sunbandit®
Energy For Everyone

TROUBLESHOOTING GUIDE

This is a collection of known Causes and Solutions to issues that have arisen. Please refer to the Installation Operation and Maintenance manual provided with your system for identification as necessary.

Water at fixtures is not hot enough

Cause(s)	Solution(s)
Mix Valve setting too low	Check tank temperature at thermometer on upper portion of tank. Check water outlet temperature against stored water temperature. Adjust mix valve setting if needed.
Backup thermostat setting too low/turned off	Check tank temperature at thermometer on upper portion of tank in the morning or during times of low irradiance. If temperature is low adjust backup thermostat setting and ensure it is turned on.

Black or Smelly Water Condition

Cause(s)	Solution(s)
Sulfates & Micro Organisms in untreated well water react with magnesium anode rods	In most cases the condition can be remedied by flushing the water heater with a chlorine solution and/or installing aluminum anode rods.

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TROUBLESHOOTING GUIDE (CONT'D)

Sun Bandit® Inverters are not operating but sun is available

Cause(s)	Solution(s)
AC Micro-Grid thermostats are satisfied	Turn up AC Micro-Grid thermostats to the highest setting (Very Hot). Ensure that the backup thermostat is not set at a temperature higher than the AC Micro-Grid thermostats. Verify approximately 19.2 Ω through thermostat and disconnect. Infinite resistance indicates an open thermostat.
Improper Wiring/Bad Fuse/ Open Disconnect	Verify approximately 19.2 Ω resistance from roof through the thermostat and element. If resistance is drastically different than 19.2 Ω check resistance at various locations to determine cause.
Improper Grounding and/ or Neutral Bonding	Verify that the neutral conductor is solidly connected to a ground electrode (ie; ground rod). Do not rely on metal enclosures or equipment grounding conductors to act as a ground electrode conductor. Ensure that grounding wires are connecting to a ground electrode (ie; ground rod). Bonding metal components together is not grounding. Inverters that fail due to improper grounding and/or neutral bonding will need to be replaced.
Improper Inverter Configuration	Ensure that there is one and only one Master in the circuit.

TROUBLESHOOTING GUIDE (CONT'D)

Monitor is off but flashing

Cause(s)	Solution(s)
Water in tank has reached AC Micro-Grid thermostat set point	Check water heater temperature at the thermometer on the top of the tank. Compare the temperature to the AC Micro-Grid thermostat setting. If the temperature is within approximately 5° of the set point then the tank is likely satisfied. Turn up the temperature on the AC Micro-Grid thermostats if possible. AC Micro-Grid operation can be verified by turning on a hot water fixture to simulate a draw and lower the temperature of the water heater. The monitor only operates when the Microinverters are outputting power.
Failed AC Micro-Grid thermostat	Verify that the water has not reached the AC Micro-Grid thermostat set point. Turn off the AC Micro-Grid circuit at the disconnect. Check resistance through the AC Micro-Grid thermostat and element. Turn off the AC Micro-Grid circuit at the disconnect. Resistance when the thermostat is calling for heat should be approximately 19.2 Ω.
Failed AC Micro-Grid Element	Check resistance through the AC Micro-Grid thermostat and element. Turn off the AC Micro-Grid circuit at the disconnect. Resistance when the thermostat is calling for heat should be approximately 19.2 Ω.
Improper wiring, bonding, and/or grounding	Refer to "Sun Bandit Inverters are not operating but there is available sun" section.
Failed monitor	Rapid monitor blinking can indicate a bad monitor. If possible turn off the circuit at the disconnect, bypass the monitor, turn the disconnect back on, and check voltage at the element. If consistent voltage is present the monitor is likely bad.

TROUBLESHOOTING GUIDE (CONT'D)

Tank temperature does not reach or exceed 120º F set point

Cause(s)	Solution(s)
AC Micro-Grid thermostats are set too low	Turn up AC Micro-Grid thermostats to the highest setting (Very Hot).
High hot water demand and/or leakage	Examine hot water usage. Verify that there is not a high demand for hot water. Ensure there are no leaks in the hot water distribution system. Look for a recirculation pump and uninsulated hot water piping.
Heat loss due to thermosiphoning	Ensure that heat traps have been installed on the hot water outlet and cold water inlet piping sections connecting to the Sun Bandit Water Heater.
Tank thermometer is reading low	Verify that the thermometer is fully inserted into the well. Use an infrared gun or other temperature measurement device to verify thermometer reading and temperature at outside of tank adjacent to AC Micro-Grid thermostat.
AC Micro-Grid not operating	Verify AC Micro-Grid operation, refer to "Sun Bandit Inverters are not operating but sun is available" section.