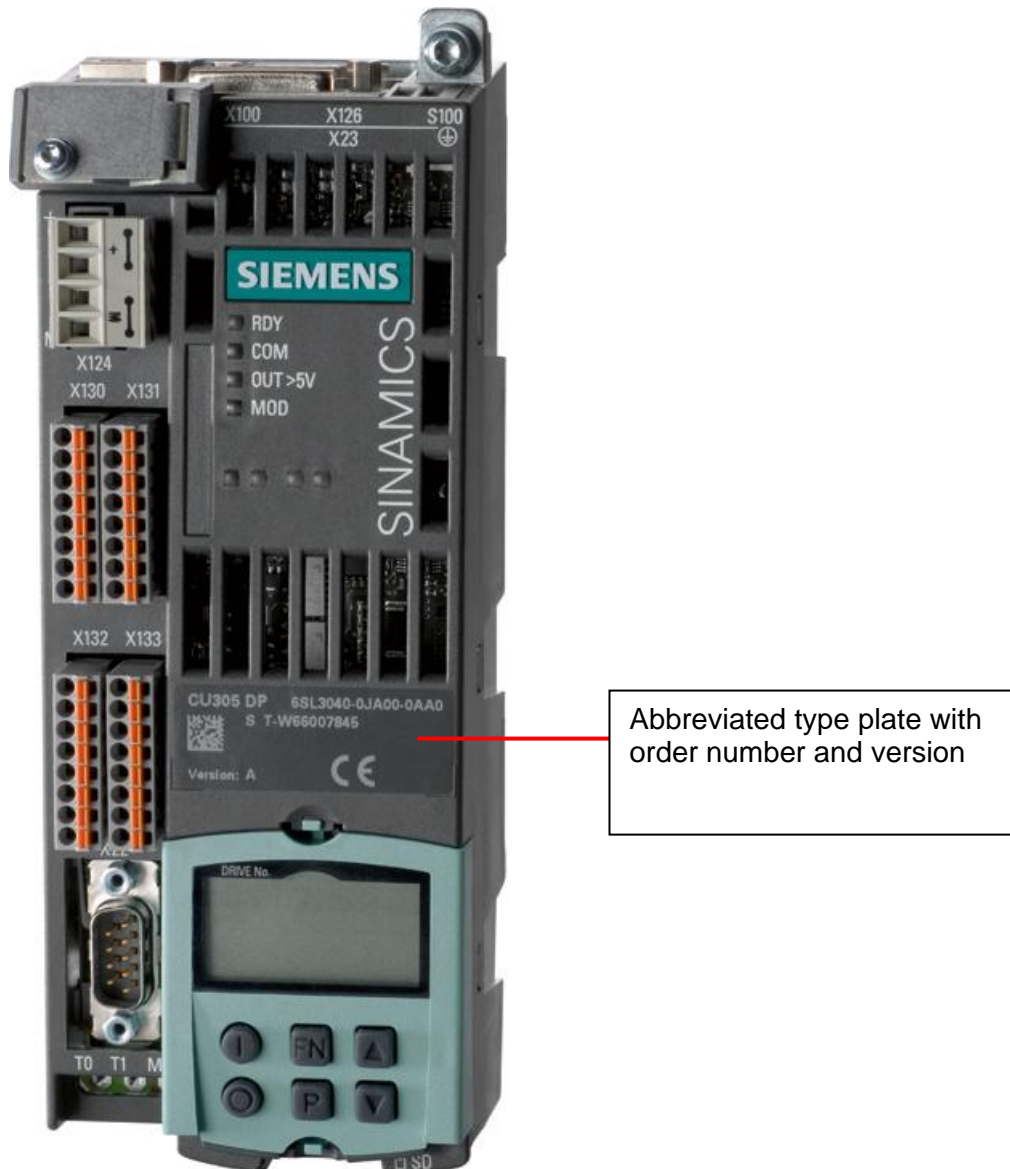# Instructions for firmware update from V4.1.x to V4.3.x

Valid for: SINAMICS S110

Hardware requirements:

The CU305DP, order number 6SL3040-0JA00-0AA0, and CU305 CAN, order number 6SL3040-0JA02-0AA0, will be supported as from firmware FW4.1.

The version of your Control Unit is indicated on the type plate:

Abbreviated type plate with order number and version

Fig. 1: CU305 type plate with version

With firmware version 4.1 and higher, the firmware versions can be completely updated on 64MB MultiMediaCards (MMC), order number 6SL3054-4AG00-0AA0 (without FW). These cards will be supplied from firmware version 4.1 – Order number of the card with FW 4.3.x 6SL3054-4ED00-0AA0.

Update instructions

Required:

- ➢ MultiMediaCard reader for connection to a PC/PG
- ➢ PC/PG with STARTER version >= 4.1.5.1 with communications interface to Control Unit

Initial situation

The initial situation is that a SINAMICS S110 device is to be updated to a new firmware version.

Data backup

Proceed as follows to back up the parameters assigned:

1. Connect the PG/PC to the drive, e.g. via the PROFIBUS connection cable.
2. Establish the online connection and create a backup copy by loading the current project to the PG.
   If the firmware has a new device version number (e.g. change from V4.1.x to V4.3.x), the designated drive unit must additionally be marked in the STARTER project tree, and the designated device version must be selected via the right mouse button, Target device → Device version.
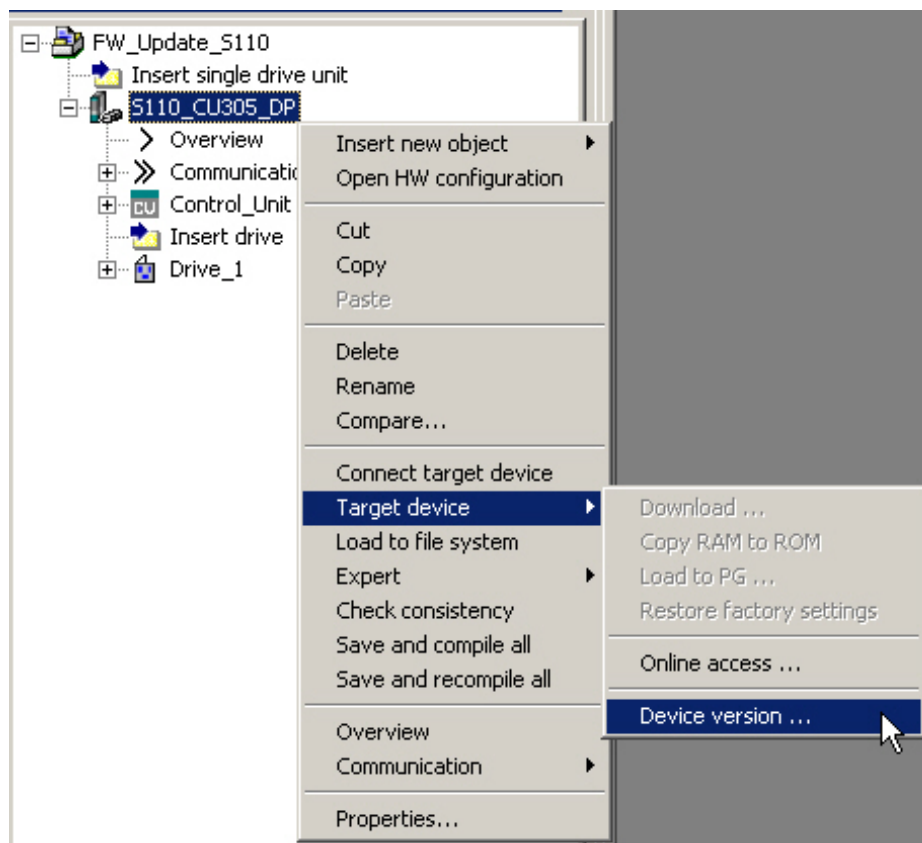

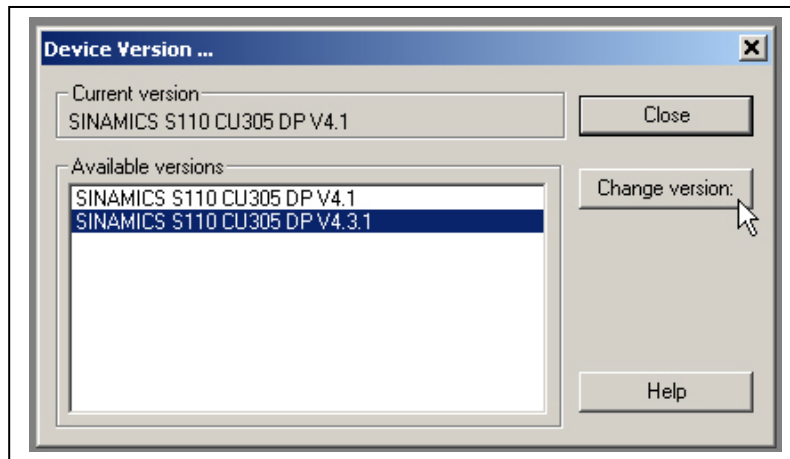**Fig. 2: STARTER menu selection "Device version"**

Fig. 3: STARTER menu "Device Version"

WARNING:

All project data and parameters on the MultiMediaCard will be deleted by the following update process!

3. Switch off the 24 V DC electronics power supply.
4. Remove the MultiMediaCard and insert it into the reader on the PC/PG.
5. Use Windows Explorer to save the "KEYS" folder, if present on the MultiMediaCard, on the PC/PG. This folder possibly contains license keys for software options under license.
6. Use Windows Explorer on the PC to delete all files and folders on the MultiMediaCard.
7. Unzip the new firmware to an arbitrary temporary directory on the PC/PG using "WINZIP", for example.
8. Use Windows Explorer to move the contents of the temporary directory to the MultiMediaCard.
9. Transfer the "KEYS" folder, if present, back from the PC/PG to the root directory of the MultiMediaCard using Windows Explorer.
10. Insert the MultiMediaCard into the CU305.
11. Switch the 24 V DC electronics power supply on again.
12. **The CU305 boots and "pauses" for approx. 5 minutes with red READY LED**. During this time, there is also no output to an (optional) BOP. **DO NOT SWITCH OFF THE CU305 IN THIS STATE!** When the firmware update is completed, the READY and COM LEDs light up red simultaneously. Switch off the CU305 in this state and then on again.

13. After switching on, the CU305 boots again and any Drive CLiQ nodes connected (if present) are updated automatically. With this step, the project on the CU305 is also updated internally and loaded automatically to the MMC.

14. During this time, the RDY (READY) LED on the Control Unit flashes orange at 0.5 Hz. After the completion of the firmware update, the LED flashes faster at 2 Hz. The updated components show alarm 1007, which is also displayed in the STARTER alarm window.

Level	Time	Source	Message
Warning	09.01.70 11:42:27:864	S110_CU305_DP : Drive_1	1007 : POWER ON for DRIVE-CLiQ component required(Component number: 2)

Fig. 4: STARTER alarm display after firmware update of components

Switch the 24 V DC power supply off and on again after the firmware update.

15. When the CU has booted, the READY LED lights up green (the COM LED, too, when the Profibus connection is active). When the online connection is established with the updated drive, a difference between offline and online configuration will be displayed.

16. Afterwards, load the updated project from STARTER to the drive and save via RAM to ROM. After this step, you can see the current firmware versions of the modules in the Version overview.

Version overview

CF card serial number:

Component	-No.	FW version	Type	Order no.	HW version	Serial no.
				Project set	Project set	Project set
CU_S110_006.Control_Unit_1	1	4301800	Closed-loop control module	6SL3040-0JA00-0Axx		
Encoder_7	7	--	Encoder	XExxxxx-xxxxx-xxxx		
SM_6	6	--	SMC30 (Internal)	6SL3040-0JA00-0Axx		
SERVO_02.Motor_Module_5	5	4301800	CUA	6SL3040-0JA00-0Axx		
SERVO_02.PM340	-	--	Power_unit	6SL3210-1SB12-3AA0		SXAW8110000477
SERVO_02.Motor_SMI_4	4	--	Motor	1FK7022-xAK7x-xDxx		
SERVO_02.Encoder_3	3	--	Encoder	1FK7xxx-xxxxx-xDxx		
SERVO_02.SMI20_2	2	4301700	SMI20 / DQI	XSMIxxx-xxxxx-xxxx		

Project tree:
- FW_Update_S110
  - Insert single drive unit
  - S110_CU305_DP
    - Overview
    - Communication
      - Message frame configuration
      - Commiss. interface
      - Field bus
    - CU_S110_006
    - SERVO_02

Fig. 5: STARTER Version overview