Pre-RMA testing
Orion-Tr DC-DC Converters

8. Pre-RMA test form - Orion-Tr DC-DC converter

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?	☐	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		
Connect the input terminals to a current limited 12, 24 or 48V power supply (depending on the model) or a battery with a DC fuse. Is there a DC short circuit? Background information: A DC short circuit nearly always indicates that the DC-DC converter has been connected to reverse battery polarity. Reverse battery polarity is not covered under warranty.	☐	No.
	☐	Yes, and there was reverse battery polarity; no warranty.
	☐	Yes, and there was no reverse battery polarity; lodge a warranty claim.
For DC-DC converters with an external fuse: Remove the fuse and check the fuse for continuity. If the fuse is broken, replace the fuse. What is the outcome? Background information: If the replacement fuse blows, the DC-DC converter has a short circuit; this is nearly always an indication that the DC-DC converter has been connected to reverse battery polarity. Reverse battery polarity is not covered under warranty.	☐	The fuse is not broken.
	☐	The replacement fuse blew, and there was reverse battery polarity; no warranty.
	☐	The replacement fuse blew, and there was no reverse polarity; lodge a warranty claim.
	☐	The fuse was broken and has been replaced.
For models with a remote link only: Check if the remote link is in place; if not, place the link. Note: To find the location of the remote link, refer to the product manual.	☐	The link was placed.
	☐	The link was not placed and has now been placed.

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4. Bluetooth

Bluetooth check	
Is the product a "Smart" product, i.e., does it have built-in Bluetooth?	☐ Yes. ☐ No, go to step 6.
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. 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? In case the PIN code is unknown, reset the PIN code. For information on how to do this, see the VictronConnect manual.	☐ 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.
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.

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Update the firmware and reset 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

DC-DC converter functional check		
Measure the voltage on the output terminals. Do you measure a voltage higher than 10, 20 or 40V (depending on the model)?	☐	Yes.
	☐	No, lodge a warranty claim.
For models with a voltage adjustment screw only: Measure the voltage on the output terminals. Turn the screw. Is the output voltage decreasing when turning to the left and is it increasing when turning to the right?	☐	Yes.
	☐	No, lodge a warranty claim.
For Smart models only: Measure the voltage on the input terminals. Compare this to the input voltage as indicated in the VictronConnect app. Are they both the same (a deviation of up to 1% is allowed)?	☐	Yes.
	☐	No, lodge a warranty claim.
For Smart models only: Measure the voltage on the output terminals. Compare this to the output voltage as indicated in the VictronConnect app. Are they both the same (a deviation of up to 1% is allowed)?	☐	Yes.
	☐	No, lodge a warranty claim.
Connect a DC load to the output of the DC-DC converter. Can the DC-DC converter deliver its maximum rated power to the DC load?	☐	Yes.
	☐	No, lodge a warranty claim.
Connect a battery to the output terminals. Does the DC-DC converter charge the battery? Background information: For battery charging to take place, the battery voltage of the battery needs to be lower than the output voltage of the DC-DC converter. The battery is being charged if current flows from the DC-DC converter to the battery. This can be checked by using a DC current clamp.	☐	Yes.
	☐	No, lodge a warranty claim.

7. Remarks

Provide additional fault information or add issues not already covered in earlier questions

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		

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For your information purposes, provide details after lodging the RMA	
Victron Energy RMA number	
Your reference number	

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