

MCS2 - Performing a Firmware Update



INTRODUCTION

The MCS2 controller is equipped with a bootloader system that allows customers to update the firmware of the device to apply bug fixes and feature upgrades. This guide gives a step by step explanation on how to perform a firmware update for the MCS2 controller. Run the MCS2 Software Installer from the software CD or USB flash drive to install the service and uploader tools. After that the MCS2ServiceTool and the SmarActFirmwareUploader will be present in the SmarAct/MCS2 folder in the start menu.



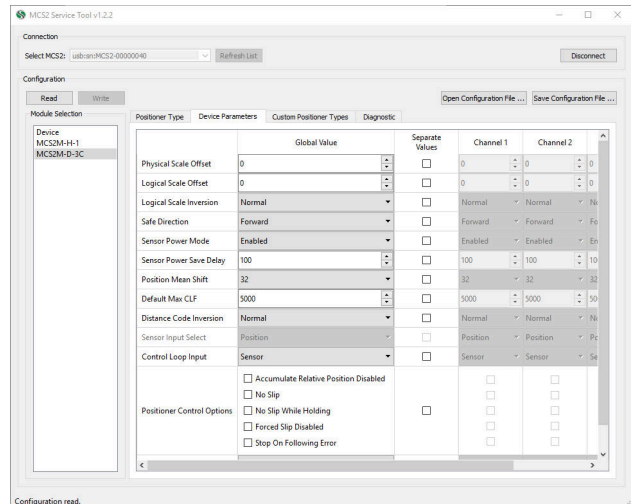
NOTICE

The firmware update resets all configuration settings to default values. Also the sensor calibration becomes invalid. You may use the MCS2 Service Tool to check or modify the configuration and to perform the sensor calibration.

BACKING UP THE DEVICE CONFIGURATION

The MCS2 Service Tool may be used to read the configuration settings from the device and to store them in a configuration file **before** the firmware is updated. Refer to the "MCS2 Service Tool User Manual" for more information on the usage of the program.

1. Power down the device.
2. Connect the device to the PC.
3. Make sure that the Sensor Modules as well as an external Hand Control Module are connected to the device before proceeding.
4. Power up the device.
5. Start the MCS2 Service Tool.



6. Click the "Refresh List" button.
7. Select your device from the list (or enter a locator string) and click the "Connect" button.
8. Click "Save Configuration File...", enter a file name and file location in the upcoming dialog and confirm by clicking "Save". Now all device settings are stored in the configuration file and may be restored after the firmware update was performed.
9. Click the "Disconnect" button.

PERFORMING A FIRMWARE UPDATE

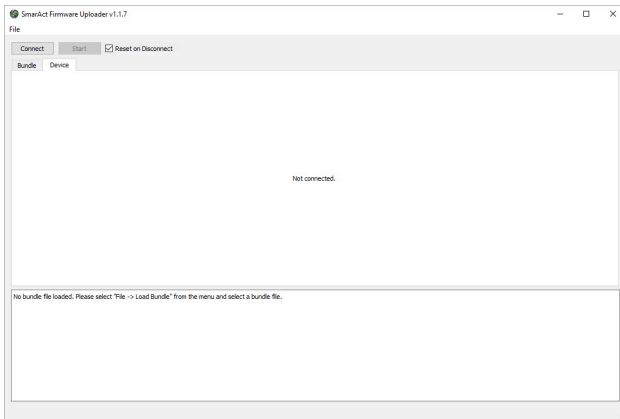
1. Power down the device.
2. Should a SmarAct PicoScale Laserinterferometer be connected to the device disconnect it before proceeding.
3. Power up the device.
4. Start the SmarActFirmwareUploader tool.
5. Load a firmware bundle by clicking "File → Load bundle..." in the menu bar.

A firmware bundle is a single file that has the ending ".sfb". Please contact SmarAct to get the latest firmware for your controller.

Alternatively, you may drag and drop a firmware bundle file onto the application window to load the bundle.

6. Click the "Connect" button.

A connection dialog window appears. Select (or enter) a locator string. The refresh button may



be used to refresh the list of available device locators.

7. Click "Ok" to connect to the selected device.

If successful the status bar at the bottom of the window will show "Connected".

The application window shows two tabs. The "Bundle" tab holds information about the firmware bundle that is currently loaded. Click the "Bundle Info" button to show a list of firmware changes for the loaded bundle. The "Device" tab lists information about the connected device, like hardware version, current firmware version and available firmware version from the loaded firmware bundle.

8. Select the units you wish to update by enabling the check boxes in the "Update" table column.

Normally there is no need to make adjustments. If a newer firmware version is available in the loaded firmware bundle then the corresponding units are selected automatically.

9. Click the "Start" button and wait until the update has finished.

The "Status" fields show the current state of the update process.

Caution: If the update process is interrupted (e.g. due to a power loss or disconnection) then the firmware might become damaged making the device inoperable. In this case you must repeat the update process.

Make sure the status shows "Success" for all updated units and the update finished with no errors. The new firmware is now installed on the MCS2 device.

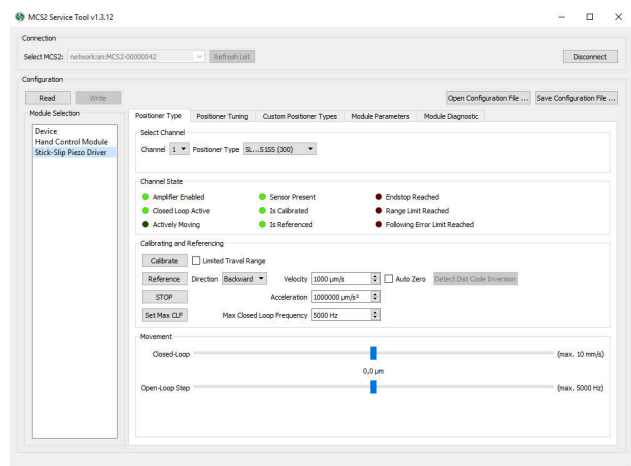
10. Click the "Disconnect" button.

If the "Reset on Disconnect" check box is activated then the device will be reset automatically and is ready for operation. Otherwise, power-cycle the device before continuing.

RESTORING THE DEVICE CONFIGURATION

Once the firmware update has finished the MCS2 Service Tool may be used to restore the previously saved device configuration.

1. Start the MCS2 Service Tool.
2. Click the "Refresh List" button.
3. Select your device from the list (or enter a locator string) and click the "Connect" button.
4. Click "Open Configuration File...", select the configuration file in the upcoming file dialog and confirm by clicking "Open". All modules and tabs with changes are marked with an asterisk (*).
5. Click the "Write" button to write the settings to the device. Now the original settings are restored on the device.
6. Perform the sensor calibration for all connected positioners.



7. Click the "Disconnect" button.



NOTICE

Note on the Hand Control Module: the firmware update resets the **joystick calibration**. If uncalibrated the joysticks may trigger a movement in some cases even if in neutral position. You may start the calibration sequence in the "General Settings" menu of the HCM. Refer to the "MCS2 HCM User Manual" for more information on the joystick calibration.

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