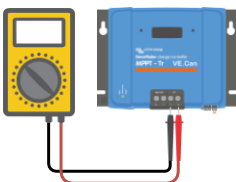


6. Pre-RMA test form - MPPT solar charger

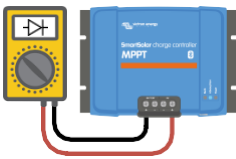
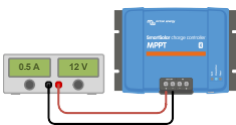
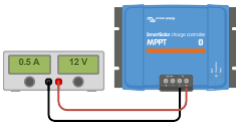
1. General

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

2. PV short relay check

PV short relay check	
<ul style="list-style-type: none"> Check for a short circuit between the two PV connectors, use a multimeter in resistance mode. Is there a short circuit? 	 <div> <input type="checkbox"/> Yes. <input type="checkbox"/> No, go to section 4 </div>

3. FET check and first power up

FET and power up check	
<ul style="list-style-type: none"> Set a Multimeter to diode position. Connect the multimeter positive wire (red) to the PV positive terminal. Connect the multimeter negative (black) wire to the Battery positive terminal. What value does the Multimeter indicate? 	 <div> <input type="checkbox"/> Below 0.3V (reverse FET and high side FET failed in short circuit). Lodge a warranty claim. <input type="checkbox"/> Between 0.3 and 0.8V (high side FET failed in short circuit). Lodge a warranty claim. <input type="checkbox"/> Above 0.8V or OL (=Over Limit). </div>
<ul style="list-style-type: none"> Power the solar charger using a bench power supply set to 12V with a current limit of 0.5A, connected to the battery terminals, or a 12V battery with a 0.5A fuse in the positive supply. Are any LED(s) blinking or on, are all LEDs briefly on and then off again or is the solar charger drawing a small current (40 - 70mA)? 	 <div> <input type="checkbox"/> Yes. <input type="checkbox"/> No, and there was reverse battery polarity; no warranty. <input type="checkbox"/> No, and there was no reverse battery polarity; lodge a warranty claim. </div>
<ul style="list-style-type: none"> Power the solar charger using a bench power supply set to 12V with a current limit of 0.5A, connected to the PV terminals, or use a 12V battery with a 0.5A fuse in the positive supply. Is there a DC short-circuit? 	 <div> <input type="checkbox"/> No. <input type="checkbox"/> Yes, and there was too much open circuit PV voltage or too much PV polarity short circuit current; no warranty. <input type="checkbox"/> Yes, and there was not too much open circuit PV voltage or too much PV polarity short circuit; lodge a warranty claim. </div>
Are any LED(s) on or blinking?	<input type="checkbox"/> Yes, go to section 5. <input type="checkbox"/> No.

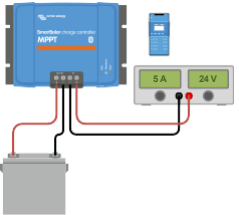
4. Bluetooth

Bluetooth check	
Is Bluetooth active, i.e., do you see the unit listed in the device list of the VictronConnect app?	<input type="checkbox"/> Yes, go to section 6. <input type="checkbox"/> No.

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?	<input type="checkbox"/> Yes. <input type="checkbox"/> No, not possible; lodge a warranty claim.
Navigate to the history tab of the controller, and select the share button, email this page to service@fsi-sales.com for analysis.	<input type="checkbox"/> Done.
<ul style="list-style-type: none">• 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.	<input type="checkbox"/> yes, the firmware has been updated. <input type="checkbox"/> Yes, the firmware was already up to date. <input type="checkbox"/> No, not possible to update the firmware.
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?	<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.
Check the trends tab. Does it contain data?	<input type="checkbox"/> Yes, make a screenshot and submit it with the RMA. <input type="checkbox"/> No.

6. Functionality

Solar charger functionality check	
<p>Prepare the solar charger for the functionality test:</p> <ul style="list-style-type: none"> • Connect the battery terminals to a 12V battery. • Connect the PV terminals to a 24V power supply or 24V battery. • Connect the VictronConnect app with the solar charger. • Go to the settings page and set the "battery voltage" to 12V. 	<input type="checkbox"/> Done.
<p>Measure the voltage on the solar charger PV & battery terminals. Compare this to the solar voltage as indicated in the VictronConnect app.</p> <p>Are they both the same? A small deviation is allowed due to measurement inaccuracies.</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Is the battery being charged? Check if the solar charger is progressing through the bulk, absorption and float charge stages.</p> <p>Is this the case?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>Force the solar 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.</p> <p>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.</p> <p>Is the charge current the same as indicated in the VictronConnect app? A small deviation is allowed due to measurement inaccuracies.</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No, lodge a warranty claim.
<p>While the solar charger is providing the full current, measure the battery voltage.</p> <p>Compare this to the voltage as indicated in the VictronConnect app.</p> <p>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.