

Fortica / Croptimiz-r

Replace supercap CPU

ENG/March 2023

HA90213202

Scan me for 



Hotraco Group

Stationsstraat 142
5963 AC Hegelsom
The Netherlands

Read the instructions prior to performing any task!

Original document

Hotraco Group BV
T +31 (0) 77 327 50 00
E info@hotraco-group.com
W www.hotraco-group.com

Table of contents

1	Safety.....	4
1.1	Introduction to Safety.....	4
1.2	Description of the Signal Words.....	4
1.3	Description of the Safety Symbols.....	5
2	Fortica / Croptimiz-r CPU supercap check.....	6
3	Replacing CPU board procedure.....	8
3.1	Making a Backup.....	8
3.2	Removing the SD Card.....	8
3.3	Restoring a Backup.....	9
4	Replacing the EDM Module.....	10
5	Replacing the CPU.....	14
6	Index.....	18

1 Safety

1.1 Introduction to Safety

- First read the Safety guide that you have received with this product before you install or operate this product.
- This manual contains the information required to install, operate and maintain this product. Read the information and instructions thoroughly before use.
- This product is covered by the warranty and liability regulations laid down in documents including the manufacturer's general terms of sale governing the contract concluded for the delivery of this product.

1.2 Description of the Signal Words

This document has safety-related and other important messages. Signal words and safety symbols describe the types of messages.



DANGER!

Indicates a hazardous situation which, if not avoided, will cause death or serious injury.

The safety symbol shows the type of hazard.



WARNING!

Indicates a hazardous situation which, if not avoided, could cause death or serious injury.

The safety symbol shows the type of hazard.



CAUTION!

Indicates a hazardous situation which, if not avoided, could cause minor or moderate injury.

The safety symbol shows the type of hazard.



NOTICE!

Indicates a hazardous situation which, if not avoided, could cause machine, property or product damage.



Indicates more information, suggestions and recommendations.

1.3 Description of the Safety Symbols



WARNING!
General warning.



WARNING!
Risk of injury from electrical voltage.

2 Fortica / Croptimiz-r CPU supercap check

A faulty supercap causes a set back in time and date in case of a powerfailure. As a result the management and curve settings are not correct anymore. After setting back the date / time, the Fortica will function again, but with a next power failure the same problem occurs.

How to track down CPU boards with faulty supercap

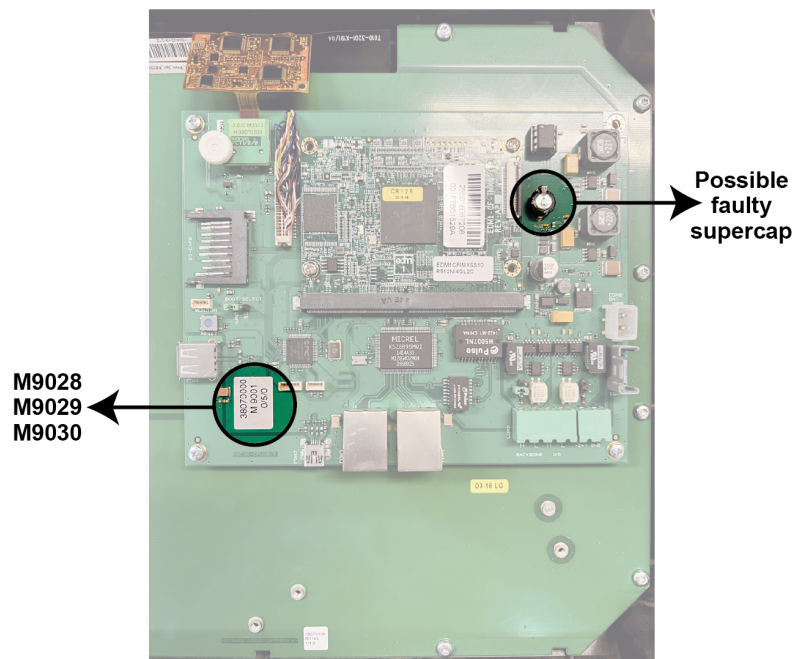
The CPU production series which are possibly fitted with a faulty supercap component, are:

- M9028
- M9029
- M9030

See picture below for the position of the supercap and label with production series number.



All other production series are NOT affected and do NOT need any further action.



Recognition of the faulty supercap



The faulty supercap has golden numbers on the side. Look carefully, the numbers can be hidden behind the connector part.



The CPU needs to be replaced when **both** (production series number and golden number on the side of the supercap) apply.

All other models need no further action

See picture below for examples



3 Replacing CPU board procedure

3.1 Making a Backup





Personnel: ☐ Installer
☐ User



NOTICE!

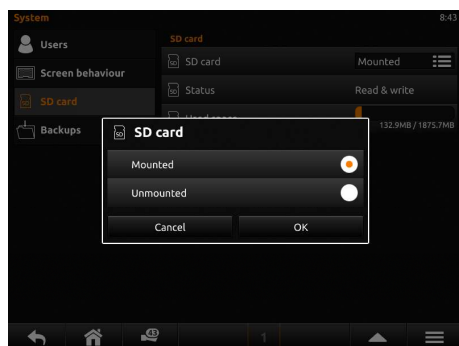
During the update of the software, all the data, setpoints and options will be erased from Fortica. It is reset to the factory default settings.

- Before you update the software, create a backup of all the data, setpoints and options on an SD card. Then you can restore the data, setpoints and options after the update.
- Make sure that Fortica contains an SD card to store the backup.

1. Tap .
 2. Tap  'System'.
 3. Tap  'Backups'.
 4. Tap  'Create backup'.
 5. Enter a unique name and, optionally, a comment.
 6. Tap 'OK'.
- ⇒ Fortica makes a backup of the data, setpoints and options.

3.2 Removing the SD Card

Personnel: ☐ Installer
☐ User






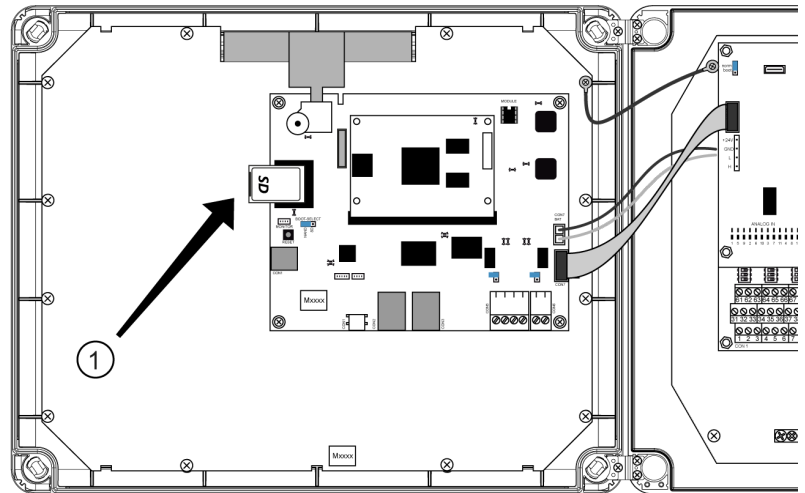
1. Tap .
2. Tap  'System'.
3. Tap 'SD card → Mounted' .
4. Tap 'Unmounted'.
5. Tap 'OK'.

Fig. 1: Unmount the SD card






6. ➤ Remove the SD card ①.

3.3 Restoring a Backup

Personnel: ■ Installer
 ■ User



Make sure that the Fortica contains the SD card with the backup you want to restore.

1. ➤ Tap  to open the main menu.
2. ➤ Tap  'System'.
3. ➤ Tap  'Backups'.
4. ➤ Tap the backup you want to restore.
5. ➤ Tap 'Restore'.
6. ➤ Tick the boxes for the data, options and settings you want to restore (usually all).
7. ➤ Tap 'OK'.
⇒ The Fortica restores the backup.

4 Replacing the EDM Module

Personnel: ■ Installer



WARNING!

Electric shock can cause serious injury.

Always disconnect the power supply to the product before you do work on electrical parts inside the product. When this is not possible, be very careful that you do not touch live parts.



NOTICE!

Electrostatic discharge can damage your product.

All the electrical parts inside this product are susceptible to electrostatic discharge (ESD).

- Always disconnect the power supply to the product before you do work on electrical parts inside the product.
- Always wear an ESD wrist strap that is connected to the main earthing system.

See IEC 61340-5-2 for more information on precautions with regard to ESD.



NOTICE!

Do not remove the new EDM module from the ESD bag before you install the module.

Removing the EDM Module

1. ➤ Make a backup ↗ *Chapter 3.1 'Making a Backup' on page 8.*
2. ➤ Disconnect the power supply to the Fortica with the disconnect switch, for example. Make sure that the phase and neutral lines are disconnected.



Wait until the Fortica is fully OFF (all the LEDs in the housing must be OFF).



Fig. 2: Attach the ESD kit

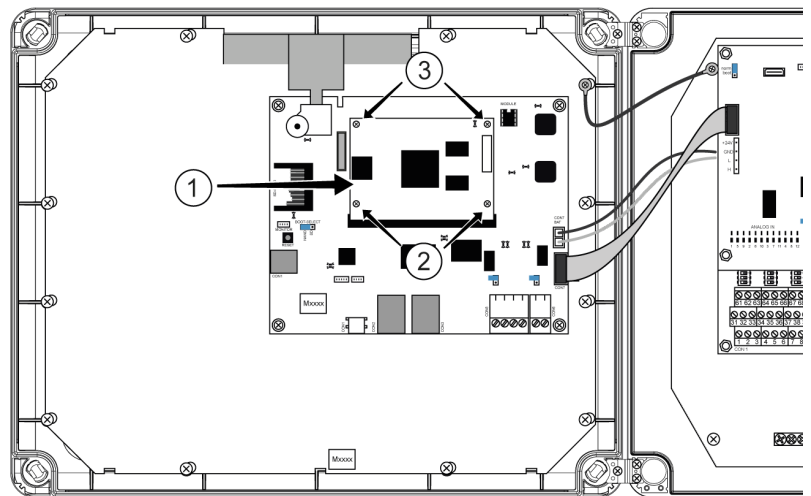
3. ➔ Attach the wrist strap of the ESD kit to your wrist.
4. ➔ Connect the crocodile clamp to the grounding busbar of the Fortica. Make sure that the clamp stays connected to the grounding busbar.



NOTICE!

Touching components of the EDM module can damage the EDM.

Touch the EDM module **only** at the edges. Do not touch the surface and the electrical components of the module.

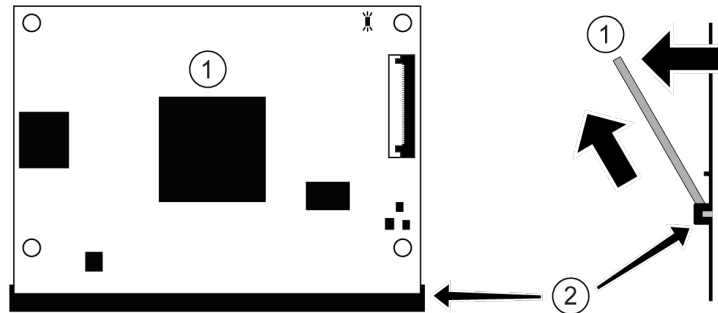


5. ➔ Remove the screws ② at the bottom of the EDM module ①.
6. ➔ Remove one screw ③ at the top of the EDM module.



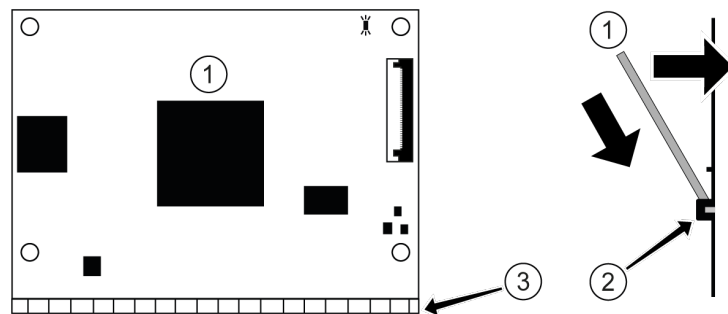
When you remove the last screw at the top, press the EDM module down with one finger on the top edge of the module.

7. ➔ Remove the second screw ③ at the top of the EDM module.



8. ➔ The EDM connector ② pushes the EDM module ① up. Carefully move the EDM module up until it stops.
9. ➔ In the tilted position, carefully pull the EDM module away from the EDM connector.

Installing the EDM Module



1. ➔ Carefully push the EDM module ① into the EDM connector ②. Make sure that the copper contacts ③ of the EDM module are fully inserted into the EDM connector.



When the EDM module does not move down, the copper contacts of the EDM module are not fully inserted into the EDM connector.

2. ➔ Carefully push back the EDM module until it is flat. Do not use force!

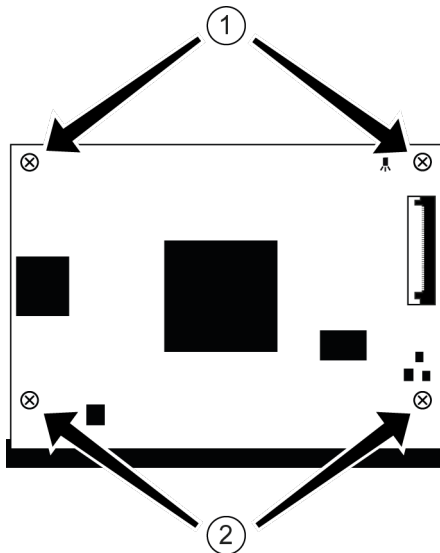


Fig. 3: Put back the screws



When you put back the first screw ① at the top, hold the EDM module with one finger on its top edge.

3. ➔ Put back the first screw ① at the top. When the first screw is tightened, it is no longer necessary to hold the EDM module.
4. ➔ Put back the other screw ① at the top.
5. ➔ Put back the two screws ② at the bottom.
6. ➔ Put the removed EDM module in the ESD bag of the new EDM module.
7. ➔ Restore the backup ➔ *Chapter 3.3 'Restoring a Backup' on page 9.*
8. ➔ Do a check if all options and setpoints have been restored.



If you do not have a backup, you must install the system software as described in the installation manual of the computer.

5 Replacing the CPU

Personnel: ■ Installer



WARNING!

Electric shock can cause serious injury.

Always disconnect the power supply to the product before you do work on electrical parts inside the product. When this is not possible, be very careful that you do not touch live parts.



NOTICE!

Electrostatic discharge can damage your product.

All the electrical parts inside this product are susceptible to electrostatic discharge (ESD).

- Always disconnect the power supply to the product before you do work on electrical parts inside the product.
- Always wear an ESD wrist strap that is connected to the main earthing system.

See IEC 61340-5-2 for more information on precautions with regard to ESD.

Removing the CPU board

1. ➤ Make a backup ↗ *Chapter 3.1 'Making a Backup' on page 8.*
2. ➤ Remove the SD card ↗ *Chapter 3.2 'Removing the SD Card' on page 8.*
3. ➤ Disconnect the power supply to the Fortica with the disconnect switch, for example.



Wait until the Fortica is fully OFF (all the LEDs in the housing must be OFF).

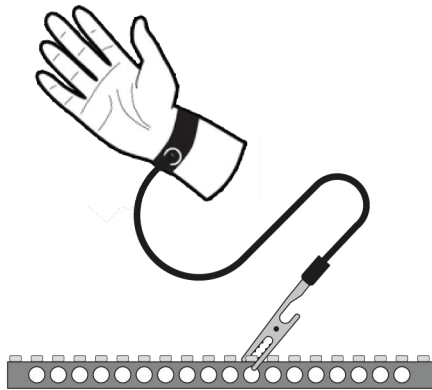
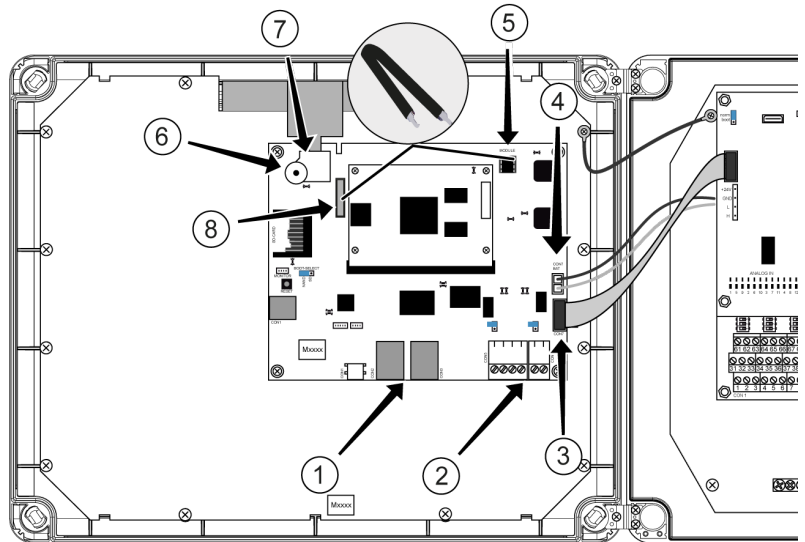
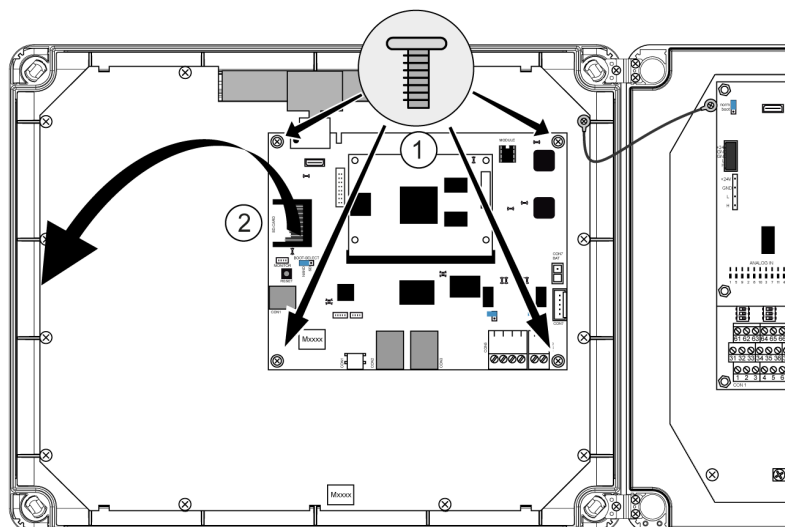


Fig. 4: Attach the ESD kit

4. ➔ Attach the wrist strap of the ESD kit to your wrist.
5. ➔ Connect the crocodile clamp to the grounding busbar of the Fortica. Make sure that the clamp stays connected to the grounding busbar. The grounding busbar must stay connected to the CPU.

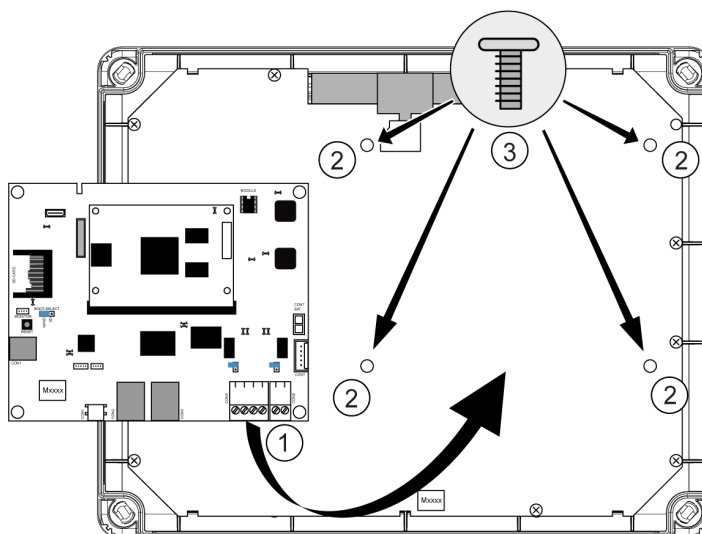


6. ➔ Disconnect these parts:
 - ① - Ethernet cable
 - ② - CAN Local and 24 V cables
 - ③ - Flat cable
 - ④ - Battery cable (this can be a bit difficult, **do not damage the board**)
 - ⑤ - EEPROM (carefully disconnect the EEPROM with the pliers supplied, **do not damage the connector**)
 - ⑥ - Knurled wheel (loosen the wheel on the PCTI-PCB)
 - ⑦ - PCTI-PCB (disconnect the PCTI-PCB from the connector)
 - ⑧ - LVDS connector (carefully disconnect the LVDS connector with the pliers supplied, **do not damage the connector**)



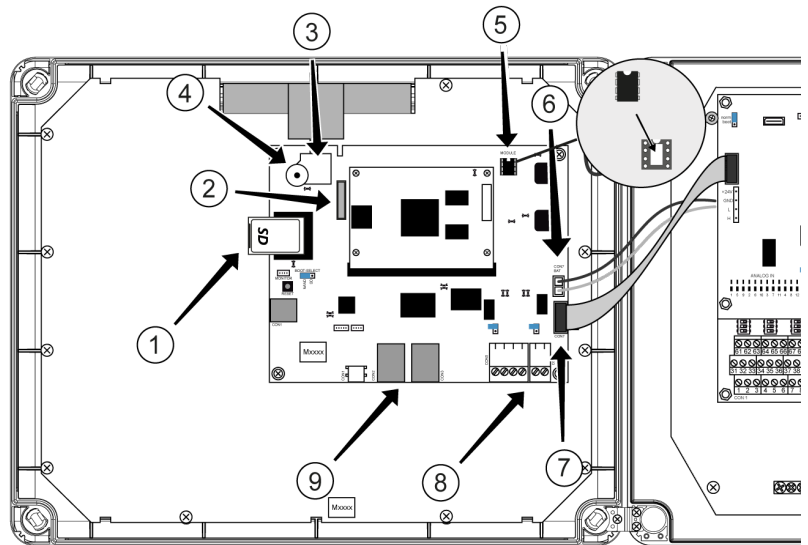
7. ➤ Remove the four screws ① of the CPU board.
8. ➤ Remove the CPU board ②.

Installing the CPU Board



1. ➤ Put the new CPU board ① on the distance bushes ②.
2. ➤ Install the CPU board with the four screws ③.
3. ➤ Connect the parts ➤ 'Connecting the Parts' on page 17.

Connecting the Parts



1. Connect these parts:

- ① - SD card with the backup (Fortica mounts the SD card automatically)
- ② - LVDS connector (carefully put back the LVDS connector, the pliers are not necessary)
- ③ - PCTI-PCB (connect the PCTI-PCB to the connector)
- ④ - Knurled wheel (tighten the wheel on the PCTI-PCB)
- ⑤ - EEPROM (make sure that the notch is at the correct side)
- ⑥ - Battery cable
- ⑦ - Flat cable
- ⑧ - CAN Local and 24 V cables
- ⑨ - Ethernet cable

2. Restore the power supply to the Fortica with the disconnect switch, for example.

3. Restore the backup ↗ *Chapter 3.3 'Restoring a Backup' on page 9.*

4. Do a check if all options and setpoints have been restored.

6 Index

B

Backup

Make	8
Restore	9

C

CPU

Install without spacers	16
Remove	14
Replace	14

E

EDM module

Install	12
Remove	10
Replace	10

R

Replace

CPU	14
EDM module	10

S

SD card

Remove	8
--------------	---