

Trouble Shooting for residential hybrid inverters

Error message	Fault cause	Solutions
Grid Phase Lock Failure	Abnormal frequency or voltage of the grid	<ol style="list-style-type: none"> Shut down and turn on when the power grid is normal. If step 1 does not help, please contact Sermatec Service team.
AC Output Short Circuit Error	AC backup or AC Grid port have short circuit issue	<ol style="list-style-type: none"> Shut down inverter and check the circuit, restart after correction. If step 1 does not help, please contact Sermatec Service team.
Output Current Leakage Error	Abnormal electrical connection	<ol style="list-style-type: none"> Shut down inverter and check the AC output circuit, ensure PE is grounded well, restart after correction. If step 1 does not help, please contact Sermatec Service team.
	The leakage current of the load exceeds the standard.	Make sure the leakage current of load meets the standard (less than 230mA).
AC Output Overload Warning	The output power exceeds the upper limit of output power.	<ol style="list-style-type: none"> Please check backup load power to see if it is overloaded; <ol style="list-style-type: none"> For 10K inverter, none-inductive load cannot be more than 10kW (each phase is not more than 3.3kW). The inductive load cannot be more than 3.3kW (each phase is not more than 1.1kW). For 5K inverter, none-inductive load cannot be more than 5kW, the inductive load cannot be more than 1.7kW.
Inverter Soft Start Up Failure	Inverter AC Voltage lower than local grid code voltage range	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
Grid Frequency Low Warning	The frequency of the grid is lower than the lower limit	<ol style="list-style-type: none"> Check grid frequency, and restart the inverter after the grid frequency recover to normal range. If step 1 does not help, please contact Sermatec Service team.
Grid Frequency High Warning	The frequency of the grid is higher than the upper limit	<ol style="list-style-type: none"> Check grid frequency, and restart the inverter after the grid frequency recover to normal range. If step 1 does not help, please contact Sermatec Service team.
Grid Voltage Low Warning	The voltage of the grid is lower than the lower limit	<ol style="list-style-type: none"> Check grid voltage, and restart the inverter after the grid voltage recover to normal range. If step 1 does not help, please contact Sermatec Service team.
Grid Voltage High Warning	The voltage of the grid is higher than the upper limit	<ol style="list-style-type: none"> Check grid voltage, and restart the inverter after the grid voltage recover to normal range. If step 1 does not help, please contact Sermatec Service team.
PV2 Undervoltage Warning	PV2 no voltage	Make sure the PV2 connection is normal, and the switch is closed.
	The voltage of PV2 is lower than the lower limit	<ol style="list-style-type: none"> Check PV2 configuration, increase PV2 open-circuit voltage. If step 1 does not help, please contact Sermatec Service team.
PV2 Overvoltage Warning	The voltage of PV2 is higher than the upper limit	<ol style="list-style-type: none"> Check PV2 configuration, reduce PV open-circuit voltage. If step 1 does not help, please contact Sermatec Service team.
PV1 Undervoltage Warning	PV1 no voltage	Make sure the PV1 connection is normal and the switch is closed.
	The voltage of PV1 is lower than the lower limit	<ol style="list-style-type: none"> Check PV1 configuration, increase PV2 open-circuit voltage. If step 1 does not help, please contact Sermatec Service team.
PV1 Overvoltage Warning	The voltage of PV2 is higher than the upper limit	<ol style="list-style-type: none"> Check PV1 configuration, reduce PV1 open-circuit voltage. If step 1 does not help, please contact Sermatec Service team.
Reverse PV2 Warning	PV2 positive and negative poles reversed connected	<ol style="list-style-type: none"> Check cable connection, resume to work when going back to normal. If step 1 does not help, please contact Sermatec Service team.
Reverse PV1 Warning	PV1 positive and negative poles reversed	<ol style="list-style-type: none"> Check cable connection, resume to work when going back to normal. If step 1 does not help, please contact Sermatec Service team.

Trouble Shooting for residential hybrid inverters

	connected	
Bus Software Start Up Failure	Inverter Damage	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
Bus Hardware Start Up Failure	Inverter Damage	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
DC Bus Capacitor Undervoltage Warning	Inverter Damage	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
DC Bus Capacitor Overvoltage Warning	Inverter Damage	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
DC Bus Voltage Imbalance Warning	The load is a half-wave load.	<ol style="list-style-type: none"> Occasional failures can automatically recover. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
	Inverter Damage	
Battery SOC Lower Than The Lower Limit Error	Low Battery SOC	<ol style="list-style-type: none"> Short time failure is normal, waiting for PV or grid to charge; It is recommended to turn off the inverter when there is no PV or power grid for a long time. Turn on when PV or grid is normal. increase the discharge SOC lower limit setting in Sermatec Mate APP. If above steps cannot help please contact the Sermatec service team.
Battery Charge/Discharge Overcurrent Warning	Battery current is lower than the requirement.	<ol style="list-style-type: none"> Occasional failures can automatically recover. Reduce the load. Change the battery. Reduce the charge or discharge current in Sermatec Mate APP. If above steps cannot help please contact the Sermatec service team.
	BMS send wrong fault	<ol style="list-style-type: none"> Shutdown Battery system and power on again. Change the battery. Get help from battery supplier.
AC Grid and AC Back-up Load Cables Connected Inversely Error	Connector Installation Errors on AC Grid Side and Back-up Load Side	<ol style="list-style-type: none"> Connect the cables to the correct terminal. Otherwise, there will be severe consequences. (For 5K, the error will persist until you correct the cables; for 10K it will popup this error before powering on and will not allow you to power on inverter before you correct the cables, but if the 10K is running without grid and now connecting to grid the 10K will be damaged.) If step 1 does not help, please contact the Sermatec service team.
Battery Overvoltage Warning	Battery voltage is higher than the upper limit	<ol style="list-style-type: none"> Check battery voltage, reduce battery voltage or change battery; If step 1 does not help, please contact the Sermatec service team.
Battery Undervoltage Warning (EOD)	Battery voltage is lower than the lower limit	<ol style="list-style-type: none"> Check battery voltage, increase battery voltage or change battery. If step 1 does not help, please contact the Sermatec service team.
	Battery discharged too much	<ol style="list-style-type: none"> Change work mode to "energy storage" mode to charge the battery SOC to normal range. If step 1 does not help, please contact the Sermatec service team.
PV+ Insulation Impedance Fault	Insulation impedance is less than the limit value	<ol style="list-style-type: none"> Make sure the insulation impedance of the PV module is greater than 34kΩ. If step 1 is done but error still, please contact the Sermatec service team.

Trouble Shooting for residential hybrid inverters

PV- Insulation Impedance Fault	Insulation impedance is less than the limit value	1. Make sure the insulation impedance of the PV module is greater than 34kΩ. If step 1 is done but error still, please contact the Sermatec service team.
PV Bus Software Start Up Failure	Inverter Damage	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
	PV Power is not enough	Increase PV power to effective value.
PV Bus Hardware Start Up Failure	Inverter Damage	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
Relay Check Failure	Internal relay cannot close or open normally	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on when the power grid is normal. If it still cannot self-recover, please contact the Sermatec service team.
IGBTA/B/C Temperature Sensor Fault	The actual ambient temperature is too low	No operation is required. When the temperature rises, it will recover by itself.
	Temperature sensor failure	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
IGBTA/B/C Temperature Too High Fault	There are something around affecting heat dissipation.	Check if there are anything around that affects heat dissipation, if yes, remove the obstacle.
	There are heat sources around, causing the ambient temperature to be too high.	Keep away from heat sources and reduce the ambient temperature. If the inverter cannot automatically recover after the temperature goes down, shut down, and turn on, if it still cannot self-recover, please contact the Sermatec service team.
	Temperature sensor failure	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
APP Cannot Read The Information about Battery	Setting Page Battery Protocol selection error	Choose the right battery protocol in APP
	Communication fault between battery and inverter	1. Check the battery brand&series is on our approved battery list. 2. Check if you chose the correct battery protocol on the Sermatec Mate App. 3. Check battery voltage by using a multimeter, ensure it is in correct range. 4. BMS cable must be correctly plugged and the wires should be ok, can measure by multimeter. 5. If everything above is normal but still issue, please contact the Sermatec service team.
The Mobile Phone Cannot Connect to Inverter WiFi	The connection between the mobile phone and Wi-Fi failed.	1. Check the WIFI password is correct. 2. shut down and restart inverter.
	The WIFI signal is too weak.	Check the if WIFI antenna is installed correctly.
	The mobile phone is too far from the inverter	1. Move close to the inverter to connect to the inverter WiFi. 2. If step 1 does not help, please contact the Sermatec service team.
Grid Phase Sequence Error	The grid phase sequence is wrong	1. Check and correct the grid phase sequence. 2. If everything above is normal but still issue, please contact the Sermatec service team.
Battery Side Bus Software Start Up Failure	Problem in inverter hardware	1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.

Trouble Shooting for residential hybrid inverters

Battery Side Bus Hardware Start Up Failure	Problem in inverter hardware	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
Bus Level 1 Undervoltage Warning	Inverter Damage	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
Bus Level 1 Overvoltage Warning	PV overvoltage	Decrease number of PV modules, or decrease PV open-circuit voltage
	Oscillated	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
	Inverter hardware error	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
PV Power Supply Weak Warning	Off-grid error, PV power is not enough for load	Increase PV power.
Meter Warning	Meter is not connected effectively	<ol style="list-style-type: none"> 1. Check if you installed the correct model of meter (Acrel or Eastron). 2. Check the wiring of the meter. 3. Enable "Meter Detection Function" to check if the meter is connected correctly; 4. If above steps cannot solve, please contact the Sermatec service team.
Parallel Address Overlimit Warning	Maximum 4 inverters (10K) in parallel	Make sure that the number of 10K inverters connected in parallel are less than 4.
Parallel Cable Fault	Communication cable between 10K is not connected effectively	<ol style="list-style-type: none"> 1. Check if the connection is effective. 2. If the connection is correct, but the error still exists, please contact the Sermatec service team.
Level 2 Bus Software Start Up Failure	Inverter hardware error	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
Meter Communication Failure	Meter cannot communicate with inverter	<ol style="list-style-type: none"> 1. Check if you installed the correct brand of the meter, only Acrel and Eastron special series are supported. 2. Check if the communication cable is connected effectively. 3. Use a multimeter to check if the socket pins in the communication cable are effective. 4. If everything above is correct, please contact the service.
Charging/discharging issue	Do not charge or discharge according to normal logic	<ol style="list-style-type: none"> 1. Check Working Mode, check PV power, load power. If everything is normal,; 2. Check if there is any alarm that charge/discharge voltage/current already reach the limit; 3. Check if the SOC already reach the limit; 4. If all above is normal but still problem, please contact the Sermatec service team.
Inverter cannot power on	PV, battery and grid voltage should be in normal working voltage, one of the three could power on inverter if it is above the minimum voltage.	<ol style="list-style-type: none"> 1. Ensure the PV, battery, grid voltage is in normal voltage range according to specifications, ensure PV switch is on, PV polarity is correct if only with PV connected. 2. If all above is normal but still problem, please contact the Sermatec service team.
	Inverter Damage	<ol style="list-style-type: none"> 1. Occasional failures can automatically recover. 2. The inverter cannot automatically recover, shut down, and turn on. If it still cannot self-recover, please contact the Sermatec service team.
SOC value abnormal	Battery SOC changes a lot suddenly (especially for lead acid battery of 5K inverter)	<ol style="list-style-type: none"> 1. Please change work mode to 'energy storage' mode, to charge the battery to full SOC and then check again. 2. If everything above is normal but still issue, please contact the Sermatec service team.

Trouble Shooting for residential hybrid inverters

<p>BMS Communication failure</p>	<p>Battery has no data displayed in Sermatec Mate APP.</p>	<ol style="list-style-type: none"> 1. Check the battery type is on our approved battery list. 2. Check if you chose the correct battery protocol on the Sermatec Mate App. 3. Check battery output voltage by using a multimeter, ensure it is in correct range. 4. BMS cable must be correctly plugged and the wires should be ok, can measure by multimeter. 5. If everything above is normal, please contact the Sermatec service team.
<p>Anti-backflow issue</p>	<p>Do not feed electricity to the grid when anti-backflow is Prohibited.</p>	<ol style="list-style-type: none"> 1. Check Working Mode, check PV power, check load power, check if the meter is installed effectively, check warnings for meter. 2. If everything above is normal, please contact the service.
	<p>Feed electricity to the grid when anti-backflow is Enabled.</p>	<ol style="list-style-type: none"> 1. Check if the meter is installed effectively, check warnings for meter. 2. If everything above is normal, please contact the service.
<p>Inverter could power on but no WIFI hotspot</p>	<p>SolarWIFIXXXXXX cannot be found in cellphone</p>	<ol style="list-style-type: none"> 1. Power off the inverter, wait for 10 minutes then power on again to try; 2. If step 1 does not help, please dip the dip switch to reset the inverter, method please consult Sermatec service team; 3. If step 2 does not help, please contact service team for more solutions.