Quattro 48V/15kVA 230V and 48V/10kVA 120V quality issue

Tech note – September 2023

www.victronenergy.com

1. Summary

The Quattro 48V 15kVA 230V inverter/chargers, as well as the Quattro 48V 10kVA 120V, serial number range HQ2240 up to and including HQ2305, have an increased risk of failure.

The failure usually occurs within the first few hours following commissioning and occurs to approximately 5% of the units.

The cause of this issue is the failure of MOSFETs we use on the power PCBA.

This failure does not pose a safety concern.

Extended warranty & free of charge replacement

Victron will repair any of the affected units at any point in the next 10 years. Thus, if the unit is installed and working, installers can leave them in place in the knowledge that should a unit fail in the next 10 years, it will be repaired or replaced under warranty.

The warranty of all affected units has been extended, for free, to 10 years.

That said, in mission critical scenarios, affected units are eligible for a free of charge replacement.

See section 3 below for further details.

Applicability

Note that this document is intended for authorised Victron distributors and repair centres. In case you are an end-user or installer, then please contact your dealer.

We apologize to our customers and distributors for this issue.

2. Affected models and serial numbers

Part number	Article description	Affected serial numbers (1)
QUA483150000	Quattro 48/15000/200-100/100 230V VE.Bus	HQ2240 up to and including HQ2305
QUA483100100	Quattro 48/10000/140-100/100 120V VE.Bus	

(1) Format of the serial number is HQyywwzzzzz in which yy is the year, ww is the week number, and zzzzz is random alphanumeric.

The serial number (SN) can be found on the label on the enclosure, on the VRM Portal in the Device list, as well as on the label on the carton and in the VictronConnect App.

3. Solutions

- Option 1 - Repair via Repair Centres

  Create an e-RMA and send the unit to a local Repair Centre.

- Option 2 - Self Repair

  For any distributor that prefers to repair the unit by themselves; create an e-RMA and select the option for Self-Repair. A new Power PCBA can be requested during the RMA process.

  Instructions for replacing the Power PCBA can be found in the Appendix on the following pages.

  The part required will be covered by the warranty and there will be no component cost to the distributor. The warranty of the repaired product will remain at 10-years.

- Option 3 - Replacement

  If the installer or end-user is not able to remove the unit from a mission critical installation, and requires a replacement unit, motivation can be made to a distributor to issue the replacements in advance on condition the affected units are returned to the distributor.

  The replacement unit will have a 5-year warranty.

Contact your Victron Energy Sales Manager if you have any questions about this issue, or about the repair or replacement procedure.

4. Common questions

Q: Is there an increased risk of failure after the first hours of operation?
A: That is hard to say since these batches are relatively new – but until now the statistics don't indicate an increased risk of failure after the first hours of operation.

Q: What should we do with a Quattro 48V 15kVA in the affected batch which is already installed and works well?
A: We suggest that the unit remain installed for most systems but for mission critical systems, especially when installed remotely, we recommend replacement of the Power PCBA out of precaution.

Q: Are other models also affected by this issue?
A: No, this issue only affects the Quattro 48V 15K 230V and the Quattro 48V 10K 120V only.

Q: Is labour and transport covered?
A: No. As per our common warranty terms, our factory warranty covers replacement & repairs only.

Q: Is Victron still shipping/selling affected batches?
A: No. All remaining stock of these batches has been blocked in our warehouses. Only units from unaffected batches will be shipped.

Q: We have new units in stock, how to handle those?
A: The Power PCBA can be replaced according to chapter 3, option 1 or 2, above.

5. Appendix 1 – Repair Instructions

Tools / equipment needed to replace the Power PCBA:

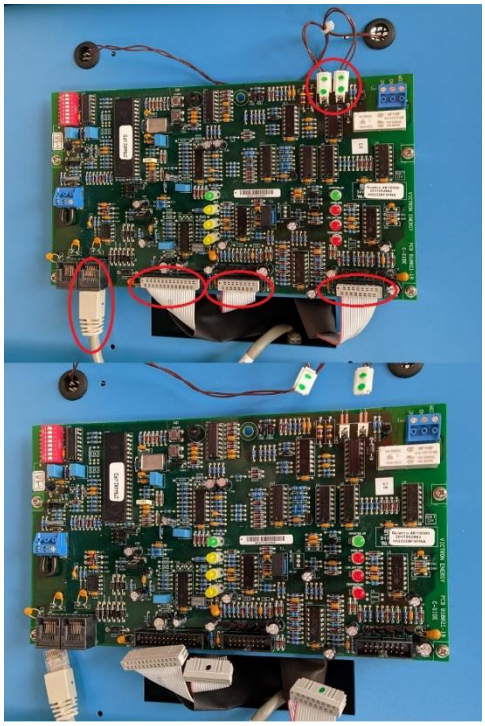
- Cordless drill with a Phillips screw head
- 8mm and 13mm socket wrench (with extension)
- Long-handled Phillips screwdriver
- Torque wrench 3-13Nm
- 48Vdc Power supply

Place the unit lying on its back on a stable workbench.

Step 1:

Remove front and top covers and the top grill.

Step 2:

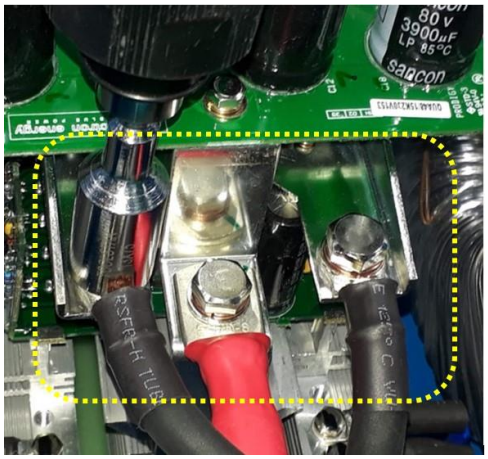


Remove all flat cables, PTC cabling and VE.Bus cabling from the Control PCBA.

Step 3:

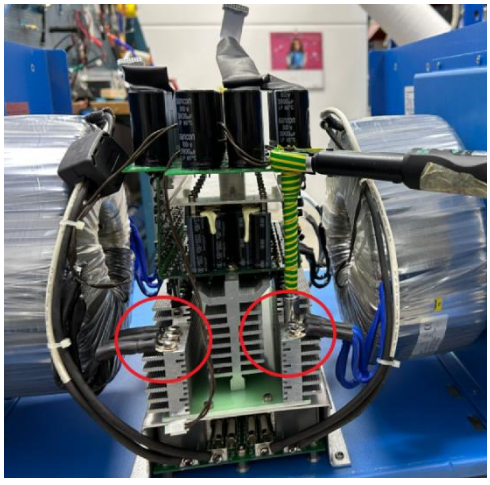
Remove the controller PCB plate (4 screws).

Step 4:



Disconnect the 3 cables (2 negative and 1 positive) from the busbars of the Power PCBA (3x M8X16 BN bolt).

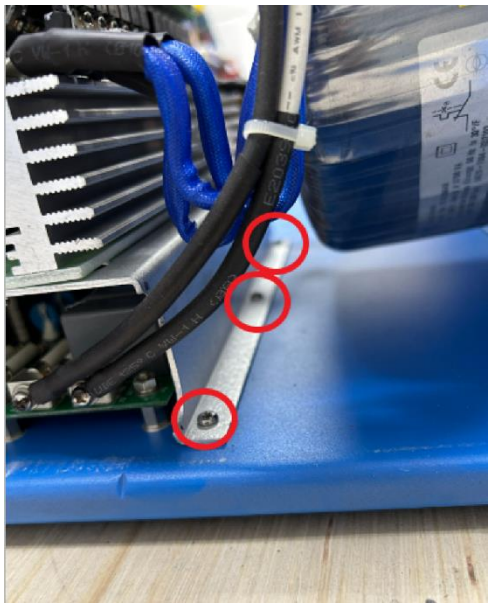
Step 5:



Disconnect the (in total) 12 leads on the heatsink of the Power PCBA coming from the transformers, (12x M5 hex bolts) and gently push the leads out of the way to remove the Power PCBA in the following step.

The leads are located on all 4 corners of the Power PCBA.

Step 6:

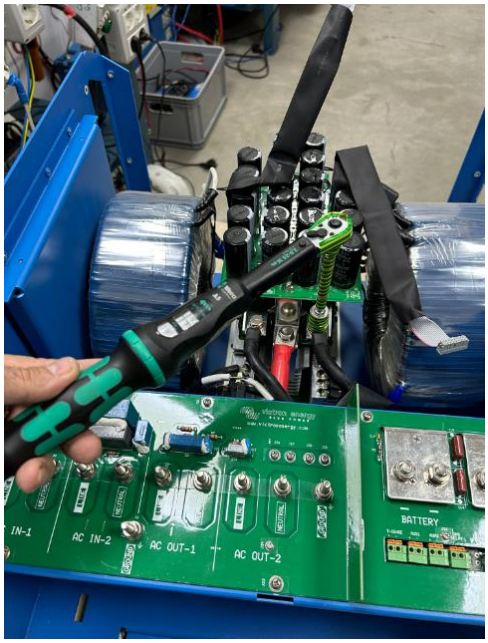


Unscrew the 6 Philips head screws (3 on each side of the PP) holding the Power PCBA to the backside of the unit.

Gently remove the Power PCBA and replace it with a new one. Be sure not to damage the leads and/or the transformers with the sharp edges of the Power PCBA.

When the new Power PCBA is in place, mount it with 6 screws.

Step 7:



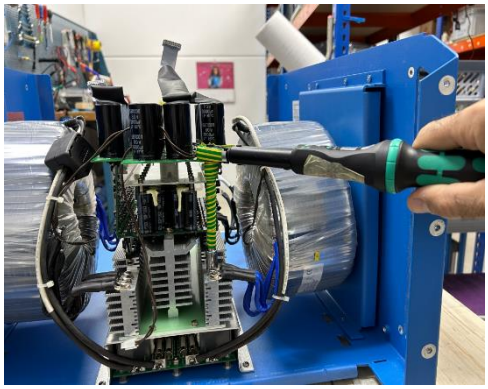
Connect the three (two negative and one positive) cables from the Connection pcba to the M8 connections on the busbar of the Power PCBA.

They must be tightened according the following instructions:

Screw type: M8X16 BN bolt, BN plain washer and PBZ spring washer.

Torque value: 11.5 to 12Nm.

Step 8:



Connect the twelve cables from the transformers to the M5 connections on the heatsink of the Power PCBA.

They must be tightened according the following instructions: Screw type: M5X12 BN bolt, BN plain washer and PBZ spring washer.

Torque value: 3Nm

Follow steps 3 – 2 – 1 in reverse order to re-ensemble the unit further.

After re-assembly, test the unit to see if the replacement of the Power PCBA was successful.