

3. Pre-RMA test form - SUN Inverter

1. General

Product, system and fault information	
Date	
Model	
Part number	
Date of installation (if known)	
Date of failure (if known)	
Battery type, brand name and overall capacity (if known)	

2. Initial check

Initial check	
Does the unit have internal water damage or corrosion?	☐ Yes, no warranty. ☐ No.
Are the internals of the unit very dirty, or is there soot, dust or oil present inside the unit?	☐ Yes, no warranty. ☐ No.
Are there foreign objects inside the unit: like screws, animals or insects?	☐ Yes, no warranty. ☐ No.
Does the unit have burn marks on its internal parts, or does it smell burned?	☐ Yes. ☐ No.
Does the unit have mechanical damage to any of its internal parts?	☐ Yes, no warranty. ☐ No.
Does the unit have external mechanical, water or corrosion damage?	☐ Yes, no warranty. ☐ No.
Does the unit have burn marks or melting marks on its housing, or does it smell burned?	☐ Yes. ☐ No.
Does the unit have mechanical or burn damage to its electrical connectors?	☐ Yes, no warranty. ☐ No.

3. First power up

Power the unit up and check	
Remove all wires and cables from the unit. Connect the battery connections to a battery bank. Turn the battery supply on and switch the unit on via its main switch. Is there a DC short-circuit?	☐ Yes, lodge a warranty claim. ☐ No.
Are there any LED(s) on or blinking?	☐ Yes, go to 4. ☐ No.

Power the unit up and check

For Phoenix Inverter VE.Direct and Phoenix Inverter Compact only:

Check the internal fuse and replace the fuse if it is broken. What is the outcome?

- ☐ The fuse is not broken.
- ☐ The replacement fuse blew, lodge a warranty claim.
- ☐ Fuse replaced, there are no LEDs on or blinking.
- ☐ Fuse replaced and LED(s) are on or blinking, go to 4.

Check if the remote link is in place; if not, place the link. Are any LED(s) on or blinking now?

Note: To find the location of the remote link, refer to the product manual.

- ☐ Yes, go to 4.
- ☐ No.

4. Bluetooth**Bluetooth check**

Is the product a "Smart" product, i.e., does it have built-in Bluetooth?

- ☐ Yes.
- ☐ No, go to step 5.

Is Bluetooth active, i.e., do you see the unit listed in the device list of the VictronConnect app?

- ☐ Yes, go to step 5.
- ☐ No.

If Bluetooth is not active, it is unlikely to be a faulty Bluetooth module. More likely, Bluetooth has been turned off in the VictronConnect settings.

To re-activate Bluetooth, consult the product manual.

Is Bluetooth active now?

- ☐ Yes, go to step 5.
- ☐ No.

If Bluetooth is still not active, rule out the following:

- Are there problems with your phone or tablet?
- Are you within Bluetooth range?
- Only one phone or tablet can connect via Bluetooth at a time; is perhaps another phone or tablet already connected?
- Consult the product manual and the [VictronConnect manual](#) to try to resolve the Bluetooth issue.

Is Bluetooth active now?

- ☐ Yes.
- ☐ No, lodge a warranty claim.

5. Firmware and settings**Update the firmware and reset the settings to default**

Connect via an interface (or Bluetooth) to the VictronConnect app and navigate to the unit. Is this possible?

- ☐ Yes.
- ☐ No, not possible; lodge a warranty claim.

Check if the firmware is up to date. If the firmware is not up to date, update the firmware to the most recent version using the VictronConnect app:

- Go to the VictronConnect settings page.
- On the settings page, click on the "3 dots" symbol in the top right-hand corner.
- Select "Product info".
- On the product info page, check and/or update the firmware.

- ☐ Yes, the firmware has been updated.
- ☐ Yes, the firmware was already up to date.
- ☐ No, not possible to update the firmware.

Update the firmware and reset the settings to default	
Save the unit's settings. File the settings under its serial number and keep the file on record for future reference. To save the settings: • Go to the VictronConnect settings page. • On the settings page, click on the "disk" symbol at the top.	☐ Yes, the settings file has been saved. ☐ No, not possible to save the settings.
Reset all settings to default: • Go to the VictronConnect settings page. • On the settings page, click on the "3 dots" symbol in the top right-hand corner of the page and select "Reset to defaults".	☐ Yes, the settings are set to default. ☐ No, not possible to set the settings to default.
Does the VictronConnect app display any error codes? If so, try to resolve the errors by consulting the product manual. Did it get resolved?	☐ No errors, go to 6. ☐ There were errors, but they were resolved. ☐ There were errors, but they were not resolved.
Write down the error number and name.	Error number: Error name:

6. Functionality

Inverter functionality check	
Measure the DC voltage at the DC connection terminals inside the unit. Is this voltage the same as the battery voltage reading in the VictronConnect app?	☐ Yes. ☐ No, lodge warranty claim.
Measure the AC output using a True RMS multimeter. Are you measuring exactly 230Vac or 120Vac depending on the unit's AC voltage rating?	☐ Yes. ☐ No, lodge warranty claim.
Does the measured AC voltage correspond with the AC voltage reading in the VictronConnect app?	☐ Yes. ☐ No, lodge warranty claim.
Load the unit using incandescent light globes, electric heaters or any other type of resistive AC load. Can the unit power a load as high as its power rating without overload or temperature alarm?	☐ Yes. ☐ No, lodge warranty claim.
Is the unit making an unusual noise?	☐ Yes, lodge a warranty claim. ☐ No.

Solar charger functionality check	
Connect the PV input of the unit to an appropriate solar panel array or DC power supply with series resistors as specified in the Testing equipment, test bench and tools [1] chapter. Adjust the DC power supply to 20V for a 12V system, or 40V for a 24V system. Connect the SUN Inverter to a partly discharged battery. Measure the battery voltage. Is the voltage of the battery slowly increasing?	☐ Yes. ☐ No, lodge warranty claim.
Is the battery being charged? Check if the charger is progressing through the "bulk", "absorption", "float", and "storage" charge stages. Is this the case?	☐ Yes. ☐ No, lodge warranty claim.
Measure the charge current with a DC current clamp. Is the charge current the same as indicated in the VictronConnect app (a deviation of up to 1% is allowed)?	☐ Yes. ☐ No, lodge warranty claim.
Force the unit to provide more charge current by using partly empty batteries or switch a large DC load on. Can the unit provide 100% of its rated charge current?	☐ Yes. ☐ No, lodge warranty claim.

7. Remarks

Provide additional fault information or add issues not already covered in earlier questions
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8. RMA lodgement

For your information purposes, provide details after lodging the RMA	
RMA type:	☐ Warranty claim. ☐ Non-warranty repair or replacement request.
RMA lodgement date	
Victron Energy RMA number	
Your reference number	