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SolarEdge CSS-OD Battery Cabinet 197 kWh Routine Maintenance Guide

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General

This Maintenance Guide applies to the routine maintenance of the CSS-OD 197 kWh Battery Cabinet and its single or dual 50 kW Battery Inverter solution in an on-grid topology.

Environmental factors such as temperature, humidity, dust, and vibration can accelerate the aging of internal components in the battery cabinet and Inverter, potentially degrading performance or causing operational failures.

To ensure reliable operation and extend the service life of the CSS-OD, routine and scheduled maintenance are essential and must be performed to meet the warranty coverage. Maintenance includes all actions taken to keep the CSS-OD in optimal working condition.

	NOTE
	Following routine maintenance, the battery cabinet and the connected Inverter(s) should be checked for on-site operation and remote ONE for C&I monitoring.

If a fault occurs and cannot be resolved using this guide, please contact SolarEdge Support.
To assist with troubleshooting, provide the following information:

- Inverter model and serial number, including energy storage battery configuration and grid parameters
- Fault description and any relevant error messages
- Photo and details of the faulty component
- Photos of the fault site
- Communication connection diagram

Supported components

- CSS-OD: Battery Cabinet 197 kWh
- CSS-OD Battery Inverter 50 kW

Required equipment

- Insulated gloves
- Protective gloves
- Goggles
- Insulated shoes
- Reflective vest
- Safety helmet
- Medical kit
- Dust mask
- Multimeter

Safety Precautions

General Safety Rules

Before performing maintenance, repairs, or inspections on the Inverter, follow these five essential safety steps:

- Disconnect all external power sources connected to the CSS-OD.
- Prevent accidental re-energization of the CSS-OD.
- Verify zero voltage inside the Inverter using a multimeter.
- Ensure proper grounding of the Inverter.
- Insulate adjacent live parts using cloth or materials rated for electrical insulation.

Handling and safety instructions

Safety symbols information

	**WARNING!**
	Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **injury or loss of life**. Do not proceed beyond a warning until the indicated conditions are fully understood and met.
	**CAUTION!**
	Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **damage or destruction to the product**. Do not proceed beyond a caution until the indicated conditions are fully understood or met.
	**WARNING!**
	Denotes additional information about the current subject.

Important safety instructions

For safe and effective maintenance of the CSS system, carefully read and adhere to the following safety requirements.

	**WARNING!**
	When disconnecting the switches on or inside the Battery Cabinet or on the Inverter, do not de-energize the cable terminals inside the CSS-OD. Before opening the door of the Battery Cabinet or any cover, and before beginning maintenance, disconnect both the upstream and downstream circuit breakers and any switch. Disconnecting switches on or inside the Battery Cabinet or on the Inverter **does not de-energize** the cable terminals of the CSS-OD.
	**WARNING!**
	After shutting down the CSS-OD, wait at least 10 minutes before performing any operations to allow internal components to discharge safely.
	**WARNING!**
	Only qualified and authorized personnel may perform maintenance or service on the CSS-OD. Personnel must be trained in battery systems and experienced in safety procedures. Refrain from performing any maintenance operations not outlined in this manual. If needed, please contact SolarEdge Support.
	**CAUTION!**
	Do not leave metal objects (e.g., screws, washers) inside the cabinet, as they may damage internal components.
	**CAUTION!**
	During Battery Cabinet maintenance, follow necessary safety measures, use appropriate tools, and wear personal protective gear.
	**WARNING!**
	This equipment must be operated only by authorized, qualified personnel in accordance with approved procedures specified in this document. Unauthorized use may result in equipment damage, serious injury, or death.
	**CAUTION!**
	Before beginning maintenance or repairs, make sure that all grounding cables are correctly connected to the PE busbars.
	**WARNING!**
	While performing maintenance, make sure to display a warning sign on the cabinet's AC circuit breaker panel and on the Battery Cabinet, indicating that all circuit breakers and switches must remain OFF.
	**WARNING!**
	Before connecting or removing any cables, turn off all power to the CSS-OD using the circuit breakers or switches. Apply lockout–tagout (LOTO) by locking the circuit breakers or switches and attaching a warning tag to prevent them from being turned on while work is in progress.

	**CAUTION!**
	During maintenance, cover or insulate any exposed contacts to prevent accidental contact and ensure safety.
	**CAUTION!**
	After maintenance or repair is finished, remove the ground cable between the maintained loop and the main ground loop.
	**WARNING!**
	If you have any questions about operating or maintaining the equipment, contact SolarEdge Customer Support. Do not operate the equipment without proper authorization.
	**CAUTION!**
	Before leaving, check that no tools or metal objects have been left inside or on top of the equipment.
	**CAUTION!**
	Do not open the door to maintain the Battery Cabinet on rainy, humid, or windy days. SolarEdge shall not be held liable for any damage caused by violation of the notice.
	**WARNING!**
	Do not open the door to maintain the battery cabinet on rainy, humid, or windy days. SolarEdge will not be responsible for any damage resulting from failure to comply with this notice.
	**WARNING!**
	Do not wear jewelry or metal accessories, such as watches, during maintenance. Wearing jewelry can result in **injury or loss of life**.

CSS-OD 197kWh Features



1. Explosion Relief Panel
2. Four Eye Bolts
3. Battery Inverter 1
4. Wiring Duct
5. Intake Valve
6. AC Interface Box
7. MBMU/Exchanger
8. Energy Modules Management Unit
9. Fire suppression control box
10. Aerosol Fire Extinguisher 2
11. Energy Module (x11)
12. Aerosol Fire Extinguisher 1
13. CO Detector
14. Smoke Detector
15. Battery Cabinet AC (HVAC)
16. Fire Fighting Valve
17. Wiring Duct
18. Exhaust Valve
19. Door Lock
20. CSS Local Interface Display (EMS)
21. Battery Inverter 2
22. Nameplate
23. Emergency Power Off (EPO) switch
24. Acoustic-Visual Alarm

Perform maintenance for the CSS-OD Battery Cabinet 197kWh

⚠	**WARNING!**
	Shut Down Before Maintenance **WARNING!** Risk of electric shock, arc flash, fire, and serious injury or death. Some of the maintenance operations indicated in this document require the Battery Cabinet and the Battery Inverter to be shut down. When shut down is required: ▰ Shut down the battery cabinet completely (See Appendix B: CSS-OD Shutdown System Procedure). ▰ Isolate all power sources (AC and DC, including external supplies). ▰ Lock out/Tag out (LOTO) all circuit breakers and disconnect devices. ▰ Wait for stored energy to discharge and verify the cabinet is in a safe state. ▰ Verify the absence of voltage using an approved meter before touching any internal components. ▰ Do not begin maintenance until the cabinet is confirmed de-energized and secured against re-energization.

Monthly routine maintenance

If the CSS-OD is installed in environments with high particulate exposure - such as sandy, dusty, agricultural, or poultry facilities - the following maintenance should be performed every month:

HVAC

[Estimated time: 10 min.]

Inspection	Pass Criteria	Power off Required
1. External and internal visual examination. 2. Auditory check of the fan noise.	▰ There are no visible signs of damage to the appearance of the HVAC system ▰ There are no obvious indications of paint peeling or rust ▰ The screws are firmly secured ▰ The fans rotate smoothly without abnormal sounds ▰ The radiator, in the front of the HVAC, is clean and free of any blockages	No

Semi-annual routine maintenance

Battery Cabinet

[Estimated time: 8 min.]

Inspection	Pass Criteria	Power off Required
1. External and internal visual examination. 2. Rust checkup. 3. Visual and physical assessment of the door lock. 4. Door seal inspection.	▰ The cabinet paint is free of peeling, scratching, or rust ▰ Door locks are undamaged ▰ No insects, rodents, or other animals present ▰ Inspect the sealing strip and use a damp cloth to clean it if it is dirty. No other cleaning solution should be used other than water ▰ Make sure no flammable objects are near the battery cabinet	No

Power distribution area inside the cabinet

[Estimated time: 1 min.]

Inspection	Pass Criteria	Power off Required
Check for foreign objects in the power distribution area and the general area inside the Battery Cabinet.	▰ The area is clean and free of foreign objects ▰ Check that the fans of all Energy Modules (See figure 4) are clean, and the fan is rotating smoothly without abnormal noise ▰ Check the cable sealing clay for cracks and replace if necessary	No

HVAC

[Estimated time: 20 min.]

Inspection	Pass Criteria	Power off Required
1. External and Internal visual examination of the fan and radiator (Figures 1 and 2). 2. Auditory fan noise check. 3. Review vent condition. 4. Radiator cleaning 5. Visually examine both externally and internally. 6. Inspect for rust, including the screws that hold the HVAC system.	▪ No visible damage to the HVAC appearance ▪ No signs of paint peeling or rust ▪ The screws are tightly fastened ▪ The radiator is clean and unobstructed ▪ The exterior shows no obvious damage ▪ The external radiator is clean and unobstructed	No
	▪ Fans rotate smoothly without abnormal noise.	Yes[3] (Appendix B: CSS-OD Shutdown System Procedure)

[1] We recommend cleaning the external radiator only from the outside with a regular water gun or air gun.

[2] In sandstorm-prone areas, we recommend cleaning the external radiator after each sandstorm and before each summer.

[3] Carefully follow the procedure for shutting down the system.

External parts check

[Estimated time: 20 min.]

Inspection	Pass Criteria	Power off Required
1. Visually inspect the Explosion Relief Panel (See CSS-OD 197kWh Features) 2. Visually inspect the Exhaust Valve 3. Visually inspect the Acoustic-Visual Alarm 4. Visually inspect the Intake Valve 5. Visually inspect the Fire Fighting Valve 6. Inspect the green LED indicator on the JR10 Fire Suppression Control Box (See Figure 3). 7. Visually inspect the Aerosol Fire Extinguisher. 8. Verify that the wiring from Aerosol Fire Extinguisher units is intact, securely connected, and not lost or disconnected.	▰ No visible damage to the part's appearance ▰ No signs of peeling or rust ▰ The screws are tightly fastened ▰ The Item is clean and unobstructed ▰ Pressing the test button illuminates the circuit detection indicator light on the right side of the control panel, confirming proper connection of the fire suppression system. ▰ The module is clear and free of dust. ▰ The cables are securely connected and should only be reconnected when the starter box is disconnected from power. ▰ Check the fire suppression module status on the HMI main screen.	Yes[4] (Appendix B: CSS-OD Shutdown System Procedure)

[4] Carefully follow the procedure for shutting down the system.

Annual routine maintenance

Energy Modules

[Estimated time: 7 min.]

Inspection	Pass Criteria	Power off Required
Visual inspection	No visual damage	Yes[5] (Appendix B: CSS-OD Shutdown System Procedure)

[5] Carefully follow the procedure for shutting down the system.

Perform maintenance for the CSS-OD Battery Inverter 50 kW

Semi-annual routine maintenance

[Estimated time: 15 min.]

Inspection	Pass Criteria	Power off Required
Visual Inspection	Check for damage, deformation, or rust on the Battery Inverter.	No
Audial Inspection	Listen for abnormal sounds or vibrations during the operation of the power conversion system	
Air inlet and outlet	Check for dust in the air inlet and outlet and clean it, if necessary (See figure 5).	
Repainting	Check the external paint for damage. If the external paint of the battery inverter is damaged, contact SolarEdge Support.	

Annual routine maintenance

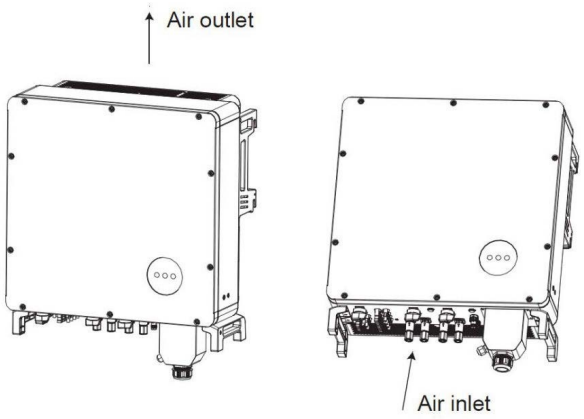
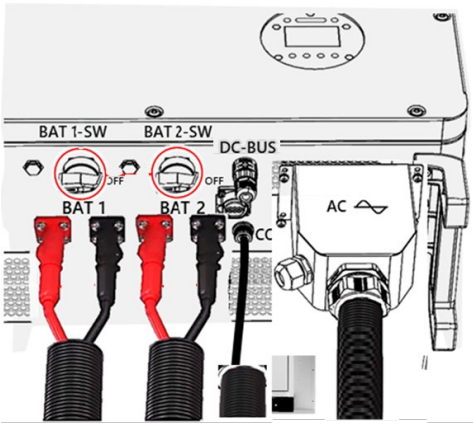
[Estimated time: 5 min.]

Inspection	Pass Criteria	Power off Required
Electrical connections	Check for loose or poorly connected electrical connections, especially of the PARA cables.	No
Cable inspection	Inspect all cables and their contact points for damage or scratches (See figure 6).	
Warning signs and symbols	Inspect the warning signs on the machine body and other equipment symbols. Replace any blurred or damaged symbols.	

Appendix A: Figures of Battery Cabinet and Battery Inverter Components

The following figure glossary outlines the equipment inspected in the routine maintenance of the 197 kWh CSS-OD Battery Cabinet and Battery Inverter.

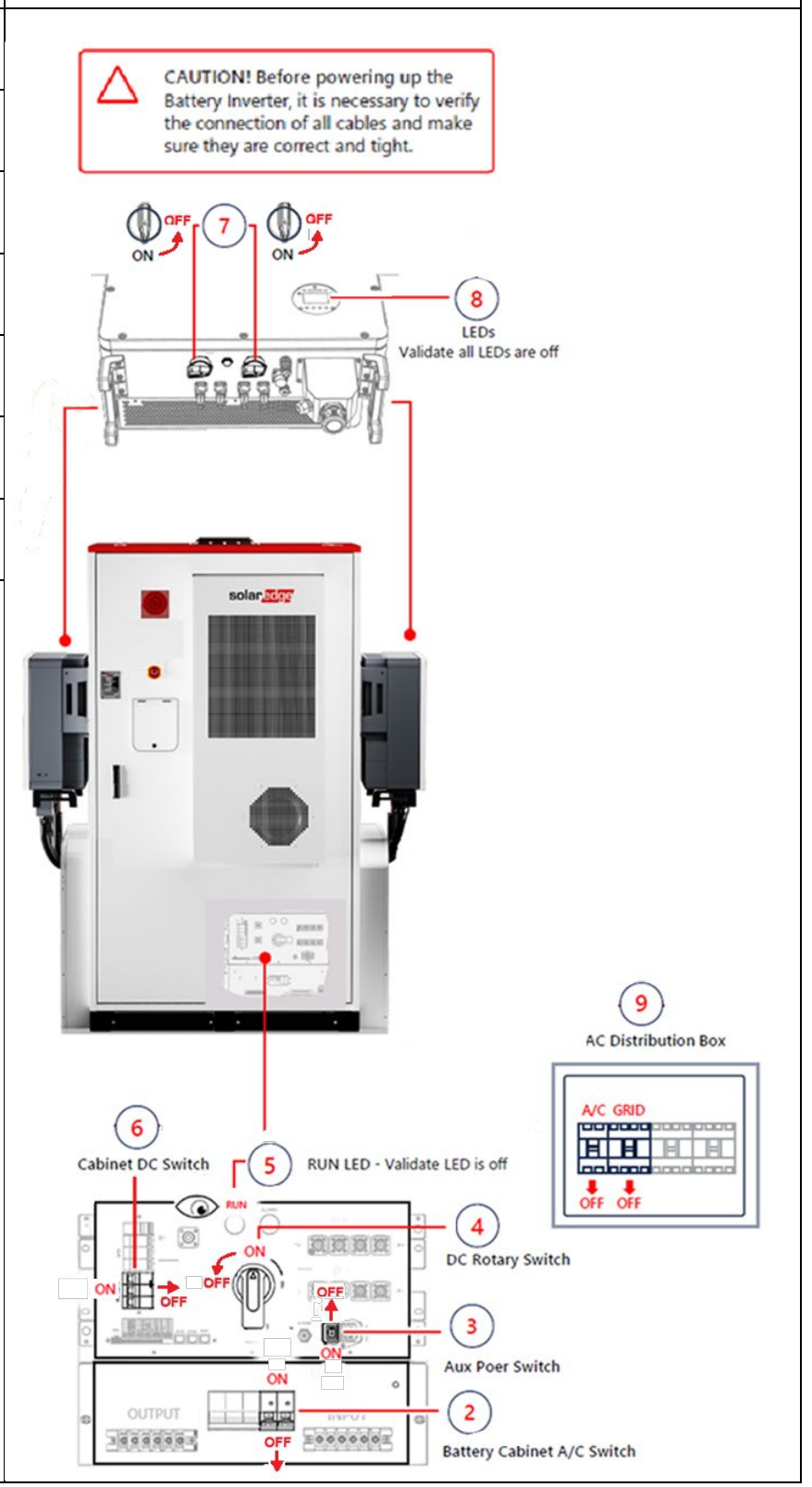
Device	Image
Battery cabinet HVAC radiator	Figure 1 
HVAC fan	Figure 2 
JR10 fire suppression control box (located on the bottom right inside the battery cabinet)	Figure 3 

Device	Image
Front fan opening of the energy module	Figure 4 
CSS-OD: Battery Inverter Air Duct	Figure 5 
BAT1 & BAT2 DC Wires	Figure 6 

Appendix B: CSS-OD Shutdown System Procedure

Perform the following steps to shut down the Battery Cabinet and Battery Inverter:

Step	Description	
1.	Open the front door of the battery cabinet and secure it with a holding bar (1).	

2.	Switch off the Battery Cabinet A/C Switch (2)	
3.	Switch off the Aux Power (3)	
4.	Turn off the DC Rotary Switch (4)	
5.	Validate that the RUN LED is off (5)	
6.	Switch off the Cabinet DC Switch (6)	
7.	Switch off the Inverter Power Switches (7)	
8.	Validate all Inverter Indication LEDs are off (8)	
9.	Switch off the GRID and Air Conditioner (A/C) Circuit Breaker inside the AC distribution box. (9)	