

CM574 / AC500 update
description V2.4.2

AC500

Scalable PLC

CM574 Bootcode/Firmware
update V2.4.2

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Content

1. New versions	3
<i>WARNING: The new FW version of the CM574 (V2.4.2) can ONLY be used together with AC500 CPU rubrics R02xx AND running with FW from V2.1.x and Automation Builder from V1.0.0 (1SAP193000R0001) respectively PS501 Control Builder AC500 from V2.1.0 (1SAP190100R0200) , please use new CPU rubrics (R02xx versions) and appropriate FW version. To use CM574 communication modules with previous AC500 CPU please use the appropriate FW version (from V1.3.x) and PS501 Control Builder AC500 from V1.3.x (1SAP190100R0002).....</i>	
2. What do you need?	3
3. Download of the update file.....	3
4. Update CM574 Communication Module	7
4.1 Update variants.....	7
4.1.1 Update - boot up	7
4.1.2 Update - online mode – PLC Browser	8
4.2 Actual released versions.....	9
4.3 The file SDCARD.INI	9
4.4 Data structure of the SD-card	9

1. New versions

The following table contains the overview of the new versions:

Device	Bootcode	Firmware	RCOM
CM574-RS	V1.3.0	V2.4.2	-
CM574-RCOM	V1.3.0	V2.4.2	V7

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2. 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
1SAP193000R0001 / 1SAP190100R0200	DM-TOOL or PS501-PROG	Automation Builder SW from V1.0.0 or PS501-PROG, Control Builder AC500, V2.3.0 Programming software German / English / French (CD-ROM incl. Online-Help and Documentations-files)
1SAP192000R0242	FW5xx-UPDA	Self-extracting ZIP CM574 FW V2.4.2 data file
	PC- Accessories	SD-Card reader/writer for PC to create SD Card Files

3. Download of the update file

The self-extracting data file "[1SAP192000R0242.zip](http://www.abb.com/plc)" containing Firmware- and Bootcode Files can be downloaded from the following ABB Website:

<http://www.abb.com/plc>

http://new.abb.com/plc

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AC500

Our powerful flagship PLC with a wide range of performance, communications and I/O capabilities for industrial applications. The ideal choice for complex high speed machinery and networking solutions.

AC500-eCo

This compact PLC offers flexible and economical configurations for your modern control system. The ideal choice for smaller applications.

AC500-S

This safety PLC (SIL3, PL e) is designed for safety applications involved in factory or machinery automation area. The ideal choice to implement and manage complex safety solutions.

AC500-XC

Extreme Condition PLC variant of the AC500 platform with extended operating temperature, immunity to vibration and hazardous gases, use at high altitudes and in humid conditions.

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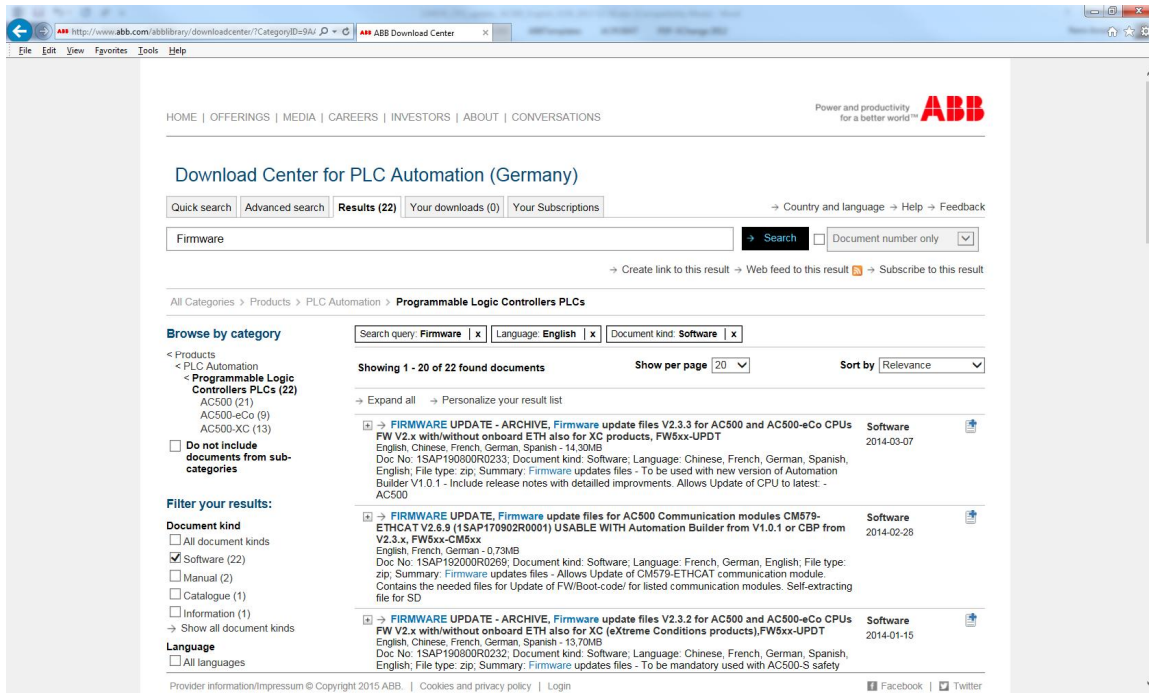
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- Double-click on „[Firmware Updates](#)“ (under „Related links“)

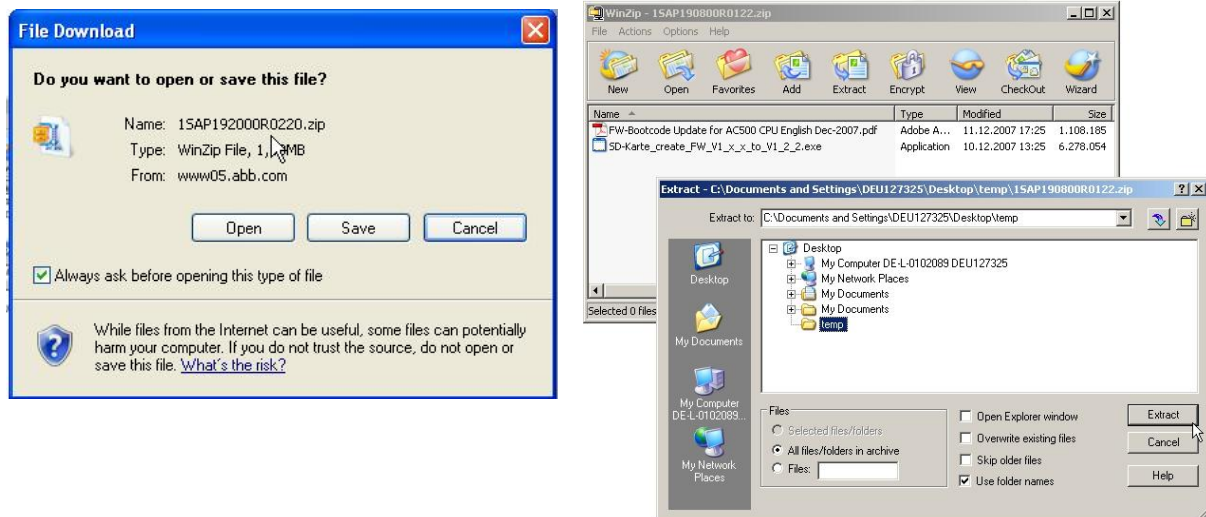
Following windows will open:



Select the FW-Update file [" FIRMWARE UPDATE, Firmware update files V2.4.2 and RCOM V7 for AC500 Communication modules CM574-RS/CM574-RCOM \(1SAP17040xR0201\) ONLY USED with AC500 CPU rubrics \(R02xx\) AND from CPU FW version V2.0.x . FW5xx-CM574"](#)

By double-click on the link.

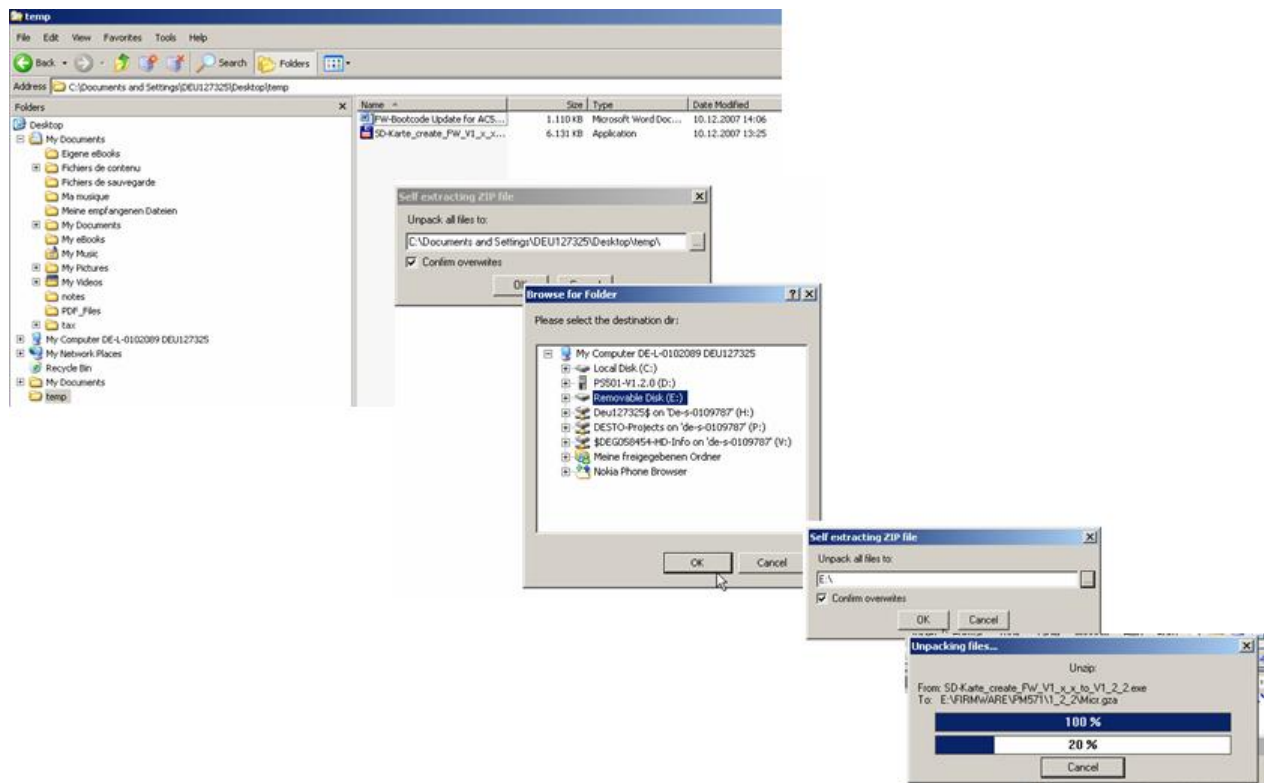
Download the desired file „1SAP19200R0242.zip“and open the ZIP-File.



The file „1SAP19200R0242.zip“contains:

- ❑ ["SD-Card_create_CM574_FW_V2_x_x_to_V_2_4_2.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_CM574_FW_V2_x_x_to_V_2_4_2.exe” with double click. The file is automatically extracted; select the SD-Card as target.



4. Update CM574 Communication Module

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 Boot-Code and the Firmware has to be updated.

The CM574 has the same behavior as an AC500 CPU but cannot be directly accessed and the update of the CM574 Communication module should be performed using the module plugged on the communication module slot of a TB5xx terminal base and using an AC500 CPU to perform the download.

4.1 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.

The following table shows the Update possibilities:

Device / File	SD-Card + Power ON	PLC-Browser + SD-Card
CM574-RS – Firmware	Yes	sdcoupler x x = 1..4 = external coupler 1..4
CM574-RCOM	Yes	No

Attention:

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

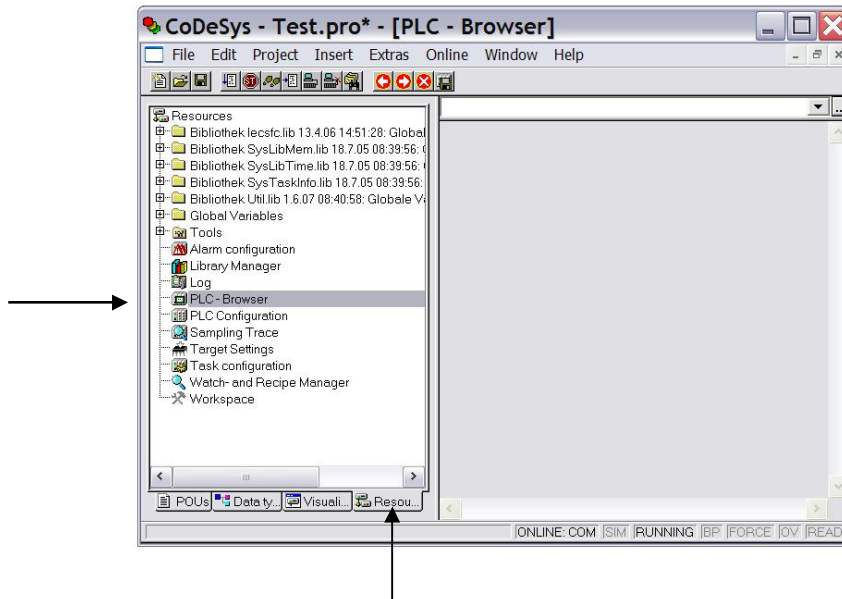
4.1.1 Update - boot up

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

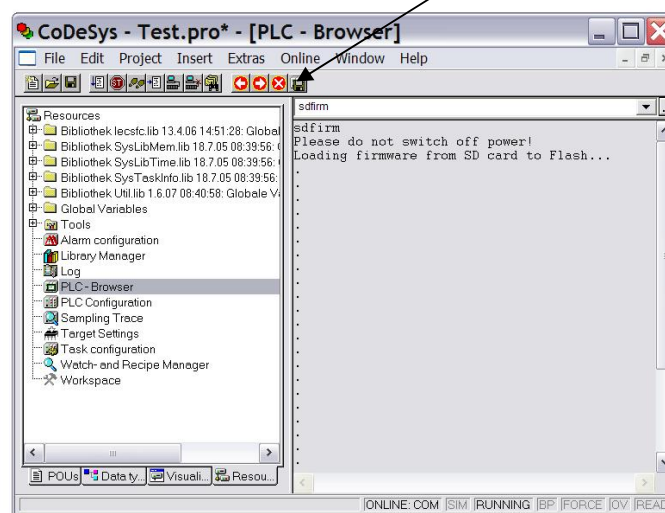
1. Download and extract the update files on your SD-card.
2. Insert prepared SD card into the plc. The file sdcard.ini on the SD-card contains settings that automatically perform the update.
3. Switch power on
4. Updates operation starts (green LED blinking = reading from sd card / red and green LED 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)

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 open the PLC-Browser, see below.



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 “**sdfirm**” or “**sdcoupler 1**” (for the CM574-RS in Slot 1) 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.

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**” or “**coupler desc**” into the PLC-Browser.

4.2 Actual released versions

The following table contains the overview of the actual versions:

Device	Bootcode	Firmware	RCOM
CM574-RS	V1.3.0	V2.4.2	-
CM574-RCOM	V1.3.0	V2.4.2	V7

4.3 The file SDCARD.INI

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

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

[FirmwareUpdate]
CPU574=0                        (*Update CPU Firmware with below given values*)
Display=0                      (*Update CPU Firmware with below given values *)
OnboardIO=0
RtcBatt=0
Coupler0=0
Coupler1=2                    (*Update CM574-RS Firmware with below given values *)
Coupler2=2                    (*Update CM574-RS Firmware with below given values *)
Coupler3=2                    (*Update CM574-RS Firmware with below given values *)
Coupler4=2                    (*Update CM574-RS Firmware with below given values *)

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

[CM574]
VERSION=2_4_2
```

4.4 Data structure of the SD-card

<u>Verzeichnis</u>	<u>Datei</u>	<u>Kommentar</u>
Root	SDCARD.INI	Configuration data from the SD-card
FIRMWARE\CM574\2_4_2\	C574.gza C574B.gza RCOM.PRG RCOM.CHK	Firmware CM574-RS Firmware CM574-RCOM (V7)