CX series-FAQ

Fault codes and troubleshooting steps

Applicable to: SG30-50CX, SG25-50CX-P2, SG100_110CX, SG110_125CX-P2

DC Injection Exceeded (Code 011)

Fault Name	DC injection exceeded (fault Code: 011)
Fault Type	Failure shutdown
Fault Condition	The DC component of any phase exceeds the set DC component protection value.
Troubleshooting steps and methods	1. If this fault occurs in batches in an array, it is caused by the DC-grid. 2. If a single inverter fails, download the DSP auxiliary record of the inverter to analyse the DC component sampling value. If the value is significantly abnormal, the sampling circuit on the control board may be faulty. It is recommended to replace the control board. 3. If the fault still exists after the control board is replace, replace the power board.(IGBT-board) Then replace the inverter.

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Excessive Leakage Current (Code 012)

Fault Name	Excessive leakage current (fault Code: 012)
Fault Type	Failure shutdown
Fault Condition	Instant mutation 30 mA, Instantaneous mutation 60 mA Instantaneous mutation 150 mA, Continuos leakage current 1100 mA
Troubleshooting steps and methods	1. Check whether it is humid or rainy at the PV modules. If there is a poor irradiance in the morning and evening, there is no need to clear the fault. 2. Please use multimeter and insulation resistance meter to check whether there is abnormal insulation on AC and DC sides. 3. If the leakage current of TN system exceeds the standard in batches, download the fault recorder and log and send them to the service & technology department for analysis and confirmation.
Remark	Leakage current monitoring refers to the fact that the common mode inductance and the differential mode inductance on the AC side of the inverter cause common mode voltage and differential mode voltage to the ground, and the common mode voltage excitation generates leakage current. The ground capacitor in the circuit determines the amount of the leakage current.

Grid Abnormal (Code 013)

Fault Name	Grid abnormal (fault code: 013)
Fault Type	Failure shutdown
Fault Condition	The detected voltage and frequency of the grid before the inverter is connected to the grid are not within the set range.
Troubleshooting steps and methods	1. Check whether the country is selected correctly (grid frequency is divided into 50Hz and 60Hz). 2. Check whether the detection value of the grid voltage and frequency before grid connection are correctly set. 3. Check whether the AC cables are firmly connected, including the cables in the AC-cabinet. 4. Measure the three-phase AC voltage at the AC output. If the test voltage is normal and the displayed voltage is wrong, it is a sampling problem. It is recommended to replace the inverter.

10 Minutes Grid Overvoltage (Code 014)

Fault Name	10 minutes grid overvoltage (fault code: 014)
Fault Type	Failure shutdown
Fault Condition	10 minutes grid overvoltage protection is enabled and the grid voltage is higher than the set protection value.
Troubleshooting steps and methods	1. Confirm whether the protection value in the 10-minute overvoltage protection interface is set correctly. 2. If it is not required to be enabled by the local standard, this function can be disabled. 3. Contact your local grid operator to find out why the voltage is above set value.

Grid Voltage Imbalance (Code 017)

Fault Name	Grid voltage imbalance (fault code: 017)
Fault Type	Failure shutdown
Fault Condition	The difference between the voltage of any phase and the average value of the three-phase voltage is greater than 15-20 V.
Troubleshooting steps and methods	Use a multimeter to test the three-phase voltage. If the voltage is normal, the grid voltage sampling may fail. In this case, it is recommended to exchange the inverter.

DC Bus Voltage Too High (Code 019/020)

Fault Name	DC bus voltage too high (fault code: 019/020)
Fault Type	Failure shutdown
Fault Condition	1. Fault code 019: The instantaneous value of bus voltage exceeds 1080 V or the instantaneous value of half bus voltage exceeds 580V, exceeding the protection value for more than 0.3 ms. 2. Fault code 020: The average bus voltage exceeds 1050 V or the average half bus voltage 580 V, exceeding the protection value. 20 ms average
Troubleshooting steps and methods	1. Check whether the active power is limited and the pv-input modules is overmatched. 2. Check DC-input-voltage string by string. 3. If the measured and shown-by-inverter voltage differ, it is recommended to exchange the inverter.

For further information, please download the user manual for:
SG30-50CX
SG110CX

This manual is intended for professional technicians who are responsible for installation, operation, maintenance and troubleshooting of inverters, and users who need to check inverter parameters. The inverter must only be installed by professional technicians.
The professional technician is required to meet the following requirements:

- Know electronic, electrical wiring and mechanical expertise, and be familiar with electrical and mechanical schematics.
- Have received professional training related to the installation, commissioning and troubleshooting of electrical equipment.
- Be able to quickly respond to hazards or emergencies that occur during installation, commissioning and troubleshooting.
- Be familiar with local standards and relevant safety regulations of electrical systems.
- Read this manual thoroughly and understand the safety instructions related to operations.

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