
SIPOS-DTM Manual PROFIBUS

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General Operation

This manual describes the operation of the DTM (Device Type Manager) for the Actuator SIPOS 5 Flash. It is assumed that you have a project opened in your frame application and a device DTM is already instantiated and connected to an appropriate communication DTM. For information on how to set up a project and instantiate DTMs please refer to the operating manual of your frame application.

The started DTM

The following picture shows the SIPOS 5 DTM after start.

The screenshot displays the SIPOS 5 DTM software interface. At the top, there are tabs for 'Language' and 'Extras'. Below these, the device information is shown: 'DeviceType: SIPOS 5 Flash', 'Order number: 2SA55112CD114AB4', 'Actuator Tag no.: MN0815', and 'Firmware version: 256291110'. The SIPOS AKTORIK logo is in the top right corner. On the left, a 'Label' sidebar contains a tree view with 'Communication', 'Offline Parameterize', and 'Channel Module Setup'. The main area features a 3D model of the SIPOS actuator and a configuration table:

Actuator Tag no.:	<input type="text" value="MN0815"/>	
Bus Address:	<input type="text" value="126"/>	
Refresh Time (dynamic):	<input type="text" value="after 5 sec."/>	
Refresh Time (static):	<input type="text" value="No refresh"/>	

At the bottom, there is a status bar with 'Offline' and 'Communication' indicators, and a navigation bar with icons for home, back, forward, and search.

Red annotations are present: D1 points to the 'Language' tab, D2 to the 'Extras' tab, A to the SIPOS AKTORIK logo, B to the 'Label' sidebar, C to the configuration table, B1 to the 'Offline' status indicator, C1 to the 'Communication' status indicator, and C2 to the navigation bar.

The area **mark A** describes the header of the DTM. The header is always viewed and shows typical parameters of the device. It is used to show the working device. The figure shows the device in offline mode. In online mode the measured value and the status of the device is shown. The information shown in the header is defined by the manufacturer and cannot be changed by the user.

The area **mark B** describes the tree view of the DTM. There the menus with their submenus can be seen. The tree view is designated for better and easier navigation by the user. This tree view is an expanded version of the windows like tree view. For each parameter there exists a value and its unit, which can be seen when the tree view is expanded as in the following picture.

The name of the tree (see **mark B1**) gives a notice if the offline view or online view of the device is opened.

The area **marked with C** describes the main view of the parameters, the so called display. The display is divided in two areas. At the left side a picture is viewed for the better understanding of the parameters and for memory aid. The scroll bars can be used to navigate the content of the display.

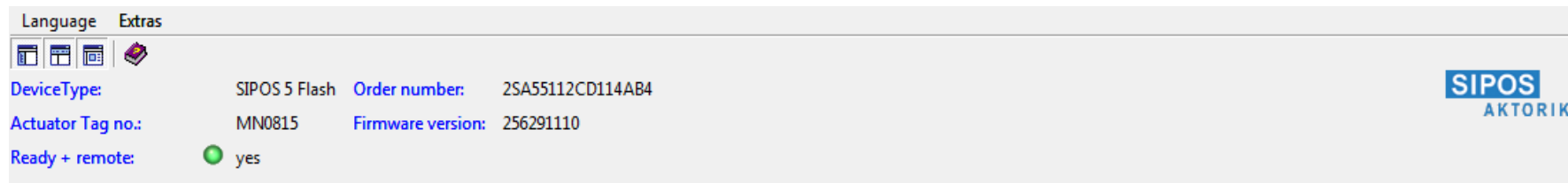
Switching between the displays (if available) of a menu is done by clicking the navigation arrows (**mark C1**). A menu with several parameters can have several displays for grouping the parameters logically. If only one display is defined for one display with all parameters, the navigation arrows are displayed gray and are inactive.

The **mark C2** shows the menu name of the actual viewed display.

Mark D1 shows the language switching option. It allows changing the language used for displays and messages independent from the Frame application. Available are **German** and **English**.

The Extras menu (**mark D2**) allows the call of the T-Curve-Module, alternatively to a call via the context menu.

The following picture shows the header in online mode. The header shows the typical measured values, the status and characteristic parameters of the device.



DTM main functions

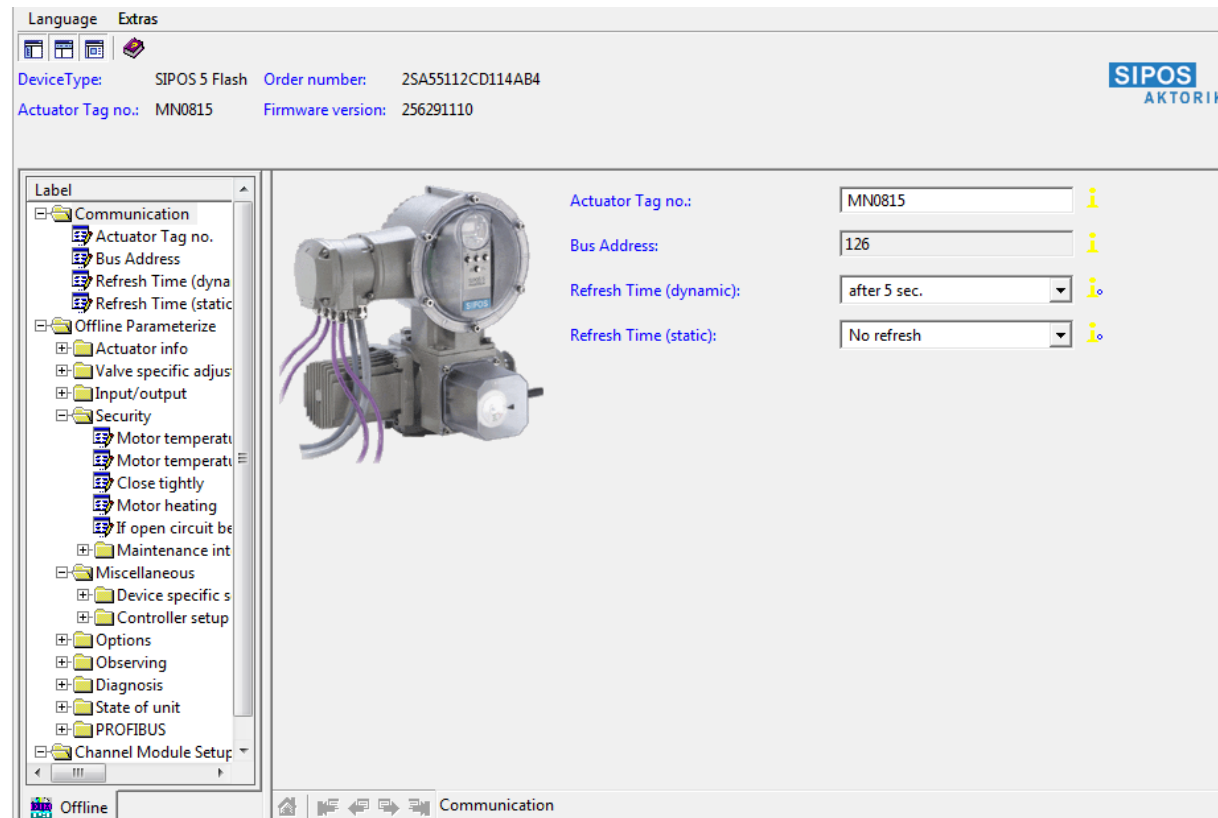


Figure: Tree view

The tree view

The next element upper or lower in the tree can be selected with the arrow key up and down. The selection works on menus and parameters. There are two ways to open a menu in the tree. The first one is to press the plus key on a closed menu, which opens one level of the submenu. The second one is by pressing the x key on the NUM-Block of the keyboard. This opens all submenus of this menu and only works if the menu is closed. Conversely the menus are closed by pressing the minus key on the NUM block or the arrow left. After opening a menu that was opened before, the menu is displayed as it was displayed before closing.

After selecting the menu or display, the focus can be moved from the tree to the parameters input field by pressing the TAB-Key. Pressing the TAB key several times moves the cursor forward to the next editable parameter.


The treeview looks like the one known from Windows. It can be navigated using the mouse. When clicking the plus sign, the contained menus and parameters are viewed. The plus sign changes to minus sign, to show that this menu is opened. When clicking a minus sign, the whole contained menu is closed. All submenus and parameters get invisible. After click on the plus sign the submenu is shown as before it was closed.

Input fields can be edited in several ways. Text fields and number fields are edited by typing the value and pressing return to confirm. Lists of values can get the focus by pressing TAB. To edit a list you can either press the up / down keys or open the listbox with the F4 key. The value has to be confirmed by pressing return.

By clicking on the menu name the first display of the respective menu is shown. Are only submenus available for a menu, just the picture assigned to that menu is shown.

Buttons in the display

Reset to DD-Defaults

By pressing the button  the default values of the DTM can be loaded, which are specified in the DD of the device. All changes are lost. This funktion is not a reset to the device. A reset can be done with the DTM function *Reset*.


Print from DTM

This function opens the print dialog of the DTM and allows to print device data. The available data to print depends on the connection status and the used frame application.

External help on parameters

All parameters are connected with a help file describing the parameters of the device. By clicking the label (see the following figure) the suitable help file of this DTM is opened. This can be a HTML file or a PDF. The link jumps directly to the definition of the parameter in the file. If this is not possible the first page is opened. The Help is opened with the program specified in Windows, e.g. Internet Explorer for HTML files or AcrobatReader for PDFs.

The help available in several languages. Depending on the language selected in your frame application, the suitable help file is opened. If no help for the selected language is available, the default language english is used.

By clicking the Button  the device specific help is opened at its beginning.

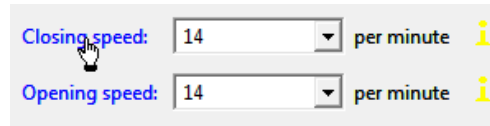


Figure: With click on the name the help file is opened

Useful tool tips

While holding the mouse pointer over a field description for a while a short help text pops up. This help text is strictly context sensitive.

Work with DTMs

The DTM allows several views opened simultaneously. The handling and appearance depends on the used frame application. It is possible to instantiate different types of DTM (e.g. HART and PROFIBUS). The following figure shows some views of DTMs opened in the frame application.

DTM functions

Depending on the frame application there may be different ways to select and start DTM functions. For example, a frame application may provide a context menu and / or a device operation menu for this purpose.

By selecting a DTM and clicking the right mouse button, the DTM context menu is opened. This menu shows the currently accessible functions of the DTM. The appearance of this menu depends on the frame application, the current state (online/connected or offline/disconnected) and your user role and access rights. Figure 2 shows an example of the DTM context menu. For further information, please refer to the operating manual of the frame application.

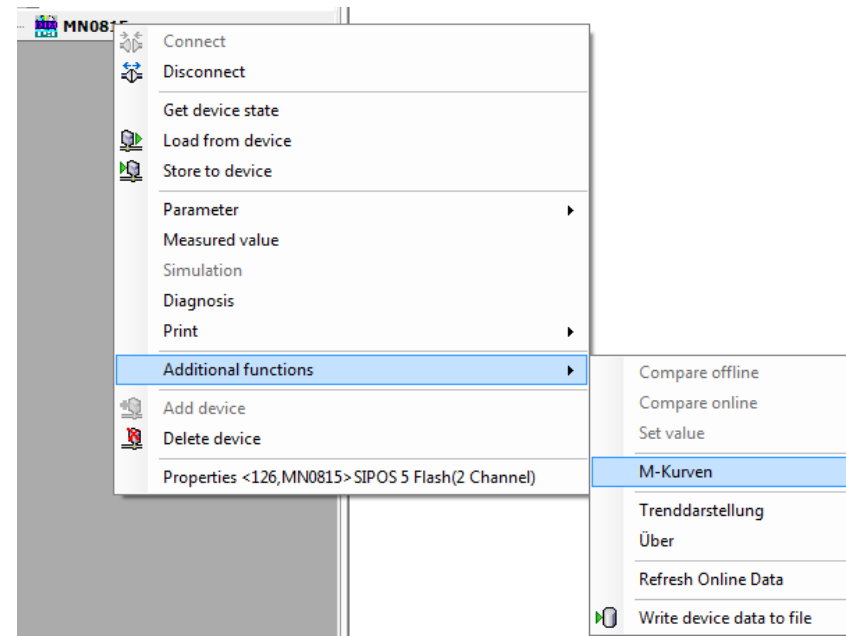


Figure: DTM context menu (online)

Online parameterize

REMARK: This function is only available if an online connection to the device is established.

This function opens the online parameters view of the DTM (see following figure). Opening a menu can take several seconds depending on the amount of parameters that must be read from the device.

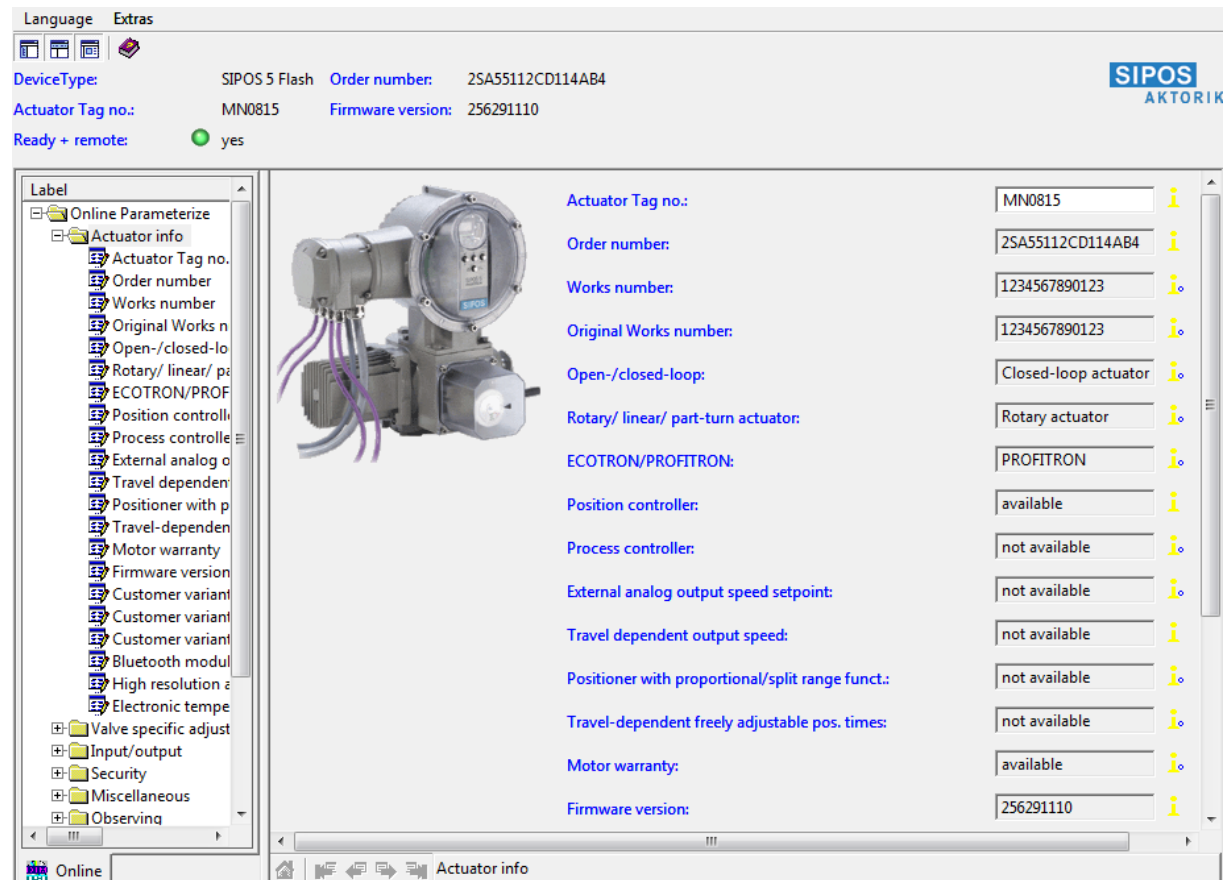




Figure: DTM with connection to device

Parameters can be modified as described for offline parameterize. One difference has to be mentioned: The value is immediately written to the device after confirming the value by pressing enter. Read-only values are not editable.

Dynamic values are displayed with two arrows in a circle , which are loaded cyclic from device. The measured value is a typical dynamic value. The blue and red arrow toggle each time the value is read. An error is marked with the following icon . By clicking on the icon, more information about the error is displayed.

CAUTION: Do not change parameters directly at the device or by using another operating tool while working with the DTM in online mode. This may lead to inconsistent data in the DTM. The DTM can be forced to refresh all parameters by disconnecting (going offline) and connecting (going online)

again.

Offline parameterize

This function opens the offline parameters view. Using this dialog the offline parameters of the device can be viewed and modified. These parameters can be stored in the frame applications database.

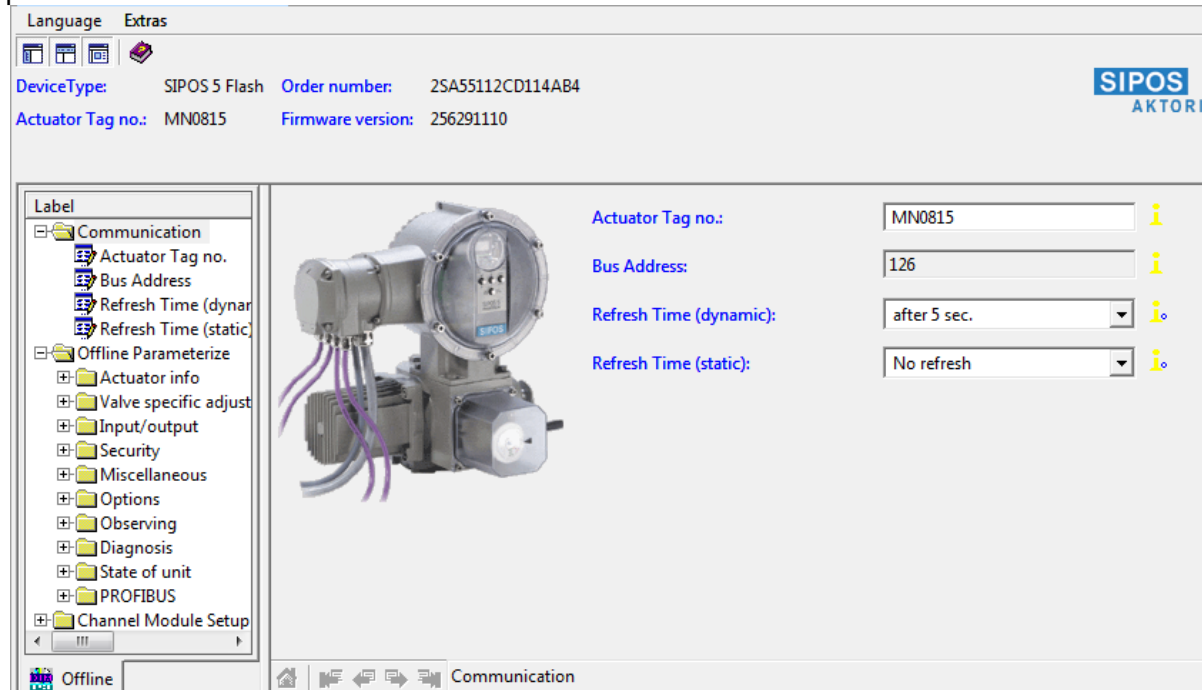





Figure: Offline parameters view

Parameters can be edited by clicking in the edit field of the parameter. A edited value is saved after pressing the enter key, if not, the change is lost. To remind the user, a blue circle with red star  shows that the value has not been stored yet and the tool tip *Press Enter to confirm* appears. Readonly parameters (first parameter in the following figure) are shown gray. Their values are not editable. Changed values are marked with a blue circle with white star  (the second parameter in the following figure). Not modified parameters are marked with  which are showing the default value defined in DD.

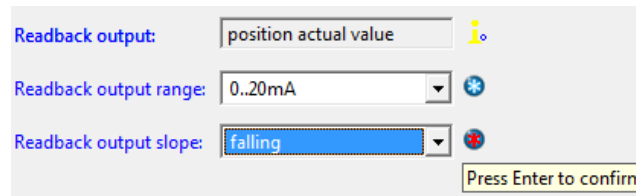




Figure: Editing of parameter values

Offline parameters are written to the device by selecting the “download” function. After writing the data to device, the blue stars disappear. Read-only parameters are displayed gray and are not editable. When a parameter could not be written to device, a red ball with flash  is displayed and indicates an error. By clicking on the icon , more information about the error is displayed.

All parameters can be set to default values by clicking the icon  in the lower left corner.

CAUTION: The offline parameters are not synchronized while changing the same parameters online! They are synchronized only by performing upload or download operations.

Upload / Load from device

REMARK: This function is only available if an online connection to the device is established.

This function reads the upload parameters from the device to the DTM. These parameters can be viewed and / or edited in the offline parameter dialog. They will be stored in the frame applications database.

While uploading parameters, the frame application shows a progress bar, which indicates the progress of this operation.

Download / Save to device

REMARK: This function is only available if an online connection to the device is established.

This function writes the download parameters from the DTM to the device. These parameters can be viewed and / or edited in the offline parameter dialog. They will be stored in the frame applications database.

While downloading parameters, the frame application shows a progress bar which indicates the progress of this operation.

CAUTION: Download will change the configuration of your device! Take care of the correct values of the parameters you download. If you do not want to

change the configuration of your device, perform an upload first.

Observe

REMARK: This function is only available if an online connection to the device is established.

This function opens the observe view of the DTM. This dialog shows the dynamic values (e.g. measuring values) of the device.

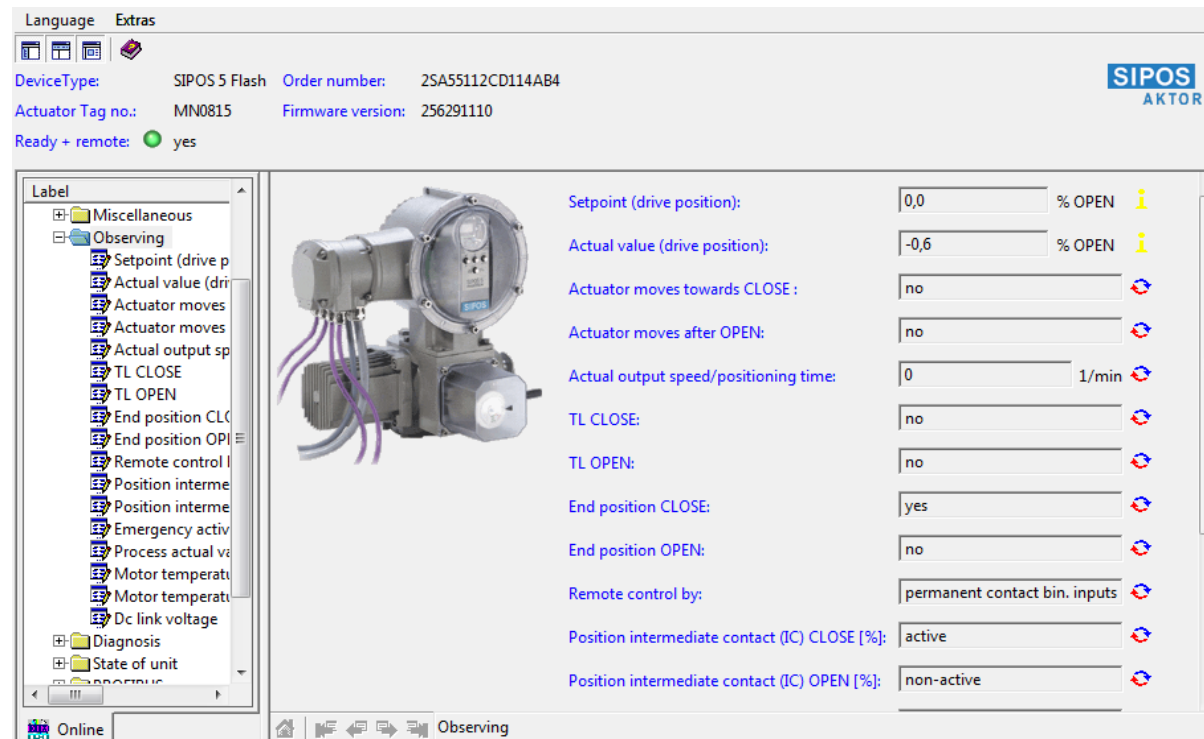


Figure: Observe view

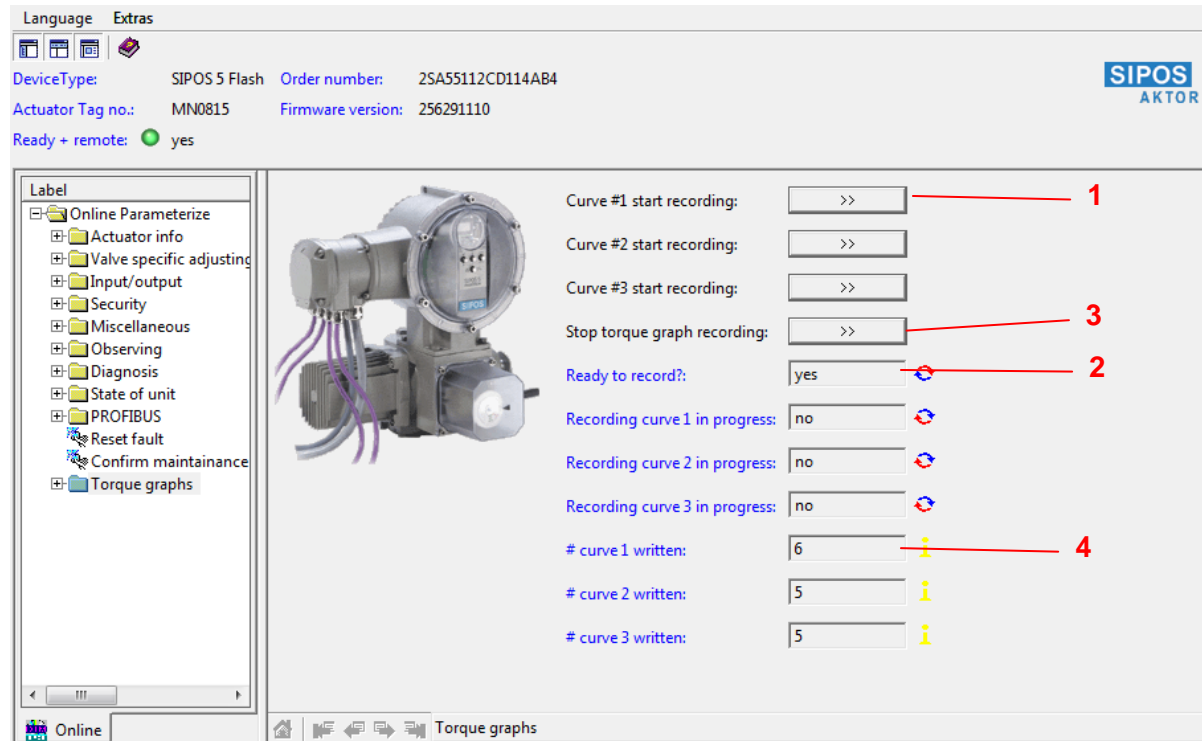
Torque graphs

REMARK: This function is only available if an online connection to the device is established.

With the function "torque graphs" a pre-emptive valve monitoring by comparison of up to 3 storable curves is possible. The torque curves can be displayed in a clearly arranged graph (see next paragraph)

Requirements:

- the actuator is mounted on the valve
- the valve specific parameterization is done correctly
- the actuator must be set to "remote ready"



Remarks on the screenshot above:

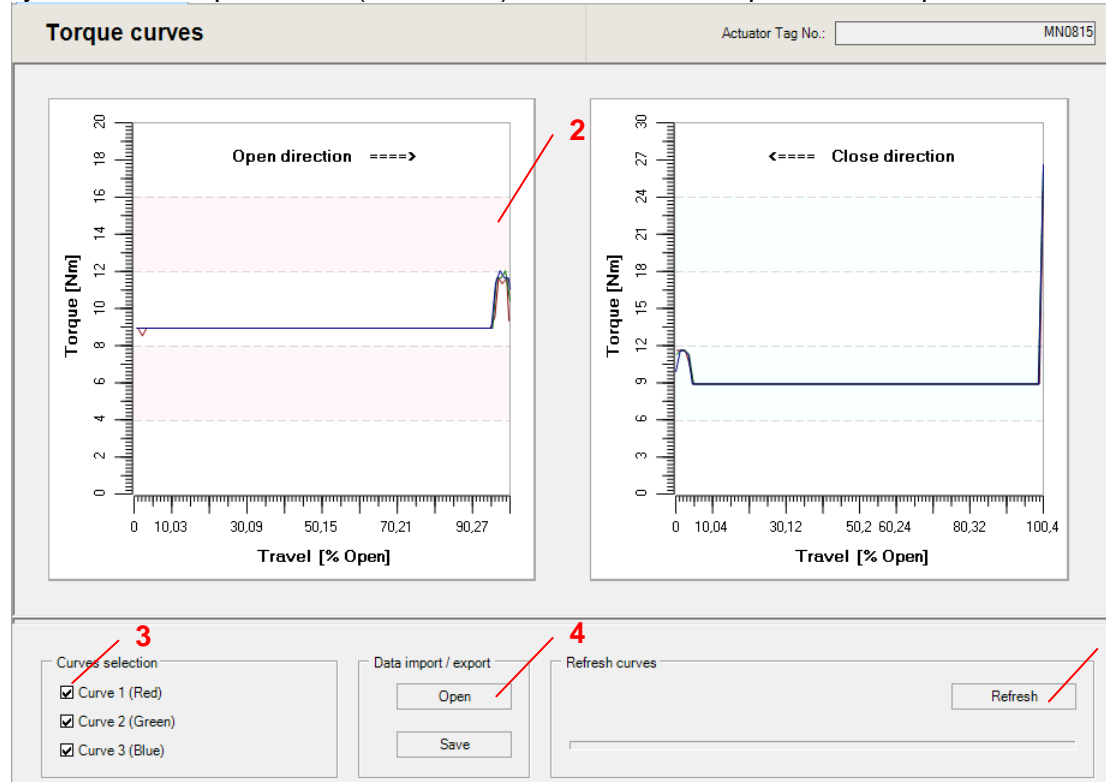
- 1) Start of record of one of the 3 available curves. Please follow the shown dialogs. Information especially about occurred errors will be provided.
- 2) After the start the running record is indicated by a 'Yes'
- 3) With this control panel one can cancel the running record
- 4) If the record of a T-curve is completed successfully, the counter will be incremented by '1' in the concerning field. In the case of an error, the counter remains at its previous value.

ATTENTION: The T-curve(s) are now stored in the actuator, but not in the project.
See also in the next paragraph "Torque graphs - display and export"

Torque graphs - display and export

REMARK: This function is only available if an online connection to the device is established.

This function displays the previously recorded torque curves (see above). This is done in a practical comparison of OPEN-CLOSE direction.



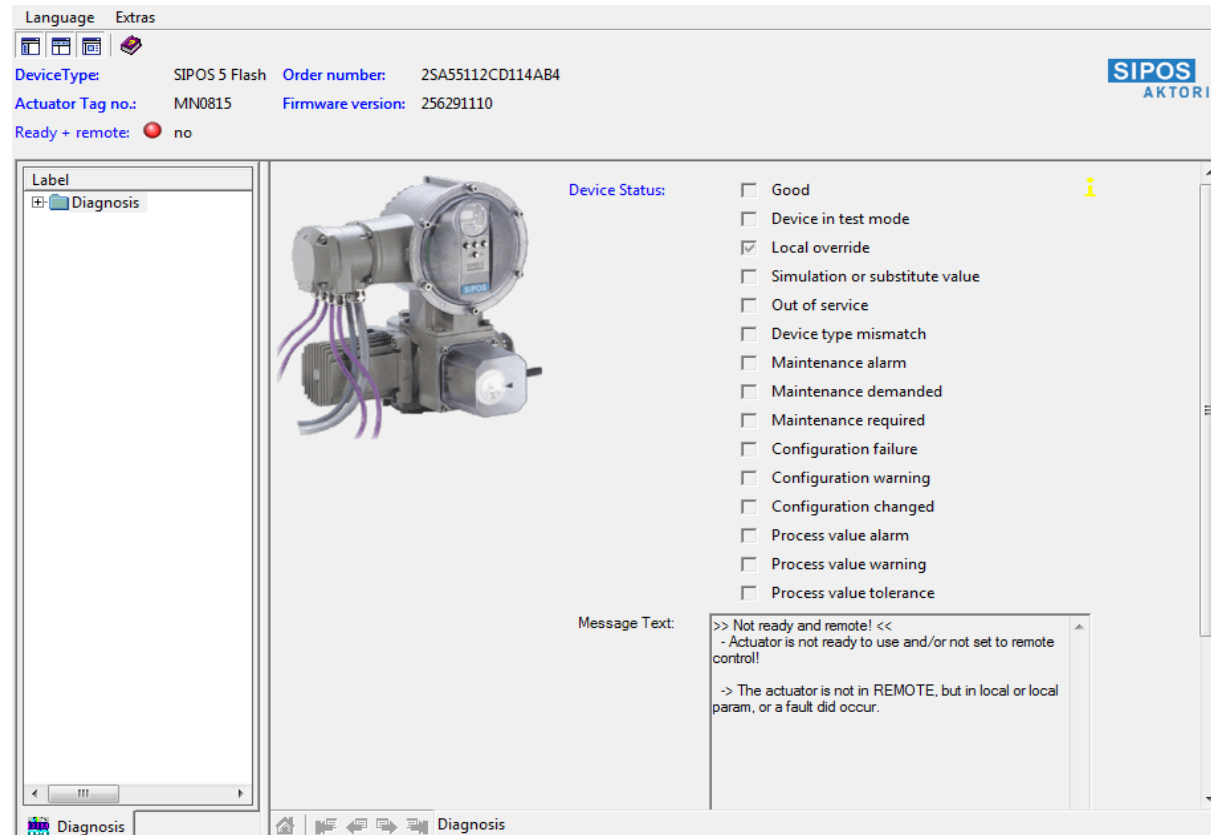
Remarks:

- 1) "Refresh" reads all available (normally three) torque curves from the actuator
- 2) Display of the curves: The comparison of OPEN-CLOSE direction provides an optimized overview over the torques appearing in the valve. The differentiation by colours - red(1) - green(2) - blue(3) - enables the easy comparison of curves recorded at various times.
- 3) Check boxes to adjust the displayed curves
- 4) "Open": Import from of an existing Excel file. The curves will be displayed instantaneously (no read out from the actuator)
"Save": Export into an Excel file

Diagnosis function

REMARK: This function is only available if an online connection to the device is established.

This function is activated via the context menu of the device in project tree. The recent device's status is displayed. In case of error a help text is shown.



Print

This function allows printing of device data. The data to be printed can be selected depending on the connection status and the frame application, e.g.:

- Offline parameters
- Online parameters
- Diagnosis
- Observe

REMARK: The appearance of the printouts depends on the frame application.

CAUTION: Printing of online parameters may take several minutes depending on the amount of parameters to be read from the device.

About

This opens the About dialog of the DTM. This dialog shows important information about this DTM. The version information allows a unique identification of this DTM.

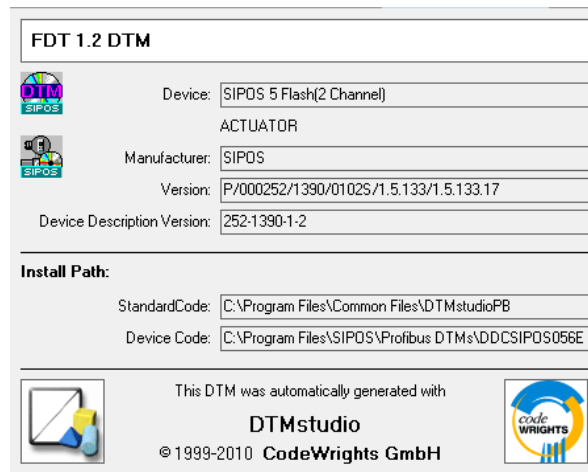












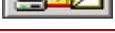







Figure: About dialog

Overview of icons

	Information: clicking this icon displays more information about this value or parameter.
	Default value indicator: indicates that this value is a default value.
	Dynamic value invalid: The value has not been read from device.
	Dynamic value indicator: blue and red arrow toggle each time the value is read from the device.
	Modification indicator: indicates that this value has been modified and not yet written to the device; disappears when the value is written to the device.
	This value is edited and has not been confirmed by pressing ENTER.

	Range violation. The value is too big or too small.
	Error indicator: indicates an error that occurred when this value has been read; disappears when the value is read without errors.
	Device status Error: The device is in state error.
	Device status OK: The Device is in state OK.
	Parameter undefined: The value has not been read from device.
	System is working: The DTMs is performing calculations.
	Calculation indicator: green turning wheel indicates calculations of the DTM.
	Communication indicator: yellow turning wheel indicates communication of the DTM.
	Indicates a communication error.
	Connection indicator: The DTM is connected to the device.
	Offline indicator: The DTM is not connected to the device.
	Set default button: sets all persistent variables to their default value.
	Set all values to invalid. When opening a menu all parameters are read from device.
	Status bar: Provides information about the current state of the DTM.
	Print: prints the data of the current view.
	Tree view on / off. Enables and disables the visibility of the tree view.
	Opens the device specific help file at its beginning.
	Opens this help file of the DTM.

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