

# Pre-RMA testing Smart Chargers



## 4. Pre-RMA test form - Smart charger

### 1. General

Product, system and fault information	
Date	
Model Number	
Serial 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 mechanical damage to its housing?	<input type="checkbox"/> Yes, no warranty. <input type="checkbox"/> No.
Does the unit have burn marks or melting marks on its housing, or does it smell burned?	<input type="checkbox"/> Yes. <input type="checkbox"/> No.
Does the unit have mechanical or burn damage to its electrical wires or connectors?	<input type="checkbox"/> Yes, no warranty. <input type="checkbox"/> No.
Have all battery connections and fuse holders been checked and cleaned to ensure continuity?	<input type="checkbox"/> Yes (compulsory)

### 3. First power up

Power the unit up and check	
Connect the unit to an AC power supply. The unit should turn on automatically. Is there an AC short-circuit?	<input type="checkbox"/> Yes, lodge a warranty claim. <input type="checkbox"/> No.
Are any of the LEDs on?	<input type="checkbox"/> Yes. <input type="checkbox"/> No.
For IP22, IP67 and some IP65 chargers only: Remove the fuse, and check it for continuity. The fuse maybe in the battery connection cable. If the fuse is broken, replace the fuse. What is the outcome?	<input type="checkbox"/> The fuse is not broken. <input type="checkbox"/> The fuse was broken, and the fuse has been replaced without issues. <input type="checkbox"/> The fuse was broken, and the replacement fuse blew; lodge a warranty claim.
For IP43 chargers only: Check if the remote link is in place. If the remote link is not in place, place the link. What is the outcome? Note: To find the location of the remote link, refer to the product manual.	<input type="checkbox"/> The link was placed. <input type="checkbox"/> The link was not placed and has now been placed.

**Power the unit up and check**

Measure the voltage on the charger battery terminal(s) or cables. If the charger has multiple charge outputs, measure the voltage on each output. Do you measure at least 12V or 24V on the output(s) (depending on the charger model)?

For IP65 chargers only: First, unplug the DC connector from the accessory cable (the eyelet or clamp terminal cable) and measure the DC voltage on the DC connector closest to the charger. Then plug the connector into the accessory cable and measure the DC voltage on the eyelet or clamp terminals. Do you measure at least 12V or 24V (depending on the charger model)?

- Yes, go to 4.  
 No.

**4. Bluetooth****Bluetooth check - Read in conjunction with IP65/IP67 Charger Bluetooth Connectivity Issues Diagnostics**

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:

- Press and hold the "mode" button for 10 seconds to turn Bluetooth back on.

- Yes, go to step 5.  
 No.

Is Bluetooth active now?

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.

- Yes.  
 No, lodge a warranty claim.

Is Bluetooth active now?

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

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

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

In case the PIN code is unknown, reset the PIN code. For information on how to do this, see the [VictronConnect manual](#).

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	
<p>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:</p> <ul style="list-style-type: none"> <li>• Go to the VictronConnect settings page.</li> <li>• On the settings page, click on the "disk" symbol at the top.</li> </ul>	<input type="checkbox"/> Yes, the settings file has been saved. <input type="checkbox"/> No, not possible to save the settings.
<p>Reset all settings to default:</p> <ul style="list-style-type: none"> <li>• Go to the VictronConnect settings page.</li> <li>• On the settings page, click on the "3 dots" symbol in the top right-hand corner of the page and select "Reset to defaults".</li> </ul>	<input type="checkbox"/> Yes, the settings are set to default. <input type="checkbox"/> No, not possible to set the settings to default.
<p>Does the VictronConnect app display any active error codes? If so, try to resolve the errors by consulting the product manual. Did it get resolved?</p>	<input type="checkbox"/> No errors. <input type="checkbox"/> There were errors, but they were resolved. <input type="checkbox"/> There were errors, but they were not resolved.
<p>If there is an active error, write down the error number(s) and name(s). Use this form's "Remarks" section if more space is needed.</p>	Error number: Error name:
<p>Check the history. Were there any historical errors? If so, write them down. Save a copy of the history file for your reference.</p>	<input type="checkbox"/> Yes, Number(s): <input type="checkbox"/> No.

## 6. Functionality

Charger functionality check	
<p>Set the charger to "normal" mode. To do this: press the "mode" button until the "normal" LED is illuminated. If the charger does not have a "mode" button, do this via the VictronConnect app.</p>	<input type="checkbox"/> The charger has been set to "normal" mode. <input type="checkbox"/> Not possible; the mode button is broken.
<p>Measure the voltage on the charger battery terminal(s). Do you measure at least 12V or 24V (depending on the charger model)?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Compare the measured voltage to the voltage indicated in the VictronConnect app. Are they both the same (a deviation of up to 1% is allowed)?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Connect the charger to a partly discharged battery. Measure the battery voltage. Is the voltage of the battery slowly increasing?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Is the battery being charged? Check if the charger progresses through the bulk, absorption, float, and storage charge stages. Is this the case?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Force the charger to provide more charge current by connecting it to an empty battery or by switching on a large DC load connected to the same battery. Is the unit able to provide its full current rating?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>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)?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p><u>For the IP65 and IP67 chargers only:</u> While the charger is providing the full current, measure the battery voltage. Compare this to the voltage as indicated in the VictronConnect app. Do the voltages deviate less than 3% from each other?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No. This is probably not warrantable as bad cables, or cable connectors can cause it.

## 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:	<input type="checkbox"/> Warranty claim. <input type="checkbox"/> Non-warranty repair or replacement request.
RMA lodgement date	
Victron Energy RMA number	
Your reference number	