

ATTESTATION OF CONFORMITY

Issued to: EcoFlow Inc.
RM 401, Plant #1, Runheng Industrial Zone, Fuyuan Road, Zhancheng Community,
Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China

For the product: EcoFlow OCEAN 2 Plus Hybrid Inverter Single-Phase

Trade name:



Type/Model: EF HD-P1-12K0-S2, EF HD-P1-12K0-S2F, EF HD-P1-12K0-S2A
EF HD-P1-10K0-S2, EF HD-P1-10K0-S2F, EF HD-P1-9K9-S2A
EF HD-P1-8K0-S2, EF HD-P1-8K0-S2F, EF HD-P1-8K0-S2A
EF-HD-P1-6K0-S2, EF-HD-P1-6K0-S2F

Ratings: See Annex

Manufactured by: EcoFlow Inc.
RM 401, Plant #1, Runheng Industrial Zone, Fuyuan Road, Zhancheng Community,
Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China

Subject: Complete evaluation of electrical system of the appliances

Requirements: ENA EREC G100 A2 Issue 2:2023

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a test file / test report no 4949207.51.

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of this production with the specimen tested by DEKRA is not the responsibility of DEKRA.

This document does not authorize the use of any DEKRA approved mark.

Guangzhou, 13 April 2026

Number: 4949207.02AOC

DEKRA Testing and Certification (Shanghai) Ltd.,
Guangzhou Branch

A handwritten signature in cursive script that reads 'Phoebe chen'.

Phoebe Chen
Certification Manager

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Annex

Document no. : 4949207.02AOC

Ratings of the test product:

Model List and Ratings:						
Model		EF HD-P1-6K0-S2 EF HD-P1-6K0-S2F	EF HD-P1-8K0-S2 EF HD-P1-8K0-S2F EF HD-P1-8K0-S2A	EF HD-P1-9K9-S2A	EF HD-P1-10K0-S2 EF HD-P1-10K0-S2F	EF HD-P1-12K0-S2 EF HD-P1-12K0-S2F EF HD-P1-12K0-S2A
PV Input	PV Operating Voltage Range(V)	50-900				
	MPPT Voltage Range at Rated Power (V)	500-810				
	Rated Input Voltage (V)	600				
	Max. Input Voltage (V)	900				
	Max. Input Current per MPPT (A d.c.)	16				
	Number of MPPT Trackers	3				
	Max. Total Input Power (W)	12000	16000	20000	20000	24000
Battery	Nominal Voltage (V d.c.)	800				
	Voltage Range (V)	720-900				
	Max. Charging Power (W)	18000	24000	30000	30000	30000
	Max. Discharging Power (W)	12000	16000	19900	20000	24000
	Max. Charge Current of Stacking Terminal (A d.c.)	20.8				
	Max. Discharge Current of Stacking Terminal (A d.c.)	9	12	15	15	18
	Max. Charging Current of Expansion port (A d.c.)	24	28	28	28	28
	Max. Discharging Current of Expansion port (A d.c.)	9	12	15	15	18
AC Input (On-grid)	Nominal Input Voltage (V)	220/230, L+N+PE				
	Max. AC Current from Utility Grid (A)	72				
	Frequency (Hz)	50/60				
AC Output (On-grid)	Rated Power to Utility Grid (W)	6000	8000	9999	10000	12000
	Max. Apparent Power Output (VA)	6600	8800	9999	11000	12000
	Nominal Output Voltage (V)	220/230/240, L+N+PE				

	Nominal AC Grid Frequency (Hz)	50/60				
	Rated Output Current	26.1	34.8	43.5	43.5	52.2
	Max. Output Current (A)	32.1	42.8	53.5	53.5	64.2
	Power Factor	-0.8 to +0.8				
AC Output (Backup)	Nominal Output Power	6000	8000	9999	10000	12000
	Rated Output Current (A)	26.1	34.8	43.5	43.5	52.2
	Nominal Output Voltage (V)	220/230, L+N+PE				
	Frequency (Hz)	50/60				
General	Operating Temperature Range (°C)	-20 to 60 (>40 derating)				
	Storage Temperature (°C)	-30 to 60				
	Weight (kg)	Approx. 38				
	Dimension (W×D×H mm)	Approx. 680×406.5×203				
	Ingress Protection Rating	IP66				

G100/2 - Form B - Compliance Verification Report for Customer Export or Import Limitation Schemes	
Extract form test report number: 4949207.51	
CLS Designation	EcoFlow PowerOcean Hybrid Inverter with Single-Phase Smart Meter
Manufacturer name	EcoFlow Inc.
Address	RM 401, Plant #1, Runheng Industrial Zone, Fuyuan Road, Zhancheng Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China
CLS information:	
Hybrid Inverter	EF HD-P1-12K0-S2, EF HD-P1-12K0-S2F, EF HD-P1-12K0-S2A EF HD-P1-10K0-S2, EF HD-P1-10K0-S2F, EF HD-P1-9K9-S2A EF HD-P1-8K0-S2, EF HD-P1-8K0-S2F, EF HD-P1-8K0-S2A EF-HD-P1-6K0-S2, EF-HD-P1-6K0-S2F
Smart Meter	DL200N-CT/D16 (used for type test)、YDM201D (alternative)、ADL200N-CT (alternative)
CT	AKH-0.66

Export/Import capabilities			
Export	Y	Import	Y
Description of Operation			
EREC G100 section 4.2 requires a description of the CLS, and schematic diagram, to be provided to the Customer. Please provide that description and the diagram here.			
The CLS system is composed with the Inverter and Three-Phase Smart Meter. Inverter: EF HD-P1-12K0-S2, EF HD-P1-12K0-S2F, EF HD-P1-12K0-S2A EF HD-P1-10K0-S2, EF HD-P1-10K0-S2F, EF HD-P1-9K9-S2A EF HD-P1-8K0-S2, EF HD-P1-8K0-S2F, EF HD-P1-8K0-S2A EF-HD-P1-6K0-S2, EF-HD-P1-6K0-S2F Single Smart Meter: ADL200N-CT/D16 (CT: AKH-0.66) (used for type test)、YDM201D (alternative)、ADL200N-CT (alternative) EcoFlow design and build distribution and control panels for renewable energy. These include G99 and G100 panels, the following describes our approach to implementing and testing engineering recommendation G100 Issue 2 Amendment 2. A single Smart Meter will be installed at the Customer's Point of Connection where we can monitor the Customer's imported and exported energy, power, voltage and current values. The CLS will read the PoC import/export power meter at a rate of 1Hz. For sites with multiple PoCs, a separate meter will be installed at each PoC and our software will summate the values to calculate the overall import/export value. A MIL/MEL setpoint will be agreed with the DNO and this will be applied to the reverse power relay. State 1 In this mode the control computer reads the site import/export values with respect to the MELs/MILs and modulates generation and load from the system to keep the current flow at the Point of Connection within those limits. In parallel the control computer is monitoring voltage at the Point of Connection and also currents on each phase. State 2 If the MIL/MEL setpoint value is breached for over 60 seconds, a signal will be sent to the Control Unit PLC to trip the power generating device circuit breaker. Voltage limits will be coded into the PLC (Programmable Logic Controller) program in respect of Section 4.4.2 Voltage Limits in EREC G100/2. If setpoint values are breached for over 15 seconds, the master PLC will send a command to instantly trip the power generating device circuit breaker. The CLS will respond typically within 1 second, based on the polling rate to the PoC meter(s). In some cases where commands are sent to power generating devices and the devices do not respond quickly enough, the reverse power relay will ensure any excursion over 60 seconds will enter into State 3. Excessive State 2 operation will result in a State 3 mode (Failed State - where generation is tripped off), where operation within State 2 is recorded over 15 seconds and under 60 seconds, for either more than three times within 24 hours or the time between any two excursions is under 10 minutes (measured from the			

time of re-entry into State 1 operation from State 2 operation following the first excursion).;

State 3

The CLS runs on a master/slave hierarchy where the master PLC (Control Unit) will send commands to slave PLCs that will then send commands to the power generating devices. The master PLC sends out a heartbeat signal to the slaves. When there is no communication between master/slave PLC, the slave PLC will see that there is no communication and send an instant trip command to the power generation device within 15 seconds.

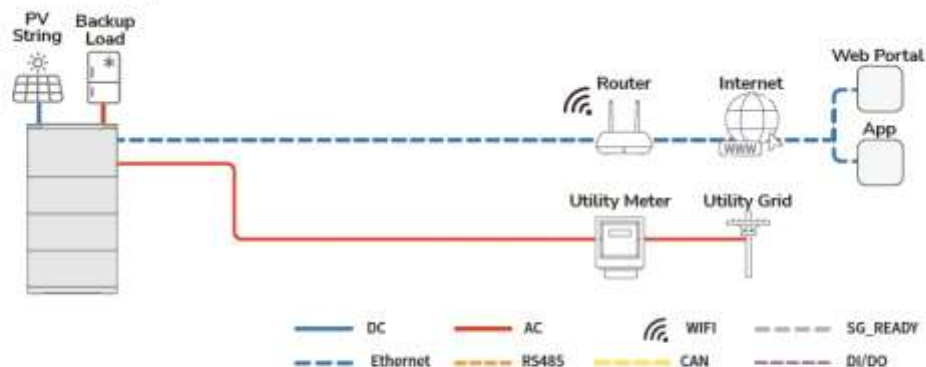
The power generating device circuit breaker is set to a fail-safe state, where it relies on a signal from the CLS to close the circuit breaker, when there is no signal from the CLS, the power generating device circuit breaker is held open, making it impossible to export or import energy onto the DNO network.

When there is loss of power to the slave PLC, the power generating device circuit breaker will be held open. Loss of power to any control PLC will result in an immediate trip as the generation device circuit breaker Under Voltage Release coil will de-energize.

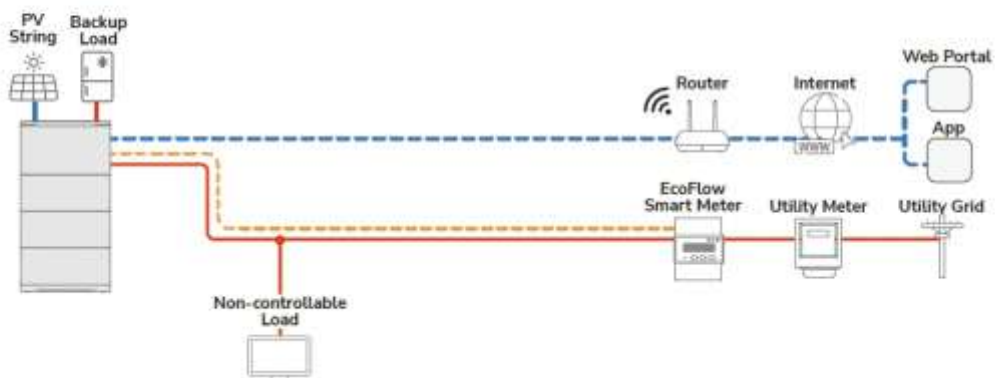
Notifications are automatically logged and notified to inverter and the customer when there is any State 2 or State 3 operation.

Operational Diagram

• Whole Home Backup System



• Partial Home Backup System



Communications Media

Document the provisions made for the use of various communication media, and both the inherent characteristics and the design steps made to ensure security and reliability.

The CLS used Dedicated hardwire MODBUS RTU - RS485 for communication.

All devices connected to the CLS are assigned with a static IP.

The CLS operators over a private LAN.

The CLS has a private VPN operating over a dedicated 4G modem for remote monitoring from our secure server.

All devices are password protected and the passwords are not shared with the customer.

Cyber Security

Confirm that the **Manufacturer** or **Installer** of the **CLS** has provided a statement describing how the **CLS** has been designed to comply with cyber security requirements, as detailed in section 4.7.

Power Quality Requirements
Where the CLS includes the power electronics that controls generation or loads (as opposed to the power electronics being included in Devices that are subject to their own power quality compliance requirements) please submit the harmonic and disturbance information here as required by EREC G5 and EREC P28.
The CLS controls the power of the relevant power generation/load modules by interacting with the generator system, usually through a communication interface, without any influence on the power quality of the generation system, which meets the requirements of the relevant standards (e.g. BS EN 61000-3-2 and/or BS EN 61000-3-12) or provides harmonic data in accordance with EREC G5 and EREC P28. For customers using the G100 solution provided by EcoFlow Inc., harmonic documentation in accordance with EREC G5 and EREC P28 can be provided by the installer to confirm that the entire system including the generator and generator control system meets the requirements of the standard.

Fail Safe		
CLS internal failure: please submit here the description of the internal Fail Safe design and operation. Please also document how it has been demonstrated, including the non-volatile recording of times and numbers of state 2 operations, and confirm the overall response of the CLS to this internal failure.		
The electricity meter communicates with the inverter via the RS485 interface. The electricity meter can monitor the grid information in real time through its CT. The CLS is integrated within the DSP of the inverter. If any part of the electricity meter or CT fails, the inverter screen will display fault information, forcing it to enter the state 3 lock state. The inverter will record which state it has entered. If it does not exceed MEL/MIL, it will display state 1. If the fault current exceeds MEL/MIL for 15 seconds but less than 1 minute, it will display state 2, and the number of times it enters state 2 will be recorded. The CLS breaches any of the following criteria, it shall enter state 3 operation immediately and need to be manually cleared to return to state 1 for normal operation: • A single excursion into state 2 operation that persists for more than 1 minute • The time between any two consecutive excursions into state 2 operation of greater than 15s is 10 minutes or less (measured from the time of re-entry into state 1 operation from state 2 operation following the first excursion).; or • For installations where the maximum excursion period is 3 minutes the total time in state 2 operation in any 24 hour period, but neglecting any excursion of 15s or less, exceeds 8 minutes.		
Communication and power supply failures between Components and Devices. Please document here compliance with EREC G100 section 5.5.		
Component/Device number/description	Communication failure test	Power supply failure test
Inverter	--	Inverter Power supply removed (Inverter shutdown immediately, if the issue fixed, inverter and CLS immediately reset into state 1 operation)
The electricity meter	--	The electricity meter Power supply removed (If the inverter displays a communication failure and the reset fails immediately, the inverter and CLS are forced to enter state 3. If the problem is fixed, the inverter and CLS are immediately reset to state 1)
Communication between Inverter and The electricity meter	Remove/interrupt communication of RS485 interface (If the inverter displays a communication failure and the reset fails immediately, the inverter and CLS	--

	are forced to enter state 3. If the problem is fixed, the inverter and CLS are immediately reset to state 1)	
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Operational Tests						
In accordance with EREC G100 section 5.6 undertake the tests A and B to confirm correct operation in state 1 and state 2, that transition into state 3 occurs as required, and that behaviour in state 3 is also as required.						
Test A						
Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					15 A (12.00 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					15 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of $\geq 5\%$?	Duration of step in test	Correct state 1/state 2 operation
1	14.33 A (95% of MEL)	16.00 A (105% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 6.0s	59 s	Yes, State 1
2	--	--	--	--	--	--
3	14.29 A (95% of MEL)	18.27 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 5.4s	57.8 s	Yes, State 1
4	-14.48 A (95% of MIL)	-15.62 A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.6s	59.2 s	Yes, State 1
5	--	--	-	--	--	--
6	-14.48 A (95% of	-18.24A (120%	Yes, CLS in State 2 State 2 counter increments	Yes, reacted in 3.2s	57.6 s	Yes, State 1

	MIL)	of MIL)	+1 24-hour timer and 10-minute timer starts			
Test B						
Nominal Export Limit:					15 A (12.00 kW)*	
Nominal Import Limit					15 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of $\geq 5\%$?	Duration of step in test	Correct state 3 operation
7	14.33 A (95% of MEL)	15.93 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 3.6s	61.8 s	Yes
8	-14.55 A (95% of MIL)	-15.70 A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 3.4s	61.8 s	Yes
Test A						
Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					30 A (12.00 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					30 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of $\geq 5\%$?	Duration of step in test	Correct state 1/state 2 operation
1	28.70 A (95% of	31.71 A (105%	Yes, CLS in State 2	Yes, reacted in	58.8 s	Yes, State 1

	MEL)	of MEL)	State 2 counter increments +1 24-hour timer and 10-minute timer starts	3.6s		
2	--	--	--	--	--	--
3	28.70 A (95% of MEL)	36.19 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.8s	58.6 s	Yes, State 1
4	-28.46 A (95% of MIL)	-31.4A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 3.2s	58.2 s	Yes, State 1
5	--	--	--	--	--	--
6	-28.71 A (95% of MIL)	-35.10 A (120% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.4s	58 s	Yes, State 1
Test B						
Nominal Export Limit:					30 A (12.00 kW)*	
Nominal Import Limit					30 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of $\geq 5\%$?	Duration of step in test	Correct state 3 operation
7	28.70 A (95% of MEL)	31.72 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments	Yes, reacted in 1.6s	61.6 s	Yes

			+1			
8	-28.33 A (95% of MIL)	-31.32 A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 2.2s	61.8 s	Yes
Test A						
Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					40 A (12.00 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					40 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of ≥ 5%?	Duration of step in test	Correct state 1/state 2 operation
1	37.76 A (95% of MEL)	42.00 A (105% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.6s	58.2 s	Yes, State 1
2	--	--	--	--	--	--
3	37.31 A (95% of MEL)	45.84 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 3.2s	58 s	Yes, State 1
4	-38.16 A (95% of MIL)	-42.17 A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.6s	58.6 s	Yes, State 1
5	--	--	--	--	--	--

6	-38.16 A (95% of MIL)	-42.61 A (120% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 2.8s	57.7 s	Yes, State 1
Test B						
Nominal Export Limit:					40 A (12.00 kW)*	
Nominal Import Limit					40 A (12.00 kW)*	
No	Starting level	Step value	CLS registers change in level?	CLS and/or Component and/or Device initiates correct response of ≥ 5%?	Duration of step in test	Correct state 3 operation
7	38.16 A (95% of MEL)	42.17 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1.	Yes, reacted in 2.6s	62 s	Yes
8	-38.16A (95% of MIL)	-42.60A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 2.6s	62.6 s	Yes
NOTE:						
* Random value, adjustable from 0 to 52.2 A (12000W).						

State 3 Reset

These tests are to demonstrate compliance with section EREC G100 4.5.2.

Please document how the reset from state 3 to state 1 has been demonstrated. Please include how the reset is achieved.

Please confirm that for **CLSS** to be installed in **Domestic installations** three (3) resets causes lockout or that for non-domestic installations lockout can only be reset after four hours. Please explain how lockout is reset.

In order to exit the state 3 locked state for any reason, it is necessary to first identify and resolve the source of the fault, and then manually clear the current fault information before returning to state 1 and resuming normal operation.

End