

Installation Instructions

Spare parts FMA90 Battery

1 Overview of spare part sets

The Installation Instructions apply to the following spare part:


| Order number | Original spare parts set | Contents |
|--------------|--------------------------------|-------------------|
| 71706850 | Battery FMA90 3V/137mAh CR1632 | 1x Battery CR1632 |

2 Intended use

- A defective unit can only be replaced with a functioning unit of the same type.
- Use only original parts from Endress+Hauser.

3 Personnel authorized to carry out repairs

Authorization to carry out repairs depends on the measuring device's approval type. The table below shows the authorized group of people in each case.

 Whoever carries out the repairs has full responsibility to ensure that work is carried out safely and to the required quality standard. He/she must also guarantee the safety of the device following repair.

| Measuring device approval | Personnel authorized to carry out repairs ¹⁾ |
|----------------------------|---|
| Without approval | 1, 2, 3 |
| With approval (e.g. IECEx) | 1, 2, 3 |
| For custody transfer | 4 |

- 1) 1 = Qualified specialist on customer side,
2 = Service technician authorized by Endress+Hauser,
3 = Endress+Hauser (return measuring device to manufacturer)
4 = Check with local approval center if installation/conversion must be performed under supervision.

4 Safety instructions

- The spare part set and the Installation Instructions are used to replace a defective unit with a functioning unit of the same type. Only use original parts from Endress+Hauser.
- Comply with national regulations regarding mounting, electrical installation, commissioning, maintenance and repair.
- The following requirements must be met with regard to specialized technical staff for the mounting, electrical installation, commissioning, maintenance and repair of the measuring devices:
 - Specialized technical staff must be trained in instrument safety.
 - They must be familiar with the individual operating conditions of the devices.
 - In the case of Ex-certified measuring devices, they must also be trained in explosion protection.
- The measuring device is energized! Risk of fatal injury from electric shock. Open the measuring device only when the device is de-energized.
- For measuring devices intended for use in hazardous locations, please observe the guidelines in the Ex documentation (XA).
- For measuring devices in safety-related applications in accordance with IEC 61508 or IEC 61511: following repair, re-commission the device in accordance with the Operating Instructions. Document the repair.
- Before removing the device: set the process to a safe state and purge the pipe of dangerous process substances.
- Danger of burns due to heated surfaces! Before commencing work: allow the system and measuring device to cool down to a touchable temperature.
- In the case of devices in custody transfer, the custody transfer status no longer applies once the seal has been removed.
- The Operating Instructions for the device must be followed.
- Risk of damaging the electronic components! Ensure you have a working environment protected from electrostatic discharge.
- After removing the electronics compartment cover: risk of electrical shock due to missing touch protection! Turn the measuring device off before removing internal covers.
- Modifications to the measuring device are not permitted.
- Only open the housing for a brief period. Avoid foreign objects, moisture or dirt entering the housing.
- Replace defective seals only with original seals from Endress+Hauser.
- If threads are defective the measuring device must be repaired.
- If, during repair work, spacing is reduced or the dielectric strength of the measuring device cannot be guaranteed, perform a test on completion of the work (e.g. high-voltage test in accordance with the manufacturer's instructions).
- Service plug:
 - Do not connect in potentially explosive atmospheres.
 - Only connect to Endress+Hauser service devices.



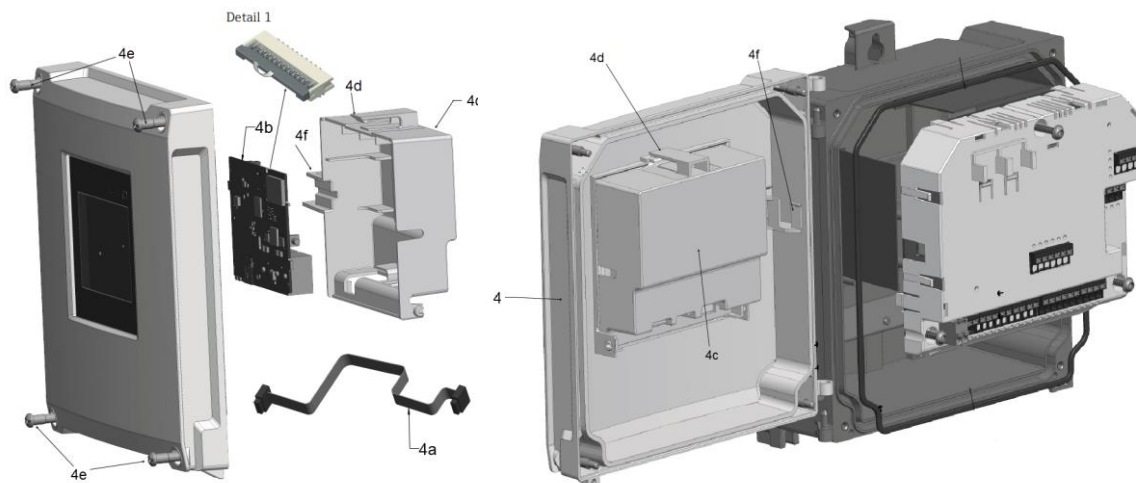
5 Tool list

TX20 screwdriver

Slotted screwdriver is required

6 Replacing the Battery of the FMA90

FMA90 in fieldhousing, Polycarbonat



1 Disconnect Power Supply

Disconnect the device from the mains and ensure it is free of voltage.

2 Remove Front Screws

Remove the four Torx screws on the front of the device (Fig. 4e).

3 Open CPU Cover

Lift the latch of the cover (Fig. 4d) out of the lock using your fingers, then slowly fold the cover (Fig. 4c) backward. Carefully thread the ribbon cable (Fig. 4a) out of the guide rail (Fig. 4f) in the process.

4 Replace Battery

Carefully remove the battery from its holder using a non-conductive tool to avoid short circuits.

Insert the new battery with the positive terminal facing the circuit board. The battery label should be visible.

5 Reassemble the Device

Reassemble the device in reverse order.

6 Commissioning

Put the device back into operation.

FMA90 for Panel Mounting

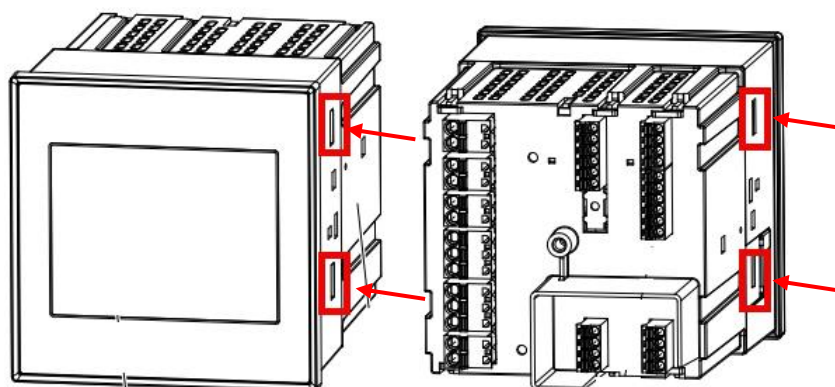
1 Disconnect Power Supply

Disconnect the device from the mains and ensure it is free of voltage.

2 Remove Display Front

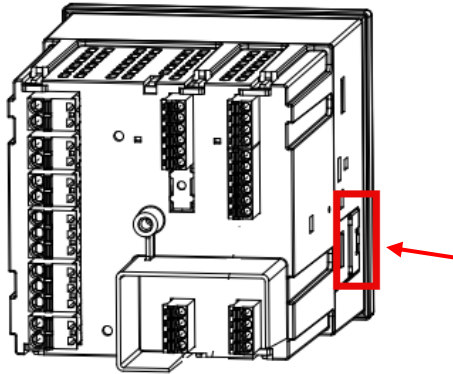
Carefully press back the four marked snap hooks using a flathead screwdriver.

Tip: Gently pull on the display front at the same time to prevent the hooks from snapping back into place.



3 **Open the Battery Compartment on the Side of the Device**

Caution: Proceed carefully – the component can come loose easily and may get lost.



4 **Replace Battery**

Carefully remove the battery from its holder using a non-conductive tool to avoid short circuits. Insert the new battery with the positive terminal facing the circuit board. The battery label should be visible.

5 **Reassemble the Device**

Reassemble the device in reverse order.

6 **Commissioning**

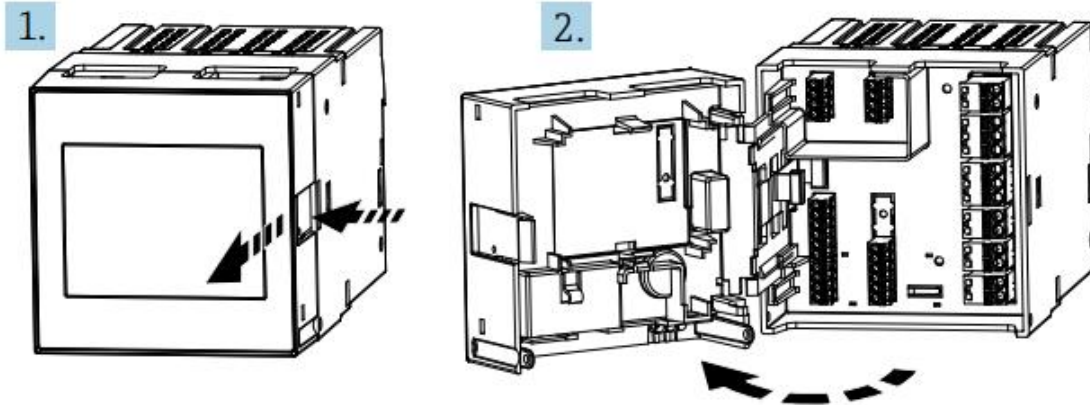
Put the device back into operation.

FMA90 for DIN Rail Mounting

1 **Disconnect Power Supply**

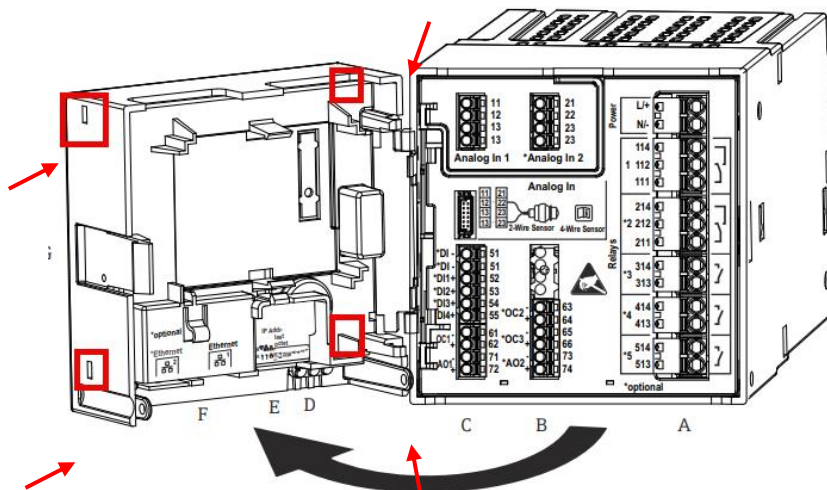
Disconnect the device from the mains and ensure it is free of voltage.

2 **Open Display Front**



3 **Remove CPU Cover**

Carefully press back the four marked snap hooks using a flathead screwdriver.



Then gently lift the cover straight upward.

4 **Replace Battery**

Carefully remove the battery from its holder using a non-conductive tool to avoid short circuits.
Insert the new battery with the positive terminal facing the circuit board. The battery label should be visible.

5 **Reassemble the Device**

Reassemble the device in reverse order.

6 **Commissioning**

Put the device back into operation.

7 **Disposal**



If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

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