Save/Restore Data Between a File and the Controller

At a Glance

The data transfer function allows you to store the value of the following data in a file:

- boolean-type located data: `%Mi`
- word-type located data: `%MWi`
- unlocated variables
- function block instances

There are 2 types of data files:

- DAT:
  - Saving controller data to a *.DAT file is allowed for all previous data types. *.DAT contains only data blocks.
  - Restoring all data blocks from a *.DAT file to the controller is allowed if the project has not been built since the Save was done.If a build was done, only BOOL and WORD located data (%Mi and %MWi) are restored.
- DTX:
  - Saving controller data to a *.DTX file is allowed for all previous data types. In addition, application references (at the time of the Save) are saved.

    NOTE: I/O and device DDT objects cannot be saved in DTX data files.
  - Restoring data from a *.DTX file is allowed even if the application has been built and/or data has been modified since the Save was done. Compatibility Rules for Restore Using a *.DTX File explains the restoration process and the types of data that cannot be restored.

  NOTE: It is recommended to convert any *.DAT files to *.DTX file by restoring the *.DAT file and then saving using the *.DTX format.

NOTE: The data transfer function can be used for migrating from different controller range. You can save M340 or Premium data to a *.DTX file and restore to M580 controller the *.DTX file.

CAUTION
LOSS OF DATA Before transferring unlocated variables and function block instances data to the controller, ensure that your application is in a compatible state with the saved data. **Failure to follow these instructions can result in injury or equipment damage.**

Procedure for Saving Controller Data

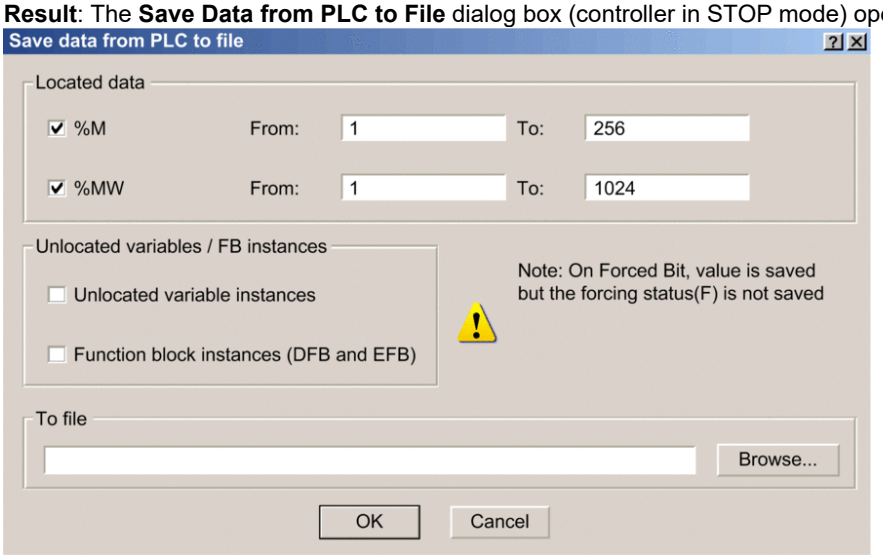
If the controller is in RUN mode, the saving of data from the controller to a file may need several application cycles and the data, in the file, may be de-synchronized, which may affect application execution during restoration.

NOTE: On forced bits, value is saved but the forcing status (F) is not saved.

WARNING
UNINTENDED EQUIPMENT OPERATION Before saving the data, verify the impact on the application execution. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**

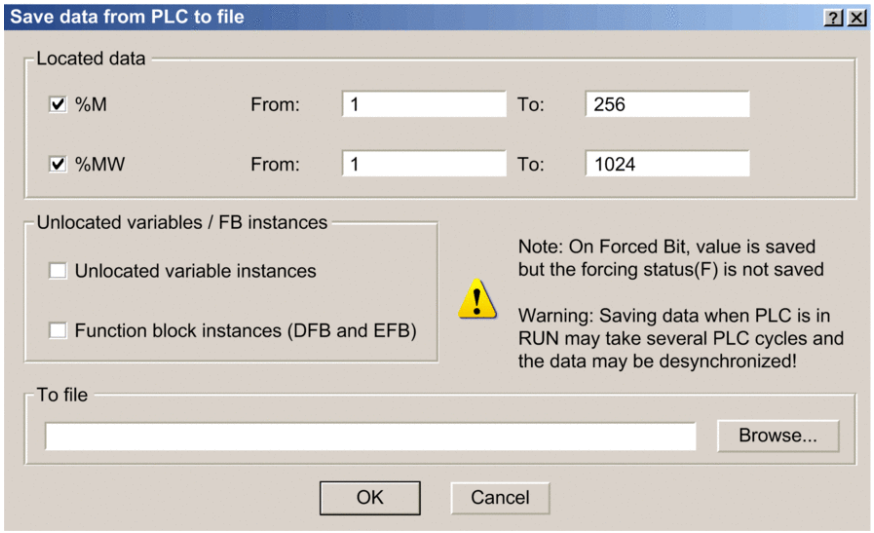
You must perform the following actions to save the data from the controller to a file:

Step	Action

1	To enable the menu item **Save Data from PLC to File**, the following must be true: ○ The controller is loaded with an application. ○ The controller is in RUN or STOP mode. ○ EcoStruxure Control Expert is running and is connected to the controller. ○ The Application built in EcoStruxure Control Expert is equal to those in the controller. ○ The Application in EcoStruxure Control Expert is in the built state.
2	Activate the **PLC** > **Save Data from PLC to File** command. **Result**: The **Save Data from PLC to File** dialog box (controller in STOP mode) opens.  For more information, refer to the corresponding dialog box.
3	Using the check boxes, select the data type(s) to be transferred. For located data you must also define the range of data to be transferred by entering the start and end address of the range.
4	Define the path and the name of the file to which the data is to be saved.
5	Confirm with **OK**.

Data Transfer Dialog Box for Transfers to a File

The **Save Data from PLC to File** dialog box (controller in RUN mode) is shown below:



The following table shows the parameters of the **Save Data from PLC to File** dialog box.

Parameter	Description
Content	This field is used to define the type and range of the data to be transferred. The checkboxes are used to define the type of located data. **From**: and **To**: fields are used to define the range for located data. Default values: ○ **%M** and **%MW** checkboxes are checked ○ **%M** and **%MW** range is set to the controller values ○ **Unlocated variables instances** and **Function block instances (DFB and EFB)** are not checked
To file	This field is used to define the path and name of the file.
Browse	This button can be used to browse the disk to define the file name and path.

Procedure for Restoring Data to the Controller

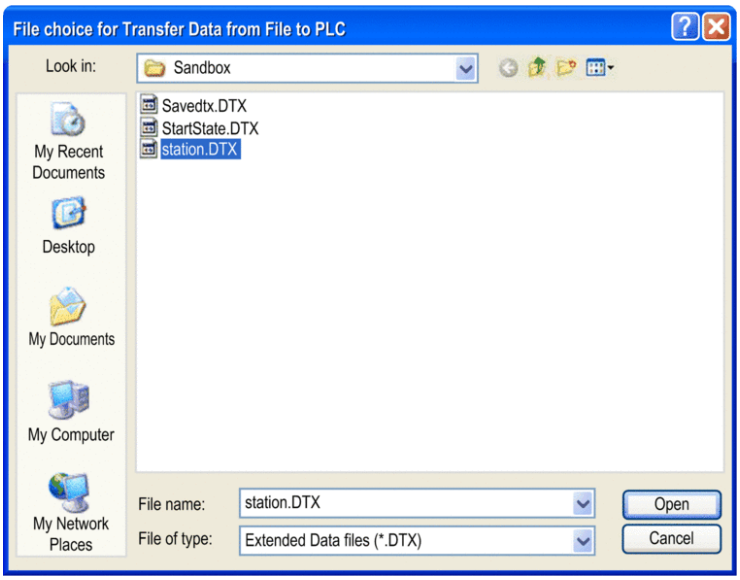
If forced bits are detected in the controller, forcing status (F) and value will not be updated in the controller.

If the controller is in RUN mode, the restoring of data to the controller from a file may need several application cycles and the data may be de-synchronized, which may affect application execution.

WARNING
UNINTENDED EQUIPMENT OPERATION Before restoring the data, verify the impact on the application execution. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**

You must perform the following actions to restore the data from a file to the controller:

Step	Action
1	To enable the menu item **Restore Data from File to PLC**, the following must be true: ○ The controller is loaded with an application. ○ The controller is in RUN or STOP status. **NOTE:** It is strongly recommended to do the transfer with the controller in STOP mode. ○ EcoStruxure Control Expert is running and is connected to the controller. ○ The Application built in EcoStruxure Control Expert may be different than those in the controller. ○ The Application in EcoStruxure Control Expert is built state.
2	Activate the **PLC** > **Restore Data from File to PLC** command. If the controller is in RUN status, a message is displayed allowing to perform the transfer while the controller is still operating (**Ok**) or to cancel the transfer. If forced bits are detected in the controller, a message is displayed allowing to perform the transfer (**Ok**) or to cancel the transfer. **Result**: The **Restore Data from File to PLC** dialog box opens.

	
3	Select the file to be restored to the controller.
4	Confirm with **Open**.
5	A confirmation message is asking you if you want to proceed with the transfer.