

8.2 Inverter Troubleshooting

When the inverter has an exception, its basic common warning and exception handling methods are shown below.

Code	Alarm Information	Suggestions
A0	Grid over voltage	1. If the alarm occurs occasionally, possibly the power grid voltage is abnormal for a short time, and no action is required. 2. If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters settings on the inverter through the App. 3. If the alarm persists for along time, check whether the AC circuit breaker /AC terminals is disconnected or not, or if the grid has a power outage.
A1	Grid under voltage	
A3	Grid over frequency	
A4	Grid under frequency	
A2	Grid absent	Wait till power is restored.
B0	PV over voltage	Check whether the maximum voltage of a single string of input PV modules is greater than the allowable voltage. If the maximum voltage is higher than the standard voltage, modify the number of pv module connection strings.
B1	PV insulation abnormal	1. Check the insulation resistance against the ground for the PV strings. If a short circuit has occurred, rectify the fault. 2. If the insulation resistance against the ground is less than the default value in a rainy environment, set insulation resistance protection on the App.
B2	Leakage current abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered to the normal operating status after the fault is rectified. 2. If the alarm occurs repeatedly, contact your dealer for technical support.
B4	PV under voltage	1. If the alarm occurs occasionally, possibly the external circuits are abnormal accidentally. The inverter automatically recovers to the normal operating status after the fault is rectified. 2. If the alarm occurs repeatedly or last a long time, check whether the insulation resistance against the ground of PV strings is too low.
C0	Internal power supply abnormal	1. If the alarm occurs occasionally, the inverter can be automatically restored, no action required. 2. If the alarm occurs repeatedly, pls. contact the customer service center.

C2	Inverter over dc-bias current	<p>1. If the alarm occurs occasionally, possibly the power grid voltage is abnormal for a short time, and no action is required.</p> <p>2. If the alarm occurs repeatedly, and the inverter fails to generate power, contact the customer service center.</p>
C3	Inverter relay abnormal	<p>1. If the alarm occurs occasionally, possibly the power grid voltage is abnormal for a short time, and no action is required.</p> <p>2. If the alarm occurs repeatedly, pls. refer to the suggestions or measures of Grid over voltage. and the inverter fails to generate power, contact the customer service center. If there is no abnormality on the grid side, the machine fault can be determined. (If you open the cover and find traces of damage to the relay, it can be concluded that the machine is faulty.) And pls. contact the customer service center.</p>
CN	Remote off	<p>1. Local manual shutdown is performed in APP.</p> <p>2. The monitor executed the remote shutdown instruction.</p> <p>3. Remove the communication module and confirm whether the alarm disappears. If it does, replace the communication module. Otherwise, please contact the customer service center.</p>
C5	Inverter over temperature	<p>1. If the alarm occurs occasionally, the inverter can be automatically restored, no action required.</p> <p>2. If the alarm occurs repeatedly, pls. check the installation site for direct sunlight, good ventilation, and high ambient temperature (Such as installed on the parapet). If the ambient temperature is lower than 45 ° C and the heat dissipation is good, contact the customer service center.</p>
C6	GFCI abnormal	<p>1. If the alarm occurs occasionally, it could have been an occasional exception to the external wiring, the inverter can be automatically recovered, no action required.</p> <p>2. If it occurs repeatedly or cannot be recovered for a long time, pls. contact customer service to report repair.</p>
B7	PV string reverse	Check and modify the positive and negative polarity of the input of the circuit string.
C8	Fan abnormal	<p>1. If the alarm occurs occasionally, pls. restart the inverter.</p> <p>2. If it occurs repeatedly or cannot be recovered for a long time, check whether the external fan is blocked by foreign objects. Otherwise, contact customer service.</p>
C9	Unbalance Dc-link voltage	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required.
CA	Dc-link over voltage	2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.

CB	Internal communication error	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CC	Software incompatibility	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CD	Internal storage error	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CE	Data inconsistency	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CF	Inverter abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CG	Boost abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
CJ	Meter lost	1. Check the meter parameter Settings 2. Local APP checks that the communication address of the inverter is consistent with that of the electricity meter 3. The communication line is connected incorrectly or in bad contact 4. electricity meter failure. 5. Exclude the above, if the alarm continues to occur, please contact the customer service center.
P1	Parallel ID warning	It is Parallel ID Alarm. Pls. check the parallel communication cable, and check whether any inverter joins or exits online. All inverters are powered off completely, check the line, and then power on the inverters again to ensure that the alarm is cleared.
P2	Parallel SYN signal warning	Parallel synchronization signal is abnormal. Check whether the parallel communication cable is properly connected.
P3	Parallel BAT abnormal	The parallel battery is abnormal. Whether the battery of the inverter is reported low voltage or the battery is not connected.
P4	Parallel GRID abnormal	The parallel grid is abnormal. Whether the grid of the inverter is abnormal.

D2	Battery over voltage	<p>1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required.</p> <p>2. Check that the battery overvoltage protection value is improperly set.</p> <p>3. The battery is abnormal.</p> <p>4. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>
D3	Battery under voltage	<p>1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required.</p> <p>2. Check the communication line connection between BMS and inverter (lithium battery).</p> <p>3. The battery is empty or the battery voltage is lower than the SOC cut-off voltage.</p> <p>4. The battery undervoltage protection value is improperly set.</p> <p>5. The battery is abnormal.</p> <p>6. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>
D4	Battery discharger over current	<p>1. Check whether the battery parameters are correctly set.</p> <p>2. Battery undervoltage.</p> <p>3. Check whether a separate battery is loaded and the discharge current exceeds the battery specifications.</p> <p>4. The battery is abnormal.</p> <p>5. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>
D5	Battery over temperature	<p>1. If the alarm occurs repeatedly, please check whether the installation site is in direct sunlight and whether the ambient temperature is too high (such as in a closed room).</p> <p>2. If the battery is abnormal, replace it with a new one.</p> <p>3. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>
D6	Battery under temperature	
D7	BACKUP output voltage abnormal	<p>1. Check whether the BACKUP voltage and frequency Settings are within the specified range.</p> <p>2. Check whether the BACKUP port is overloaded.</p> <p>3. When not connected to the power grid, check whether BACKUP output is normal.</p> <p>4. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>
D8	Communication error (Inverter-BMS)	<p>1. Check whether the battery is disconnected.</p> <p>2. Check whether the battery is well connected with the inverter.</p> <p>3. Confirm that the battery is compatible with the inverter. It is recommended to use CAN communication.</p> <p>4. Check whether the communication cable or port between the battery and the inverter is faulty.</p> <p>5. If exclude the above, the alarm continues to occur, please contact the customer service center.</p>

D9	Internal communication loss(E-M)	1. Check whether the communication cables between BACKUP, electricity meter and inverter are well connected and whether the wiring is correct 2. Check whether the communication distance is within the specification range
DA	Internal communication loss(M-D)	3. Disconnect the external communication and restart the electricity meter and inverter. 4. If exclude the above, the alarm continues to occur, please contact the customer service center.
CU	Dcdc abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, please check: 1) Check whether the MC4 terminal on the PV side is securely connected. 2) Check whether the voltage at the PV side is open circuit, ground to ground, etc. If exclude the above, the alarm continues to occur, please contact the customer service center.
CP	BACKUP over dc-bias voltage	1. If the alarm occurs occasionally, the inverter can be automatically recovered and no action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Pls. contact the customer service center.
DB	BACKUP short circuit	1. Check whether the live line and null line of BACKUP output are short-circuited. 2. If it is confirmed that the output is not short-circuited or an alarm, please contact customer service to report for repair. (After the troubleshooting of alarm problems, BACKUP switch needs to be manually turned on during normal use.)
DC	BACKUP over load	1. Disconnect the BACKUP load and check whether the alarm is cleared. 2. If the load is disconnected and the alarm is generated, please contact the customer service. (After the alarm is cleared, the BACKUP switch needs to be manually turned on for normal use.)