

CM5xx / AC500 update
description

AC500

Scalable PLC
for Individual Automation

CM5xx Communication
module update

CM5xx / AC500 update description



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1. New versions

The following table contains the overview of the new versions:

Device	Firmware
CM579-ETHCAT	V2.6.4

NOTICE: ONLY USABLE WITH PS501 Control Builder Plus FROM VERSION V2.1.0

2. What is needed?

For the Update of the communication coupler CM5xx the following components are needed:

Part number	Type	Description
1SAP180100R0001	MC502	MC502, SD Memory Card 512 MB
1SAP180200R0x01	TK501 / TK502	TK501, Programming cable, D-Sub / D-Sub or other
1SAP190100R0002	PS501-PROG	PS501-PROG, Control Builder Plus, from 2.1.x Programming software German / English / French (USB-ROMdrive incl. Online-Help and Documentation Datafiles)
1SAP192000R0201	FW5xx-CM5xx	Self-extracting file for CM579-ETHCAT FW SD-card Data generation
	PC-Accessory	SD-Card device for PC to generate SD Card Files.

3. Download of the Update

The self-extracting data file “1SAP192000R0202.zip” containing Firmware files can be downloaded from the following ABB Website: <http://www.abb.com/plc>

The screenshot shows the ABB website interface. At the top, there's a navigation bar with 'Home', 'About ABB', 'Products and services', 'News center', 'Careers', and 'Investor center'. Below that, there's a 'Product Guide' section with a breadcrumb trail: 'Product Guide > Low Voltage Products and Systems > Control Products > Programmable Logic Controllers PLCs'. The main heading is 'Programmable Logic Controllers PLCs'. Below the heading, there's a search bar and a 'Products & Services only' checkbox. There are also links for 'Rate this page' and 'Share this page'. The 'Your preferences' section shows 'Germany' and 'English' selected. The 'Our offering of PLCs and Systems' section lists several products with images and descriptions:

- AC500-eCo PLC: The economical PLC for smaller systems and equipment control.
- AC500 Scalable and Flexible PLC: The ABB PLC based on a common automation platform with large communication capacity.
- PS501 Control Builder Plus: This is the new engineering tool for AC500 and AC500-eCo PLCs. It is designed for efficient PLC programming according to all languages of IEC 61131-3 and Continuous Function Chart.
- S500-eCo I/O Module: Small I/O modules for even more scalability.
- S500 I/O-Module and Bus-Interface Module: Distributed I/Os on all main industrial protocols like PROFIBUS DP, PROFINET, DeviceNet, ...
- CP600 and CP400 Operator Panel Series: The ABB range of HMI operator panels offers an excellent diversity of features and functionalities for maximum operator comfort.

- Double-click on „[Firmware Updates](#)“ (under „More Info links“)

 → AC500-eCo PLC The economical PLC for smaller systems and equipment control.	 → S500-eCo I/O Module Small I/O modules for even more scalability.	→ Select another country → OK
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 → Wireless Interface for Sensors and Actuators New freedom with wireless from ABB – the unique concept for wireless automation.	 → DigiVis 500 DigiVis 500 is the supervision software suitable for ABB's AC500 PLC series.	More Info Links → CAD Drawing Library → EPLAN Data → PLC's Literature Library → I/O's Literature Library → Firmware Updates → PS501 Updates → Documentation Updates

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English, French, German - 3,71MB			
 → FIRMWARE UPDATE, Firmware updates files for AC500 Communication modules CM577-ETH V1.080 (1 SAP170700R0001), CM579-ETHCAT V2.3.703 (1 SAP170901R0001) and AC500 ethernet CPU only 080 ONLY PM571-ETH, PM581-ETH, PM582-ETH, PM590-ETH, PM591-ETH with integrated Ethernet coupler (R0170 or R0270), FW5xx-CM5xx	Software	2011-01-12	
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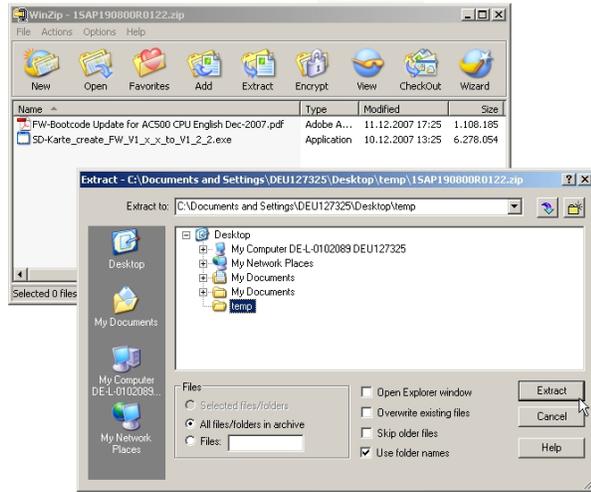
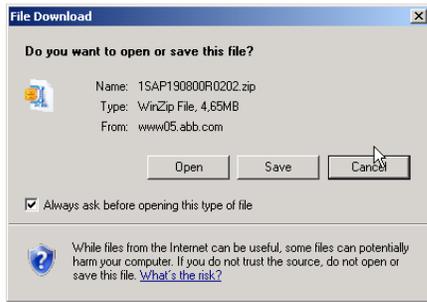
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Select the FW-Update ” [FIRMWARE UPDATE, Firmware update files for AC500 Communication modules CM579-ETHCAT V2.6.4 \(1SAP170902R0001\) ONLY USABLE WITH PS501 Control Builder Plus FROM V2.1.0, FW5xx-CM5xx](#)

By double-click on the link.

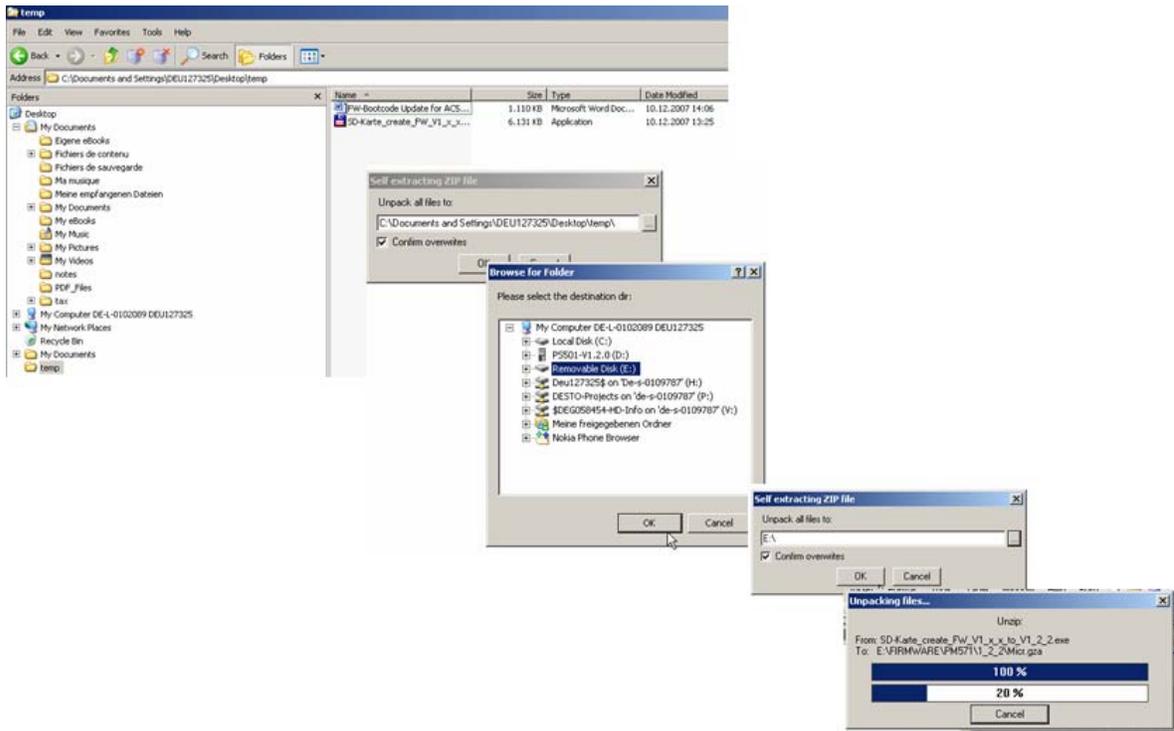
Download the desired file „1SAP192000R0202.zip“and open the ZIP-File.



The file „1SAP192000R0202.zip“contains:

- ❑ “SD-Card_create_CM579-ETHCAT_V2_6_4.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_CM579-ETHCAT_V2_6_4.exe” with double click. The file is automatically extracted; select the SD-Card as target.



4. Coupler 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 firmware has to be updated.

4.1 Update variants

The firmware update could be performed either only with SD-Card by booting the PLC, or through *PLC Browser* commands and plugged SD-Card. It is recommended to use the prepared SD-card!

The following table shows the Update possibilities:

Device	SD-Card + Power ON	PLC-Browser + SD-Card
CM579	Yes	Yes

Attention:

During the flash process it is not allowed to switch the power off; otherwise, the plc / coupler could be damaged and unavailable anymore.

4.1.1 Update - boot up

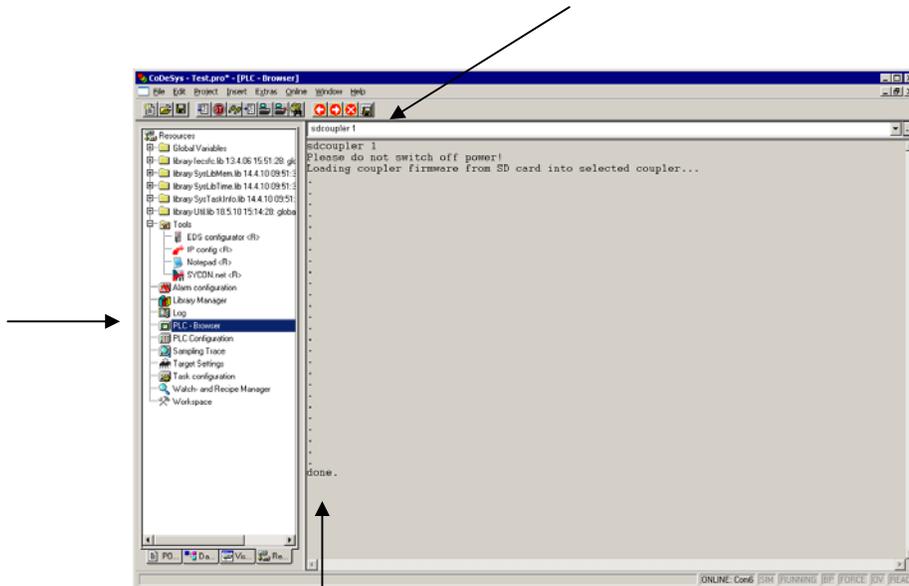
The firmware update at the startup of the PLC has to be done due to the following manual:

1. Insert prepared SD card into the plc
2. Switch power on
3. Updates operation starts (green LED blinking = reading from SD card / red and green LED blinking fast = flash process)
4. 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)

4.1.2 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 you have to insert the SD-Card (prepared and supplied from ABB) into the AC500 and write the requested (chapter 3.1) command into the PLC-Browser and press enter. The corresponding command is now activated, see below – e.g. with the “**sdcoupler X**” command.



If the firmware update was successful, “**done**” is shown in the PLC-Browser, reject the SD-Card and restart the AC500 PLC to load the new firmware. The update is only done if the firmware of the coupler is different to the new version. If not the PLC-Browser shows “**not done**”!

Attention: The SD card has to be rejected before restarting the cpu!

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

4.2 The file SDCARD.INI

To update the coupler the SDCARD.INI file has the following entries:

```
[Status]
FunctionOfCard=2                (*Updatemodus*)

[FirmwareUpdate]
CPUPM5x1=0
Display=0
OnboardIO=0
RtcBatt=0
Coupler0=2
Coupler1=2                      (*Update coupler firmware with below given values *)
Coupler2=2                      (*Update coupler firmware with below given values *)
Coupler3=2                      (*Update coupler firmware with below given values *)
Coupler4=2                      (*Update coupler firmware with below given values *)

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

[CM579]
VERSION=2_6_4
```

4.3 Data structure of the SD-card

<u>Directory</u>	<u>Data</u>	<u>Comments</u>
Root	SDCARD.INI	Configuration data from the SD-card
FIRMWARE\CM5792_6_4\	NX_ECM.nxf	Firmware external EtherCAT-Coupler V2.6.4