Firmware update

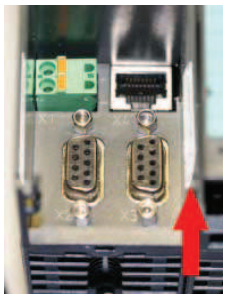
Overview

By means of a MMC there is the opportunity to execute a firmware update at the CPU and its components.

For this an accordingly prepared MMC must be in the CPU during the start-up.

So a firmware files may be recognized and assigned with start-up, a pkg file name is reserved for each updatable component and hardware release, which begins with "px" and differs in a number with six digits. The pkg file name of every updateable component may be found at a label right down the front flap of the module.

As soon as with start-up a pkg file is on the MMC and the firmware is more current than in the components, all the pkg file assigned components within the CPU get the new firmware.



Firmware package and version
1. CPU 314SC/DPM
2. PROFIBUS DP master
3. Analog part

Latest Firmware at www.vipa.de

The latest 2 firmware versions may be found in the service area at www.vipa.de.

For example the following files are necessary for the firmware update of the CPU 314-6CG13 and its components with hardware release 1:

- 314-6CG13, Hardware release 1: Px000138_Vxxx.zip
- PROFIBUS DP master: Px000064_Vxxx.zip
- Analog part: Px000073_Vxxx.zip

Attention!

When installing a new firmware you have to be extremely careful. Under certain circumstances you may destroy the CPU, for example if the voltage supply is interrupted during transfer or if the firmware file is defective.

In this case, please call the VIPA-Hotline!

Please regard that the version of the update firmware has to be different from the existing firmware otherwise no update is executed.

Display the Firmware version of the SPEED7 system via web page

The CPU 314SC/DPM has an integrated web page that monitors information about firmware version of the I/O components. The Ethernet PG/OP channel provides the access to this web page.

To activate the PG/OP channel you have to enter according IP parameters.

This can be made in Siemens SIMATIC manager either by a hardware configuration, loaded by MMC respectively MPI or via Ethernet by means of the MAC address with **PLC** > *Assign Ethernet Address*.

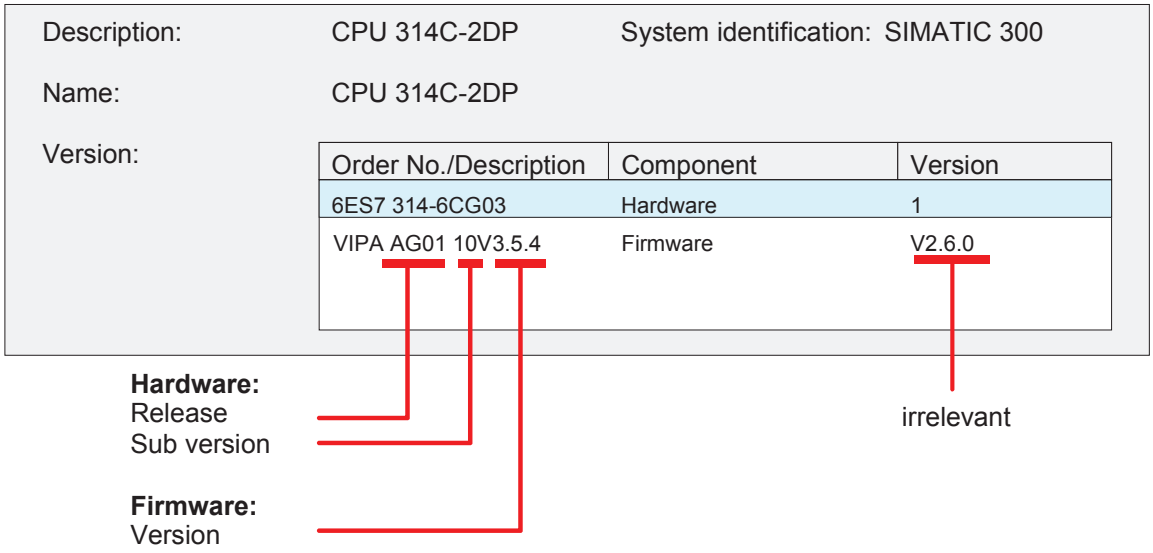
After that you may access the PG/OP channel with a web browser via the IP address of the project engineering. More detailed information is to find in "Access to Ethernet PG/OP channel and website".

Determine CPU firmware version with module information

First establish an online connection to the CPU. To monitor the module information you choose the option **PLC** > *Module Information* in the Siemens SIMATIC Manager. Via the register "General" the window with hardware and firmware version may be selected.

From software-technical reasons there is something different of the CPU 314SC/DPM to the CPU 314C from Siemens:

The releases of hard and software may be found at "Order No./Description". Here the number at "Version" is irrelevant.



Note!

Every register of the module information dialog is supported by the VIPA CPUs. More about these registers may be found in the online help of the Siemens SIMATIC manager.

Load firmware and transfer it to MMC

- Go to www.vipa.de.
- Click on Service > Download > Firmware Updates.
- Click on "Firmware for System 300S - SPEED7"
- Choose the according modules (CPU, DPM, CP...) and download the firmware Px.....zip to your PC.
- Extract the zip-file and copy the extracted file to your MMC.
- Following this approach, transfer all wanted firmware files to your MMC.

Attention!

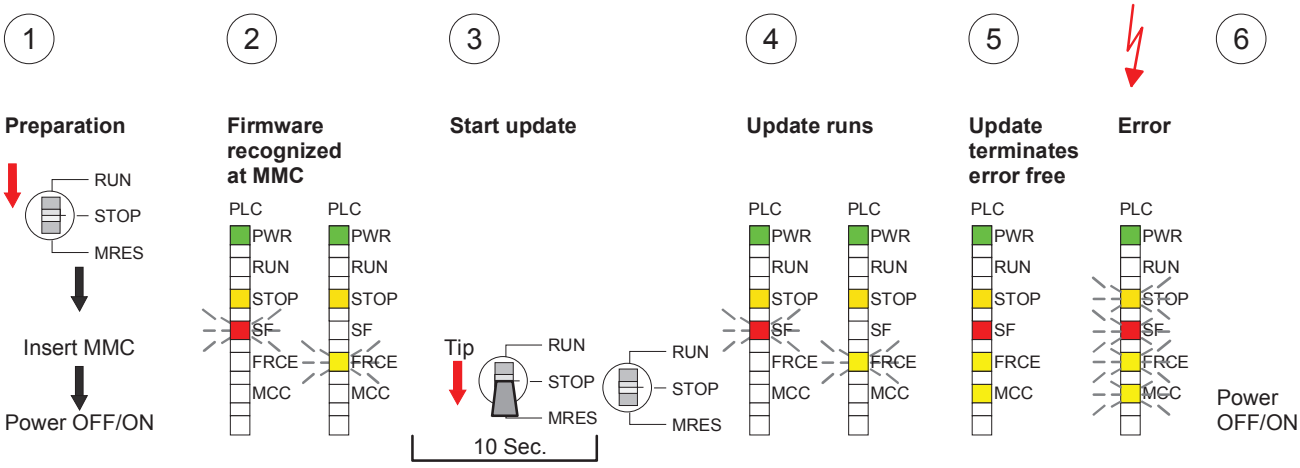
With a firmware update an overall reset is automatically executed. If your program is only available in the load memory of the CPU it is deleted! Save your program before executing a firmware update! After the firmware update you should execute a "Set back to factory settings" (see following page).

Transfer firmware from MMC into CPU

1. Get the RUN-STOP lever of your CPU in position STOP. Turn off the voltage supply. Plug the MMC with the firmware files into the CPU. Please take care of the correct plug-in direction of the MMC. Turn on the voltage supply.
2. After a short boot-up time, the alternate blinking of the LEDs SF and FRCE shows that at least a more current firmware file was found on the MMC.
3. You start the transfer of the firmware as soon as you tip the RUN/STOP lever downwards to MRES within 10s.
4. During the update process, the LEDs SF and FRCE are alternately blinking and MMC LED is on. This may last several minutes.
5. The update is successful finished when the LEDs PWR, STOP, SF, FRCE and MCC are on. If they are blinking fast, an error occurred.
6. Turn Power OFF and ON. Now it is checked by the CPU, whether further current firmware versions are available at the MMC. If so, again the LEDs SF and FRCE flash after a short start-up period. Continue with point 3.

   If the LEDs do not flash, the firmware update is ready.

   Now a *factory reset* should be executed (see next page). After that the CPU is ready for duty.



Factory reset

Proceeding

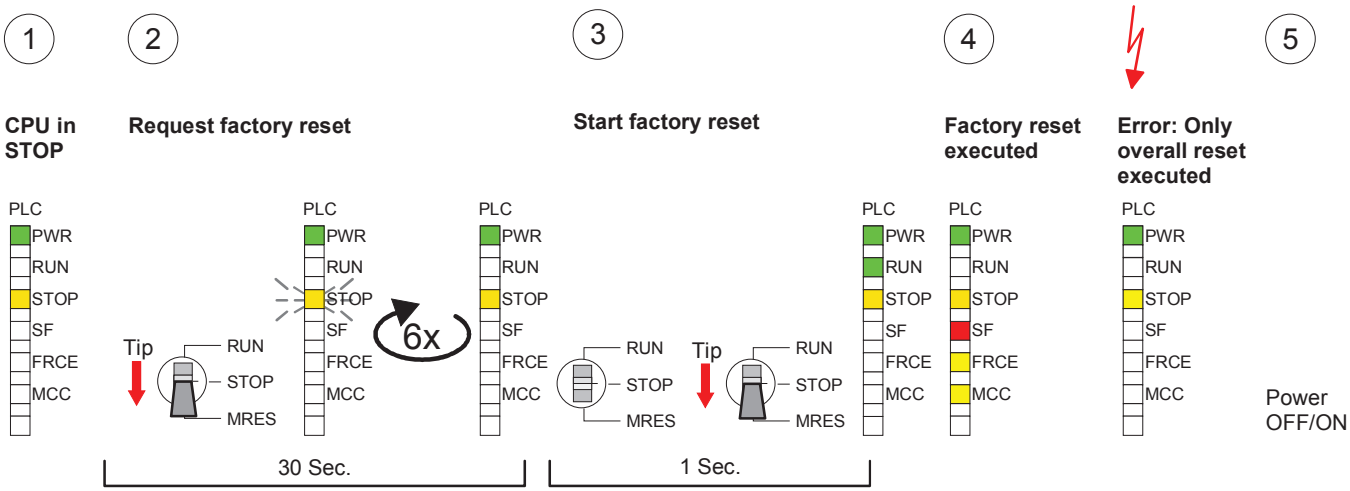
With the following proceeding the internal RAM of the CPU is completely deleted and the CPU is reset to delivery state.

Please note that here also the IP address of the Ethernet PG/OP channel is set to 0.0.0.0 and the MPI address is reset to the address 2!

A factory reset may also be executed by the MMC-Cmd FACTORY_RESET. More information may be found at "MMC-Cmd - Auto commands".

1. Switch the CPU to STOP.
2. Push the operating switch down to position MRES for 30s. Here the STOP-LED flashes. After a few seconds the stop LED changes to static light. Now the STOP LED changes between static light and flashing. Starting here count the static light states.
3. After the 6. static light release the operating mode switch and tip it downwards to MRES. Now the RUN LED lights up once. This means that the RAM was deleted completely.
4. For the confirmation of the resetting procedure the LEDs PWR, STOP, SF, FRCE and MCC get ON. If not, the factory reset has failed and only an overall reset was executed. In this case you can repeat the procedure. A factory reset can only be executed if the stop LED has static light for exactly 6 times.
5. The end of factory reset is shown by static light of the LEDs STOP, SF, FRCE and MCC. Switch the power supply off and on.

The proceeding is shown in the following Illustration:



Note!

After the firmware update you always should execute a *Factory reset*.