

Fault	Instruction	Common Cause/Remedy
F1	DC Inversed Failure	If you have parallel systems and turn one system off, you will get this notification. NOT a fault.
F8	GFDI_Relay_Failure	Current Leakage from inverter AC output to Ground, check Ground and neutral are connected at the main panel
F13	Grid_Mode_change	It can happen when not using batteries or if Grid Input settings are changed. This is a notification, NOT a fault. If you switch from No Batt to Battery mode, power the system down completely to restart.
F15	AC_OverCurr_Failure	Loads are too large for the inverter. If off-grid, the battery discharge amps are programmed too low. Overloads can result in F15, F18, F20, or F26.
F16	GFCI_Failure	Ground fault. Check PV+ or PV- wiring (which must be ungrounded). Exposed PV conductors + rain can also cause. Check that the neutral line and Ground are not double-bonded (common with portable generators).
F18	Tz_Ac_OverCurr_Fault	Overloaded the Load Output (reduce loads) or overloaded a generator (reduce Gen Start A see pg.33). Wiring Short on the AC Side can also cause this error. Overloads can result in F15, F18, F20, or F26.
F20	Tz_Dc_OverCurr_Fault	It is typically caused by DC current from the battery that is too large (ex: 4 Ton AC Unit) or too much PV current (3 or more strings in parallel). Overloads can result in F15, F18, F20, or F26.
F22	Tz_EmergStop_Fault	Initiated Emergency Stop; see sensor pinout table.
F23	Tz_GFCI_OC_Fault	PV Ground fault. Check PV+ or PV- wiring (which must be ungrounded or damage can occur). Typically caused by pinched PV wire grounding the PV+ or PV-. Grounded PV wire can cause F20, F23, or F26.
F24	DC_Insulation_Fault	An exposed PV conductor combined with moisture is faulting (can cause F16, F24, F26).
F25	AC_Active_Batt_Fault	No battery connection to the Inverter and Activate Battery is enabled. Disable Activate Battery in settings while no battery is connected.
F26	BusUnbalance_Fault	Too much load on one leg (L1 or L2) Vs. the other leg or DC loads on the AC output when off-grid. Grounded PV +/- wire can cause F20, F23, or F26.
F29	Parallel_CANBus_Fault	Usually, a communication error for parallel systems, check cables and MODBUS addresses (pg. 44)
F30	AC_MainContactor_Fault	Contact Sol-Ark.com
F31	Soft_Start_Failed	Soft Start of large motor failed
F34	AC Overload Fault	AC Overload or load shorted. Reduce heavy loads.
F35	AC_NoUtility_Fault	Grid connection lost
F37	DCLLC_Soft_Over_Cur	Software DC overcurrent
F39	DCLLC_Over_Current	Hardware DC overcurrent
F40	Batt_Over_Current	Batteries exceeded their current discharge limit
F41	Parallel_System_Stop	If one system faults in parallel, this normal fault will register on the other units as they disconnect from grid
F45	AC_UV_OverVolt_Fault	Grid under-voltage causes a disconnect. This will self-reset when the grid stabilizes.
F46	Parallel_Aux_Fault	Cannot communicate with other parallel systems. Check Master = 1, Slaves are 2-9, ethernet cables are connected.
F47	AC_OverFreq_Fault	Grid over Frequency (common in power outages) causes a disconnect. Will self-reset when grid stabilizes.
F48	AC_UnderFreq_Fault	Grid under Frequency (common in power outages) causes a disconnect. Will self-reset when grid stabilizes.
F55	DC_VoltHigh_Fault	PV may be higher than 500V. Battery voltage should not be above 59V or 63V (depending on the model).
F56	DC_VoltLow_Fault	Batteries are overly-discharged, inverter is off grid and exceeded programmed battery discharge current by 20%, or Lithium BMS has shut down. If battery settings are incorrect, this can also happen.
F58	BMS communication fault	Sol-Ark is programmed to BMS Lithium Battery Mode but cannot communicate with a BMS
F60	Gen_Volt_or_Fre_Fault	Generator Voltage or Frequency went outside the allowable range
F61	Button_Manual_OFF	The parallel Slave system turned off without turning off Master
F63	ARC_Fault	It can be a poor PV connector/connection. And sometimes a false alarm due to powerful lightning storms.
F64	Heatsink_HighTemp_Fault	Check the built-in fans are running; ambient temp may be too high. Ensure proper clearance (pg.6).

Specific Case Scenarios

Case #1: LCD is not powering on

Symptom	LCD is not powering on
Cause	Several potential causes (see below).
Resolution	Check all connections. At least one of the following power sources is required: PV/Grid/Battery. Try pressing the power button, touchscreen, or navigation buttons.

Case #2: Panels are connected, but DC Light is not on

Symptom	Panels are connected, but DC Light is not on
Cause	Voltage is outside specified range. The weather blocks sunlight.
Resolution	PV voltage must be 150V-425V. Wait until the weather allows for more sunlight.

Case #3: Panels are not producing

Symptom	Panels are not producing
Cause	Several potential causes (see below). Check for proper wiring on all solar panel connections. Turn PV disconnect "ON". Check that the PV input voltage is not greater than 500V. If using the Sol-Ark 12K version, check that the PV input voltage is not greater than 425V.
Resolution	If the system says PV = 0V, check PV polarity.

Case #4: Panels are not producing much power

Symptom	Panels are not producing much power
Cause	PV Wire Strip Length: 5/8". Your batteries are already charged.
Resolution	Verify PV Wire Strip Length: 5/8". Use Grid Sell to see if your batteries are already charged.

Case #5: The system does not keep batteries charged

Symptom	The system does not keep batteries charged.
Cause	Several potential causes (see below).
Resolution	Check the charge setting in the Charge Menu.

Case #6: Auto Gen-Start is not working

Symptom	Auto Gen-Start is not working
Cause	Compatibility and wiring problems with generator.
Resolution	Check to make sure your generator is compatible with Auto Start. Make sure that the Auto Gen Start wire is adequately connected to the Sol-Ark 15K and the generator.

Case #7: Normal LED isn't on

Symptom	Normal LED isn't on
Cause	Sol-Ark 15K is in pass-through-only mode, only a Grid connection. Sol-Ark 15K is not working correctly.
Resolution	Verify that Sol-Ark 15K is not in pass-through-only mode with only a Grid connection. Call us.

Case #8: The alarm light is on

Symptom	The alarm light is on
Cause	The system is issuing a specific alarm.
Resolution	Check the system alarms menu to identify the alarm.

Case #9: Grid HM value is negative when it should be positive (only applies in limited home mode)

Symptom	Grid HM value is negative when it should be positive (only applies in limited home mode)
Cause	Limiter Sensors are backward, L1/L2 sensors are swapped, or incorrectly wired L1/L2 sensors.
Resolution	Re-wire the sensors correctly. Try Auto Learn.

Case #10: AC Overload Fault or Bus Unbalance Fault

Symptom	AC Overload Fault or Bus Unbalance Fault
Cause	Issues with wiring or large loads Check Transfer Switch/Subpanel wiring.
Resolution	Check for large loads that consume more than the inverter rating (EX: AC units over 3 tons).

Case #11: The system connects to grid and quickly disconnects

Symptom	The system connects to grid and quickly disconnects
Cause	Issues with wiring or frequency settings. With a DMM, verify your Neutral wire connection (should be 0 Vac referenced to GND). Check your Freq is set to 60Hz, and the 15K measures 120V on L1 / L2 vs. N. If overloading: verify 120/240V grid input and load output wires are not swapped.
Resolution	If 120/208V, the L1 and L2 are phase-specific. So, you may have to swap Grid L1 / L2 for 208V applications.

Case #12: DC Overload Fault

Symptom	DC Overload Fault
Cause	Issues with voltage or wiring Check PV voltage.
Resolution	Make sure you have not wired more than two (2) solar strings in parallel.

Case #13: System is beeping

Symptom	System is beeping.
Cause	A system alarm has been triggered. There is not battery connected. Check the system alarms menu to see which alarm has been triggered. Most alarms will self-reset. If not using a battery, select no battery and disable activate batt in Batt menu.
Resolution	Turn off the center button, remove AC Grid and PV Power for the 30s (screen is dead), and then power up to fully reset the system.

Case #14: Battery cable sparks when connected

Symptom	Battery cable sparks when connected
Cause	Several potential causes (see below).
Resolution	Put the built-in battery breaker in the off position before connecting or disconnecting batteries.

Case #15: Battery symbol on the home screen is red

Symptom	Battery symbol on the home screen is red
Cause	The battery is under-voltage or over-voltage.
Resolution	Check the voltage of the battery to make sure it is in the correct range.

Case #16: Battery symbol on the home screen is yellow

Symptom	Battery symbol on the home screen is yellow
Cause	The battery is low, or the charge/discharge current is close to the programmed limit.
Resolution	Wait until the battery is recharged.

Case #17: Grid symbol on the home screen is yellow

Symptom	Grid symbol on the home screen is yellow
Cause	Grid parameters are out of specified range or grid is down.
	Verify grid parameters are in specified range.
Resolution	If grid is down, that is out of our control.

Case #18: System has restarted

Symptom	System has restarted
Cause	The system is overloaded, battery voltage is greater than 63V, or software update.
Resolution	Let the system restart.

Case #19: The battery breaker trips

Symptom	The battery breaker trips
Cause	The batteries were connected backwards.
Resolution	This can cause damage! Make sure batteries are properly connected.

Case #20: LCD screen still on when the power button is off

Symptom	LCD screen still on when the power button is off
Cause	If PV or grid power, LCD stays on, but the inverter and loads are off.
Resolution	No change needed.

Case #21: The Batt % meter is not reaching 100%

Symptom	The Batt % meter is not reaching 100%
Cause	The system needs to go through a small discharge/charge cycle first to calibrate the battery.
Resolution	Wait for the system to calibrate.

Case #22: Generator setup is reading 0Hz

Symptom	Generator setup is reading 0Hz
Cause	Wrong settings under the Sell Control menu.
Resolution	In the Sell Control menu, select "General Standard" instead of "UL1741." Then widen the frequency range to 55Hz-65Hz.

Case #23: Color Touchscreen is Frozen

Symptom	Color Touchscreen is Frozen
Cause	Several potential causes (see below).
Resolution	Press and hold the escape button for 7-10 seconds

Case #24: Grid Phase Wrong

Symptom	The Sol-Ark screen shows Grid Phase Wrong.
Cause	There is a phasing issue with your wiring, and it may cause overload faults (F18, F26, F34) even with the Load breaker off and WILL CAUSE DAMAGE if left unchecked. Single Sol-Ark: To locate the improperly wired phases, measure L1 to L1 (Top Screws) between the Grid and Load breaker; you should see 0V AC. Repeat for L2 to L2 between the Grid and Load breaker. Attempt to correct the wiring until you are only reading 0V AC between L1 to L1 and L2 to L2. Parallel inverters: measure L1 of the Grid breaker to L1 of another unit's Grid breaker; you should see 0V AC. If in 208V parallel, measure the lines of the same wire color between sol-arks to see if you read 0V AC. Make sure to correct both the Grid and Load wiring; they both need to be correct.
Resolution	If the error persists, you will need to check your AC wiring beyond the inverter and may also need to verify that the phases are properly labeled coming from your meter.