Sungrow Australia Group Pty. Ltd. | 1800 SUNGROW (786 476)
service@sungrowpower.com.au | www.sungrowpower.com.au

Inverter Grid Protection Requirements

All Sungrow's inverters are compliant with the standard AS/NZS 4777 related to grid protection requirements. Those standards dictate for example, that if the line voltage or frequency goes outside pre-determined parameters, the inverter must shut down and decouple from the grid. This also includes blackouts.

This is for safety purposes and the inverter will switch back on when the grid resumes normal parameters (start-up phase is about 60 seconds). It is quite normal for the grid voltage or frequency to wander outside those parameters, especially around mid-day, or if your house is at the end of a long supply service, and in these cases your Sungrow inverter may show a error code of, 002 (Grid overvoltage error), 010 (islanding error), or 014 (10 minutes grid overvoltage error) for example.



Example fault code = loss of grid voltage i.e. blackout:

Obviously, it is not the inverter that is faulty in these cases, but an external condition and that the inverter is doing exactly what it is required to do under the standards and is simply reporting an event.

Normally, these outages are brief and are of no real consequence so there is nothing to worry about.

However, in the cases where they are frequent or sustained and causing loss of output, Sungrow recommends firstly contacting your network operator and asking them to check or adjust the line voltage at the local transformer. In most cases this will solve the problem. The network operator may request information to confirm this. If this is the case, an overvoltage record can be accessed from the inverter display via the menu Run Info > Grid Info (watch the tutorial video here).

As a last resort, if the network operator won't assist, you can ask your installer to adjust some of the internal inverter grid settings that may solve the problem.

If your installer is unsure, there are technical guides and instructional videos in the knowledge base on our web site: https://www.sungrowpower.com.au/faq.html

© Sungrow Australia Group Pty. Ltd. All rights reserved.
The information in this document is subject to change without notice.

Sungrow Australia Group Pty. Ltd. | 1800 SUNGROW (786 476)
service@sungrowpower.com.au | www.sungrowpower.com.au

Below information shows error codes for Sungrow inverters.

Code	Specification	Troubleshooting
002	Grid over-voltage. (default range: 257 V–270 V)	1. Check the grid voltage. 2. If the grid voltage exceeds the permissible range, consult the utility grid for a solution.
003	Temporary grid over-voltage in the on-grid mode. (default value: 400 V)	This is a short-term fault. Wait a moment for inverter recovery or restart the system.
004	Grid under-voltage. (default range: 180 V–210 V)	1. Check the grid voltage. 2. If the grid voltage exceeds the permissible range, consult the utility grid for a solution.
005	Grid under-voltage. (default value: 180 V)	
007	Temporary AC over-current. The transient AC current has exceeded the allowable upper limit.	Wait a moment for inverter recovery or restart the system.
008	Grid over-frequency. (default range: 51.5 Hz–52 Hz)	1. Check the grid frequency. 2. If the grid frequency exceeds the permissible range, consult the utility grid for a solution.
009	Grid under-frequency. (default range: 47.0 Hz–48.5 Hz)	
010	Islanding. Abnormal connection between the system and the grid.	1. Check whether the AC circuit breaker is triggered. 2. Check whether all the AC cables are firmly connected. 3. Check whether the grid is in service.
011	DC injection over-current. The DC injection of the AC current exceeds the upper limit.	Wait a moment for inverter recovery or restart the system.
012	Leakage current over-current. The leakage current exceeds the upper limit.	1. Check whether there is a grounding fault in the PV strings. 2. Wait a moment for inverter recovery or restart the system.
014	10-minute grid over-voltage. The average grid voltage is outside the permissible range for over 10 minutes. (default range: 255 V–258 V)	1. Check whether the grid is operating normally. 2. Wait a moment for inverter recovery or restart the system.
015	Grid over-voltage. (default value: 265 V)	1. Check the grid voltage. 2. If the grid voltage exceeds the permissible range, consult the utility grid for a solution.

© Sungrow Australia Group Pty. Ltd. All rights reserved.
The information in this document is subject to change without notice.