1-phase Hybrids-FAQ

Fault code and troubleshooting steps of SHxxRS

Applicable to: SHxxRS series

Excessive DC component (Code 011)

Fault name	Excessive DC component (fault code: 011)
Fault type	Failure shutdown
Fault condition	The DC component of any phase exceeds the set DC component protection value.
Steps and method of troubleshooting	1. If various faults of excessive DC component occur in the same matrix, the grid is faulty. 2. Check whether the connections of the control panel and power board are secure. 3. If the connection is normal, it is likely that the sampling circuit on the power board is abnormal. It is recommended to replace the inverter.

Excessive leakage current (Code 012)

Fault name	Excessive leakage current (fault code: 012)
Fault type	Failure shutdown
Fault condition	The instantaneous change is 30mA and lasts for 120ms; The instantaneous change is 60mA and lasts for 60ms; The instantaneous change is 150mA and lasts for 20ms; The instantaneous change is 300mA and lasts for 600ms
Steps and method of troubleshooting	1. Check whether the PV panel is in rainy and humid weather or in an environment of insufficient sunlight in the morning and at night. If the weather is rainy and humid, the fault can be ignored. 2. Please use a multimeter and an insulation resistance meter to check whether the insulation is abnormal on AC and DC sides.
Remarks	Leakage current monitoring means that the common-mode capacitance and inductance and differential-mode capacitance and inductance on the AC side of inverter induce common-mode voltage and differential-mode voltage to the ground. The common-mode voltage excitation generates leakage current, and the capacitance to the ground in the circuit determines the leakage current

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Grid abnormal (Code 013)

Fault name	Grid abnormal (fault code: 013)
Fault type	Failure shutdown
Fault condition	Before the inverter is connected to the grid, the measured voltage and frequency values of the grid are not within the set ranges.
Steps and method of troubleshooting	1. Check whether the AC wiring is secure, including the AC distribution cabinet wiring. 2. Check whether the country selection is correct (the grid frequency is 50Hz or 60Hz). 3. Check whether the set voltage and frequency of the detection function are correct before grid connection. 4. Measure the AC voltage of the AC output and compare the measured value with the displayed voltage. If the measured voltage is abnormal, please check whether the parameter is set within the detection range before grid connection; If the measured voltage is normal and the displayed voltage is wrong, it can be inferred that the sampling is abnormal. It is recommended to replace the inverter.

10-minute grid overvoltage (Code 014)

Fault name	10-minute overvoltage of the grid (fault code: 014)
Fault type	Failure shutdown
Fault condition	The 10-minutes overvoltage protection function is enabled, and the grid voltage is higher than the set value of overvoltage protection
Steps and method of troubleshooting	1. Check whether the set value of 10-minute overvoltage protection is correct. 2. If the local standard does not require the 10-minute overvoltage protection function to be enabled, disable the function.

DC-busbar overvoltage (Code 019/020)

Fault name	Overvoltage of DC busbar (fault code: 019/020)
Fault type	Failure shutdown
Fault condition	1. Fault code 019: The instantaneous value of bus voltage exceeds 600V for 0.3ms. 2. Fault code 020: The average bus voltage exceeds 600V or the average half bus voltage exceeds the 300V protection value for 100ms. 3. Troubleshooting: Fault code 019: The bus voltage is higher than 590V for 0.3ms; Fault code 020: The bus voltage is higher than 590V for 10s
Steps and method of troubleshooting	1. Check whether the active power is limited and the connected components are over the power limit. 2. If the equipment has obvious failure, please replace the inverter.

For further information, please download the user manual here.

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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