

AC500 FW update description V2.2.0



Content

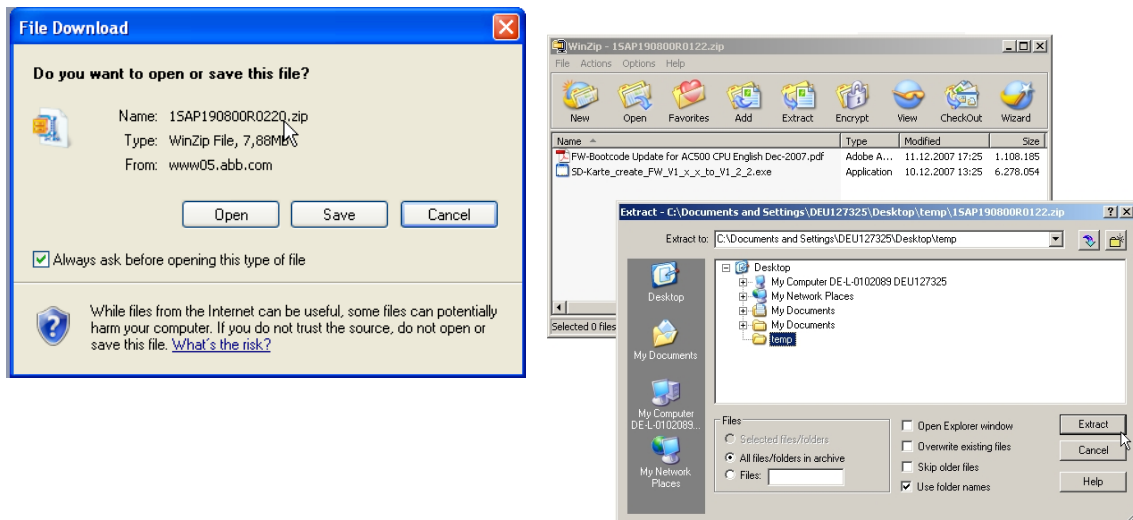
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1. What do you need?

To be able to make the CPU update, you need following materials:

Part number	Type	Description
1SAP180100R0001	MC502	MC502, SD Memory Card 512 MB
1SAP180200R0001	TK501	TK501, Programming cable, D-Sub / D-Sub
1SAP190100R0200	PS501	PS501-PROG, Control Builder AC500, V2.2.0 Programming software German / English / French (USB-DRIVE incl. Online-Help and Documentations-files)
1SAP190800R0215	FW5xx-UPDA	Self-extracting ZIP data file FW V2.2.0 only for AC500 CPU with onboard ETH with rubric R0271 with onboard ETH
	PC-Accessories	SD-Card reader/writer for PC to create SD Card Files

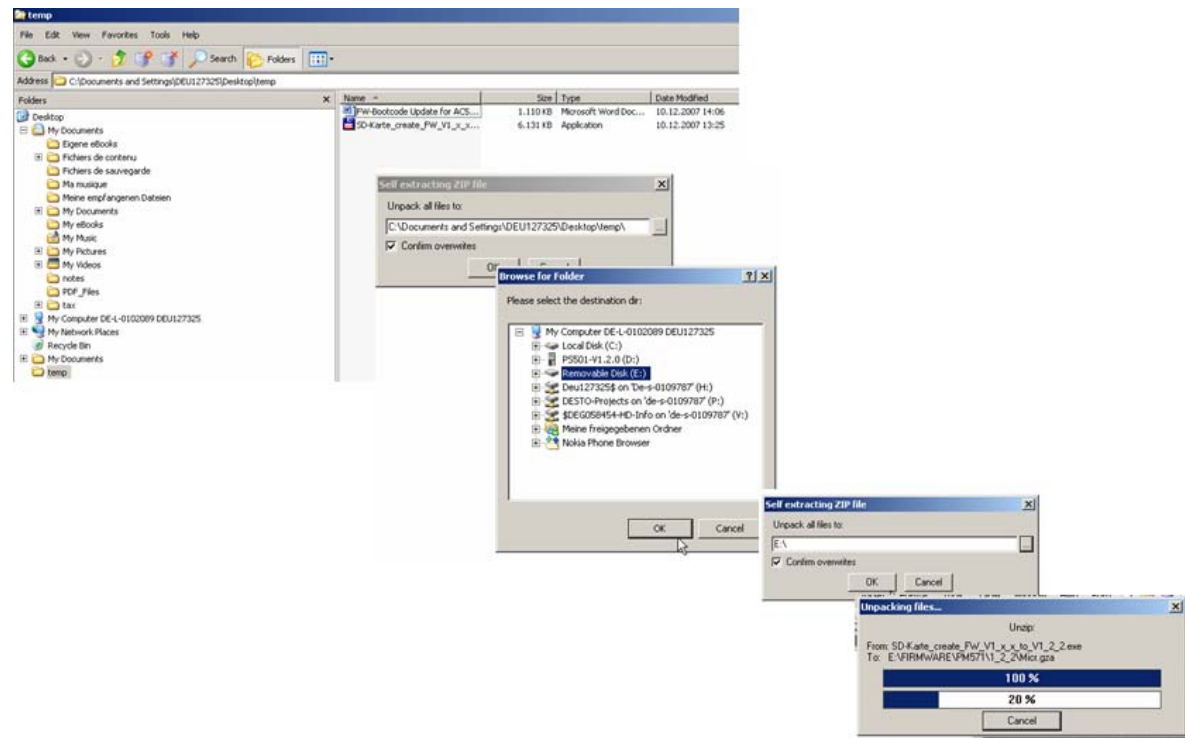
Download the desired file „1SAP190800R0220.zip“and open the ZIP-File.



The file „1SAP190800R0220.zip“contains:

- ❑ “SD-Card_create_FW_V2_x_x_to_V_2_2_0.exe”: This is self-extracting files which produce automatically the SD-Card Directories and copy the desired data.
- ❑ Some Update instructions (English)

Put the SD-Card into the SD-Card reader from your PC. After that select the Data “SD-Card_create_FW_V2_x_x_to_V_2_2_0.exe” with double click. The file is automatically extracted; select the SD-Card as target.



2. Update AC500

The functions of the SD-card are described in detail into the AC500-Documentation, System technique CPU' in the Chapter "The SD Memory Card in AC500".

In this short documentation are only described the functions and the data structure needed for the Firmware update.

In order to be able to use the newest functions of the AC500, the CPU Boot-Code / Firmware/ Display Firmware have to be updated.

2.1 Update variants

The Firmware Update could be performed both only with SD-Card by booting the PLC or through PLC Browser commands and plugged SD-Card into the PLC.

The following table shows the Update possibilities:

Device / File	SD-Card + Power ON	PLC-Browser command + SD-Card
CPU – Bootcode	no	sdboot x* (x = according version; e.g sdboot 2_0_2)
CPU – Firmware	yes	sdfirm x* (x = according version; e.g sdfirm 2_2_0)
CPU – Display ^a	yes	sddisplay x* (x = according version; e.g sddisplay 2_3)
Coupler – Firmware	yes	sdcoupler x* (x = 1..4 = external coupler 1..4)

(*The released version could be found at chapter 3.2)

(^a Only for PM57x, PM58x, PM59x)

Attention:

During the flash process it is not allowed to switch the power off; otherwise, the plc could be damaged and unavailable anymore. During the display update it is powered off and on automatically!

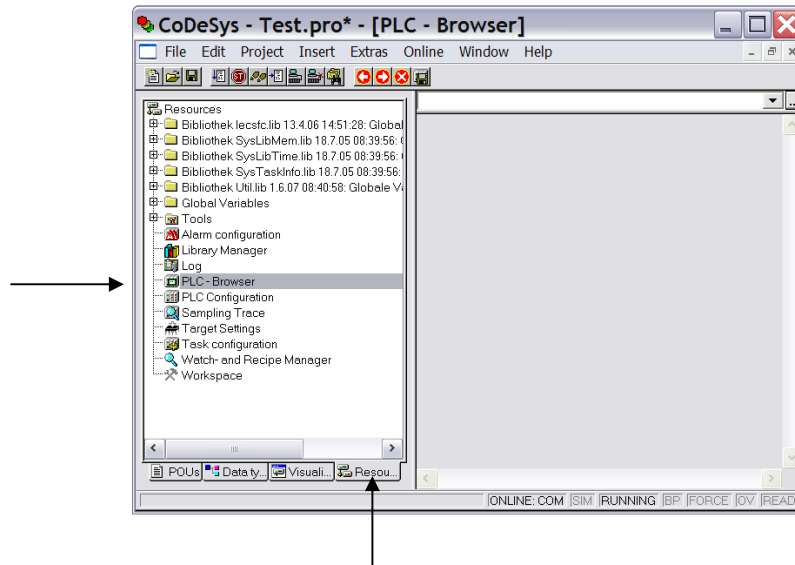
2.1.1 Update - boot up

If you want to do the firmware update without control by PLC browser commands then please follow these steps:

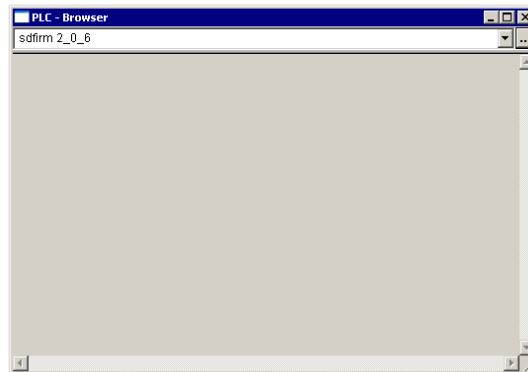
1. Download and extract the update files on your SD-card.
2. Insert prepared SD card into the plc. The file sdcard.ini on the SD-card contains settings that automatically perform the update.
3. Switch power on
4. Updates operation starts (green LED blinking = reading from SD card / red and green LED blinking fast = flash process)
5. Update results:
 - Successful = Green LED is blinking slowly (only if all updates were done successfully)
 - Error = Red LED is blinking slowly (even if only one update was not done)

2.1.2 Update - online mode – PLC Browser

To do a firmware update with the PLC Browser, it is necessary to be logged in into the PLC with your PC. Now open the PLC-Browser, see below.



Now you have to insert the SD-Card (prepared as described in *chapter download of the update*) into the AC500 and write the requested (see chapter *Update variants*) command into the PLC-Browser and press enter. The corresponding command is now activated, see below – e.g. with the “**sdfirm 2_2_0**” command.



If the firmware update was successful, “**done**” is shown in the PLC-Browser, remove the SD-Card and restart the AC500 PLC to start the CPU with the new firmware.

Attention: *The SD card has to be removed before restart!!*

To get some information about the firmware version of the PLC enter the command “**rtsinfo**” into the PLC-Browser.

2.2 Current released versions

The following table contains the overview of the actual versions:

Device	Bootcode	Firmware	Display	RTC	Onboard IO
PM572	V2.0.2	V2.2.0	V2.5		
PM573-ETH	V2.0.2	V2.2.0	V2.5	-	-
PM582	V2.0.2	V2.2.0	V2.5	-	-
PM583-ETH	V2.0.2	V2.2.0	V2.5	-	-
PM590-ETH	V2.0.6	V2.2.0	V2.5	-	-
PM591-ETH	V2.0.6	V2.2.0	V2.5	-	-
PM592-ETH	V2.0.6	V2.2.0	V2.5	-	-

2.3 The file SDCARD.INI

The SDCARD.INI data file for the update of the AC500-CPU has the below shown entries. These entries are the default settings for the newest released firmware version and shouldn't be changed.

```
[Status]
FunctionOfCard=2          (*SDcard function: 2 = Update*)

[FirmwareUpdate]
CPUPM5x1=2               (*Update CPU Firmware with below given values -> 2 = Version different*)
Display=2                (*Update CPU Firmware with below given values -> 2 = Version different*)
OnboardIO=1              (*Update OnboardIO Firmware with below given values -> 1 = from base directory*)
RtcBatt=2                (*Update RtcBatt Firmware with below given values -> 2 = Version different*)
Coupler0=0               (*Update communication module slot 0 -> No update*)
Coupler1=0               (*Update communication module slot 1-> No update *)
Coupler2=0               (*Update communication module slot 2-> No update *)
Coupler3=0               (*Update communication module slot 3-> No update *)
Coupler4=0               (*Update communication module slot 4-> No update *)

[UserProg]
UserProgram=0
RetainData=0
PersistentData=0
ConfData=0
CouplerConfig0=0
CouplerConfig1=0
CouplerConfig2=0
CouplerConfig3=0
CouplerConfig4=0

[PM572]                  (*CPU type*)
VERSION=2_2_0            (*CPU firmware version*)
PLCBOOT=2_0_2            (*CPU bootcode version*)
DISPLAY=2_5              (*CPU display version*)

[PM573ETH]               (*CPU type*)
VERSION=2_2_0            (*CPU firmware version*)
PLCBOOT=2_0_2            (*CPU bootcode version*)
DISPLAY=2_5              (*CPU display version*)

[PM582]
VERSION=2_2_0
PLCBOOT=2_0_2
DISPLAY=2_5

[PM583]
VERSION=2_2_0
PLCBOOT=2_0_2
DISPLAY=2_5

[PM590ETH]
VERSION=2_2_0
PLCBOOT=2_0_6
DISPLAY=2_5

[PM591ETH]
VERSION=2_2_0
PLCBOOT=2_0_6
DISPLAY=2_5

[PM592ETH]
VERSION=2_2_0
PLCBOOT=2_0_6
DISPLAY=2_5
```

2.4 Data structure of the SD-card

<u>Directory</u>	<u>Data file</u>	<u>Comments</u>
Root	SDCARD.INI	Configuration data from the SD-card
FIRMWARE\PM572\2_2_0\	PM58xN.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM572\2_0_2\	PM58xNB.gza	Boot V2.0.2,2010-03-26 (Build:7923,12:30:24,Rel)
FIRMWARE\PM572\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM573\ETH\2_2_0\	PM58xN.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM573\ETH\2_0_2\	PM58xNB.gza	Boot V2.0.2,2010-03-26 (Build:7923,12:30:24,Rel)
FIRMWARE\PM573\ETH\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM582\2_2_0\	PM58xN.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM582\2_0_2\	PM58xNB.gza	Boot V2.0.2,2010-03-26 (Build:7923,12:30:24,Rel)
FIRMWARE\PM582\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM583\2_2_0\	PM58xN.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM583\2_0_2\	PM58xNB.gza	Boot V2.0.2,2010-03-26 (Build:7923,12:30:24,Rel)
FIRMWARE\PM583\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM590\ETH\2_2_0\	PM59xRD.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM590\ETH\2_0_6\	PM59xRDb.gza	Boot V2.0.6,2011-01-19 (Build:10249,09:01:58,Rel)
FIRMWARE\PM590\ETH\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM591\ETH\2_2_0\	PM59xRD.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM591\ETH\2_0_6\	PM59xRDb.gza	Boot V2.0.6,2011-01-19 (Build:10249,09:01:58,Rel)
FIRMWARE\PM591\ETH\Display\2_5	Display.app	Display firmware V2.5
FIRMWARE\PM592\ETH\2_2_0\	PM59xRD.gza	FW V2.2.0, 2012-05-03 (Build:11554)
FIRMWARE\PM592\ETH\2_0_6\	PM59xRDb.gza	Boot V2.0.6,2011-01-19 (Build:10249,09:01:58,Rel)
FIRMWARE\PM592\ETH\Display\2_5	Display.app	Display firmware V2.5