SolarEdge CSS-OD Battery Cabinet 197 kWh Routine Maintenance Guide

General

This Maintenance Guide applies to the routine maintenance of the CSS-OD 197 kWh Battery Cabinet and Battery Inverter 50 / 100 kW Inverter(s) 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. Maintenance includes all actions taken to keep the CSS-OD in optimal working condition.

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

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

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

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.
	**NOTE** 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!** Disconnecting only the switch does not de-energize the cable terminals inside the CSS-OD. Before opening the cover or beginning maintenance, disconnect both the upstream and downstream circuit breakers in addition to the switch.
	**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 operations on the CSS-OD. Do not leave metal objects (e.g., screws, washers) inside the cabinet, as they may damage internal components.
	**CAUTION!** Adhere to relevant safety precautions, use essential tools, and don appropriate personal protective equipment.
	**WARNING!** Unauthorized operation of this equipment is strictly prohibited.
	**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** indicating that the switch must remain in the OFF position.

	**WARNING!** Before connecting or removing cables, make sure to disconnect all lockout–tagout (LOTO) all feeders to the CSS-OD.
	**CAUTION!** During maintenance, insulate any exposed contacts for safety purposes during maintenance.
	**CAUTION!** After maintenance or repair is finished, remove the ground cable between the maintained loop and the main ground loop.
	**NOTE** If you have any questions regarding the operation and maintenance of the equipment, contact SolarEdge Customer Support. Unauthorized operation of the equipment is strictly prohibited.
	**CAUTION!** Clean up tools and materials after maintenance and check if there are any metal objects 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.
	**CAUTION!** Do not wear jewelry or metal accessories, such as watches, during maintenance.

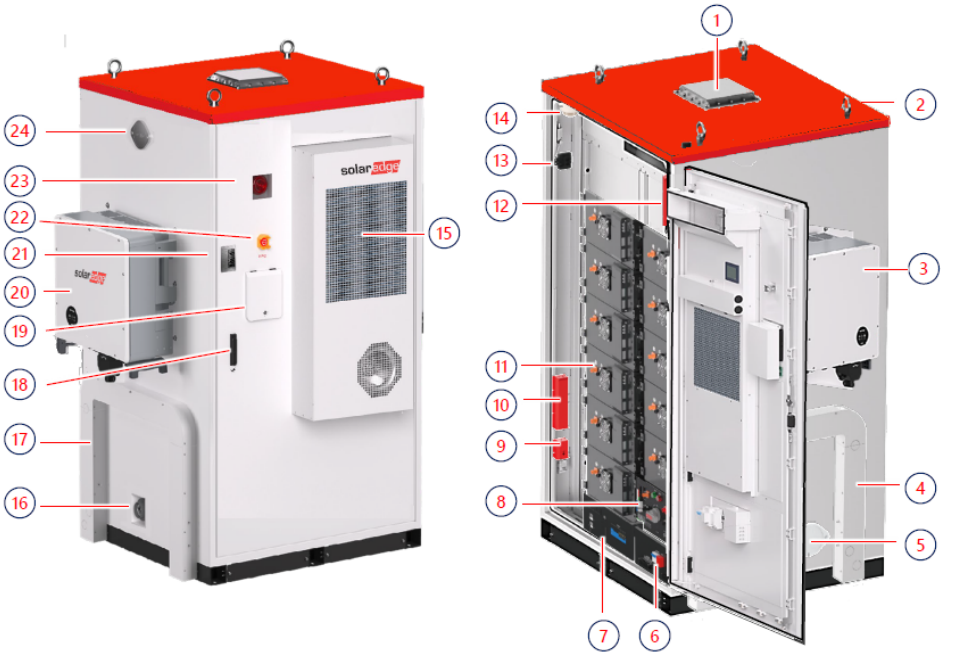
Required equipment

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

Supported components

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

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. Door Lock
19. CSS Local Interface Display (EMS)
20. Battery Inverter 2
21. Nameplate
22. Emergency Power Off (EPO) switch
23. Acoustic-Visual Alarm
24. Exhaust Valve

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 inverter to be shut down. When shut down is required: • Shut down the battery cabinet completely (See Appendix A on page 13). • Isolate all power sources (AC and DC, including external supplies and backup sources). • 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.

Battery Cabinet Safety Instructions

⚠	**WARNING!**
	To prevent electric shock, refrain from performing any maintenance operations not outlined in this manual. If needed, please get in touch with SolarEdge Support.
△	**CAUTION!**
	The battery cabinet can only be maintained by personnel who have received training in battery systems and have experience in safety training.
△	**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!**
	The battery cabinet poses potential hazards. Make sure that proper precautions are taken during its operation and maintenance. Improper operation can lead to severe **personal injury and significant property damage.**
△	**CAUTION!**
	During battery cabinet maintenance, follow necessary safety measures, use appropriate tools, and wear personal protective gear.

Monthly maintenance routine

If CSS-OD is installed in one or more of the following environments, maintenance should be performed every month:

- Ambient temperatures higher than 35°C or lower than 0°C
- Sandy
- Dirty areas
- Close to the sea

Device	Inspection	Description	Power – Off Required
HVAC [Total est. time: 10 min.]	▰ External and internal visual examination. [Est. time: 5 min.] ▰ Audial check-up of the fans noise. [Est. time: 5 min.]	▰ 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 from any blockages	No

Quarterly maintenance routine

Device	Inspection	Description	Power – Off Required
Battery Cabinet [Total est. time: 8 min.]	▰ External and internal visual examination. [Est. time: 2 min.] ▰ Rust checkup. [Est. time: 2 min.] ▰ Visual and physical assessment of the door lock. [Est. time: 2 min.] ▰ Door seal inspection. [Est. time: 2 min.]	▰ Cabinet coating is free from peeling, scratching, or rust. ▰ Door locks are undamaged. ▰ No insects, rodents, or other animals present ▰ Inspect the sealing strip and use a damped cloth to clean it if 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 [Total est. time: 1 min.]	▰ Check for foreign objects in the power distribution area and the general area inside the cabinet. [Est. time: 1 min.]	▰ The area is clean and free from foreign objects ▰ Check that the fans of all Energy Modules are clean and rotating smoothly without abnormal noise. ▰ Check the clay for cracks, replace if necessary	No
HVAC Total est. time: 15 min.]	▰ External & Internal visual examination. [Est. time: 5 min.] ▰ Auditory fan noise check. [Est. time: 3 min.] ▰ Review vent condition. [Est. time: 2 min.] ▰ Radiator cleaning[1][2]	▰ No visible damage to the HVAC appearance ▰ No signs of paint peeling or rust ▰ The screws are tightly fastened ▰ Fans rotate smoothly without abnormal noise. ▰ The radiator is clean and unobstructed	Yes[3] (See Appendix A: 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.

Semi-annual maintenance routine

Device	Action needed	Pass criteria	Power – Off Required
HVAC [Total est. time: 20 min.]	▰ Visually examine both externally and internally. [Est. time: 5 min.] ▰ Inspect for rust, including the screws that hold the HVAC system. [Est. time: 3 min.] ▰ Check the fan for any noise. [Est. time: 5 min.] ▰ Visually inspect the fan and radiator. [Est. time: 2 min.]	▰ The exterior shows no obvious damage ▰ There are no apparent signs of paint peeling or rust ▰ The screws are tightly fastened ▰ The fans spin smoothly without any unusual noises ▰ The external radiator is clean and unobstructed	No
External parts check	▰ Visually inspect the Explosion Relief Panel ▰ Visually inspect the Exhaust Valve ▰ Visually inspect the Acoustic-Visual Alarm ▰ Visually inspect the Intake Valve ▰ Visually inspect the Fire Fighting Valve	▰ 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	No
Fire suppression module (See Figure 3) [Total est. time: 5 min]	▰ Inspect the green LED indicator on the JR10 fire suppression control box. [Est. time: 1 min.] ▰ Visually inspect the fire suppression modules. [Est. time 2 min.] ▰ Verify that the wiring from aerosol units is intact, securely connected, and not lost or disconnected. [Est. time: 2 min.]	▰ 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] (See Appendix A: CSS-OD Shutdown System Procedure

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

Annual maintenance routine

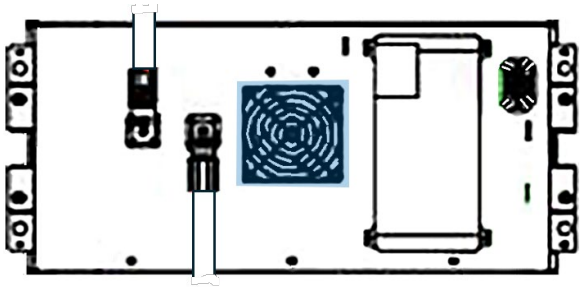
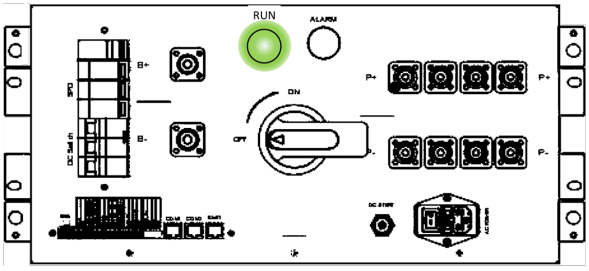
Device	Inspection	Description	Power – Off Required
Energy Module	Visual inspection	▪ No visible damage to the appearance	Yes[5] (See Appendix A: CSS-OD Shutdown System Procedure)

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

Device glossary for the CSS-OD Battery Cabinet 197kWh

The following glossary outlines the necessary equipment for performing routine maintenance on the CSS-OD Battery Cabinet, 197kWh.

Device	Image
Battery cabinet HVAC vent	Figure 1 
HVAC external 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 
Cluster management unit (green indicator)	Figure 5 

CSS-OD Battery Inverter 50kW

Semi-annual maintenance routine

[Total est. time: 15 min.]

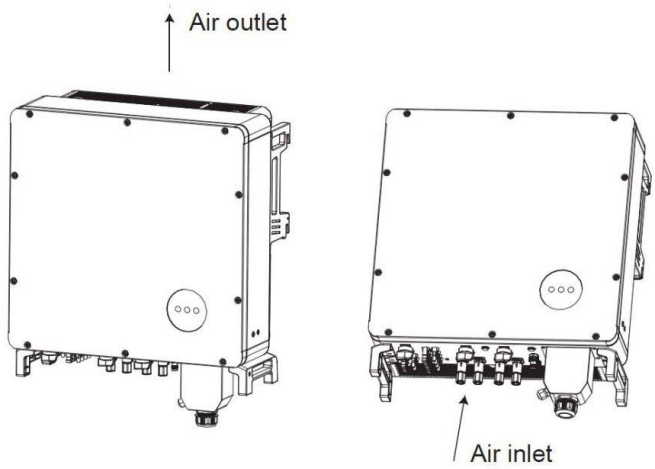
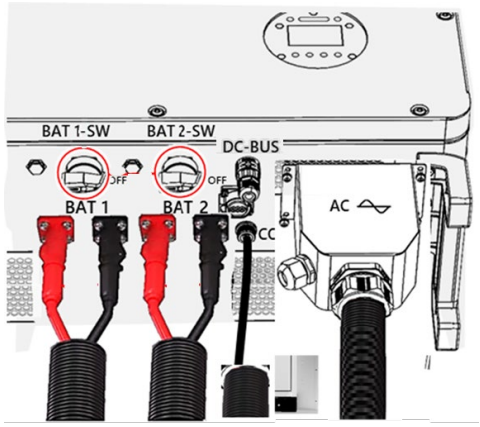
Task	Description
Visual Inspection	Check for damage, deformation, or rust on the Battery Inverter. [Est. time: 2 min.]
Audial Inspection	Listen for abnormal sounds or vibrations during power conversion system operation. [Est. time: 2 min.]
Air inlet and outlet	Check for dust in the air inlet and outlet (See Figure 6) and clean it, if necessary. [Est. time 3 min.]
Repainting	Check the external paint for damage. If the external paint of the battery inverter is damaged, contact SolarEdge Support. [Est. time 5 min.]

Annual maintenance routine

[Total est. time: 5 min.]

Inspection	Description
Electrical connections	Check for loose or poorly connected electrical connections, especially of the PARA cable wires [Est. time; 2 min.]
Cable inspection	Inspect all cables and their contact points for damage or scratches. [Est. time 2 min.]
Warning signs and symbols	Inspect the warning signs on the machine body and other equipment symbols. Replace any blurred or damaged symbols. [Est. time 1 min.]

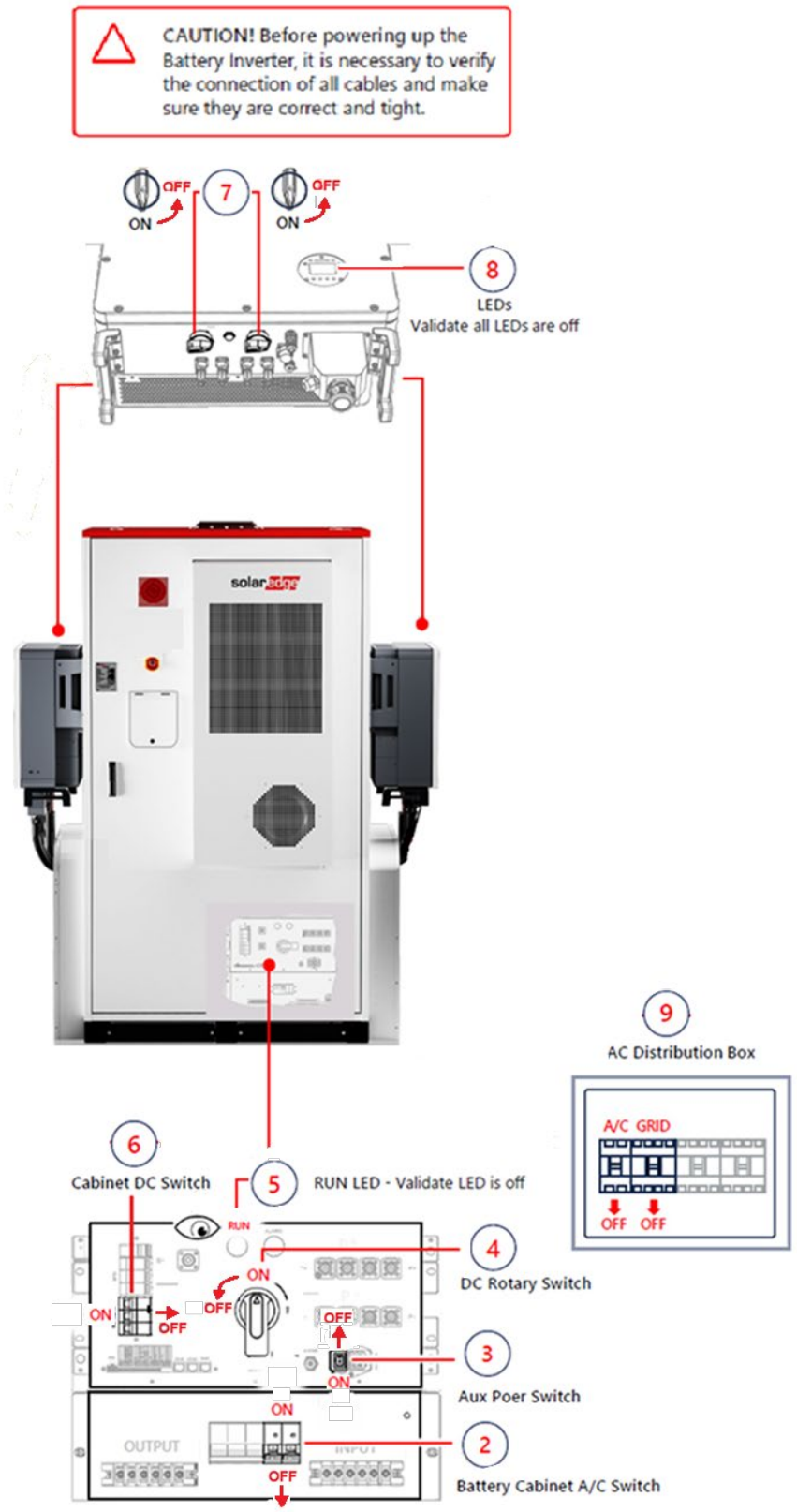
Location and designation of the Battery Inverter component's

Device	Image
CSS-OD: Battery Inverter Air Duct	**Figure 6** 
BAT1 & BAT2 DC Switches	**Figure 7** 

Appendix A: CSS-OD Shutdown System Procedure

To shut down the battery cabinet:

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)	