

Motor controller

CMMP-AS-...-M3

FESTO

Description

Exchange and project conversion

Motor controller
CMMP-AS-...-M3
as a replacement
device for
motor controller
CMMP-AS



8004593
1206NH

Translation of the original instructions

GDCP-CMMP-M3-RP-EN

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Identification of hazards and instructions on how to prevent them:



Warning

Hazards that can cause death or serious injuries.



Caution

Hazards that can cause minor injuries or serious material damage.

Other symbols:



Note

Material damage or loss of function.



Recommendations, tips, references to other documentation.



Essential or useful accessories.



Information on environmentally sound usage.

Text designations:

- Activities that may be carried out in any order.
- 1. Activities that should be carried out in the order stated.
- General lists.

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Instructions on this description

This document is intended to help you work safely with motor controllers of the CMMP-AS and CMMP-AS-...-M3 series. It includes safety instructions that must be observed.

Refer to the documentation for the CMMP-AS product family for further information → Tab. 1.

- Unconditionally observe the general safety regulations for the CMMP-AS-...-M3.



The general safety regulations for the CMMP-AS-...-M3 can be found in the hardware description, GDCP-CMMP-AS-M3-HW-..., → Tab. 1.

Target group

This description is intended exclusively for technicians trained in control and automation technology, who have experience in installation, commissioning, programming and diagnosing of positioning systems.

Service

Please consult your regional Festo contact if you have any technical problems.

Product identification, versions



This description refers to the following versions:

- Motor controller CMMP-AS-...-M3 from Rev. 01
- Firmware from Version 4.0.1501.1.0
- FCT plug-in CMMP-AS from Version 2.0.x
- Motor controller CMMP-AS



Note

With newer firmware versions, check whether there is a newer version of this description available: → www.festo.com

Documentation

You will find additional information on the motor controller in the following documentation:

User documentation on the motor controller CMMP-AS-...-M3	
Name, type	Contents
Hardware description, GDCP-CMMP-M3-HW-...	Mounting and installation for all variants/power classes (1-phase, 3-phase), pin assignments, error messages, maintenance.
Function descriptions, GDCP-CMMP-M3-FW-...	Instructions on commissioning with FCT + functional description (firmware). Overview of FHPP, fieldbus, safety engineering.
Description FHPP, GDCP-CMMP-M3-C-HP-...	Control and parametrisation of the motor controller through the Festo profile FHPP with the following fieldbusses: CANopen, PROFIBUS, DeviceNet, EtherCAT.
Description CiA 402 (DS 402), GDCP-CMMP-M3-C-CO-...	Control and parametrisation of the motor controller through the device profile CiA 402 (DS402) with the following fieldbusses: CANopen and EtherCAT.
Description CAM-Editor, P.BE-CMMP-CAM-SW-...	Cam disc function (CAM) of the motor controller.
Description safety module, GDCP-CAMC-G-S1-...	Functional safety engineering for the motor controller with the safety function STO.
Help for the FCT plug-in CMMP-AS	User interface and functions of the CMMP-AS plug-in for the Festo Configuration Tool. ➔ www.festo.com

Tab. 1 Documentation on the motor controller CMMP-AS-...-M3

1 Introduction

1.1 Important instructions



Warning

Danger of electric shock.

- When modules or cover plates are not mounted on the slots Ext1 ... Ext3.
- When cables are not mounted to the plugs [X6] and [X9].
- When connecting cables are disconnected when powered.



Touching live parts causes severe injuries and can lead to death.

The product may only be operated in a built-in status and when all protective measures have been initiated.

Before touching live parts during maintenance, repair and cleaning work and when there have been long service interruptions:

1. Switch off power to the electrical equipment via the mains switch and secure it against being switched on again.
2. After switch-off, wait at least 5 minutes discharge time and check that power is turned off before accessing the controller.



Observe the safety instructions (→ hardware description, GDGP-CMMP-AS-M3-HW) during mounting and installation work.



Note

Damage to the interface or motor controller due to incorrect handling.

- Switch off the supply voltage before mounting and installation work. Switch on supply voltage only when mounting and installation work are completely finished.
- Never unplug modules from the motor controller or plug them in when powered!
- Observe the handling specifications for electrostatically sensitive devices. Do not touch the printed circuit board and the pins of the manifold rail in the motor controller. Grip the interface only on the front panel or on the edge of the board.
- Proceed carefully when mounting. When dismantling the CMMP-AS and mounting the CMMP-AS-...-M3, make sure that no metal shavings, metal dust or mounting parts (screws, nuts, pieces of wire, etc.) fall into the motor controller.



1.2 Overview

The Festo Configuration Tool (FCT) is the software platform for configuring and commissioning different components from Festo. A plug-in with all of the necessary descriptions and dialogues is available for the special requirements of these components. The system components are configured with the help of these plug-ins. The entire configuration for all of the individual components is summarised and stored in an FCT project.

The plug-ins for various components are available in several versions. In order to use the updated version of the plug-ins the original FCT project needs to be converted.

Use of a CMMP-AS-...-M3 motor controller as a substitute for a CMMP-AS unit in your system requires the installation and use of CMMP-AS plug-in version 2.0.x.

1.3 Prerequisites

A motor controller CMMP-AS-...-M3 entire system is shown in → Fig. 1.1 → page 8.

To replace the motor controller with an older model, you will need the following:

- Motor controller CMMP-AS-...-M3 as a replacement device for CMMP-AS
- Card module for CMMP-AS-...-M3 in slot Ext3:
 - Micro switch module CAMC-DS-M1 without STO function or
 - Safety module CAMC-G-S1 with STO function,
- 24 VDC power supply for logic supply to the motor controller,
- PC with USB or Ethernet interface and corresponding connecting cable,
- Installed software plug-in CMMP-AS from version 2.0.x.

Depending on the initial situation you will also need → Tab. 1.1:

Initial situation	you will also need	Procedure overview
The previously used CMMP-AS is operational and can be accessed.	– the existing CMMP-AS, – an RS232 interface on the PC for the CMMP-AS and a corresponding connecting cable.	1. Upload from the CMMP-AS to the project with plug-in 2.0.x. 2. Convert controller in the FCT. 3. Mount and install new CMMP-AS-...-M3. 4. Download the project to the CMMP-AS-...-M3
The previously used CMMP-AS is non-operational.	– FCT project with the configured component of the existing CMMP-AS, – Installed CMMP-AS plug-in (version 1.0.x ... 1.4.x) which has been used in the FCT project to date to configure the CMMP-AS, – Installed software “Festo FCT Project Converter”.	1. Archive project in the FCT. 2. Convert project archive with the FCT Project Converter. 3. De-archive project. 4. Mount and install new CMMP-AS-...-M3. 5. Download the project to the CMMP-AS-...-M3

Tab. 1.1 Initial situation with additionally required components

1.4 Procedure

1. Replacement of a CMMP-AS with the new CMMP-AS-...-M3 → chapter 2.
2. Replacement of counterplugs (CMMP-AS-...-3A-M3 only) → chapter 3.
3. Converting an FCT project → chapter 4.

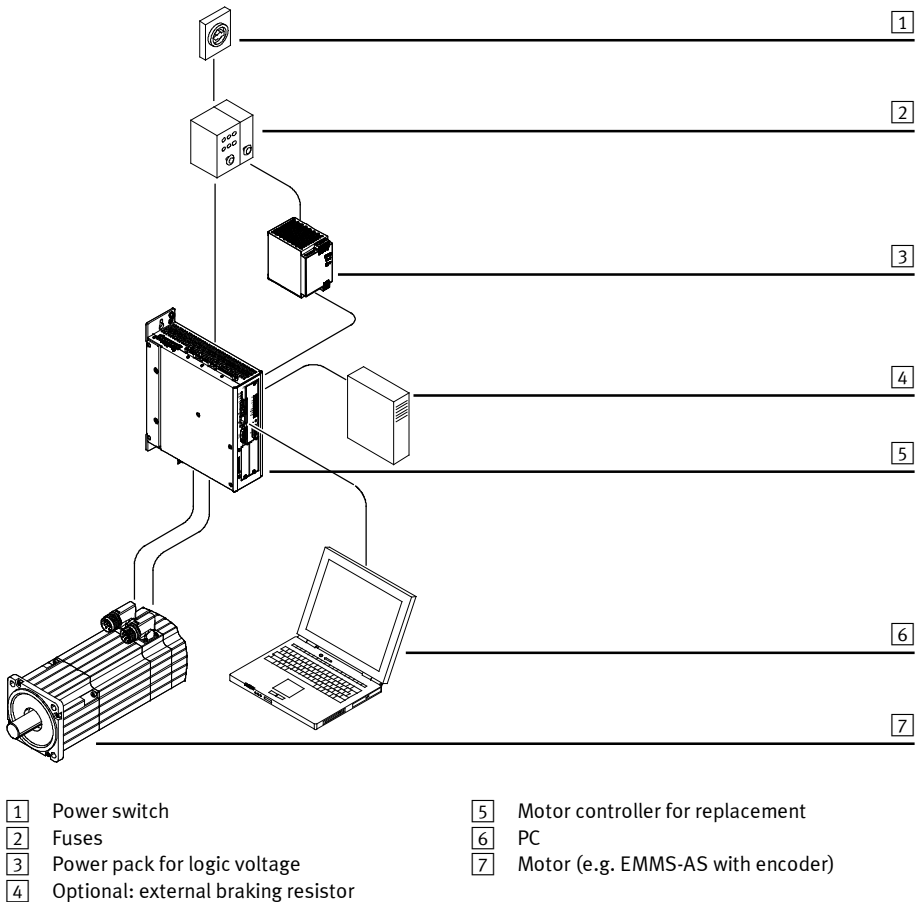
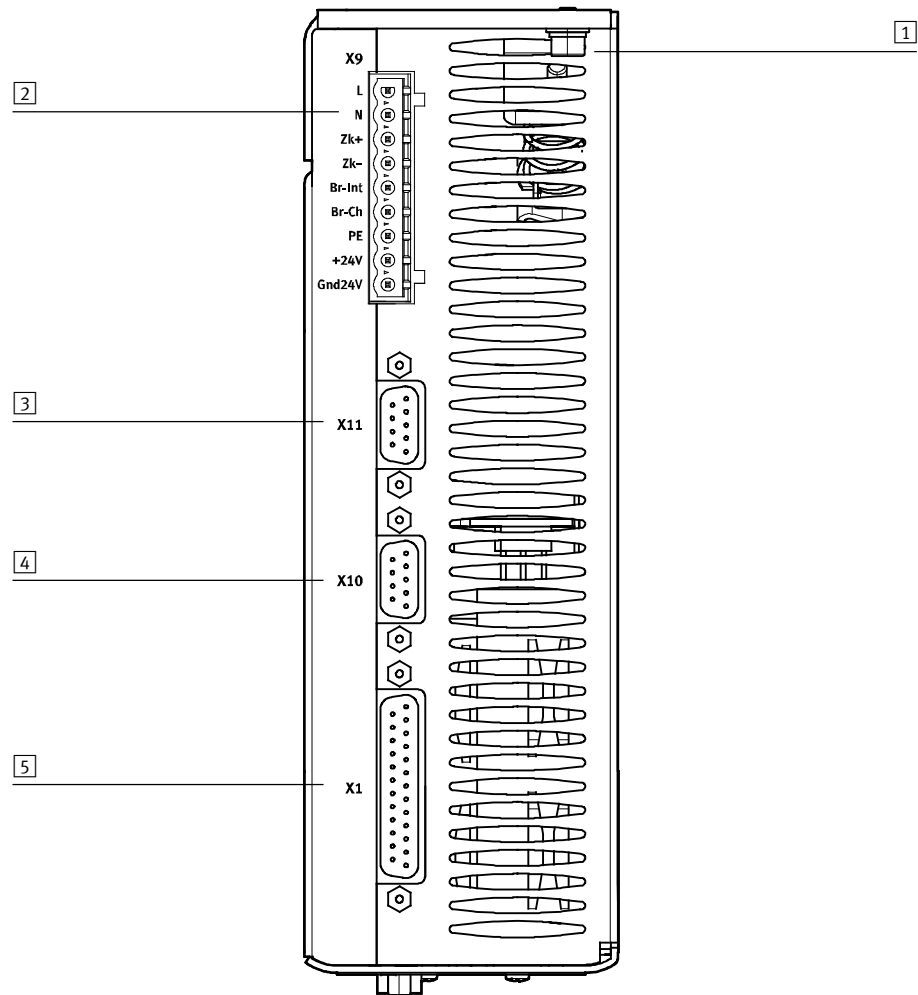
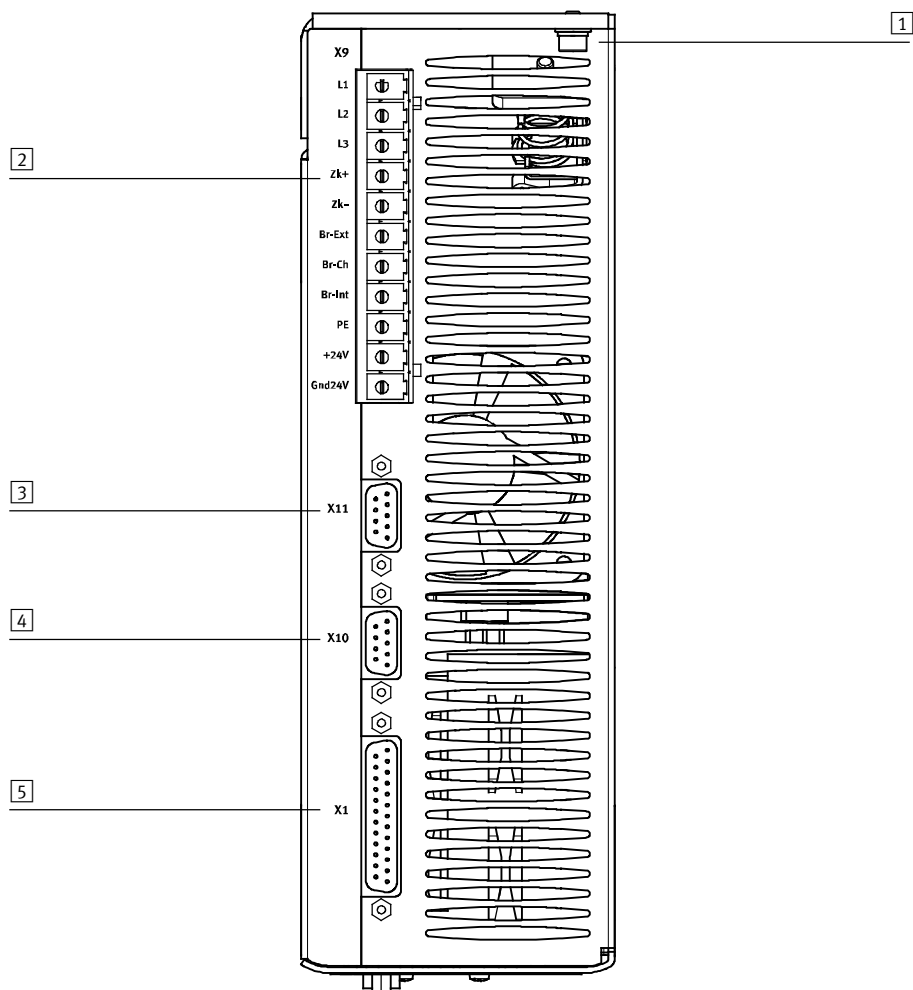


Fig. 1.1 Complete structure of the motor controller with motor and PC



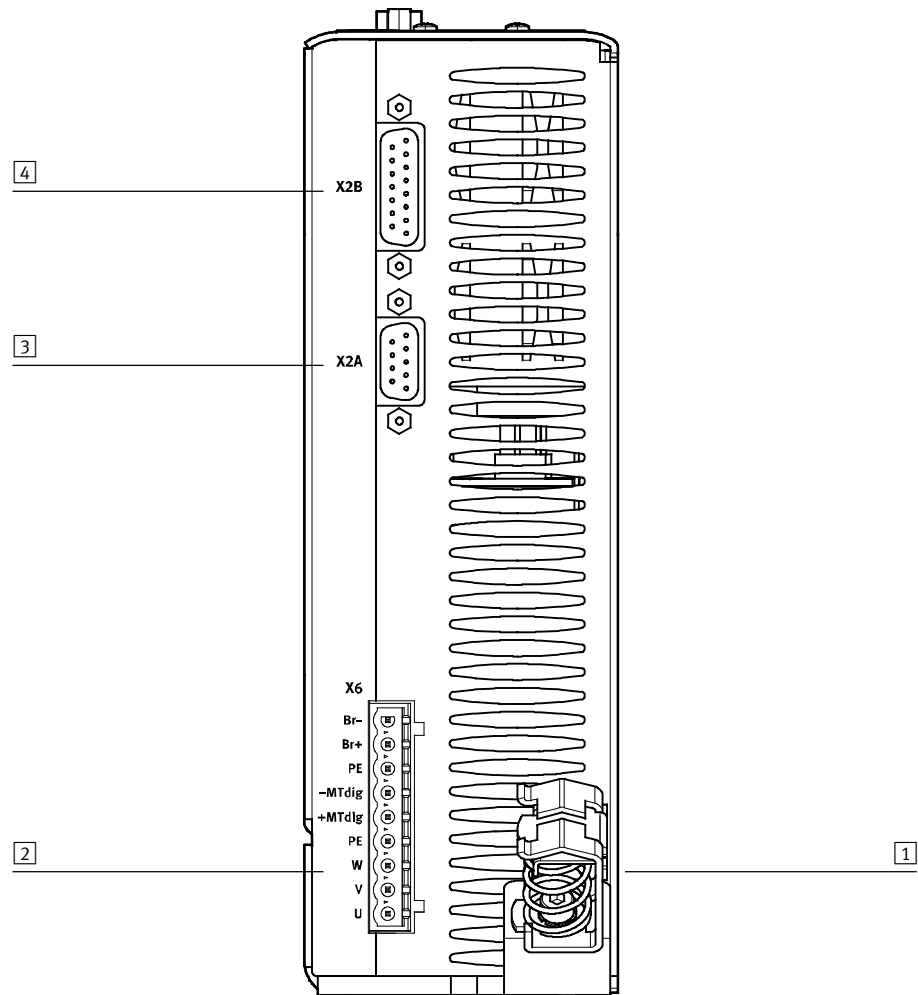
- | | | | |
|---|------------------------------------|---|---------------------------------|
| 1 | PE connection | 4 | Incremental encoder input [X10] |
| 2 | Power supply [X9] with plug coding | 5 | I/O communication [X1] |
| 3 | Incremental encoder output [X11] | | |

Fig. 1.3 Motor controller CMMP-AS-...-3A-M3: top view



- | | | | |
|---|----------------------------------|---|---------------------------------|
| 1 | PE connection | 4 | Incremental encoder input [X10] |
| 2 | Power supply [X9] | 5 | I/O communication [X1] |
| 3 | Incremental encoder output [X11] | | |

Fig. 1.4 Motor controller CMMP-AS-...-11A-P3-M3: top view



- | | |
|--|--|
| <p>1 Spring-loaded terminal connection for the outer shield of the motor cable</p> <p>2 Motor connection [X6] with plug coding</p> | <p>3 Connection for the resolver [X2A]</p> <p>4 Connection for the encoder [X2B]</p> |
|--|--|

Fig. 1.5 Motor controller CMMP-AS-...-M3: bottom view

2 Mechanical conversion

2.1 Dismantling



Note

Before dismantling the CMMP-AS:

- Make sure the corresponding FCT project with the configured CMMP-AS component is present on your PC (→ 4.2).

The CMMP-AS plug-in version 2.0.x can be used to load the configuration of a CMMP-AS into an FCT project via the “upload” function and to convert the motor controller in the project to CMMP-AS-...-M3. Conversion with the FCT Project Converter is then **not** necessary.

2.1.1 Disconnecting cables



Almost all of the connections for connecting the CMMP-AS can be used unchanged on the CMMP-AS-...-M3 → chapter 3.

- Loosen the corresponding screws and disconnect all of the plug connectors on the CMMP-AS.
- Loosen the PE connection on the CMMP-AS.

2.1.2 Removing the interface

Dismantle interface

1. Unscrew the screw with spring washer 1 from the interface.
2. Loosen the interface 2 a few millimetres by levering the front plate slightly.
3. Pull the interface from the slot and place it ready for mounting on the replacement device.

The interfaces from slots Ext1 and Ext2 of the CMMP-AS can be re-used in the CMMP-AS-...-M3 (→ 2.2.1).

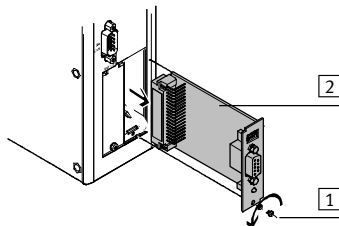


Fig. 2.1 Dismantle interface

2.1.3 Dismantling the CMMP-AS

1. Loosen the screw on the lower clip through 2 to 3 rotations.
2. Secure the device with one hand.
3. Loosen the screw on the upper clip through 2 to 3 rotations.
4. Lift the device slightly and tilt it away from the mounting plate so that the upper screw head can be guided through the enlarged hole.
5. Then lift the device from the lower mounting screw.

2.2 Mounting

2.2.1 Allocation of slot Ext1 and Ext2



Note

Operation of the Profibus interface CAMC-PB in the motor controller CMMP-AS-...-M3 is **only** permissible in slot **Ext2**.

- Make sure that slot Ext1 is only used for other interfaces.

- Observe the instructions and mount the dismantled interfaces of the CMMP-AS in slots Ext1 and Ext2 of the CMMP-AS-...-M3 (→ description GDCP-CMMP-M3-HW-...).

2.2.2 Allocation of slot Ext3

- Mount a suitable extension module in slot Ext3 of the CMMP-AS-...-M3 (→ description GDCP-CMMP-M3-HW-...).

Type	Description
CAMC-G-S1	Safety module with STO function and DIP switches.
CAMC-DS-M1	Switch module with DIP switches, no safety functions .

Tab. 2.1 Overview of extension modules for the CMMP-AS-...-M3

2.2.3 Mounting the CMMP-AS-...-M3



Note

Excessive heating can lead to premature aging and/or damage to the device.

- Make sure the recommended minimum distances are maintained in the event of high thermal stress of the CMMP-AS-...-M3 (→ description GDCP-CMMP-M3-HW-...).



The clips used for CMMP-AS and CMMP-AS-...-M3 are identical. This means the existing mounting screws can be reused.

1. Position the lower clip of the slightly tilted device on the lower mounting screw.
2. Place the device on the mounting plate and guide the upper screw head through the large hole of the upper clip.
3. Slide the device down slightly until it is positioned securely in the elongated holes of the clips. Continue to secure the device with one hand.
4. Tighten the two mounting screws.

2.3 DIP switch setting [S1]

The CMMP-AS-...-M3 is equipped with a DIP switch [S1] on the extension module in slot Ext3. The status of the DIP switches is read when the control voltage is switched on or upon RESET. The motor controller takes over changes to the switch setting in ongoing operation only at the next switch-on or RESET.



The significance of the DIP switch setting depends on the control interface used.

Activate fieldbus

DIP switch 8	Fieldbus interface
1	Enabled
0	Disabled

Tab. 2.2 Activation of the fieldbus



With DIP switch 8, the fieldbus of the plugged-in interface CAMC-... is activated. If no interface is plugged in, the CAN bus [X4] is activated.

Setting the bit rate

When using CANopen, DriveBus and DeviceNet the bit rate is set via the DIP switch. Configuration via FCT is no longer possible.

DIP switch	1 Mbit/s ¹⁾	500 kbps	250 kBit/s	125 kBit/s
6	ON	OFF	ON	OFF
7	ON	ON	OFF	OFF

1) Only for CANopen/DriveBus; for DeviceNet, is limited to 500 kBit/s

Tab. 2.3 Bit rate setting for CANopen, DriveBus and DeviceNet

Setting the node number

The node number for CANopen, DriveBus, DeviceNet and PROFIBUS can be set for the CMMP-AS-...-M3 via the sum of the base address (FCT) and offset (DIP switch).



Recommendation: When exchanging, set the following dip switches to 0 so that the address specified in the FCT corresponds to the node number (compatible with CMMP-AS):

- CANopen, DriveBus, DeviceNet: DIP switch 1 ... 5 = 0
- PROFIBUS: DIP switch 1 ... 7 = 0

3 Electrical conversion

For electrical connection of the CMMP-AS-...-M3:

1. Connect the central PE connection of your system to the PE connection on the backwall of the CMMP-AS-...-M3.
2. Use the screening clamp to connect the screening of the motor connection to the housing of the CMMP-AS-...-M3.
3. Connect the other plug connectors as described below.

Almost all of the connections for connecting the CMMP-AS can be used unchanged on the CMMP-AS-...-M3.

- Please observe the following exceptions for the CMMP-AS-...-3A-M3.
 - Plug connector for connecting the motor [X6]
 - Plug connector for connecting the power supply [X9]

These plug connectors on the CMMP-AS-...-3A-M3 exhibit a different shape. A replacement of the respective counterplugs is therefore required (→ chapter 3.1 and 3.2).



The shape of the 9-pin plug connectors for connections [X6] and [X9] is identical on the CMMP-AS-...-3A-M3. Any confusion regarding these plugs and the corresponding counterplugs is prevented through the use of coding.

All other counterplugs can be reused.

Connection	Plug connector on the device	Counterplug
I/O communication [X1]	D-SUB-25-pin, socket	D-SUB-25-pin, pins
Resolver [X2A]	D-SUB- 9-pin, socket	D-SUB- 9-pin, pins ¹⁾
Encoder [X2B]	D-SUB-15-pin, socket	D-SUB-15-pin, pins
CAN bus [X4]	D-SUB- 9-pin, pin	D-SUB- 9-pin, socket
Motor [X6] (CMMP-AS-...-11A-P3-M3 only)	PHOENIX Power-COMBICON PC 4/9-G-7,62-BK	PHOENIX Power-COMBICON PC 4HV/9-ST-7,62-BK
Power supply [X9] (CMMP-AS-...-11A-P3-M3 only)	PHOENIX Power-COMBICON PC 4/11-G-7,62-BK	PHOENIX Power-COMBICON PC 4 HV/11-ST-7,62-BK
Incremental encoder input [X10]	D-SUB- 9-pin, socket	D-SUB- 9-pin, pins ¹⁾
Incremental encoder output [X11]	D-SUB- 9-pin, socket	D-SUB- 9-pin, pins ¹⁾

1) Caution! Risk of confusion

Tab. 3.1 Existing counterplugs for use on the CMMP-AS-...-M3



Note

Plug connectors [X2A], [X10] and [X11] on the CMMP-AS-...-M3 are identical.

- Before switching on the device check to make sure the appropriate counterplugs are connected correctly (see code → Tab. 3.1).



Control cable and D-Sub plug → www.festo.com/catalogue.

3.1 **Exchanging the counterplug [X6]**



Counterplug [X6] only needs to be exchanged for the CMMP-AS-...-3A-M3.

Plug connector [X6] of the CMMP-AS-...-M3 is coded at pin 1. The corresponding counterplug exhibits a blockade at pin 9.

Motor controller	Design on the device	Cod.	Counterplug	Block.
CMMP-AS-C2-3A-M3	PHOENIX Contact	PIN1 (BR-)	PHOENIX Contact	PIN9 (U)
CMMP-AS-C5-3A-M3	MSTBA 2,5/9-G-5,08-BK		MSTB 2,5/9-ST-5,08-BK	

Tab. 3.2 Plug design [X6]

- Use the counterplug at connection [X6] of the CMMP-AS-...-M3 (delivery status).
- Loosen the screws on the old counterplug and attach the free cables to the corresponding pin connections of the new counterplug.

The assignment of the counterplug on the CMMP-AS and the CMMP-AS-...-M3 for connecting the motor is pin-compatible.

Pin assignment [X6]	Pin no.	Counterplug CMMP-AS	Counterplug CMMP-AS-...-M3
BR-	1		
BR+	2		
Protective earth	3		
-MTdig	4		
+MTdig	5		
Protective earth	6		
W	7		
V	8		
U	9		

1) Example plug from the motor controller CMMP-AS-...-3A-M3

Tab. 3.3 Pin assignment [X6] - motor connection

3.2 Exchanging the counterplug [X9] (9-pin)



Counterplug [X9] only needs to be exchanged for the CMMP-AS-...-3A-M3.

Plug connector [X9] of the CMMP-AS-...-M3 is coded at pin 9. The corresponding counterplug exhibits a blockade at pin 1.

Motor controller	Design on the device	Cod.	Counterplug	Block.
CMMP-AS-C2-3A-M3	PHOENIX Contact	PIN9	PHOENIX Contact	PIN1 (L)
CMMP-AS-C5-3A-M3	MSTBA 2,5/9-G-5,08-BK	(GND24V)	MSTB 2,5/9-ST-5,08-BK	

Tab. 3.4 Plug design [X9]

- Use the counterplug at connection [X9] of the CMMP-AS-...-M3 (delivery status).
- Loosen the screws on the old counterplug and attach the free cables to the corresponding pin connections of the new counterplug.

Pin assignment [X9]	Pin no.	Counterplug CMMP-AS	Counterplug CMMP-AS-...-M3
L	1		
N	2		
ZK+	3		
ZK-	4		
BR-INT	5		
BR-CH	6		
Protective earth	7		
+24 V	8		
GND24 V	9		

Tab. 3.5 Pin assignment [X9] – power supply connection, single-phase



Circuit diagrams for connecting the motor controller CMMP-AS-...-M3 to the supply voltage, the motor, the external braking resistor and the holding brake can be found in the description GDCP-CMMP-M3-HW-....

3.3 Safety module CAMC-G-S1

In combination with safety module CAMC-G-S1, the CMMP-AS-...-M3 is provided with the safety function STO ("Safe Torque Off") in accordance with EN 61800-5-2 SIL3, and EN ISO 13849-1, Cat. 4 / PL. Two switch-off paths are realised via control ports STO-A [X40.1] and STO-B [X40.3].



Note

Before conducting the replacement for an existing machine a risk assessment should be carried out; this will enable you to decide whether it entails a significant modification of the machine as defined by the EC machinery directive. If it does, you will need to conduct a conformity assessment procedure in accordance with the EC machinery directive.

Modifications to pin allocation

Converting an existing application with STO from CMMP-AS to CMMP-AS-M3 requires the following modifications to be made to the connection wiring:

Pin allocation	CMMP-AS	CMMP-AS-...-M3 [X40]
1st switch-off path	X1.21 ¹⁾ (DIN4)	X40.1 (STO-A) X40.2 (0V-A)
2nd switch-off path	X3.2 (REL)	X40.3 (STO-B) X40.4 (0V-B)
Reference potential	X1.6 and X3.3 (0V)	Connect X40.8 with X40.2 and X40.4
Controller enable	X1.9	X1.9
Output stage enable	X1.21 ¹⁾	X1.21
Feedback circuit (relay contact)	X3.5	X40.5 (C1)
	X3.6	X40.6 (C2)

1) Used by CMMP-AS for 1st switch-off path **and** output stage enable.

Tab. 3.6 Differences in pin allocation



Note

During operation, the acknowledgment contacts on the CMMP-AS and the CMMP-AS-...-M3 exhibit compatible behaviour.

When the logic supply (24 V) is switched off, they behave differently:

- CMMP-AS: Contact closed.
- CMMP-AS-...-M3: Contact open.

4 Converting a project

FCT projects are converted with the Festo FCT Project Converter. This programme adapts the data format for configuring individual components to the selected plug-in version. The converted FCT project can be re-opened and edited in the FCT with appropriately installed plug-ins. This means that after an FCT project has been converted, the CMMP-AS motor controller can be configured without restriction by using the new plug-in version 2.0.

After replacing the motor controller you will need to convert the CMMP-AS component to a CMMP-AS-...-M3 in the configuration. The conversion command can be found within the FCT plug-in CMMP-AS version 2.0.x → 4.5.

4.1 Overview

Converting an FCT project with a configured CMMP-AS for use with a CMMP-AS-...-M3 requires several steps, which are to be executed as follows.

Step	Activity	→ (see)
1	Archive existing project with FCT	Chapter 4.2
2	Select archive file with FCT Project Converter	Chapter 4.3
3	Set options for conversion	
4	Execute conversion	
5	Save converted project to archive file	
6	Extract archive file with FCT	Chapter 4.4
7	Change motor controller	Chapter 4.5
8	Adapt configuration	Chapter 4.6

Tab. 4.1 Conversion overview



The CMMP-AS plug-in version 2.0.x can be used to load the configuration of a CMMP-AS directly into an FCT project via the “upload” function. This project does **not** need to be converted for use of a CMMP-AS-...-M3.

- In this case start the above-mentioned activities from step 7.

Recommendation: Review of the fieldbus settings

Check the fieldbus settings where necessary, as these settings in the CMMP-AS-...-M3 are partly dependent on the DIP switch setting, → also refer to chapter 2.3.

4.2 Preparing a project

Archiving a project with FCT



Data that has been archived with the FCT is used exclusively to convert a project with the FCT Project Converter.

Archives that have been created with other programmes are **not** supported.

1. Start the programme Festo Configuration Tool (FCT).
2. Open the FCT project that is to be converted for use with the motor controller CMMP-AS-....M3 (→online help).
3. Select the menu command [Project][Archive].

A dialogue window opens in the FCT for archiving the project.

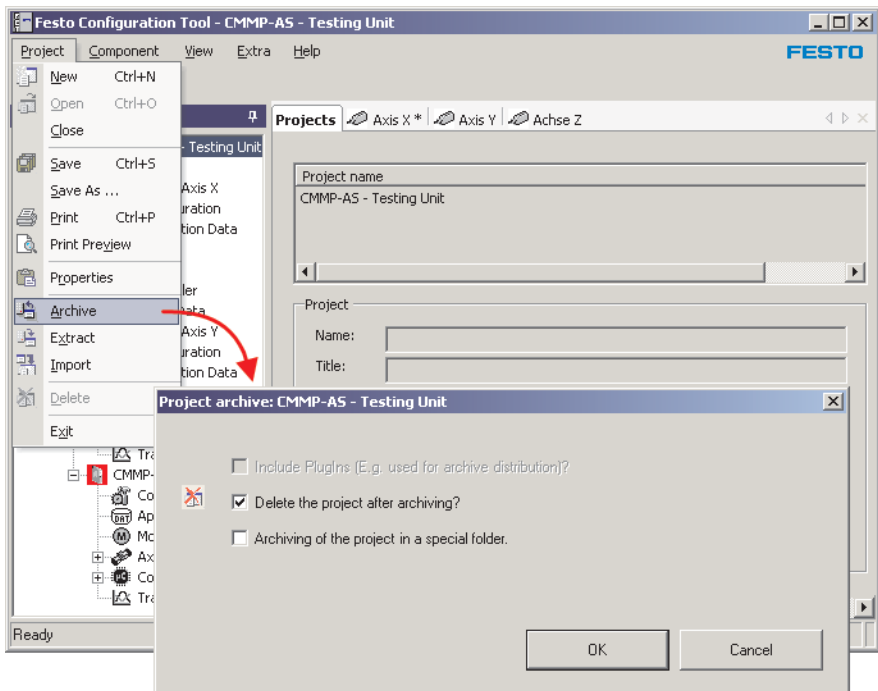


Fig. 4.1 Archiving an FCT project

The default setting is to save the project in the FCT archive folder. This archive folder is also used by the FCT Project Converter by default ("Archive" folder in the installation index of the FCT).

4. Select options for archiving the project where necessary (→ online help).
5. Start the archiving process by pressing "OK".

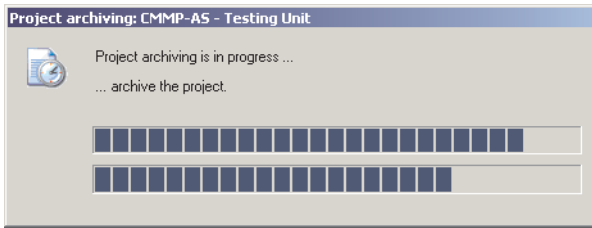


Fig. 4.2 Archiving a project - progress display

All of the configuration settings for the project are now saved in a special FCT archive file (*.zip).

4.3 Using the Project Converter

Selecting an archive file

The FCT Project Converter programme can be accessed from the Start menu of your Windows operating system by selecting [Programs][Festo Software].

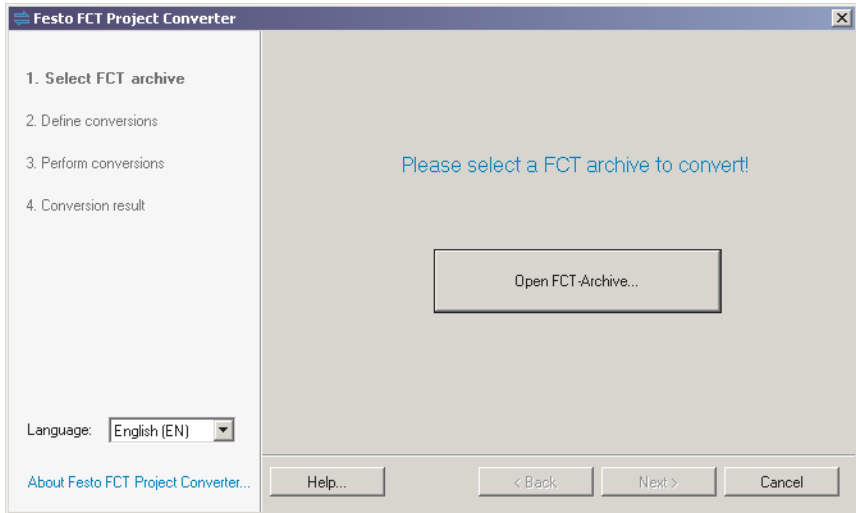


Fig. 4.3 Festo FCT Project Converter

1. Open the FCT project to be converted by selecting “Open FCT-Archive...”.

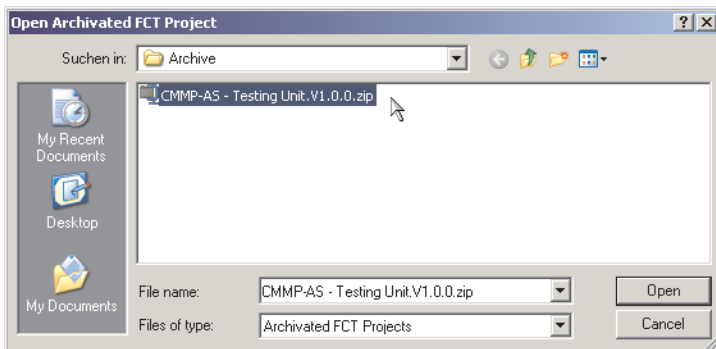
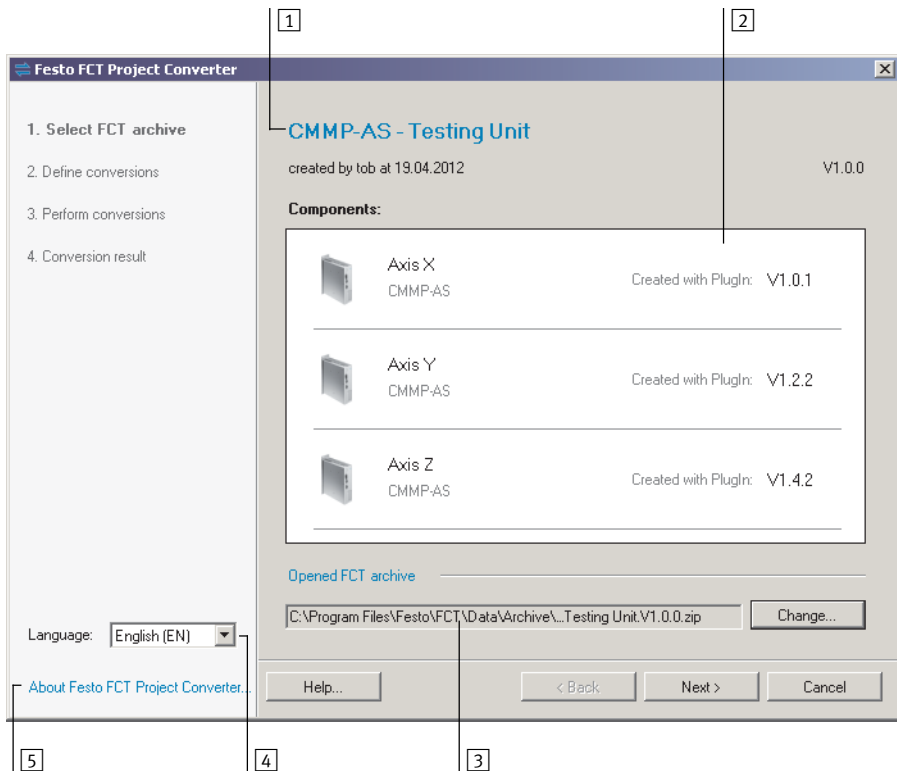


Fig. 4.4 Dialogue window “Open Archived FCT project”

2. Confirm your selected archive file by pressing “Open”.

The archive file is loaded into the FCT Project Converter.
All of the components of the FCT project are presented in the programme.



- | | |
|---|---|
| <p>1 Title of the loaded FCT project</p> <p>2 Overview of all components in the FCT project, with details of the plug-in version used when creating the component</p> | <p>3 Working directory and selected archive file with FCT project</p> <p>4 Language setting</p> <p>5 Information about the programme version and available conversion options</p> |
|---|---|

Fig. 4.5 FCT Project Converter with selected FCT project

3. Open an alternative archive file, if necessary, by selecting “Change...”.
4. Confirm your selected archive file by pressing “Next >”.

Conversion specifications

This step involves setting the plug-in version which is to be used to configure the individual components in the future. The following components are supported:

- CMMP-AS

A list field is provided for each component which includes all of the convertible plug-in versions.

Components that cannot be converted are presented without a list field.



Supported components can only be converted to newer plug-in versions with the FCT Project Converter. A “downgrade” option (conversion to a lower plug-in version) is not provided.

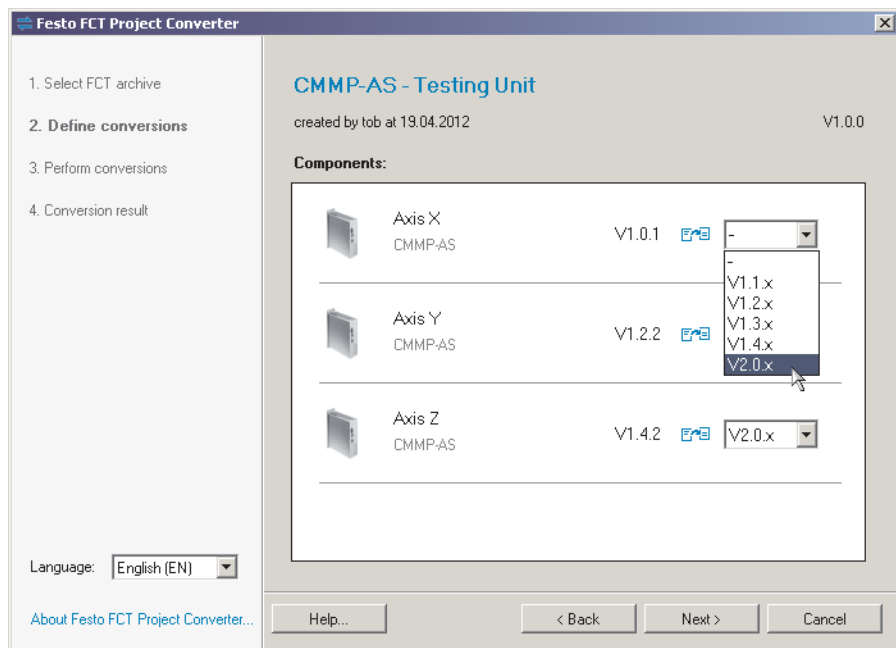


Fig. 4.6 FCT Project Converter – list field with new plug-in versions

1. Use the list fields to select the target plug-in version for each convertible component. Any components that are not provided with new plug-in versions remain unchanged in the converted project.



Subsequent use of a CMMP-AS-...-M3 as an alternative motor controller for an axis in your system requires the selection of plug-in version 2.0.x.

2. Confirm your selection by pressing “Next >”.

Executing the conversion process

The FCT project is converted automatically without any further queries.

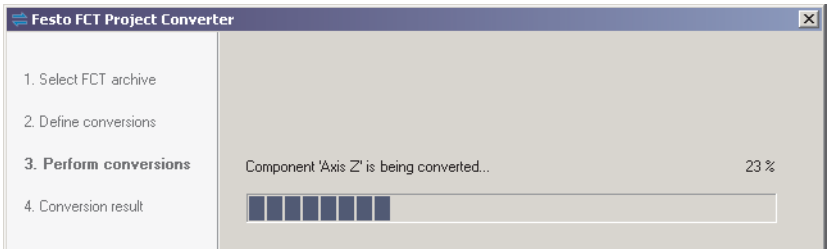


Fig. 4.7 Image: Conversion process being executed

Result of the conversion process

The result of the conversion process is subsequently displayed.

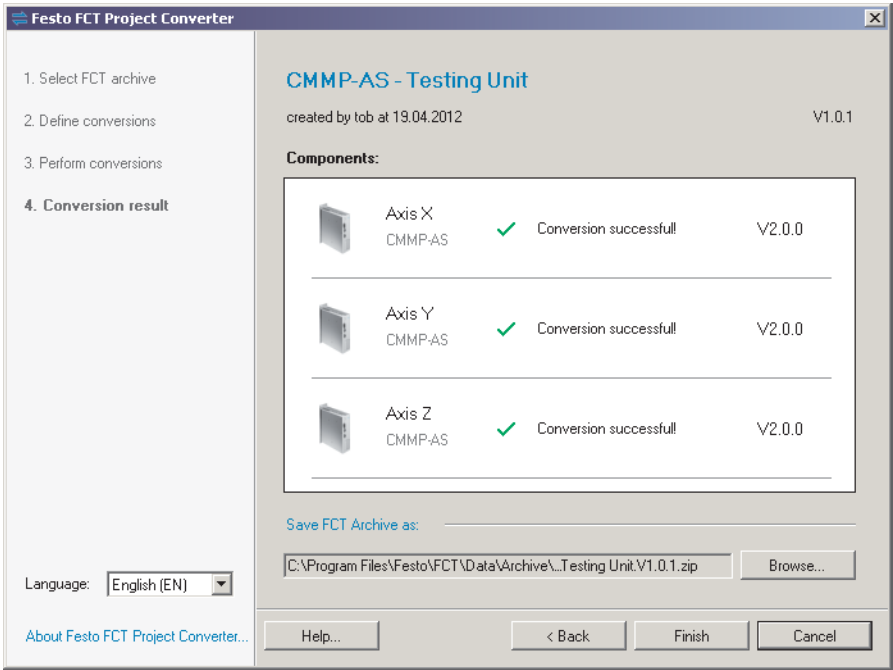


Fig. 4.8 FCT Project Converter – Result of the conversion process

If an error occurs, the affected components are designated with an error symbol. These errors can be displayed by clicking “Show error details ...”. Faulty components are saved without change in the data format used for the original plug-in version.

The FCT project has been converted, however, the archive file has not yet been saved. The FCT Project Converter generates an identical file name with a new version number based on the loaded archive file.

- Click the “Finish” button:
 - to save the archive file with the selected settings,
 - then to exit the programme without any further queries.

Further commands

Button	Function
Browse...	Opens a dialogue window – to select a new name for the archive file to be saved, – to select an alternative directory.
◀ Back	Skip backwards – to select the target plug-in versions for the conversion process (→ see previous section “Conversion specifications”).
Cancel	Exits the programme without saving the archive file.
Finish	Saves the archive file with the selected settings. The programme is then exited without any further queries.

Tab. 4.2 FCT Project Converter – button functions

4.4 Using a converted project

Extracting a project with FCT

1. Start the FCT programme.
2. Close the last configured project in the FCT if necessary.
3. Delete the original FCT project from the project list.

- Click on the original FCT project in the “Project” tab.
- Select the menu option [Project][Delete] or use the identical context command.

Doing this will ensure you avoid error messages caused by an identical project name in two different FCT projects.

4. Select the menu command [Project][Extract].

A dialogue window opens in the FCT for extracting the project.

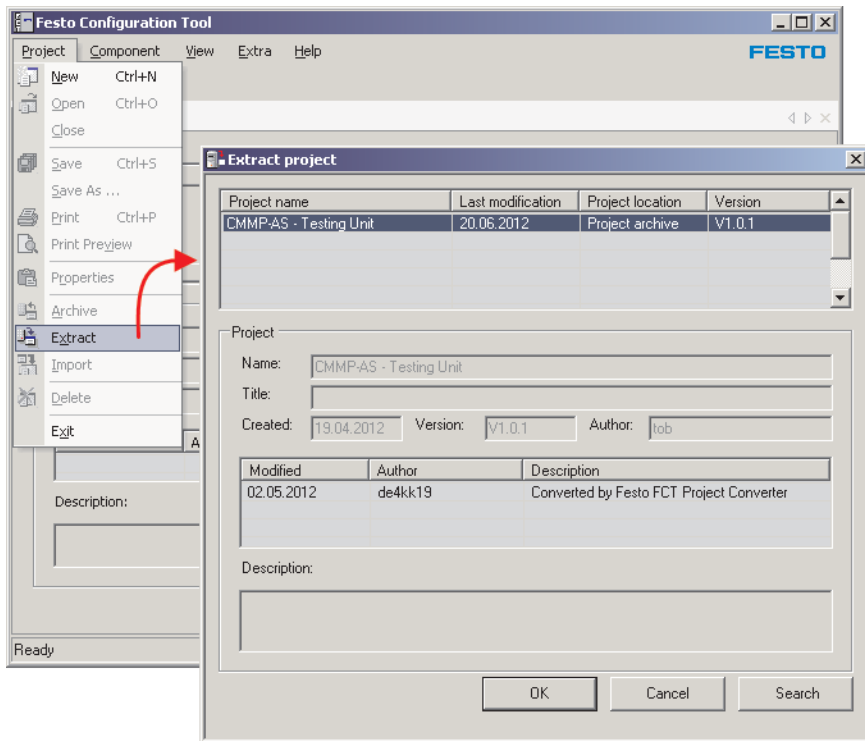


Fig. 4.9 Extracting an FCT project

The default setting is to select a project in the FCT archive folder.

5. Open an alternative project folder, if necessary, by clicking “Search”.

4 Converting a project

- 6. Select the project name of the required archive file from the table. When doing this please note the version numbers - in the procedure described both the original and the converted project archive are located in the archive folder.
- 7. Start the extracting process by pressing “OK”.

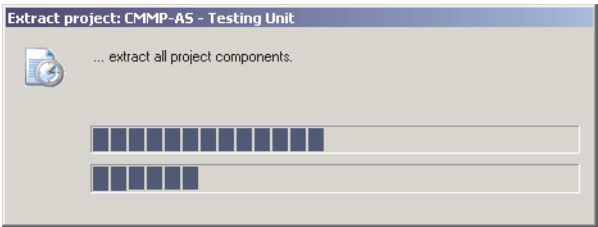


Fig. 4.10 Extracting a project - progress display

All of the configuration settings for the selected project are now restored from the archive file (*.zip).

- 8. Acknowledge the confirmation message by pressing “OK.”
- 9. Open the extracted FCT project by selecting “Open project”.

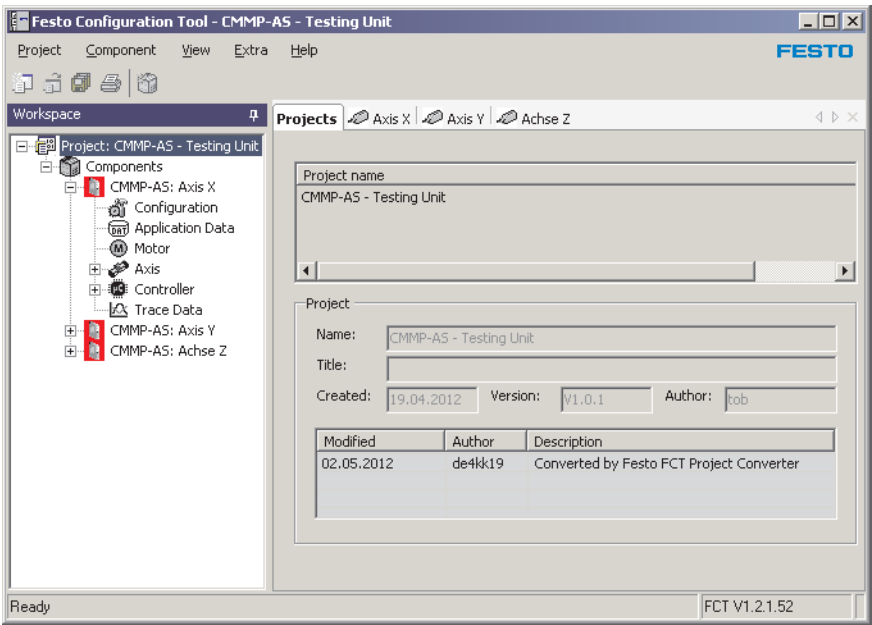


Fig. 4.11 Extracted FCT project

4.5 Change motor controller

All of the components are configured in the FCT with the plug-in versions that are saved in the FCT project.



The change of a CMMP--AS to a CMMP-AS-...-M3 within the FCT project is only possible with CMMP--AS plug-in version 2.0.

Information for changing the motor controller

1. In the FCT workstation window select the “Configuration” option for the CMMP-AS to be converted.

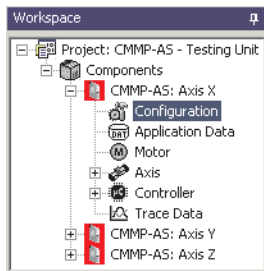


Fig. 4.12 FCT – workstation window

The “Drive Configuration” panel of the selected CMMP-AS is shown in the FCT work space.

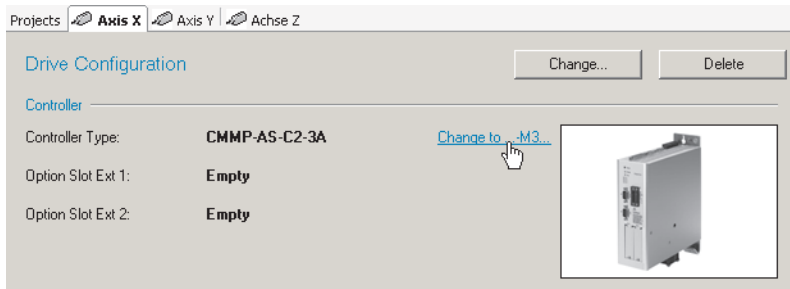


Fig. 4.13 FCT – work space

The type of controller used can be found in the “Controller” section. Directly next to this is the command to convert the motor controller within the FCT project.

2. Click on the command “Change to ...M3...”.

Using the compatibility mode

When changing a CMMP-AS to a CMMP-AS-...-M3, the device ID of the exchanged motor controller can continue to be used. The following dialogue window opens here.

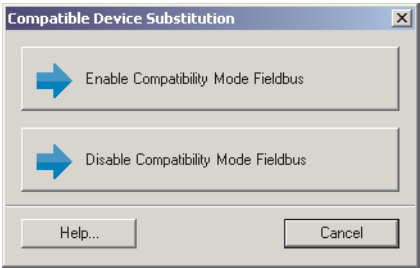


Fig. 4.14 FCT – compatible device substitution

3. Decide on the use of the compatibility mode:

Default	Button	Comment
Fieldbus is not used.	Disable Compatibility Mode Fieldbus	Adaptation of the PLC programme is not necessary .
CMMP-AS-...-M3 reports via fieldbus with its own device ID.	Disable Compatibility Mode Fieldbus	Adaptation of the PLC programme is necessary .
CMMP-AS-...-M3 reports via fieldbus with the device ID of the replaced motor controller.	Enable Compatibility Mode Fieldbus	Adaptation of the PLC programme is not necessary .

Tab. 4.3 Selection aid

Using a new CMMP-AS-...-M3

After a successful change the drive configuration is shown in the FCT work space with the new motor controller CMMP-AS-...-M3.

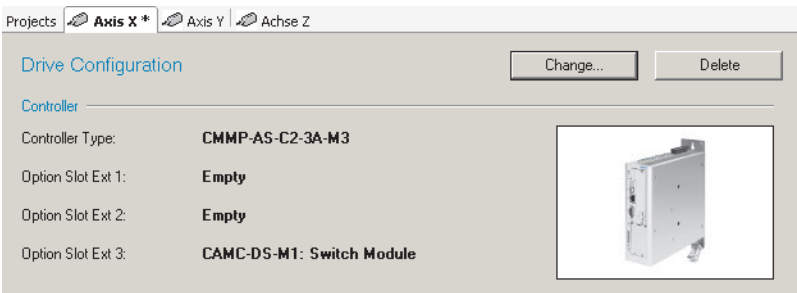


Fig. 4.15 FCT – work space

4.6 Adapt configuration

To conclude the commissioning process for the CMMP-AS-...-M3 as a replacement for the CMMP-AS, the following adaptations are to be executed in the FCT.

1. Select the interface for communication between FCT and CMMP-AS-...-M3.
2. Select an extension module for slot Ext3.
3. Check the fieldbus settings.

4.6.1 Selecting the FCT interface

The serial interface is no longer available for communication with the CMMP-AS-...-M3. This requires the selection of a new FCT interface for the CMMP-AS-...-M3.

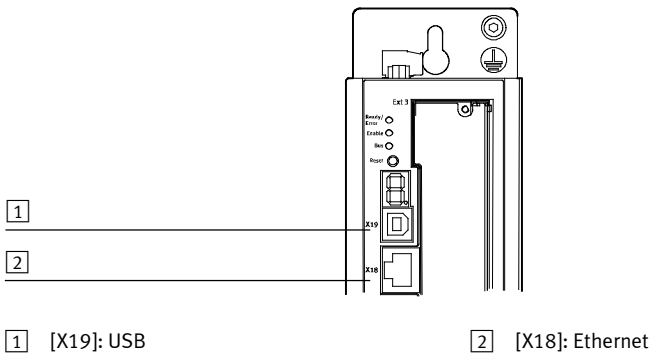


Fig. 4.16 FCT communication interface of the CMMP-AS-...-M3

1. Select the component CMMP-AS-...-M3 in the FCT “Workspace” window.
2. Select the menu command [Component][FCT Interface].

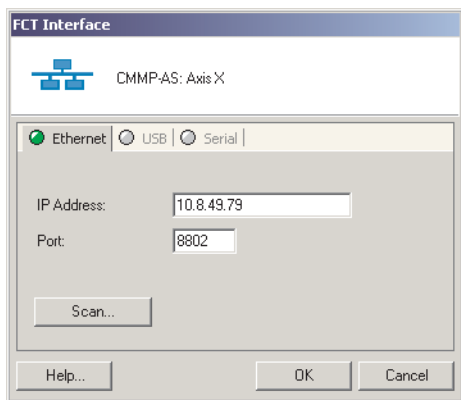


Fig. 4.17 FCT interface dialogue window

3. Use the “Ethernet” or “USB” tab, for example, for communication with the CMMP-AS-...-M3 (Ethernet is selected in this example).

To configure the Ethernet connection:

- Enter the IP address and port manually

or

1. Start the programme and search for devices within your network by clicking “Scan...” (→ Festo Device Tool).
2. Identify the CMMP-AS-...-M3 (→ Festo Device Tool).
3. Confirm your selection by pressing “OK”.

Festo Device Tool

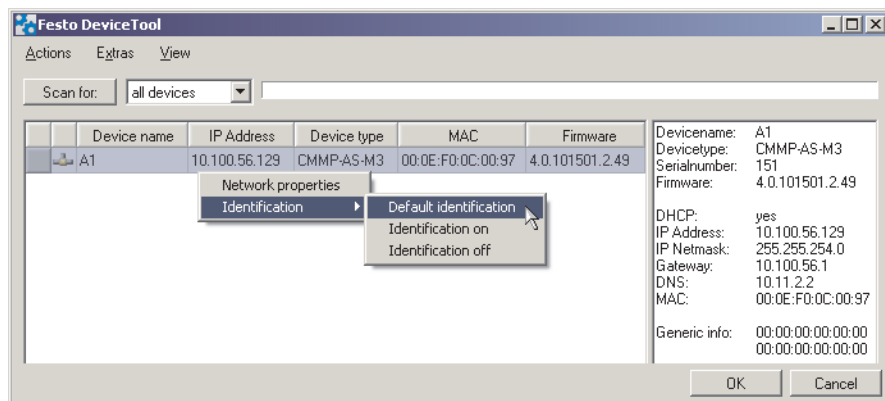


Fig. 4.18 Festo Device Tool

When the “Festo Device Tool” programme is started the network is scanned automatically. The scanning process is represented by a progress bar.

1. Filter your scan for certain device types by using the list field to the right of the button labelled “Scan for:”.
2. Press the “Scan for:” button to start another network scan.
3. Select a device in the table and press the right mouse button to access the context menu; this will enable you to select the command [Standard Identification] for identifying the selected device.



A CMMP-AS-...-M3 is identified by the five letters “HELLO” in the 7-segment device display.

4. Close the Festo Device Tool by pressing “OK”.

4.6.2 Interfaces for Ext1 and Ext2

The original interface assignment is transferred from the old project or the old CMMP-AS. Configuration only needs to be checked in exceptional cases, for example, if the PROFIBUS interface has been installed in slot 1.

4.6.3 Selecting the extension module for Ext3

After the conversion process the configuration includes the micro switch module CAMC-DS-M1.

The use of a safety module in slot Ext3 (mounting → chapter 2.2.2) requires a corresponding configuration of the CMMP-AS-...-M3 in the FCT project.

1. Open the “Drive Configuration” work space for the converted CMMP-AS-...-M3 in the FCT (→ Fig. 4.12).
2. Press the “Change...” button to open the “Edit Drive Configuration” dialogue window.
3. Select the STO module CAMC-G-S1 from the list field for slot Ext3.

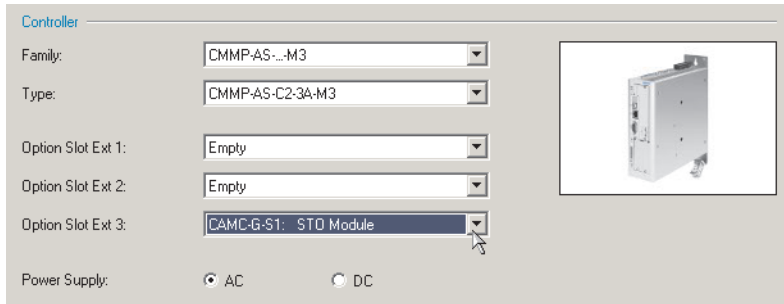


Fig. 4.19 Selecting the extension module for Ext3

4. Click the “Next »” and “Finish” buttons.

If the extension module is replaced, it has an impact on the validity of data for various configuration parameters.

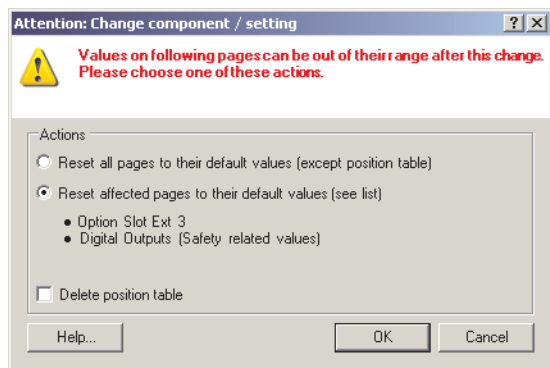


Fig. 4.20 Change component/property dialogue window



Note

Leave the preset “Reset affected pages to their default values”. Otherwise all of the settings of the previous CMMP-AS would be reset!

5. Confirm the message in the dialogue window by pressing “OK”.

Establishing an online connection

1. Establish an online connection to the CMMP-AS-...-M3 in the FCT.

The exchanged CMMP-AS-...-M3 is not yet configured. A dialogue window is therefore displayed with a request to synchronise the project and device data.

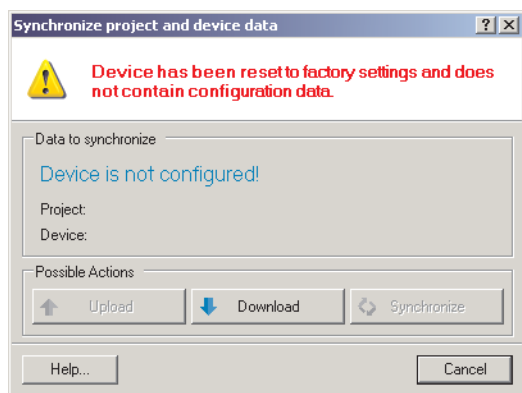


Fig. 4.21 Synchronise project and device data dialogue window

2. Click the “Download” button to transfer the configuration to the CMMP-AS-...-M3.

Confirm module

The extension module in slot Ext3 of the CMMP-AS-...-M3 is to be confirmed.

1. In the FCT workstation window select the entry “Option Slot Ext 3” of the CMMP-AS-...-M3.

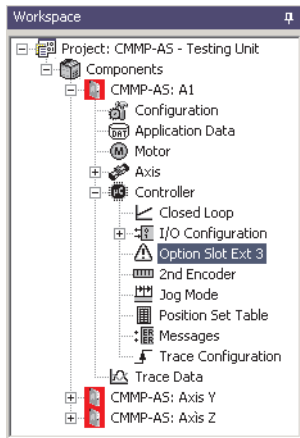


Fig. 4.22 FCT – workstation window

The Base data tab for the safety module is displayed in the FCT work space.

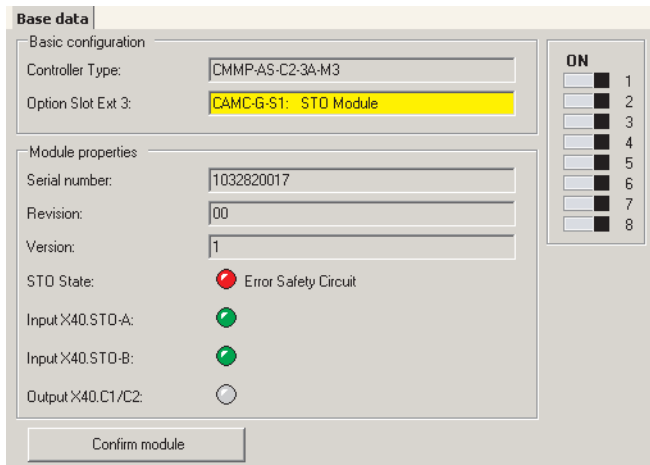


Fig. 4.23 Base data tab for the safety module

The status of the safety module is displayed under “Module properties”. As the module still has to be confirmed, the CMMP-AS-...-M3 reports an error “Dissimilar module type”.

2. Click the “Confirm module” button.

The CMMP-AS-...-M3 must be restarted for this purpose.

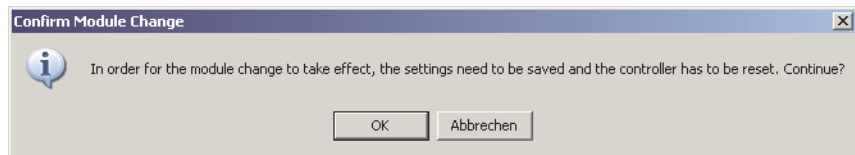


Fig. 4.24 Message “Confirm module change”

3. Confirm the message by pressing “OK”.

4. Re-establish an online connection to the CMMP-AS-...-M3.

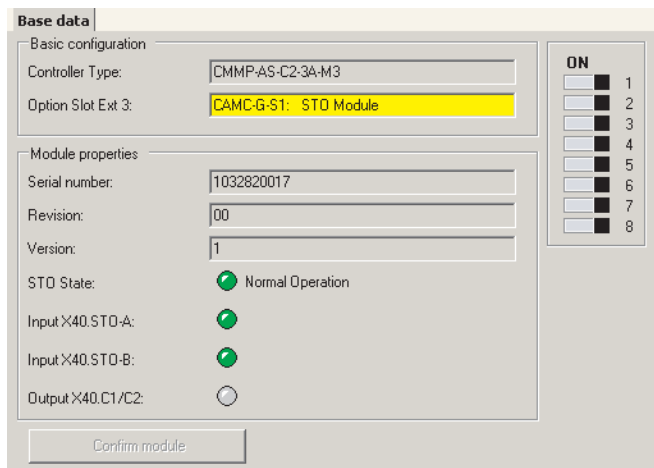


Fig. 4.25 Master data tab for the safety module

4.6.4 Concluding the configuration process

These settings complete the project conversion process.



Recommendation: Check all of the settings again before commissioning and downloading the project to the CMMP-AS-...-M3.

Further instructions on commissioning the new motor controller(s) CMMP-AS-...-M3 can be found in the device description → description GDCP-CMMP-M3-HW-....

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Copyright:
Festo SE & Co. KG
Postfach
D-73726 Esslingen

Phone:
+49 711 347 0

Fax:
+49 711 347 2144

e-mail:
service_international@festo.com

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