

SmartGuard

Alarm Reference

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About This Document

Purpose

This document describes how to handle all alarms of the following products:

- SmartGuard-63A-S0
- SmartGuard-63A-AUS0





Intended Audience


The document is intended for:

- Technical support engineers
- Commissioning engineers
- Maintenance engineers

Symbol Conventions

The symbols that may be found in this manual are defined as follows.

Symbol	Description
	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.

Symbol	Description
 NOTE	Supplements the important information in the main text. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

Issue 01 (2023-09-14)

This issue is the first official release.

Moved the **Common alarms and troubleshooting measures** in the user manual of the following product to this document:

- SmartGuard-63A-S0
- SmartGuard-63A-AUS0

Contents

About This Document..... ii

1 Description of Alarm Reference Items..... 1

2 Alarms..... 2

2.1 4201 Incorrect Wiring..... 2

2.2 On-/Off-Grid Switching Signal Abnormal.....3

2.3 4203 Incorrect Connection of Live and Neutral Wires..... 3

2.4 4204 Device Fault.....4

2.5 4205 Update Failure or Version Mismatch.....6

2.6 4206 Overtemperature.....6

2.7 4207 Abnormal Grounding..... 7

2.8 4208 Grid Overvoltage..... 8

2.9 4209 Bypass Switch Turned On..... 8

2.10 4211 BackupBox Overload.....9

2.11 4212 Communication Failure.....9

2.12 2082 Grid-tied/Off-grid Controller Abnormal..... 10

1 Description of Alarm Reference Items

Item	Description
Alarm ID	Indicates the ID of an alarm. Unique identifier of an alarm in one product.
Alarm Name	Indicates the name of an alarm. In the same product, alarm names and alarm IDs correspond to each other, which clearly and accurately reflect the meaning of alarms.
Alarm Severity	Alarm severities are defined as follows: <ul style="list-style-type: none">• Major: The SmartGuard shuts down or some of its functions are abnormal due to a fault.• Minor: Some components of the SmartGuard are faulty but the system can still operate.• Warning: The SmartGuard functions normally, but its output power decreases due to external factors.
Introduced Since	Indicates the software version where the alarm is generated.
Possible Cause	Indicates the possible cause of the alarm, including the cause ID and cause description.
Suggestion	Indicates the procedure for handling the alarm.

2 Alarms

2.1 4201 Incorrect Wiring

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4201	Incorrect Wiring	Major

Possible Cause

Cause ID	Possible Cause
1	<ul style="list-style-type: none">• Inverter cables are loose or connected to the wrong ports.• Power backup cables are connected to the wrong ports.
2	<ul style="list-style-type: none">• Mains cables are loose or connected to the wrong ports.• Non-power-backup cables are connected to the wrong ports.

Suggestion

1. Power off the SmartGuard. After 5 minutes, check whether the cable connection to the inverter or the backup load is normal. If the cable connection is abnormal, rectify the fault.
2. You are advised to check all other cables of the SmartGuard. If any cable connection is abnormal, correct it.
3. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.

2.2 On-/Off-Grid Switching Signal Abnormal

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4202	On-/Off-Grid Switching Signal Abnormal	Major

Possible Cause

Cause ID	Possible Cause
1	The cable connection between the SmartGuard and inverter is abnormal.

Suggestion

1. Check the DO cable between the SmartGuard and inverter. If the cable is loose or disconnected, securely connect it.
2. If the alarm is not automatically cleared after the cable connection fault is rectified, you need to manually clear the alarm on the app.

2.3 4203 Incorrect Connection of Live and Neutral Wires

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4203	Incorrect Connection of Live and Neutral Wires	Warning

Possible Cause

Cause ID	Possible Cause
1	The live and neutral wires of mains power are incorrectly connected.

Suggestion

1. Power off the SmartGuard. After 5 minutes, check and correct the live and neutral wire connection.
2. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.

2.4 4204 Device Fault

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4204	Device Fault	Major

Possible Cause

Cause ID	Possible Cause
1~4	A major fault has occurred on the internal circuit of the device: <ul style="list-style-type: none">• 1: The internal communication is faulty.• 2: The auxiliary power supply is abnormal.• 3: The magnetic latching relay is abnormal.• 4: The contactor is abnormal.
5	The N-PE relay is short-circuited.
6~10	A major fault has occurred on the internal circuit of the device: <ul style="list-style-type: none">• 6: EEPROM read/write failed.• 7: The sampling circuit is faulty.• 8: Temperature detection of the magnetic latching relay failed.• 9: Temperature detection of the N-PE relay failed.• 10: Compartment temperature detection failed.
11	<ul style="list-style-type: none">• A major fault has occurred on the internal circuit of the device.• The primary controller failed.

Cause ID	Possible Cause
12~13	<p>A major fault has occurred on the internal circuit of the device:</p> <ul style="list-style-type: none">• 12: The main and auxiliary sampling voltages of the grid are inconsistent.• 13: The main and auxiliary N-PE sampling voltages are inconsistent.
14	<p>The grid voltage sampling circuit or inverter voltage sampling circuit is severely faulty.</p>

Suggestion

Cause ID	Suggestion
1~4	<ol style="list-style-type: none">1. Power off the SmartGuard for 5 minutes.2. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, turn on the bypass switch to supply power to loads and contact your vendor or technical support.
5	<ol style="list-style-type: none">1. Power off the SmartGuard for 5 minutes.2. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.
6~13	<ol style="list-style-type: none">1. Power off the SmartGuard for 5 minutes.2. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, turn on the bypass switch to supply power to loads and contact your vendor or technical support.
14	<ol style="list-style-type: none">1. Power off the SmartGuard for 5 minutes.2. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.

2.5 4205 Update Failure or Version Mismatch

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4205	Update Failure or Version Mismatch	Minor

Possible Cause

Cause ID	Possible Cause
1	The update failed.
2	The monitoring software version does not match the power software version.
3	The software and hardware versions do not match.

Suggestion

1. Perform the update again.
2. If the update fails for multiple times, you are advised to turn on the bypass switch to supply power to loads and contact your vendor or technical support.

2.6 4206 Overtemperature

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4206	Overtemperature	Minor

Possible Cause

Cause ID	Possible Cause
1	Overtemperature occurs on the magnetic latching relay.
2	Overtemperature occurs on the N-PE relay.

Cause ID	Possible Cause
3	Overtemperature occurs on the compartment.

Suggestion

1. Check whether the device is covered by foreign objects. If yes, clean the foreign objects.
2. Check whether the ambient temperature exceeds the allowed range. If yes, adjust the ambient temperature.
3. You are advised to shut down some high-power loads.
4. If the fault persists, contact your vendor or technical support.

2.7 4207 Abnormal Grounding

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4207	Abnormal Grounding	Warning

Possible Cause

Cause ID	Possible Cause
1	The enclosure ground cable is not securely connected.
2	<ul style="list-style-type: none">• The ground cable of the neutral wire is not securely connected.• An exception occurred on the internal circuit of the device.

Suggestion

1. Power off the SmartGuard. After 5 minutes, check whether the neutral wire is loose or broken. If yes, rectify the fault.
2. Power on the SmartGuard. If the fault persists after the device restarts for 5 minutes, contact your vendor or technical support.

2.8 4208 Grid Overvoltage

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4208	Grid Overvoltage	Major

Possible Cause

Cause ID	Possible Cause
1	The grid voltage is higher than the withstand voltage of the device.

Suggestion

1. Check whether the line voltage of the three-phase power grid is incorrectly connected to the system. If yes, connect the phase voltage to the system.
2. If the alarm occurs occasionally, the power grid may be abnormal temporarily. The device automatically recovers after detecting that the power grid becomes normal.
3. Check whether the peak voltage of the power grid is too high. If the fault occurs frequently and persists for a long time, contact the local power operator.

2.9 4209 Bypass Switch Turned On

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4209	Bypass Switch Turned On	Major

Possible Cause

Cause ID	Possible Cause
1	<ul style="list-style-type: none">• The bypass switch is on.• The bypass switch is short-circuited on both sides due to abnormal cable connections.

Suggestion

1. Power off the SmartGuard and turn off the bypass switch. After 5 minutes, check whether the system cable connection is normal. If the cable connection is abnormal, rectify the fault.
2. Power on the SmartGuard. If the fault persists and no power is supplied to loads 5 minutes after the device restarts, turn on the bypass switch to supply power to loads and contact your vendor or technical support.

2.10 4211 BackupBox Overload

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4211	BackupBox Overload	Major

Possible Cause

Cause ID	Possible Cause
1	The power of appliances is too high.

Suggestion

Check whether high-power appliances are started. If yes, shut them down.

2.11 4212 Communication Failure

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
4212	Communication Failure	Major

Possible Cause

Cause ID	Possible Cause
1	The communication between the SmartGuard and the EMMA is abnormal.

Suggestion

1. Power off the SmartGuard. After 5 minutes, check whether the RS485 communications cable between the SmartGuard and the inverter is properly connected. If not, rectify the fault.
2. Open the front cover of the SmartGuard and check whether the RS485 A1 and RS485 B1 terminals on the 10-pin terminal of the EMMA are correctly connected. If not, connect them correctly.
3. Open the front cover of the SmartGuard and check whether the 12V_OUT+ and 12V_OUT- power supply harness of the 14-pin terminal on the EMMA is short-circuited. If a short circuit occurs, rectify the fault.
4. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.

2.12 2082 Grid-tied/Off-grid Controller Abnormal

Alarm Attribute

Alarm ID	Alarm Name	Alarm Severity
2082	Grid-tied/Off-grid Controller Abnormal	Major

Possible Cause

Cause ID	Possible Cause
1	The communication between the inverter and the grid-tied/off-grid controller is abnormal.
2	The circuit of the grid-tied/off-grid controller is faulty.

Suggestion

Cause ID	Suggestion
1	<ol style="list-style-type: none"> 1. Power off the SmartGuard. After 5 minutes, check whether the RS485 communications cable between the SmartGuard and the inverter is properly connected. If not, rectify the fault. 2. Open the front cover of the SmartGuard and check whether the RS485 A1 and RS485 B1 terminals on the 10-pin terminal of the EMMA are correctly connected. If not, connect them correctly. 3. Open the front cover of the SmartGuard and check whether the 12V_OUT+ and 12V_OUT- power supply harness of the 14-pin terminal on the EMMA is short-circuited. 4. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.
2	<ol style="list-style-type: none"> 1. Power off the SmartGuard. After 5 minutes, check whether the DO/DI cable between the SmartGuard and the inverter is properly connected. If not, rectify the fault. 2. Check whether the power cable between the SmartGuard and the inverter is properly connected. If not, connect the power cable properly. 3. Power on the SmartGuard. If the fault persists 5 minutes after the device restarts, contact your vendor or technical support.