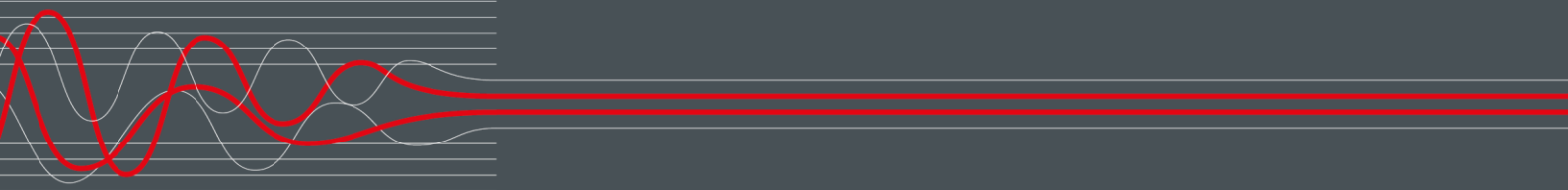
MAHAGROUP

# CONNECT SERIES

Roller Brake Testers

Technical Information

TI023001_008-en



## Instructions for Updating the Firmware

TI023001_008-en
2024-10-01

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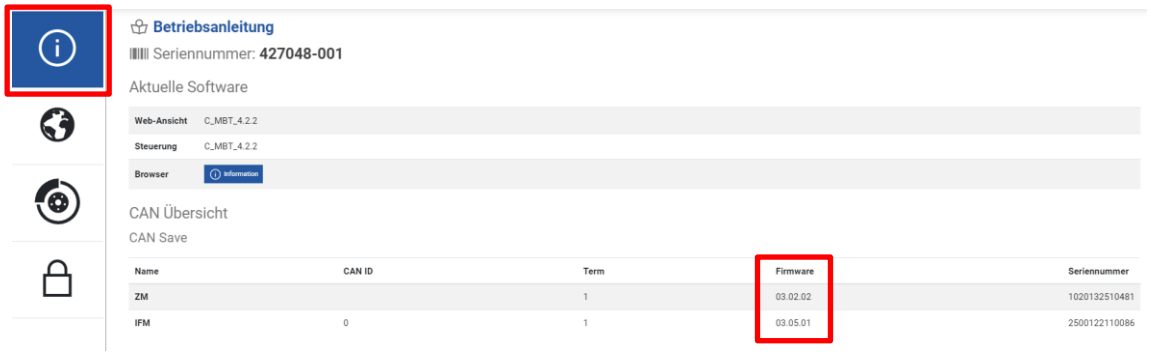
# 1 Description

These instructions apply to all changes of the C_MBT software to higher versions.

During this step, the firmware (FW) of the central module (ZM) and of the interface module (IFM) in the floor assembly must be updated in addition to the software (SW) of the ZM. The FW update is also referred to as “flashing” the respective processor. For safety reasons, this can be done only by using a cable specially provided for this purpose.

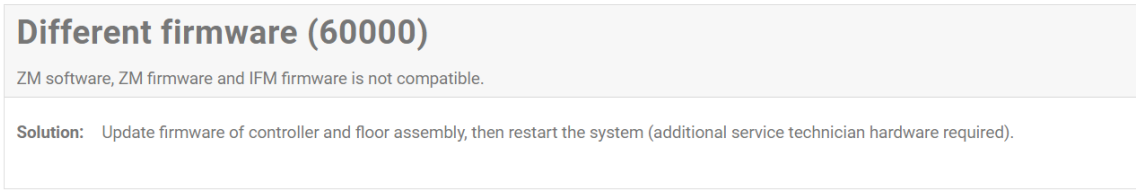
**IMPORTANT:**
The firmware update of ZM and IFM described below can be performed only with firmware version ZM 02.05.04 or higher! Boards with older versions must be replaced through MAHA’s spare parts service.




The currently installed firmware version can be found in the Info menu.

# 2 Before Starting the Firmware Update

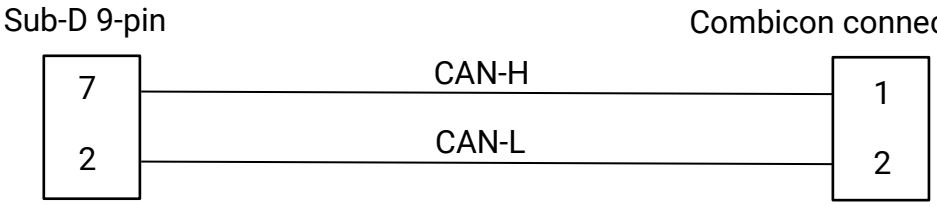
▶ After completion of the ZM software update, this error message may appear, indicating that a firmware update is necessary:




The procedure is described in the following sections.

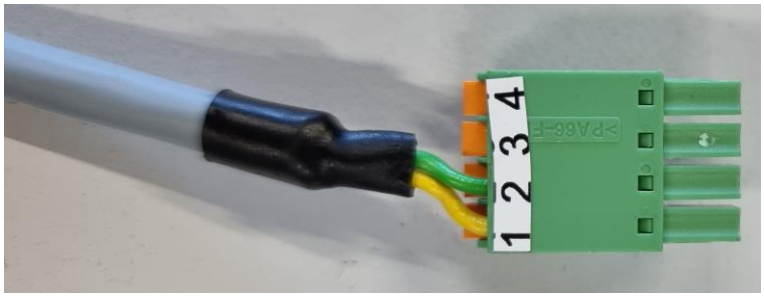
# 3 ZM Firmware Update

## 3.1 Circuit Diagram ZM Update Cable




Art. no. 1406593 (= 1 set of adapter cables, contains ZM update cable and IFM update cable)

Combicon connector of ZM update cable



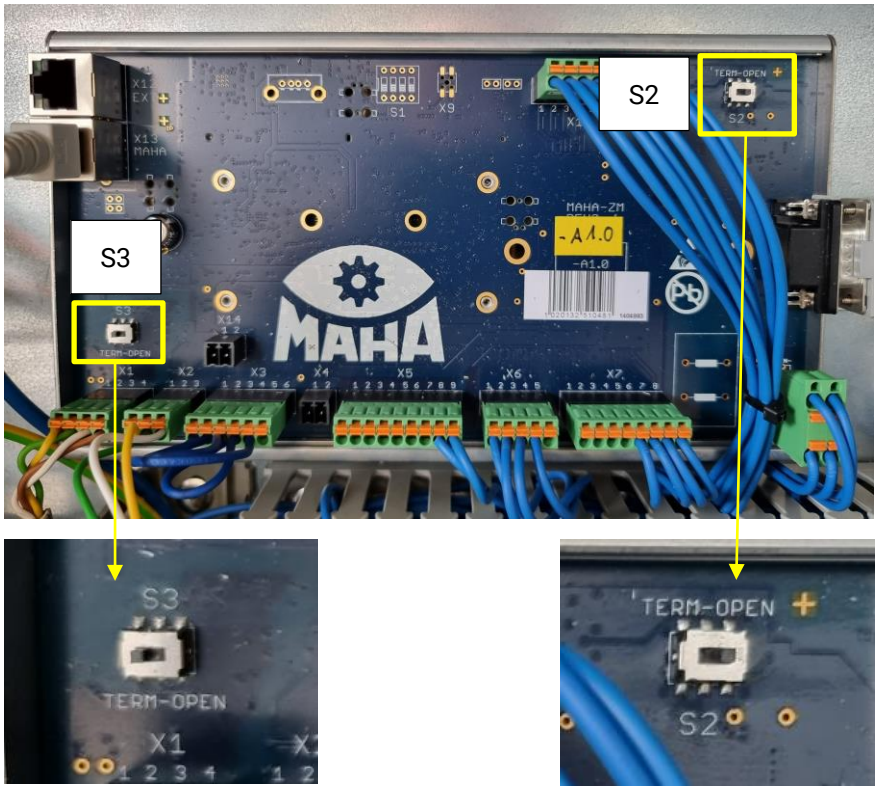

## 3.2 Perform Update

1 Turn off the main switch of the test stand.

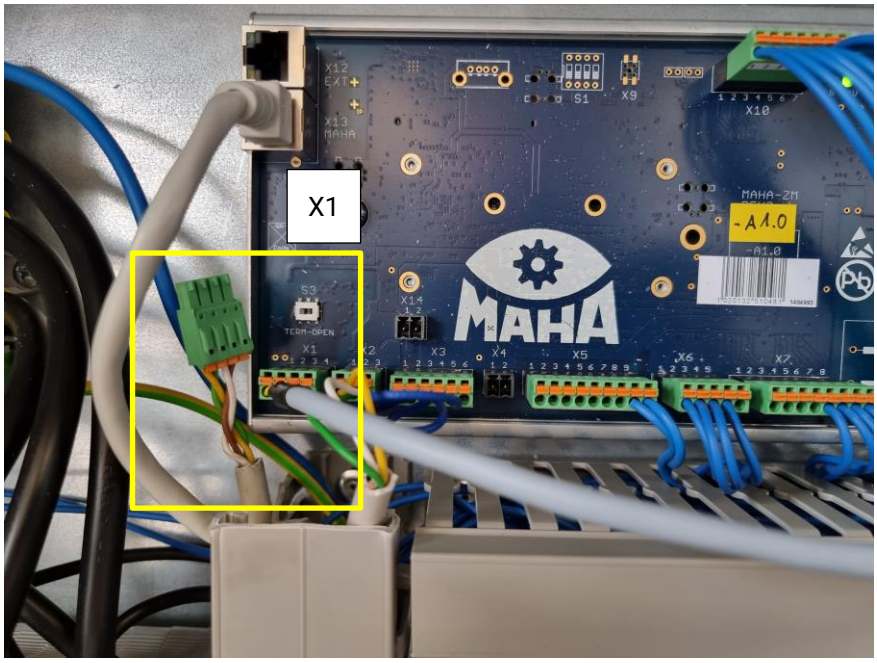
2 Connect the ZM update cable with *one* Combicon connector:

2.1 Disconnect the option module (if present) from the central module.

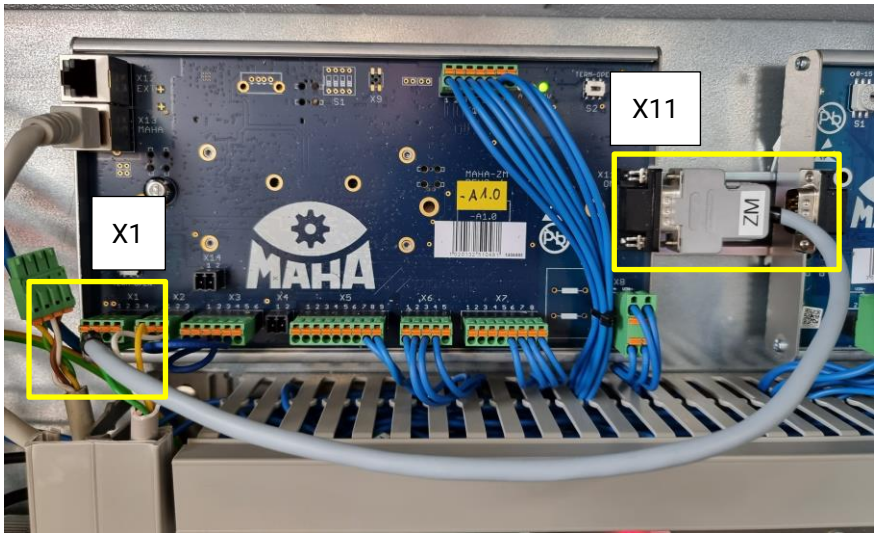
2.2 Connect the Sub-D connector of the ZM update cable to the option module CAN (X11) of the ZM. Ensure that the ZM update cable is firmly connected, does not wobble and is not under tension.




2.3 Note existing CAN termination at S2 and S3 of the ZM so that it can be restored after updating.
Then make the following settings: S2 OPEN | S3 TERM




2.4 Disconnect the IFM-CAN cable from X1 of the ZM and connect the four-pin Combicon connector of the ZM update cable instead.




Overall view after connecting the ZM update cable

3 Turn on the main switch.

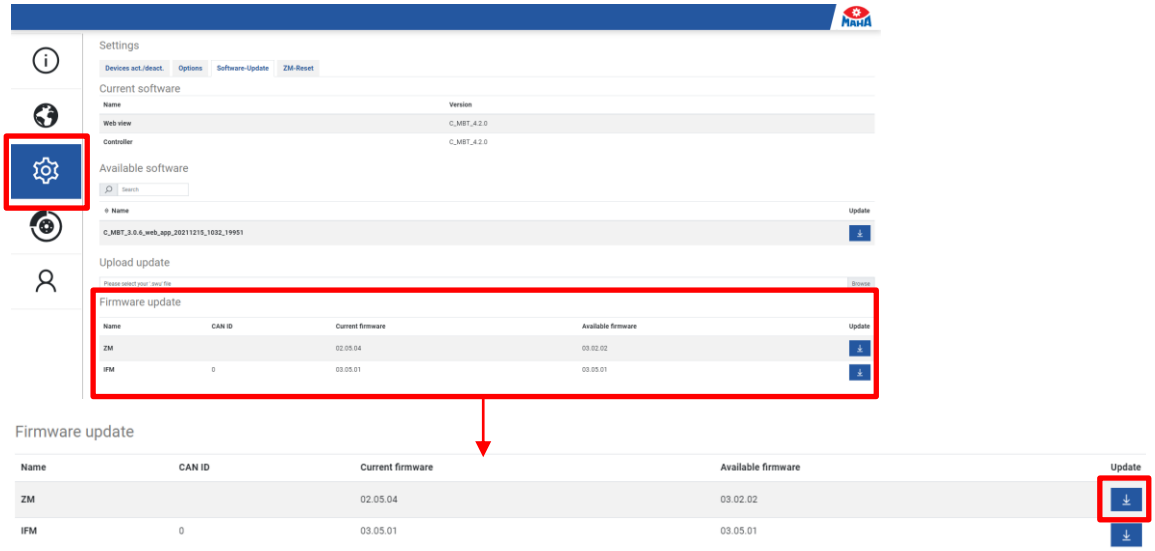
4 Start the firmware update:

4.1 Ignore error messages.

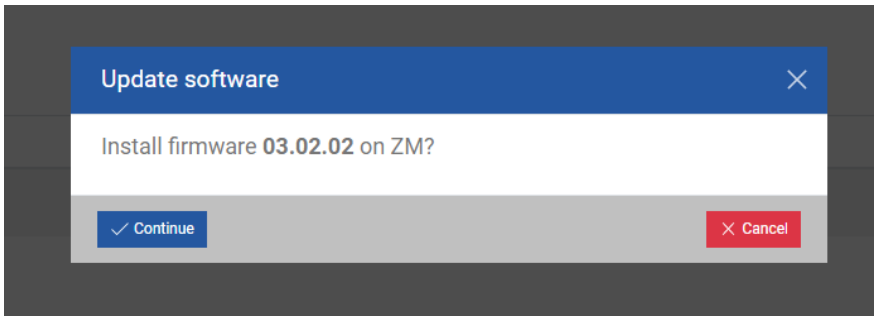
4.2 Log in as technician to the Technician menu.

4.3 Under “Settings”, navigate to “Software Update”.

4.4 Scroll down the page.

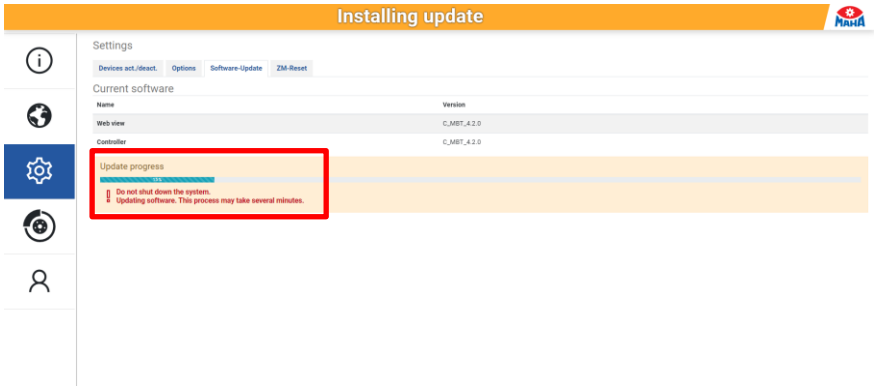



4.5 Under category “Firmware Update”, select the ZM update by clicking on the update button.

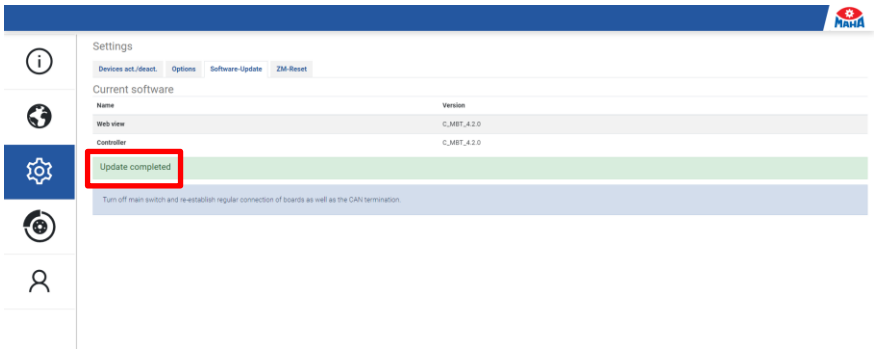



4.6 Confirm update dialog.

**IMPORTANT:**
If the user interface briefly loses the connection while the update is already running, *do not* switch off the test stand! As soon as the connection is re-established, re-enter the menu, log in and navigate to the update page. *Do not* restart the update!
The page should automatically display the current progress again. Otherwise, wait at least 5 minutes before switching off the test stand and continue with removing the cable.




▶ Installing update.




4.7 Wait for update progress until “Update completed” is signalised.

5 Turn off the main switch.

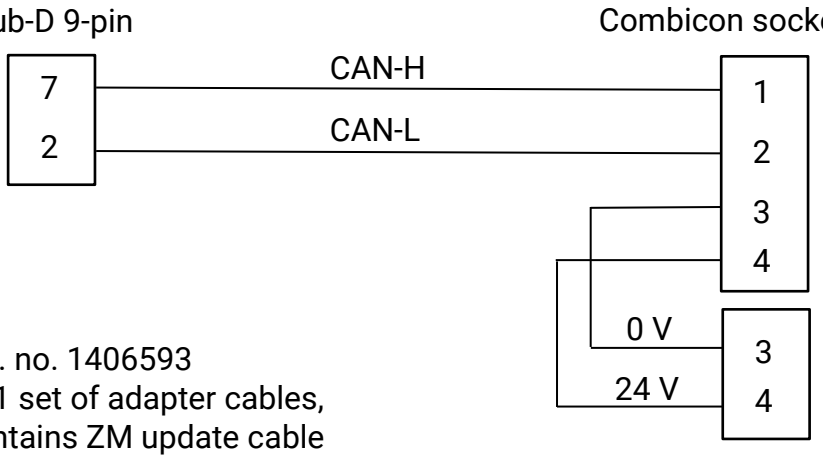
6 Remove the ZM update cable.

7 Restore the CAN termination. (If the IFM firmware is updated afterwards, this step is not necessary.)

8 Turn on the main switch.

# 4 IFM Firmware Update

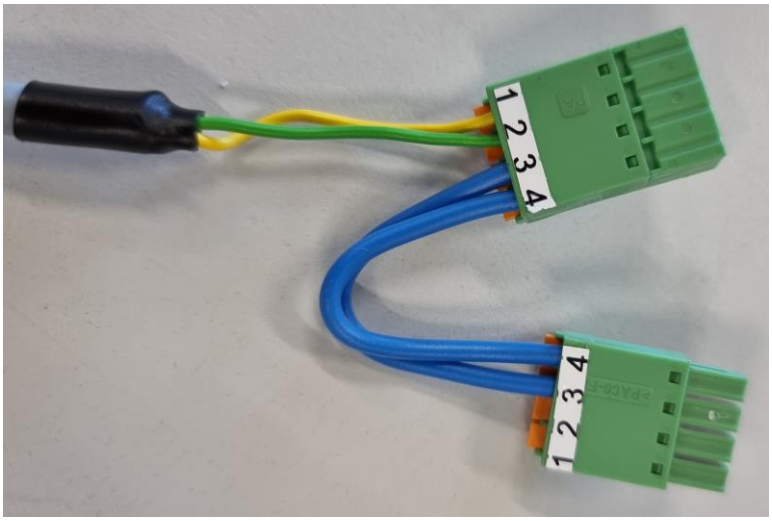
## 4.1 Circuit Diagram IFM Update Cable




Art. no. 1406593
(= 1 set of adapter cables, contains ZM update cable and IFM update cable)

Combicon connector 4-pin

Combicon socket and connector of IFM update cable



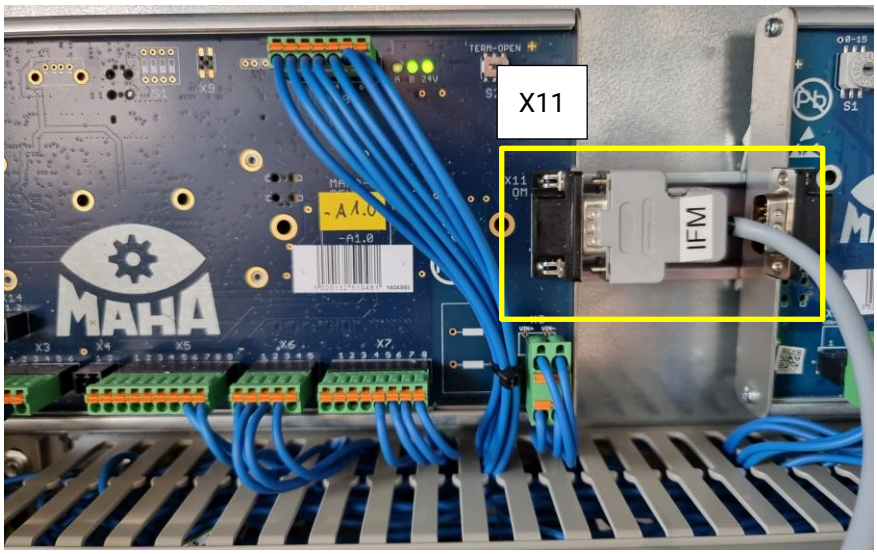

**IMPORTANT:**
In the event that two IFMs are installed, the update must be performed *separately* for each IFM.

## 4.2 Perform Update

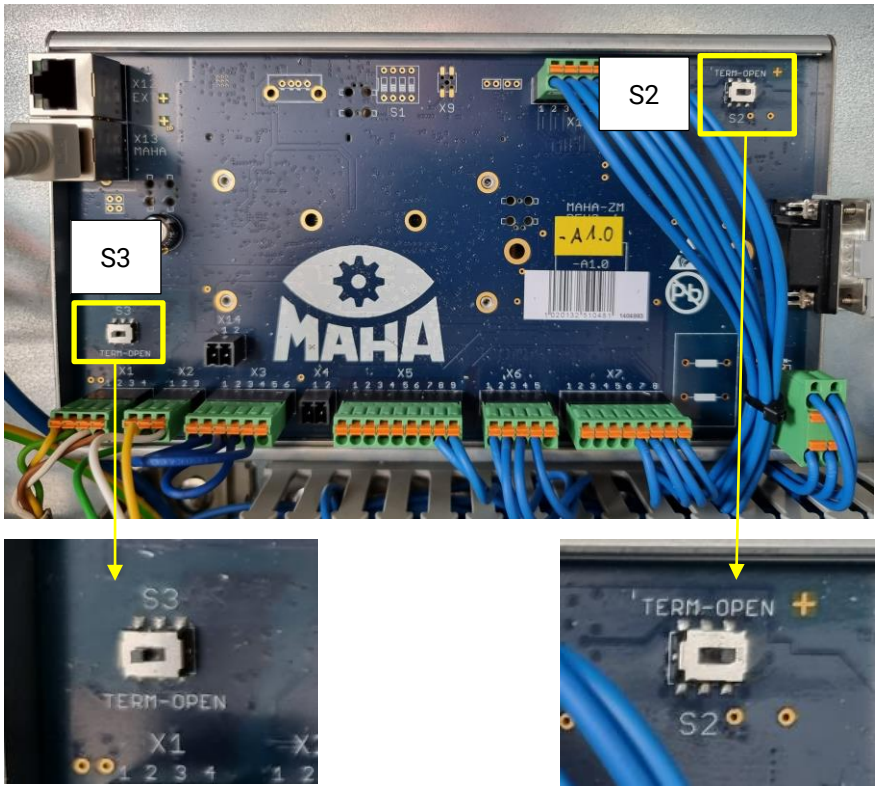
1 Turn off the main switch of the test stand.

2 Connect the IFM update cable with *two* Combicon connectors:

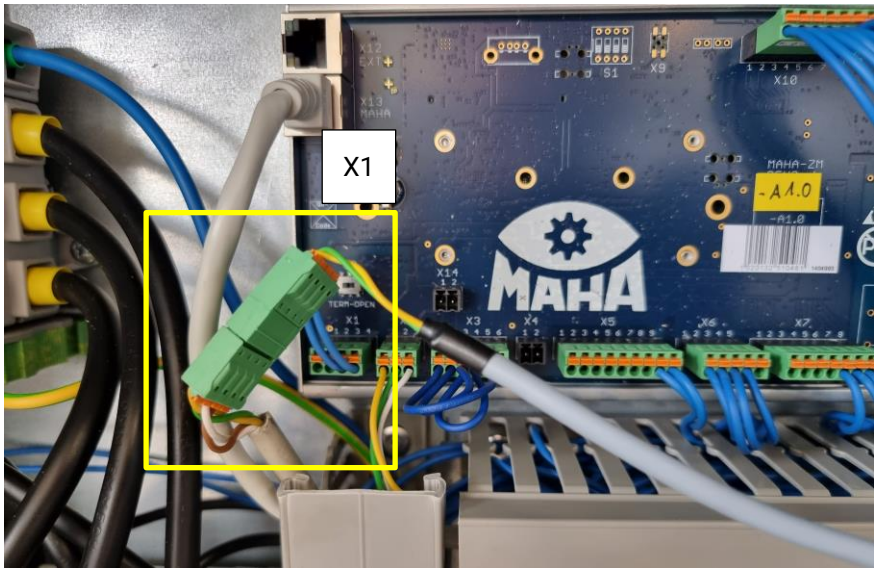
2.1 Disconnect the option module (if present) from the central module.




2.2 Connect the Sub-D connector of the IFM update cable to the option module CAN (X11) of the ZM. Ensure that the IFM update cable is firmly connected, does not wobble and is not under tension.

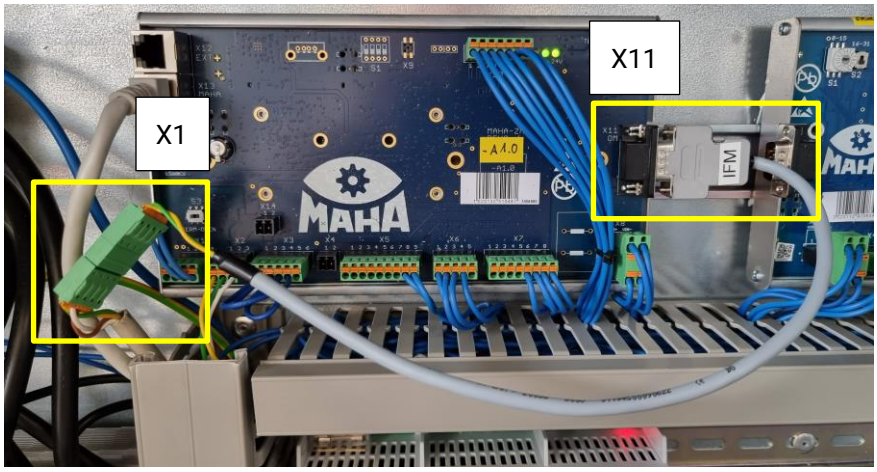


2.3 Note existing CAN termination at S2 and S3 of the ZM so that it can be restored after updating.
Then make the following settings: S2 OPEN | S3 TERM




2.4 Disconnect the IFM-CAN cable from X1 of the ZM and connect the four-pin Combicon connector of the IFM update cable instead.

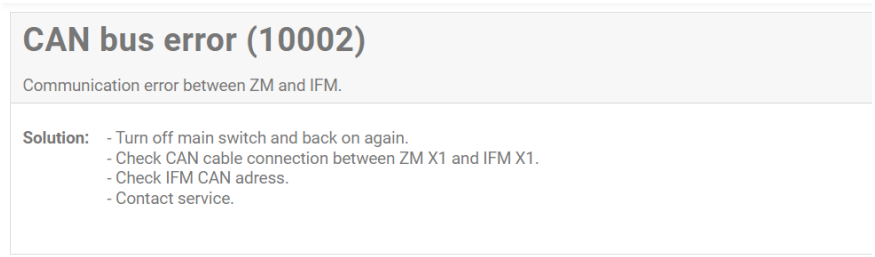
2.5 Plug the IFM-CAN cable into the Combicon socket of the IFM update cable.




Overall view after connecting the IFM update cable

3 Turn on the main switch.

4 Start the firmware update:

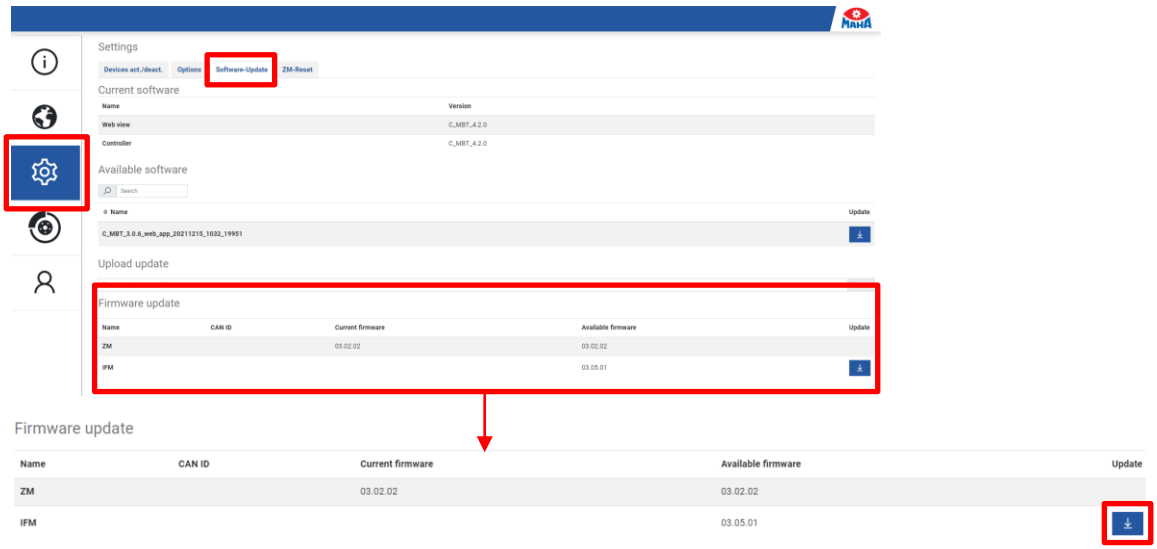



4.1 Ignore error messages.

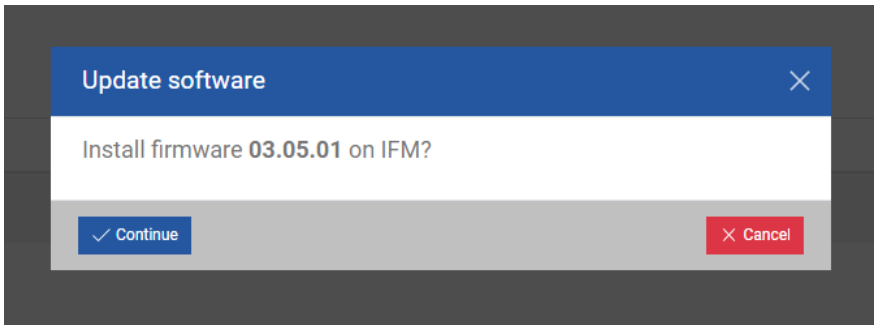
4.2 Log in as technician to the Technician menu.

4.3 Under “Settings”, navigate to “Software Update”.

4.4 Scroll down the page.

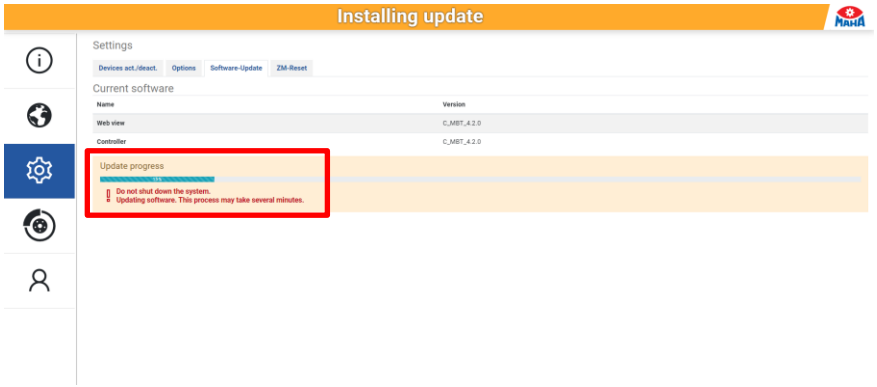



4.5 Under category “Firmware Update”, select the ZM update by clicking on the update button.

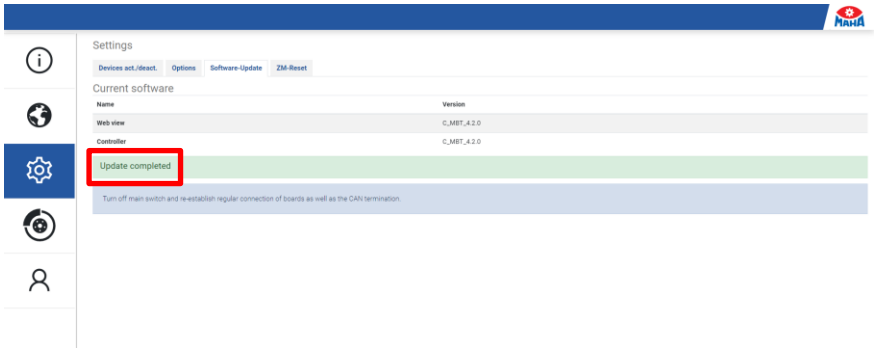



4.6 Confirm update dialog.

**IMPORTANT:**
If the user interface briefly loses the connection while the update is already running, *do not* switch off the test stand! As soon as the connection is re-established, re-enter the menu, log in and navigate to the update page. *Do not* restart the update!
The page should automatically display the current progress again. Otherwise, wait at least 5 minutes before switching off the test stand, and continue with removing the cable.



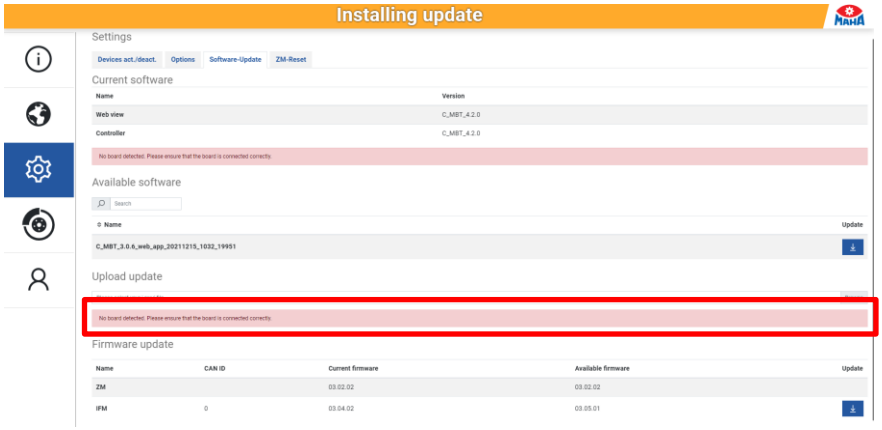

▶ Installing update.




4.7 Wait for update progress until “Update completed” is signalised.

5 Turn off the main switch.
6 Remove the IFM update cable.
7 Restore the CAN termination.
8 Turn on the main switch.

# 5 Error Handling




If an error occurs during the firmware update, it is displayed. Follow the instructions in the error text, then restart the update.

Possible error texts:

- The selected board type is not permitted.
- An internal error has occurred.
- An update is already being performed.
- A runtime error has occurred.
- The selected firmware cannot be read.
- No board could be detected. Please ensure the correct connection of the board.
- An incorrect board was detected. Please choose the correct firmware and make sure the board is connected correctly.
- The attempt to address the board failed. Please make sure that no additional devices are connected via CAN (e.g. option modules).
- Different boards were detected. Please ensure the correct connection of the board.
- It was not possible to put the board into download mode.
- A communication error has occurred.
- Turn off the main switch and restore regular connection of the boards.

## 5.1 Procedure in Case of Multiple Unsuccessful Update Attempts

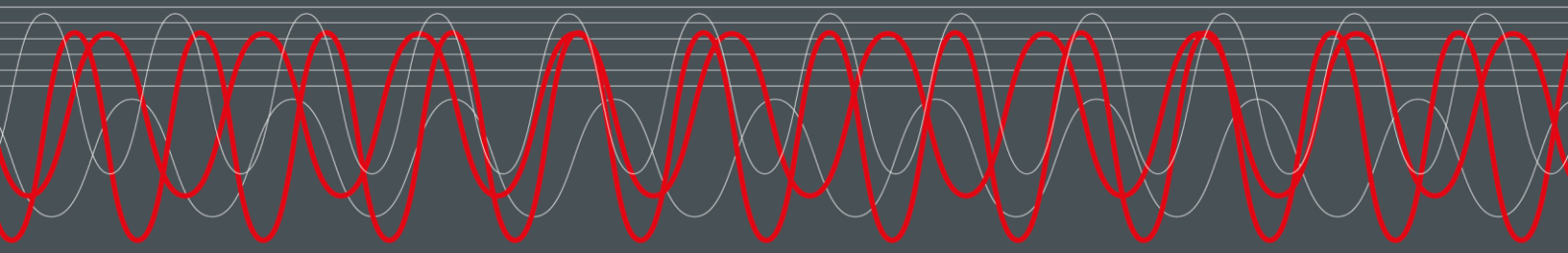
If the update fails to work several times:

1 Remove the IFM.

2 Perform the update once more directly at the control cabinet using a short cable (≤ 3 m).

3 Reinstall the IFM.

Notes



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