1. Introduction

The used rating for an internal AC fuse in the MultiPlus-II 8kVA and 10kVA is too low in the first production batches. The used fuse is 80A, while it should be 125A.

Because of this, when connected to the AC-input only, no battery connected, and then switched on, this fuse can blow due to the inrush current: the inrush current is higher when there is no battery connected. Note that this condition includes lithium batteries that feature an internal disconnect switch, such as our Lynx Smart BMS or many of the 3rd party stationary lithium batteries.

This document explains how to recognize units with a failed fuse; and how to replace it with the correct rating.

This document applies to:

- MultiPlus-II 48/8000/110-100, PMP482805000; with serial number batches:
  - SN: HQ2113xx, HQ2116xx and SN: HQ2127xx

    All units with serial number HQ2141xx onwards are modified.

- MultiPlus-II 48/10000/140-100, PMP483105000; with serial number batches:
  - SN: HQ2113xx, HQ2116xx, HQ2118xx and SN: HQ2128xx

    All units with serial number HQ2138xx onwards are modified.

Shipping and stock information

Products shipped from Victron warehouses after October 28th 2021 will be modified to have the higher rated fuse. This includes some of the above serial numbers, particularly part of the HQ2127 batch, from both the South African and the Dutch warehouse.

Therefore, when changing the fuse as a precaution, check the rating on the fuse to make sure it has not been modified already.

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

2. Recognising a unit with failed fuse

When this fuse is blown, the unit will in a continuous cycle start, (falsely) detect an overload, and switch off signalling overload, and restart again.

On VRM this looks like this:

Alarm logs

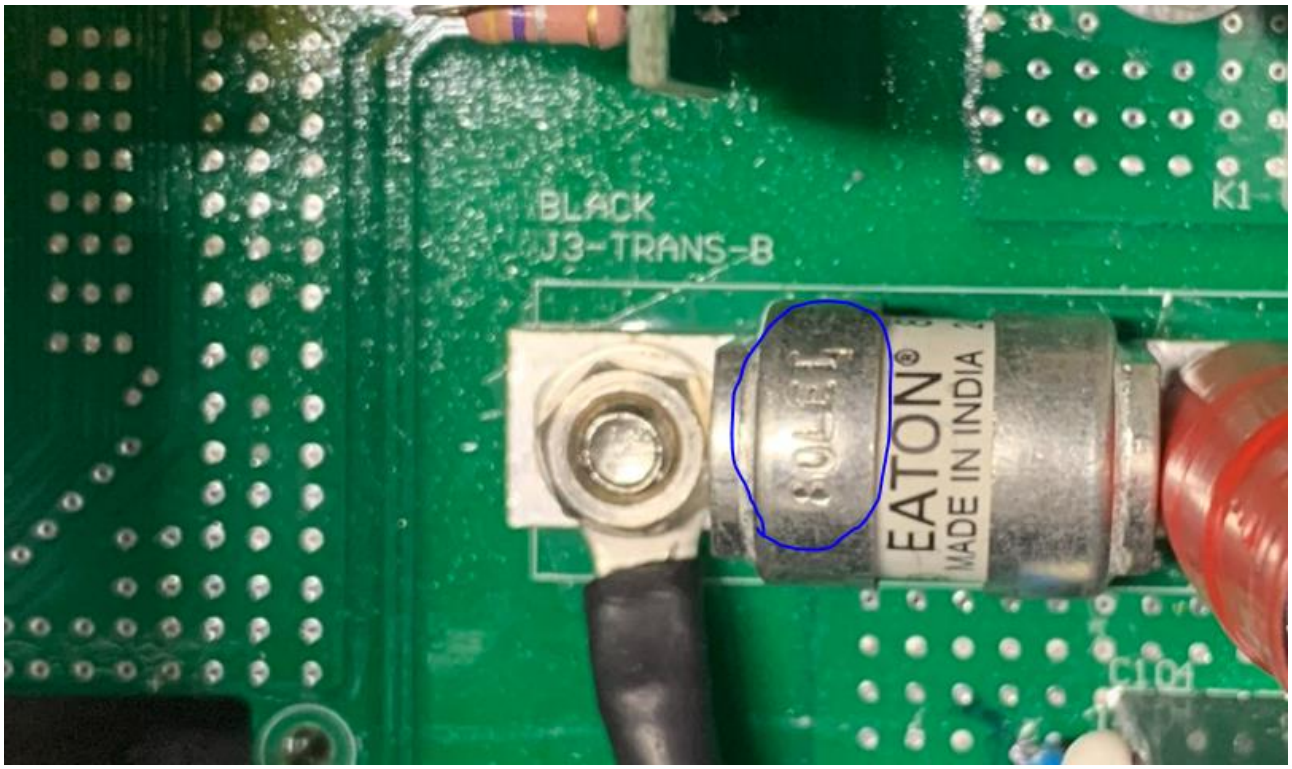
Device	Triggered by	Description	Started at	Cleared after
VE.Bus System [276]	Automatic monitoring	Overload L1: Alarm	2021-10-22 10:50:27	1m, 59s
VE.Bus System [276]	Automatic monitoring	Overload L1: Alarm	2021-10-22 10:47:57	2m, 25s
VE.Bus System [276]	Automatic monitoring	Overload L1: Alarm	2021-10-22 10:47:26	29s
VE.Bus System [276]	Automatic monitoring	Overload L1: Alarm	2021-10-22 10:44:57	2m, 26s
VE.Bus System [276]	Automatic monitoring	Overload L1: Alarm	2021-10-22 10:44:26	28s

To double check, use a multimeter to measure the resistance between the AC OUT-1 L and N terminals.

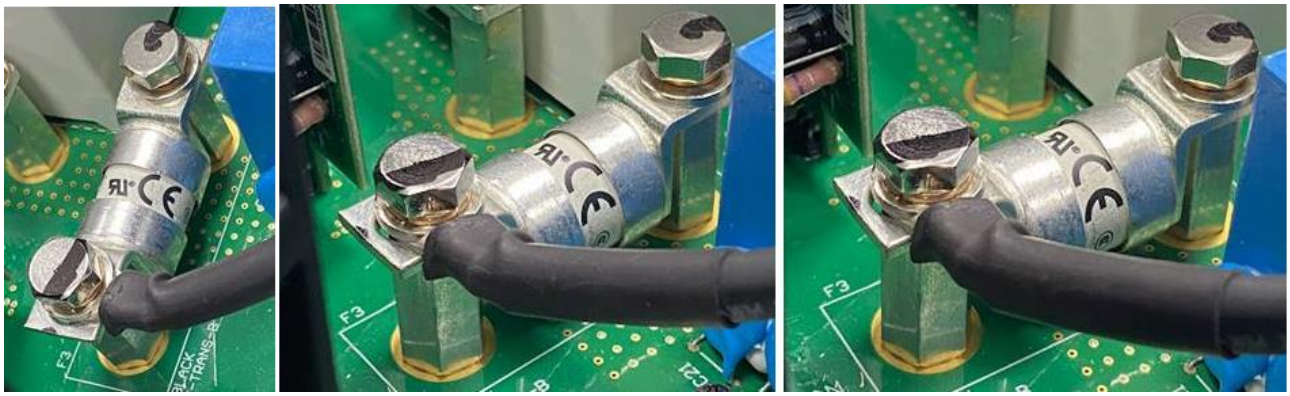
- If the multimeter reads (near to) '0' Ohm; the internal AC fuse is OK.
- If the multimeter reads Open or 'OL'; the internal AC fuse is blown and needs to be replaced.

3. Recognising the rating of the installed fuse

When mounted like in this first picture, the rating can be seen impressed in the metal part on the left:



When mounted up side down and with (brass nickel) coupling nut, like in this next photo, it is 125A – always. And does not need replacing, even when failed. See also next chapter.



4. How to replace the fuse

Required fuses

The required fuse is the 125LET (125A 240V AC BS88), from EATON. This will replace the 80LET (80A) fuse.

If necessary, these fuses can be supplied by Victron Almere.

Safety warning

Make sure the unit is completely disconnected from the AC-input source and DC battery connection before removing the cover and starting the repair.

Only replace 80A fuses, do not repair a blown 125A fuse

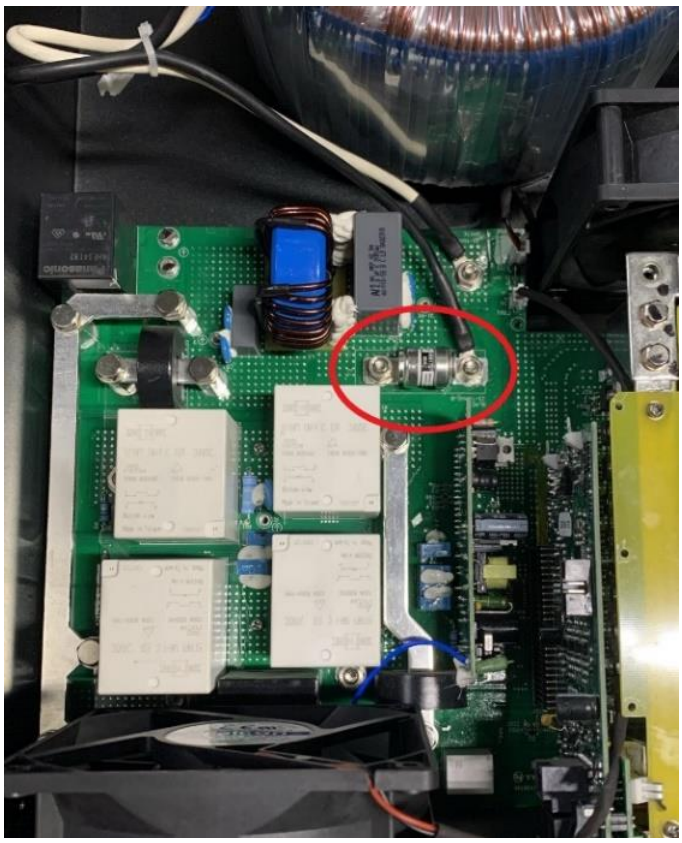
The purpose of this fuse is to protect the unit and rest of the system from further damage in case another component fails; such as for example a short circuit in the transformer.

Therefore, use this document only to repair units of the mentioned batches by replacing the 80A fuse by the 125A fuse. A blown 125A fuse indicates another problem. The fuse is not normally user-, or field- replaceable, on purpose.

Location of the fuse and replacing it

The fuse that needs replacing is F3. Location of the fuse is encircled in red in below photo. Use a 10mm socket with a torque wrench with extension. No soldering is needed. Required torque when fastening the nut is 6 Nm.

Note that the new fuse leaves little space for the nut, it requires a relatively thin socket. See also next chapter.



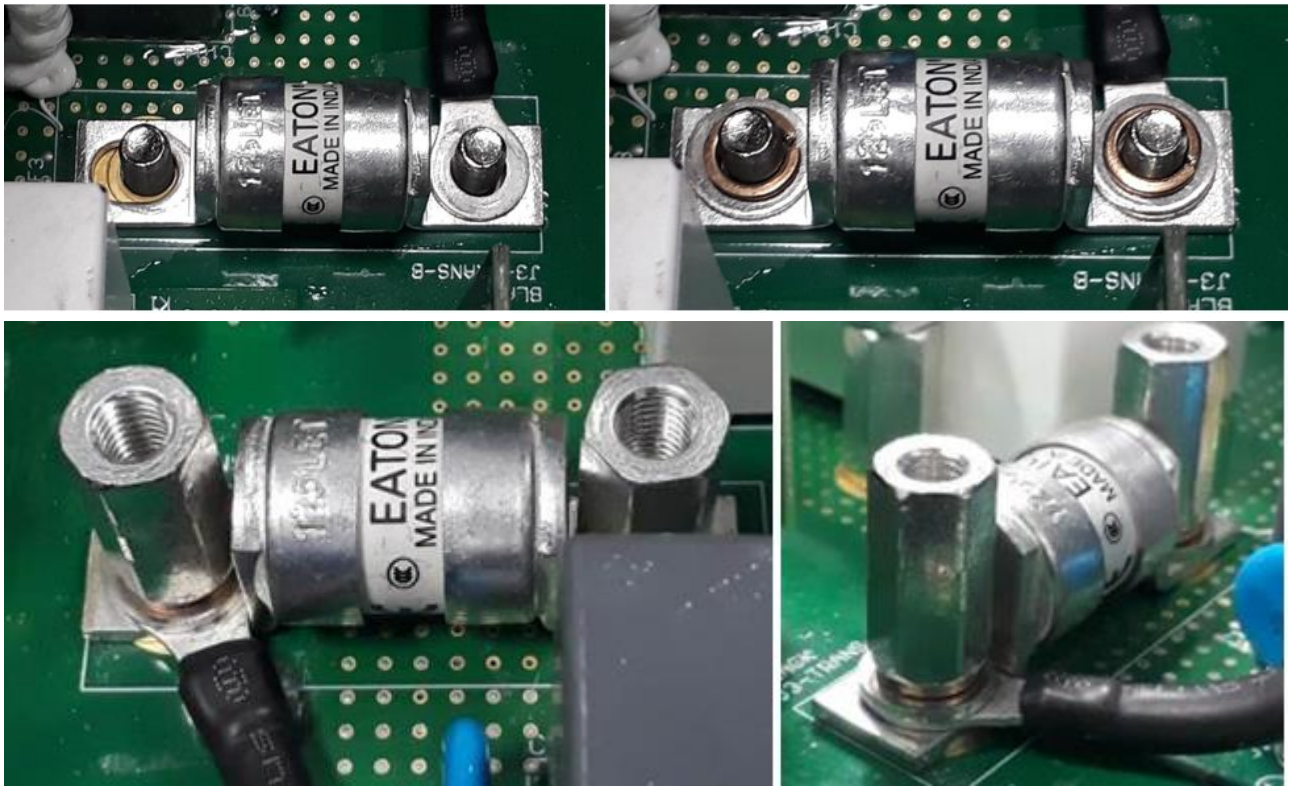
Solution in case the socket doesn't fit on the nut

There is a variance in the 125A fuse body dimension that can lead to the socket not fitting properly on the nut.

When using the 125LET Eaton fuse you probably will observe this obstruction encircled in red in below photo.

To avoid that fitment issue, use a coupling nut M6x20 (BN), washers (BN), bolts (BN) and spring washers (PBZ) as shown in below photo. These can be supplied by Victron Almere along with the fuses.

WARNING: as these coupling nuts are conducting high current, it is important that they are made of the proper material (Brass-Nickel), and that the proper torque is applied 6 Nm



There are two approved fuse PNs of which the brand Vicfuse will not have the fitment constraint due to smaller body size and can be mounted directly on the board with the original nut.

- Brand: Eaton Bussmann; 125LET
- Brand: Vicfuse; VBS1727-125A