

Knowledge Base Article

What are the steps for troubleshooting underproduction?

Installer to provide the following information:

- Permit package
- Stamped single-line diagram (SLD)
- The solar energy-harvest calculations or production estimates used for system design
- What type of underperformance is seen?
- Is the concern about lower-than-expected overall energy coverage for the site?
If so, what is the expected overall energy coverage for the site?
- Is the issue related to reduced solar export back to the grid?

Troubleshooting for lower-than-expected overall energy coverage for the site:

1. Verify the SLD. Review the tilt, azimuth, shade analysis, and system size.
2. Review expected overall energy coverage for the site with SLD.

Troubleshooting for reduced solar export back to the grid:

1. Verify the weather
 - a. Are there clouds? Snow? High heat? Smoke?
 - b. Confirm fall/winter production drop due to shorter days and lower sun angle.
 - c. Compare current production with records from prior years when available.
2. Check System Monitoring & Data

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- a. Confirm the inverter is online and reporting.
 - b. Review daily/weekly/monthly production graphs for sudden drops.
 - c. Verify CTs are reading correctly.
- 3. Inspect Solar Panels
 - a. Is there shading? New construction? New trees?
 - b. Is there any damage on the panels? Microcracks?
 - c. Have the panels been cleaned? Is there any obstruction?
- 4. Inspect Wiring & Connections
 - a. Do the PV strings have the voltage and current in spec?
 - b. Is there any reversed polarity? Or miswired strings?
 - c. Are there any loose MC4 connectors? Damaged cables? Rodent damage?
 - d. While onsite review breakers, combiner boxes, fuses, verify the CT orientation and placement.
- 5. Check the Inverter
 - a. Are there any alerts?
 - b. Is the inverter in normal mode?
 - c. Are the MPPTs reporting?
 - d. Is the correct grid mode selected?
 - e. Is the inverter temperature within specifications?
 - f. What value is Zero export power set to? If it is set to 0 this will limit production.
 - g. If there is more than 1 battery, are the batteries in sync? If not, set the batteries in Batt-V Mode.
 - h. For the NV7600, set Max Solar Power to 11400.

In Solarman Business, click on Devices-> Inverter->System Work Mode-1->Read ->*Max

- i. Solar Power, After entering the value click on set.

NEOVOLTA

PRODUCT: NV7600, NV14, NV16KAC

V20250412

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* Max Solar Power

11400

6. Provide documentation
 - a. Provide photos of the inverter wiring, battery wiring, inverter status.
 - b. Provide photos of the measurements for voltage/current for each string.