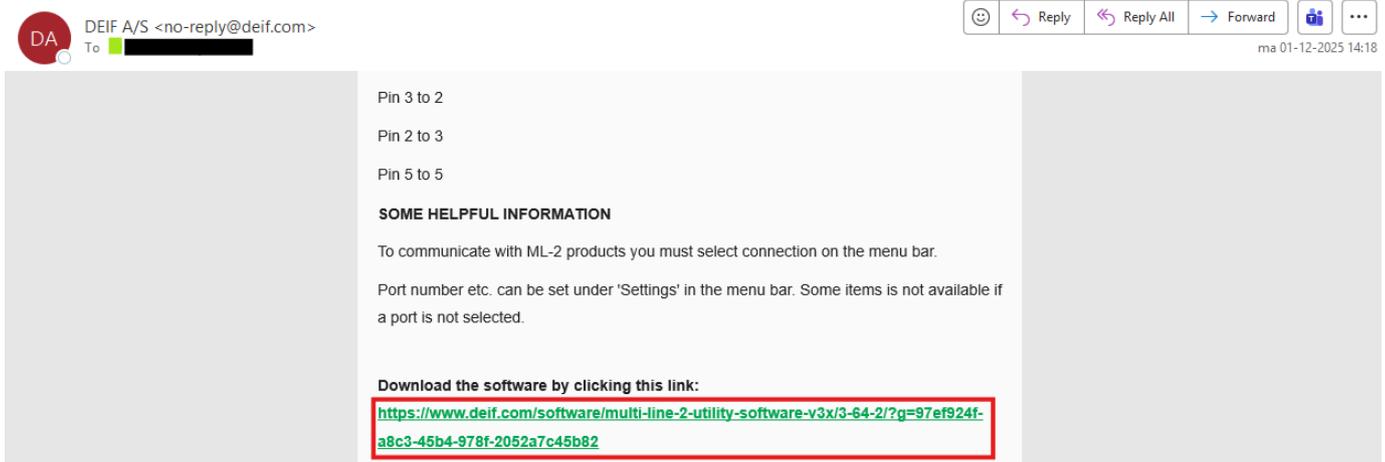
Request USW

1. On the software version page, enter your email address. We recommend that you also select the *E-mail notification on future releases* box. Select *Download*.

2. An email is sent with a download link (if you do not receive the email, check your spam folder).

3. Select the link (shown in the screenshot above of the email) to download the file.

Install USW

1. Find the *setup_usw3_xxx.exe* file in your downloads folder.
2. Run the *setup_usw3_xxx.exe* file, then follow the instructions on the screen.

2.4   Getting connected

You can connect your PC to the controller by using:

- A USB cable
- An Ethernet connection
- An RS-485 serial cable *

NOTE   * Only for AGC-4 Mk II, ASC-4, and ALC-4. In the USW, under *Communication-related settings*, select *Serial port*.
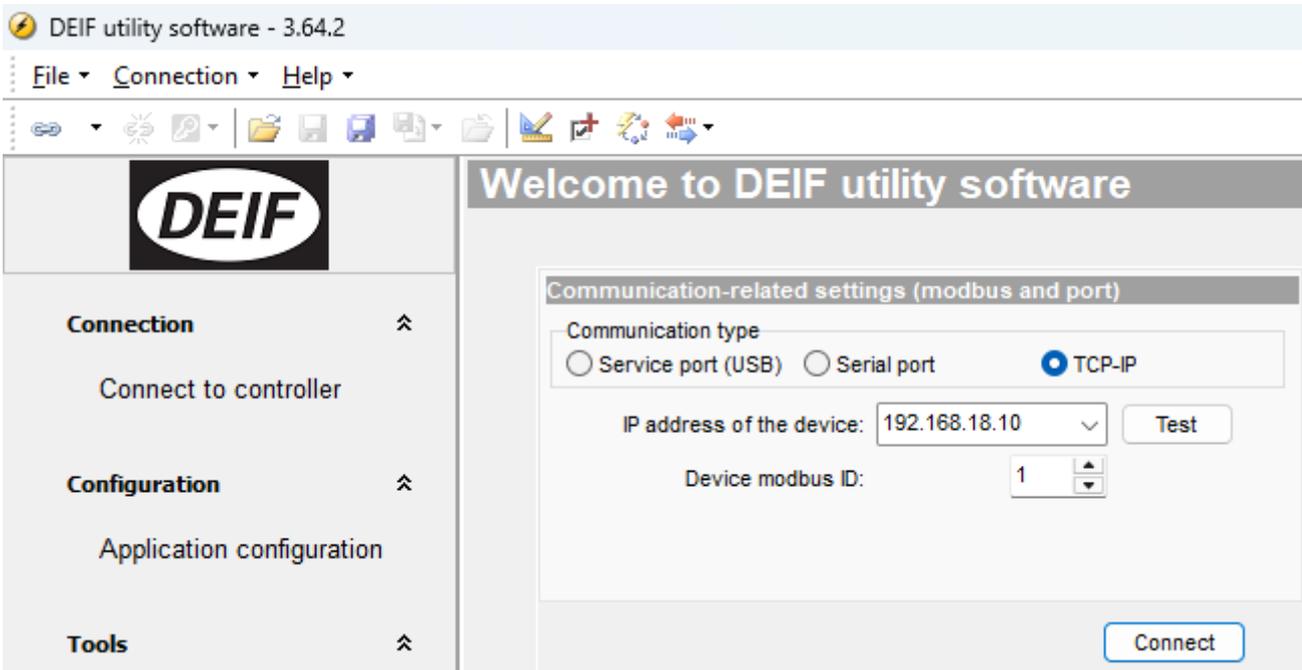
2.4.1   USB connection

Required: A USB 2.0 cable, with a USB-B connection for the controller.

1. Use the USB cable to connect the service port on the controller (USB-B) to a USB port on the computer.
2. To open the USW, select the *Utility Software 3* icon on the desktop, or select *Utility Software 3* in the Windows *Start* menu.

Utility
Software

3. The USW opens, with the view shown below:

4. Under *Communication-related settings*, select *Service port (USB)*. The controller should be detected automatically, as shown below. If not, select the *Scan ports* button to scan the system for new communication ports. Note that the scan may take some time.
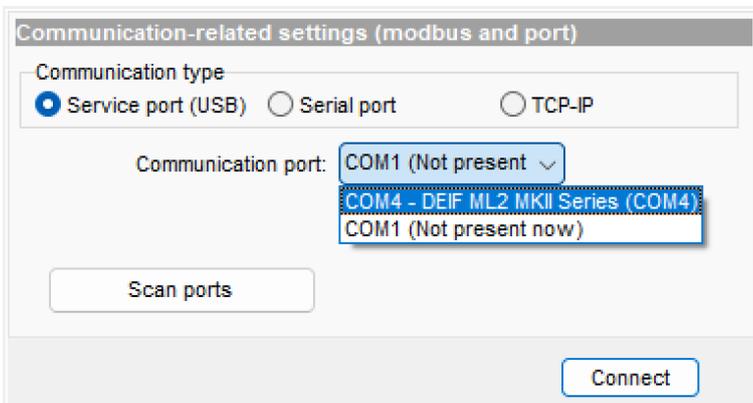
5. Select the *Communication port* of the controller from the drop-down menu.
6. Select *Connect*.
7. In the *Password* box, select the password level, then type the password, and select *OK*. See Password for the default passwords.
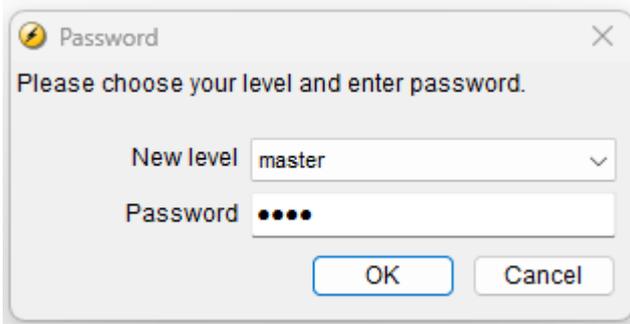
8. The USW is now connected to the controller.

2.4.2 Ethernet connection

The controller can be installed in a network. The network administrator decides the details of the network, and assigns the controller an IP address. To configure the IP address in the controller, see the connection settings in the **Designer's handbook** for the controller.

If the controller is available in a network:

1. Connect your PC to the network.
2. Select the *Utility Software 3* icon on the desktop or in the Windows *Start* menu.

Utility Software

3. The USW opens, with the view shown below:

4. Under *Communication-related settings*, select *TCP-IP*. Select the IP address of the controller, then select *Connect*.
5. In the *Password* box, select the password level, then type the password, and select *OK*. See Password for the default passwords.

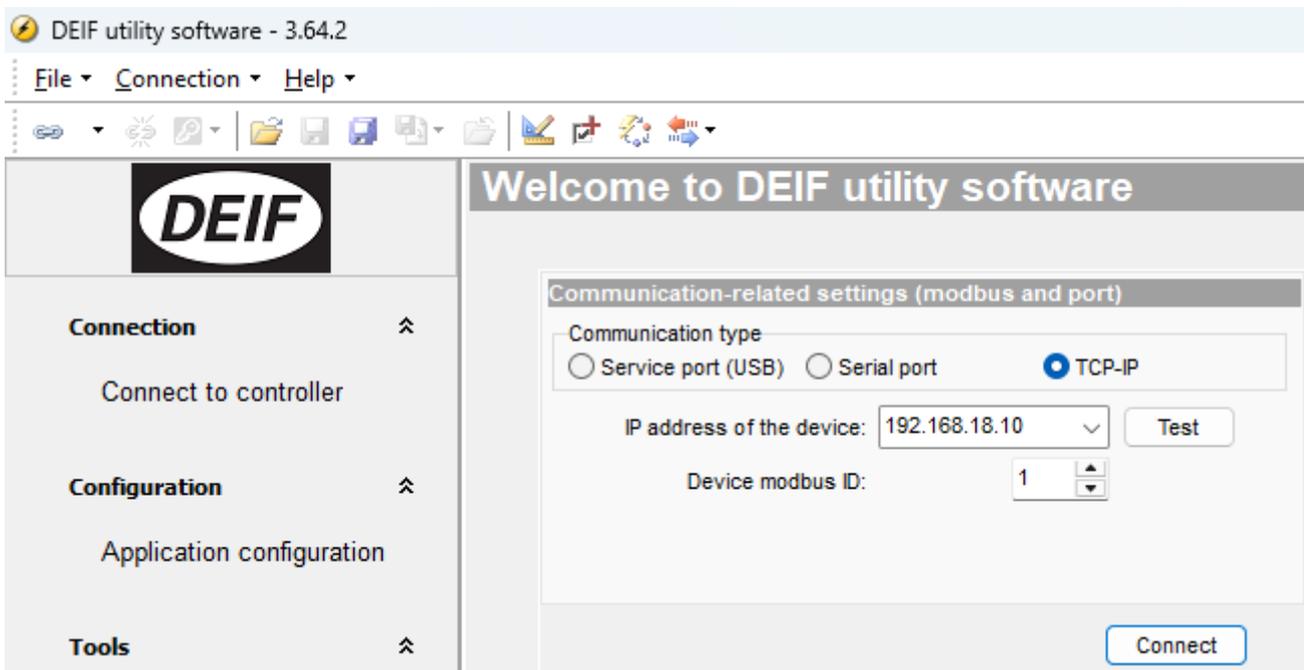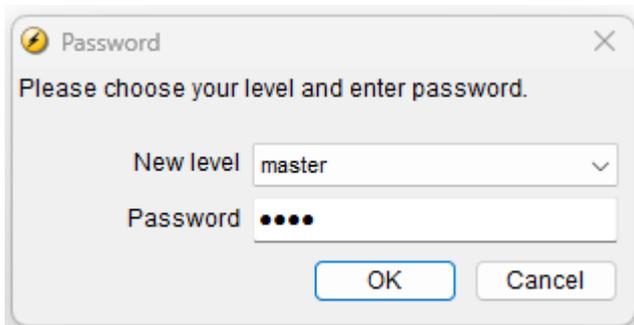6. The USW is now connected to the controller.

2.4.3 Password

The controller passwords can be changed using the USW.

Password level	Factory setting	Access			
		Basic	**Customer**	**Service**	**Master**
Basic		●			
Customer	2000	●	●		
Service	2001	●	●	●	
Master	2002	●	●	●	●

3. Controller application software

3.1 General information

The application software is the software in the controller.

Application software is installed at the factory. When you receive the controller, it is ready to be configured. You do not have to update the application software.

Reasons to update the controller
* To get new functions available in the latest application software.
* If the software has an error (bug) that was fixed in a later version.
* To prepare several controllers with identical software.

📖 **More information**
See the **software changelog** for information about functions and bugs.

Checking the application software version

When you are connected to the controller, the controller application software version is shown in the bottom bar of the USW.

The details of the controller application software version can be found by connecting to the controller and opening the *Identifiers* 🆔 window, as shown below.
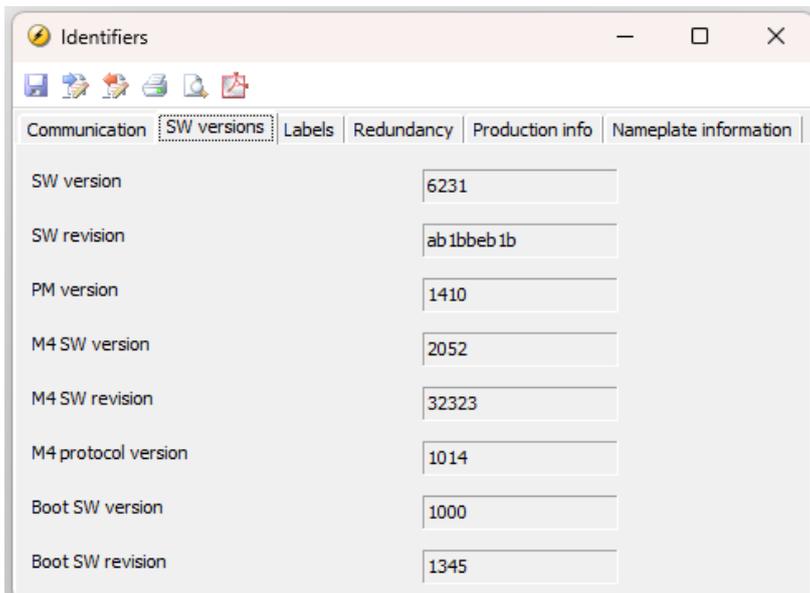
NOTE This view leaves out any full stops in the software version name, for example, software version *6.23.1* displays as *6231*.

3.2   Before updating application software

3.2.1   Precautions

⚠️ **WARNING**
⚠️ **Potential risk**   Read this section carefully before attempting to update your controllers.

Genset/asset condition

Ensure that the genset and/or other assets are disconnected and stopped before writing application software to the controller.

Protection

All protections are deactivated while the application software is written to the controller.

Relay status

All relays are de-energised while the software is written to the controller. Check your diagrams carefully to understand the effect of this.

Status relay

Pay special attention to the status relay because it can trip the system.

| Controller type	Status relay terminal(s)
iE 150	Configurable
iE 150 Marine	
AGC 150	
ASC 150	
AGC-4 Mk II, ASC-4, ALC-4	3 and 4

3.2.2   How to save a project file for backup

When you write application software to the controller, the controller and its configuration are reset. If you want to restore the configuration to the controller after writing application software, then you must create a backup before doing the update. If you do not backup the configuration before writing the application software to the controller, then the configuration is lost and cannot be recovered.

You can select one of these methods to create a backup:

- Create a USW project file (file.usw): You can select which parts of the configuration to include.
- Create a backup file (file.bak): The USW includes the whole configuration.

To create a USW project file from the controller:

1. Open the USW and connect to your controller.
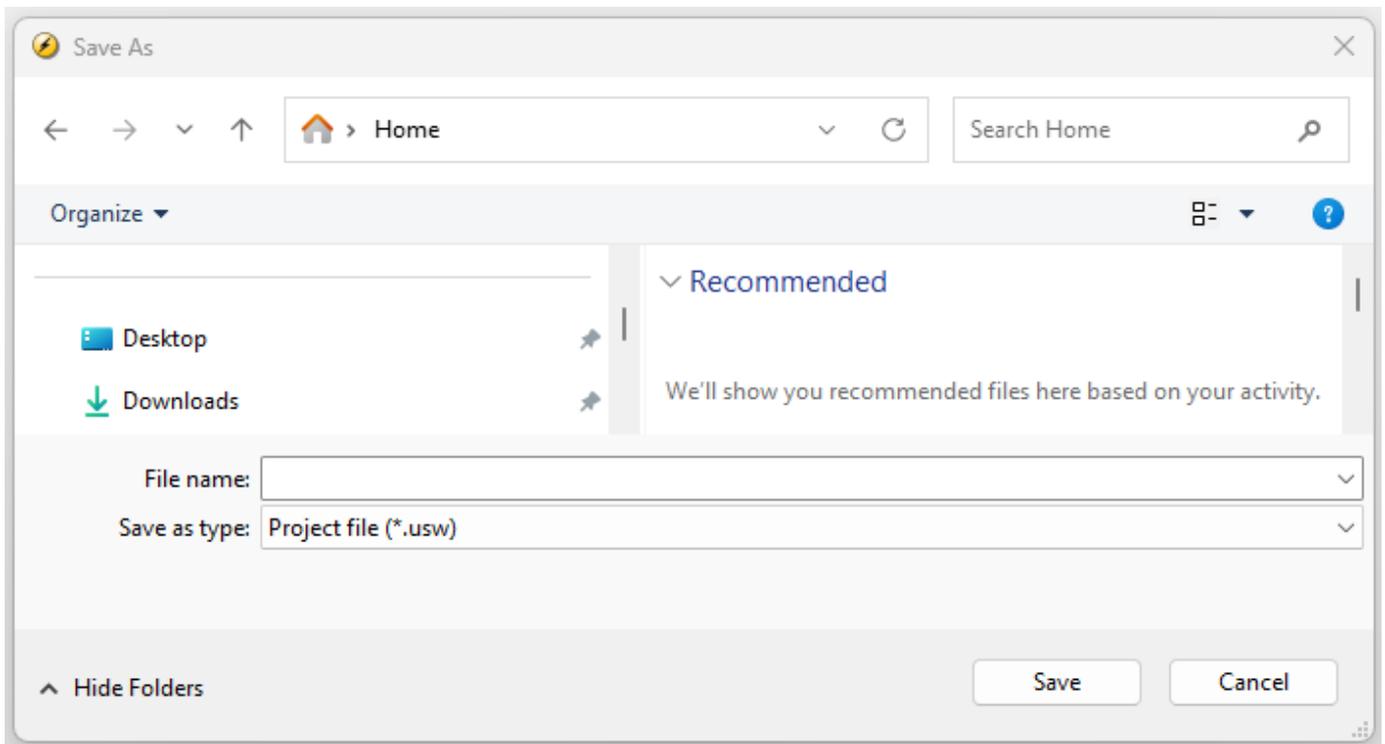2. Read the configuration from the controller by selecting *Read from device*:
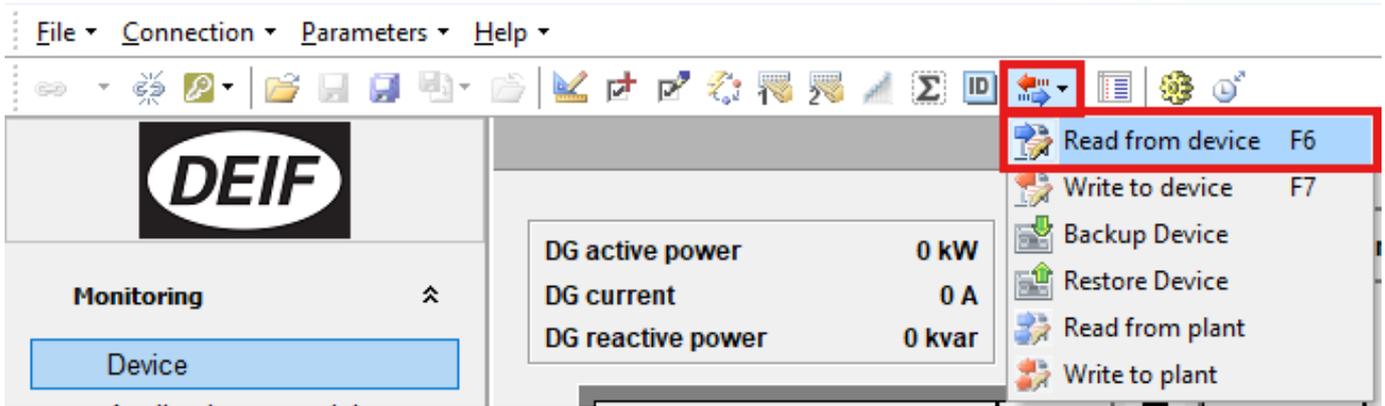
3. The *Batch job* box opens. Under *Device settings*, select the configuration to be saved in the USW project file (*[file].usw*):
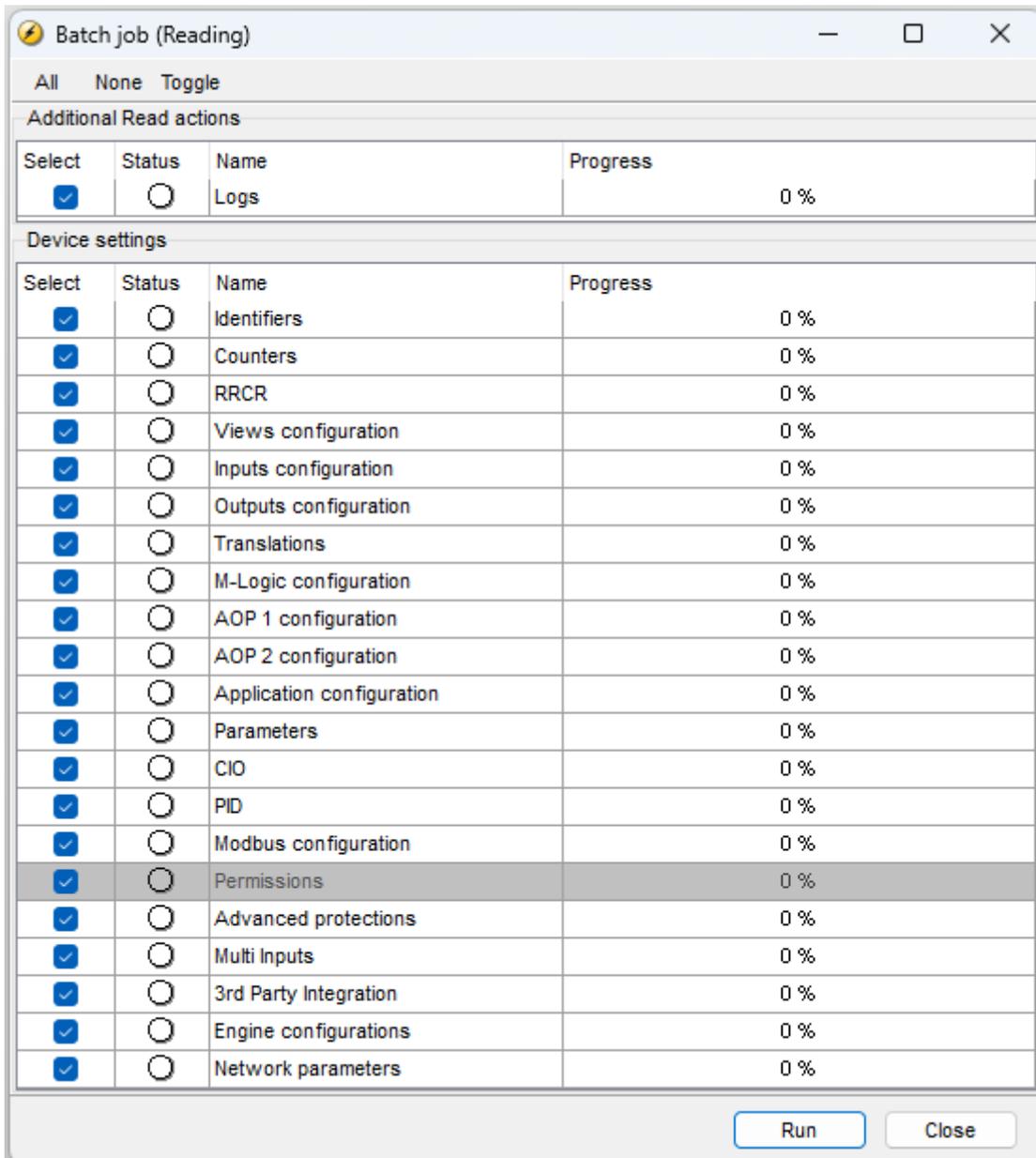
4. Select *Run* to save the project file.
5. Choose the file name and where to save the project file on the PC, then select *Save*.

When a project configuration is complete, you should save a backup of the configuration. DEIF recommends saving the file somewhere easy to remember, for example, together with other project files.

3.3 Updating application software

3.3.1 How to get application software from DEIF

Finding and downloading application software is similar to the process for getting USW from DEIF.

Download software
You can find and download application software from the DEIF homepage.

* iE 150: www.deif.com/software/?product=22286
* iE 150 Marine: www.deif.com/software/?product=21818
* AGC 150: www.deif.com/software/?product=16259
* ASC 150: www.deif.com/software/?product=17632
* AGC-4 Mk II: www.deif.com/software/?product=15779
* ASC-4: www.deif.com/software/?product=16495
* ALC-4: www.deif.com/software/?product=16444

1. Select the application software for your controller in the middle column.
2. Select the latest version in the right column.
3. Download the application software.
4. Unzip the zip file.
5. Check that you have the correct application software file type for your controller type.
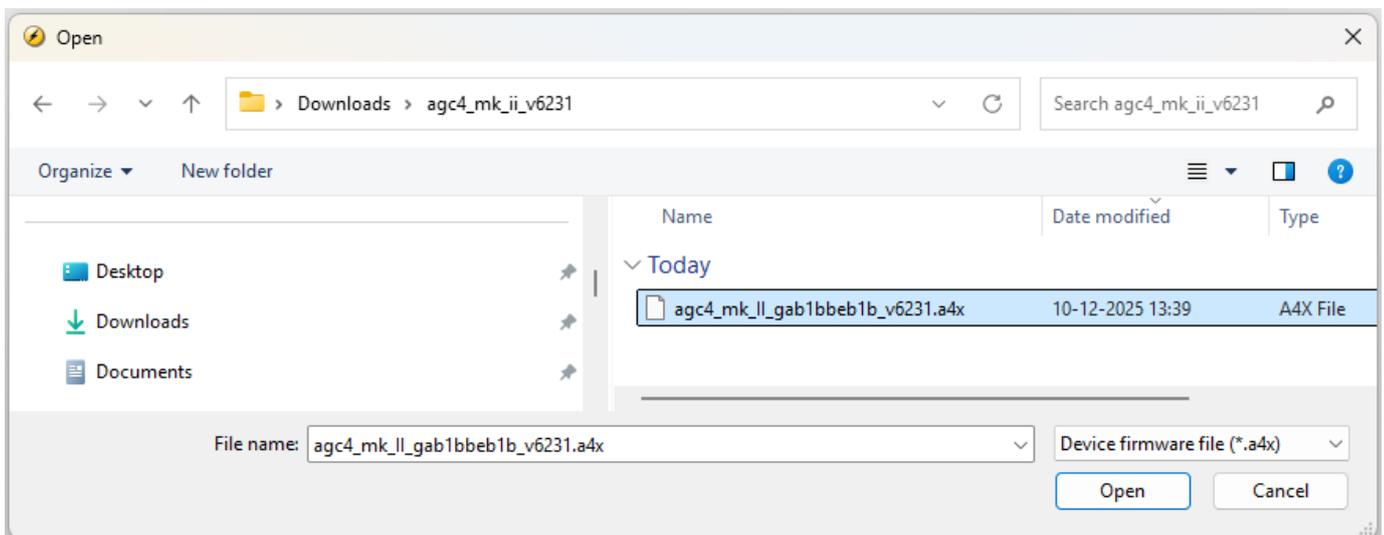
Controller type	Application software file type
iE 150	.15x
iE 150 Marine	
AGC 150	
ASC 150	
AGC-4 Mk II	.a4x
ASC-4	.a37
ALC-4	

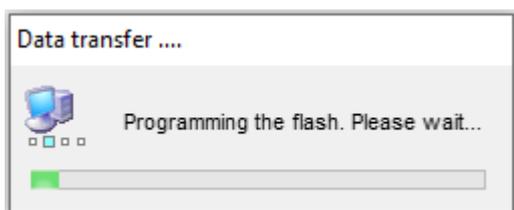### 3.3.2 Write new application software to the controller

1. Select the *Write a firmware* icon from the top bar (or from the *Option & Firmware* page, which is under *Tools* in the left menu).
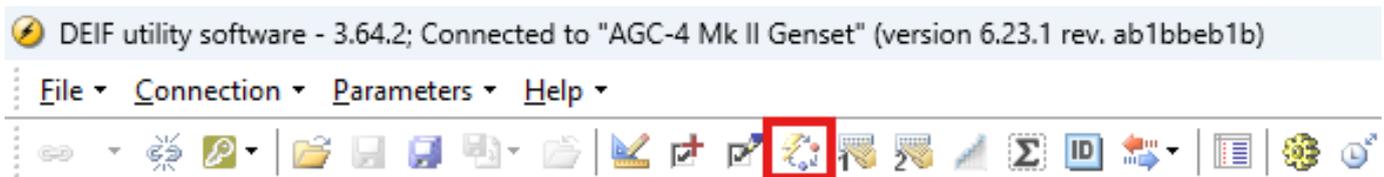
2. A warning box opens. To reduce the risk, make sure no other devices are connected to the controller through TCP/IP during the update, then select *OK*.

3. A file explorer window opens. Find the new application software in the unzipped folder and select *Open*.


4. The USW warns that the software in the controller will be overwritten. Select *OK*.

5. The USW writes the application software to the controller, then restarts the controller.
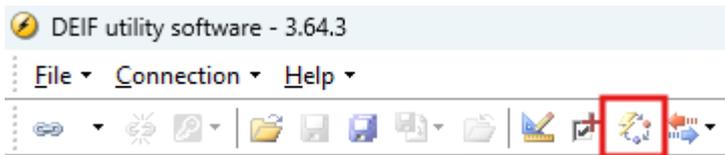
If writing the application software fails

The process to write the application failure can fail. For example, the process can fail if the communication or power to the controller is disrupted. If you try to connect to the controller, you may get a message like this in the USW:
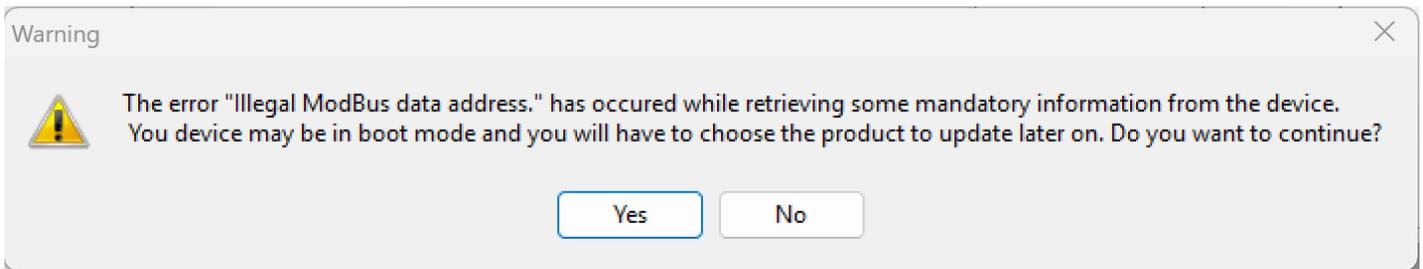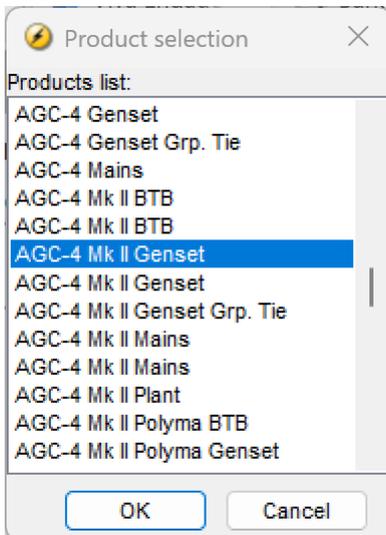

If the process to write the application software has failed, follow these steps:

1. Disconnect the controller power supply.
2. Connect the controller power supply. The controller enters boot mode.
3. Connect the PC directly to the controller (for example, using a USB cable).
4. In the USW, select the communication type and communication port. Do not select the *Connect* button.
5. Select the *Write a firmware* icon from the top bar (or from the *Option & Firmware* page, which is under *Tools* in the left menu).

6. When prompted, select the correct controller type.

7. Follow the process described above to finish writing the application software to the controller.

3.3.3   Write a project file to the controller

After updating the application software, you can write the configuration saved in the project file (file.usw) to the controller. Alternatively, if you have a backup file (file.bak) you can use *Restore Device* to write the configuration to the controller.

To write a USW project file to the controller:
1. In the USW, open the project file from the PC.
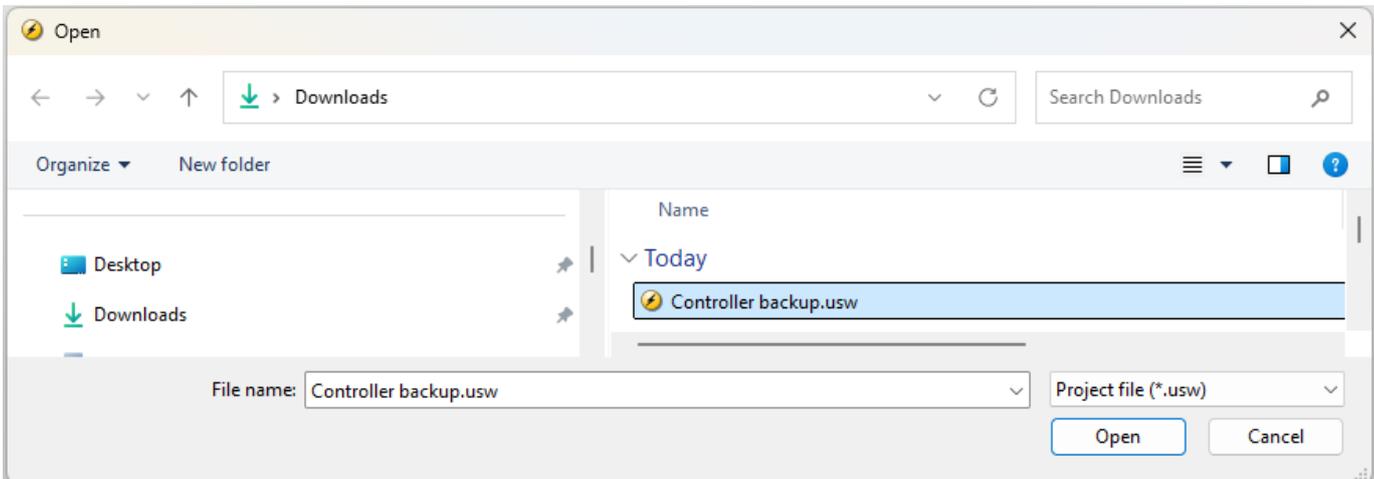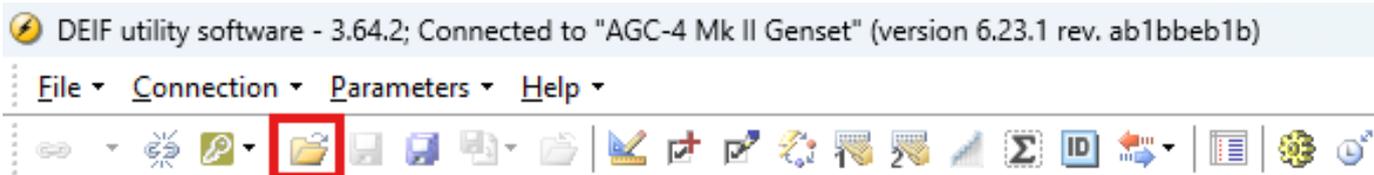
2. The USW loads your saved project file.
3. Select *Write to device*.
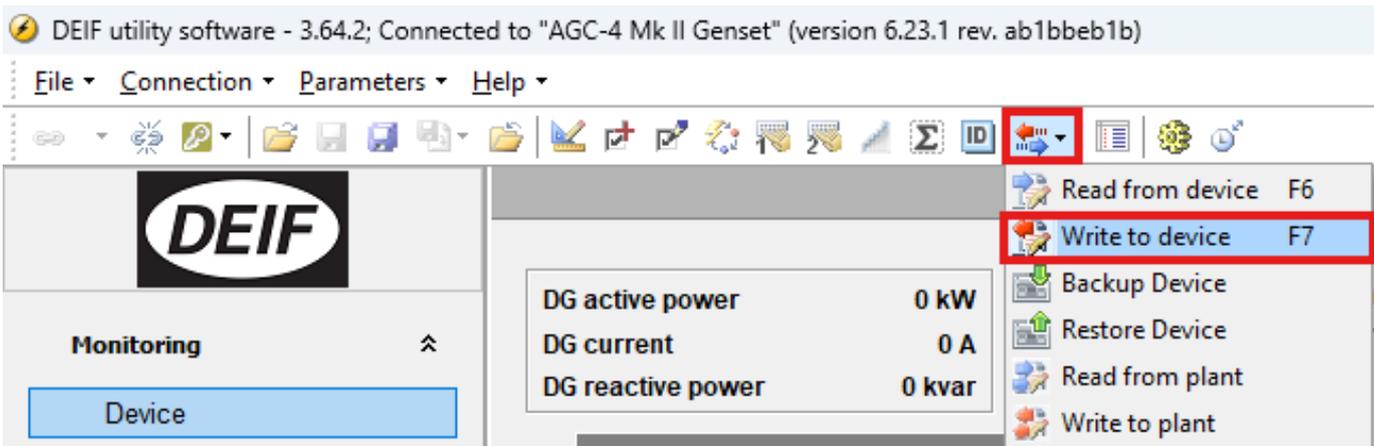
4. From the device settings, select the configuration that you want to write to the controller, then select *Run*.

Batch job (Writing)

All   None   Toggle

Additional write actions

Select	Status	Name		Progress
☐	◯	Device firmware	select file... [...]	0 %
☐	◯	Clock synchronization		0 %

Device settings

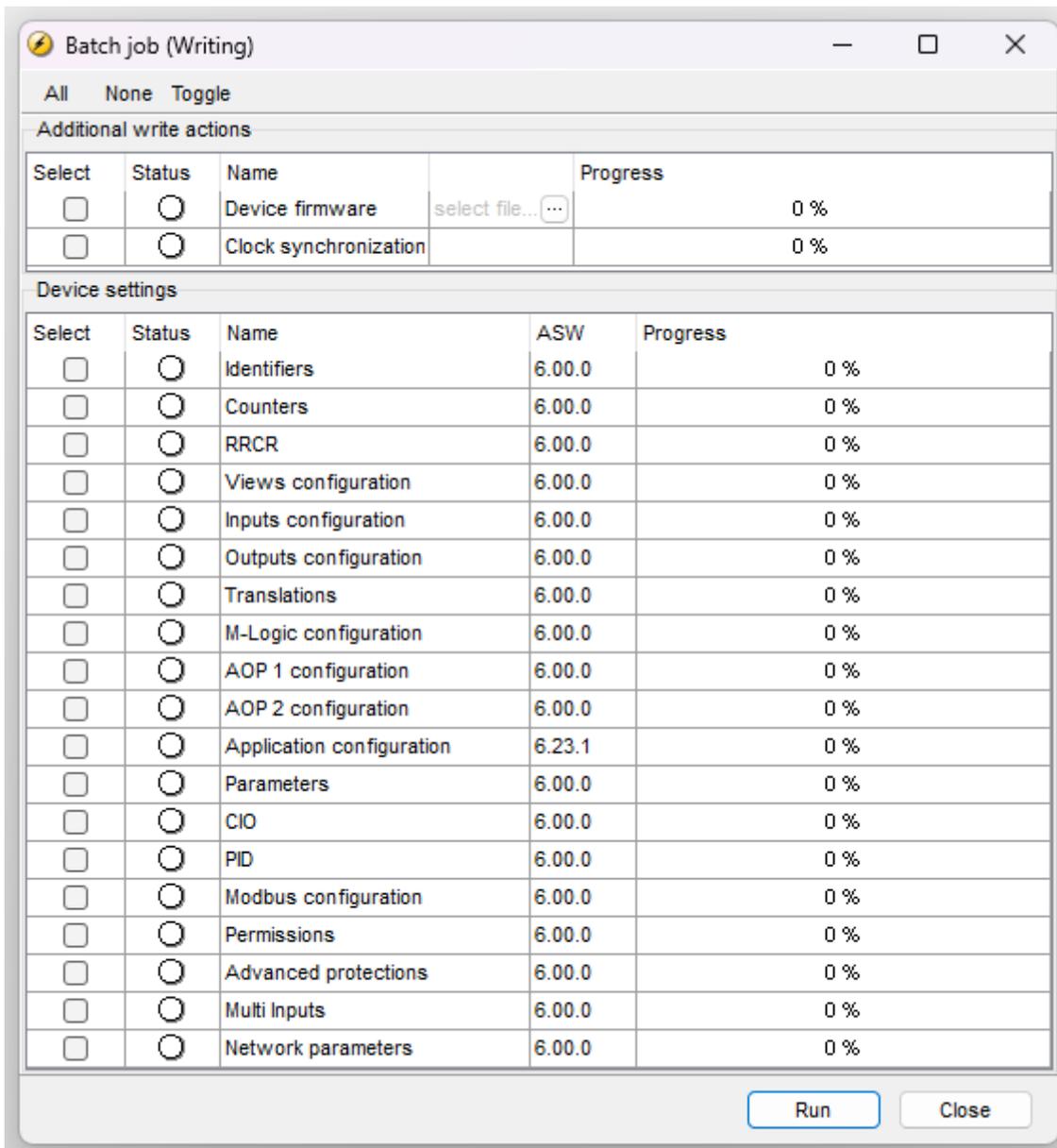| Select	Status	Name	ASW	Progress
☐	◯	Identifiers	6.00.0	0 %
☐	◯	Counters	6.00.0	0 %
☐	◯	RRCR	6.00.0	0 %
☐	◯	Views configuration	6.00.0	0 %
☐	◯	Inputs configuration	6.00.0	0 %
☐	◯	Outputs configuration	6.00.0	0 %
☐	◯	Translations	6.00.0	0 %
☐	◯	M-Logic configuration	6.00.0	0 %
☐	◯	AOP 1 configuration	6.00.0	0 %
☐	◯	AOP 2 configuration	6.00.0	0 %
☐	◯	Application configuration	6.23.1	0 %
☐	◯	Parameters	6.00.0	0 %
☐	◯	CIO	6.00.0	0 %
☐	◯	PID	6.00.0	0 %
☐	◯	Modbus configuration	6.00.0	0 %
☐	◯	Permissions	6.00.0	0 %
☐	◯	Advanced protections	6.00.0	0 %
☐	◯	Multi Inputs	6.00.0	0 %
☐	◯	Network parameters	6.00.0	0 %

[Run]   [Close]

5. When the dialogue box displays *Done!*, select *Close*.
6. The controller resets. After the reset, the controller is operational.

3.4   Protecting parameters and settings

You can use the USW to protect the controller configuration by assigning a *Password level* to parameters and settings. The user must then have a high enough password level to change the corresponding parameters and settings. By default, the configuration can however be displayed without a password.

To change the password levels for groups of parameters and settings, you can use the *Permissions* page (under *Tools* in the left menu).

To change the password level for a single parameter:

1. In the USW, find and select *Parameters* in the left menu (under *Configuration*).
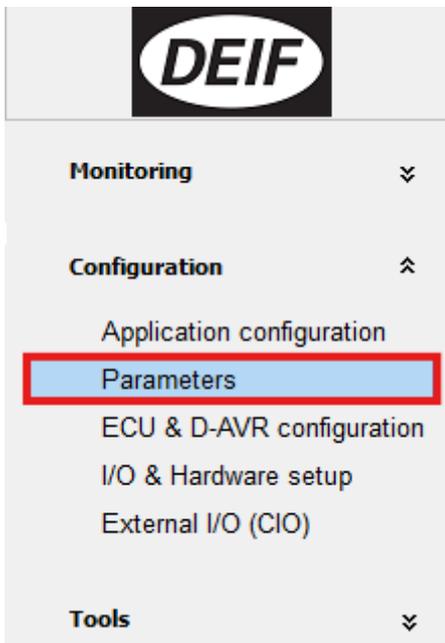
2. Select the *Read parameters from the device* icon on the top bar. The USW reads the parameters from the controller.
3. Open the parameter to be configured and select the password level.
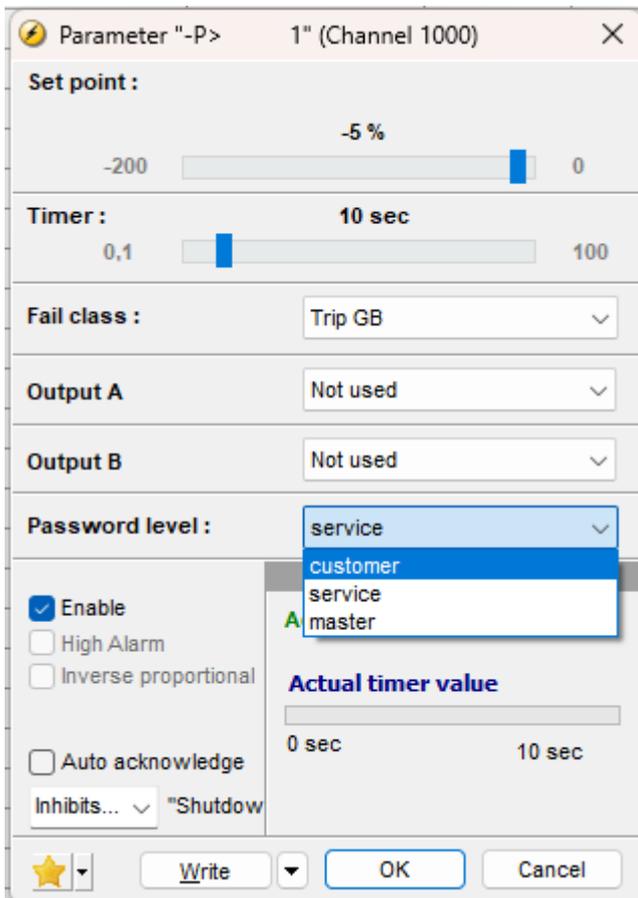
4. Select *Write* button to save the change to the controller.

The parameter can now only be changed if the user has the selected password level (or higher).