

Certificate of The Network and System Protection

Zertifikat für den Netz- und Anlagenschutz



Certificate holder / Inhaber des Zertifikats

: **EcoFlow Inc.**

Room 401, Plant #1, Runheng Industrial Zone, Fuyuan Road,
Zhancheng Community, Fuhai Street, Bao'an District, Shenzhen
City, Guangdong Province, P.R.China

Date of Original Issue/ Datum der ursprünglichen Ausgabe

: 2025-04-14

Date of Last Revision / Datum der letzten Überarbeitung

: --

Date of Expiry / Verfallsdatum

: 2028-04-13

Certificate number / Zertifikatsnummer

: PCS-25-1065

Brand / Trademark / Warenzeichen

:  or 



It is certified that the product / Es ist zertifiziert, dass das Produkt

Models / Modelle

: EF-EA-HD-U2K-800, EF-EA-HD-U2K-600,
EF-EA-HD-P2K-800, EF-EA-HD-P2K-600,
EF-EA-AC-P2K-800, EF-EA-AC-P2K-600

Type of generator / Generortyp

: EcoFlow STREAM Ultra / EcoFlow STREAM Pro /
EcoFlow STREAM AC Pro

Technical Data / Technische Daten

: See appendix on page 4

Test Laboratory / Testlabor

: SGS-CSTC Standards Technical Services Co., Ltd. Suzhou
Branch

Test Report (s) / Testbericht(e)

: SUEE250300007051

Test Standard(s) / Prüfnorm(en)

: VDE-AR-N 4105:2018-11 + Correction 1:2020

Is in compliance with the Network connection rule / In Übereinstimmung mit der Anwendungsregel:

VDE-AR-N-4105:2018-11 + Correction 1:2020-10 "Generators connected to the low-voltage distribution network / Erzeugungsanlagen am Niederspannungsnetz". Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network / Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz.

Based on tests requirements defined in / Basierend auf Tests Anforderungen definiert in:

VDE V 0124-100: 2020-06 "Network integration of power generation systems – Low voltage / Netzintegration von Erzeugungsanlagen" Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network / Niederspannung – Prüfanforderungen an Erzeugungseinheiten, vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz.

This is to certify that the product has been tested and was found to comply with the requirements of the standard(s). / Hiermit wird bescheinigt, dass das Produkt getestet wurde und den Anforderungen der Norm(en) entspricht.

The above-mentioned product is certified according to the requirements of ISO/IEC 17065:2012. / Das oben genannte Produkt ist gemäß den Anforderungen der ISO/IEC 17065:2012 zertifiziert.

Christopher Hee
Certification Officer

SGS Testing & Control Services Singapore Pte Ltd
30 Boon Lay Way #03-01 Singapore 609957



PD-2016-15



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APPENDIX(ANHANG)



Certificate number / Zertifikatsnummer: PCS-25-1065

E.7 Requirements for the test report for the NS protection E.7 Anforderungen an den Prüfbericht zum NA-Schutz						
Extract from test report for unit certificate "Determination of electrical properties" Auszug aus dem Prüfbericht für Erzeugungseinheiten „Bestimmung der elektrischen Eigenschaften“						N° SUEE250300007051
Test report NS protection Prüfbericht NA-Schutz						
Type of NS protection Typ NA-Schutz	Integrierter NA-Schutz					
Software Version Software-Version	1.0.0.117					
Manufacturer Hersteller	EcoFlow Inc.					
Measuring Period Messzeitraum	February 10 th to March 13 th of 2025.					
	Stirling generators, fuel cells Stirlinggeneratoren, Brennstoffzellen			Inverter(s) Umrichter		
	Synchronous and asynchronous generators with P _n ≤ 50 kW coupled directly or via inverters direkt oder über Umrichter gekoppelte Synchron- und Asynchrongeneratoren mit P _n ≤ 50 kW			Directly coupled synchronous and asynchronous generators with P _n > 50 kW direkt gekoppelte Synchron- und Asynchrongeneratoren mit P _n > 50 kW		
Protective function Schutzfunktion	Set value Einstellwert	Tripping value Auslösewert	Tripping time NS protection (1) Auslösezeit NA-Schutz	Set value Einstellwert	Tripping value Auslösewert	Tripping time NS protection (1) Auslösezeit NA-Schutz
Rise-in voltage protection U>> Spannungssteigerungsschutz U>>	-	-	--	1.25*Un	1.254*Un	64.0 ms
Rise-in voltage protection U> Spannungssteigerungsschutz U>	-	-	--	1.10*Un	--	498.9 s
Voltage drop protection U< Spannungsrückgangsschutz U<	-	-	--	0.8*Un	0.796*Un	3.075 s
Voltage drop protection U<< Spannungsrückgangsschutz U<<	-	-	--	0.45*Un	0.448*Un	311.0 ms
Frequency decrease protection f< Frequenzrückgangsschutz f<	-	-	--	47.5 Hz	47.49 Hz	95.0 ms
Frequency increase protection f> Frequenzsteigerungsschutz f>	-	-	--	51.5 Hz	51.49 Hz	58.0 ms
(1) The tripping time includes the period from the limit violation U/f until the tripping signal to the interface switch. Die Auslösezeit umfasst den Zeitraum von der Grenzwertverletzung U/f bis zum Auslösesignal an den Kuppelschalter. When planning the power generation system, the response time of the interface switch shall be added to the maximum time value obtained as indicated above. Bei der Planung der Erzeugungsanlage ist die Eigenzeit des Kuppelschalters zum höchsten oben er-mittelten Zeitwert zu addieren. The disconnection time (sum of tripping time of the NS protection plus response time of the interface switch) shall not exceed 200 ms. Die Abschaltzeit (Summe der Auslösezeit NA-Schutz zzgl. Eigenzeit des Kuppelschalters) darf 200 ms nicht überschreiten.						



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For integrated NS protection <i>Bei integriertem NA-Schutz</i>	
Assigned to power generation unit of type <i>zugeordnet zu Erzeugungseinheit Typ</i>	EF-EA-HD-U2K-800, EF-EA-HD-U2K-600, EF-EA-HD-P2K-800, EF-EA-HD-P2K-600, EF-EA-AC-P2K-800, EF-EA-AC-P2K-600
Type integrated interface switch <i>Typ integrierter Kuppelschalter</i>	Main Relay / HF140FF-G
Response time of interface switch for integrated NS protection <i>Eigenzeit des Kuppelschalters bei integriertem NA-Schutz</i>	≤20 ms
Verification of the entire functional chain "integrated NS protection – interface switch" has resulted in successful disconnection <i>Die Überprüfung der Gesamtwirkungskette „integrierter NA-Schutz – Kuppelschalter“ führte zu einer erfolgreichen Abschaltung.</i>	
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Full list of product references and nominal characteristics / Vollständige Liste der Produktreferenzen und nominalen Merkmale:

Rating specifications of EcoFlow STREAM Ultra / EcoFlow STREAM Pro / EcoFlow STREAM AC Pro						
Model	EF-EA-HD- U2K-800	EF-EA-HD- U2K-600	EF-EA-HD- P2K-800	EF-EA-HD- P2K-600	EF-EA-AC- P2K-800	EF-EA-AC- P2K-600
PV Terminal:						
Max. PV Input Voltage (V)	60			/		
Max. PV Input Current (A)	14			/		
Max. Isc PV (A)	20			/		
Max. MPPT Input Power (W)	2000		1500		/	
Number of MPP trackers	4		3		/	
Operation Voltage Range (V)	15 - 60			/		
Battery Info:						
Rated Voltage (V)	19.2					
Rated Capacity (kWh)	1.92					
Cell Chemistry	LiFePO ₄					
Grid Terminal:						
Rated Output Voltage (V)	230, L/N/PE					
Rated Output Power (W)	800	600	800	600	800	600
Rated Output Current (A)	3.48	2.61	3.48	2.61	3.48	2.61
Rated Frequency (Hz)	50					
Power factor (adjustable)	-0.8 ~ +0.8					
Max. Input Power (W)	2300					
Max. Input Current (A)	10					
Parallet Terminal:						
Max. Input / Output Power (W)	2300					
Max. Input / Output Current (A)	10					
Rated Output Voltage (V)	230, L/N/PE					
Power factor (adjustable)	-0.8 ~ +0.8					
Others:						
Ingress protection (IP)	IP65					
Protective class	Class I					
Operating / Storage Temperature (°C)	-20°C to +55°C, with derating above 35°C					
Cooling Method	National Convection					
Inverter Isolation	Isolated					
Overvoltage category	II (DC), III (AC)					
Dimensions (W*D*H)	283*248*459 mm					
Weight (kg)	23.1		23.0			
Operating Altitude (m)	≤ 4000					
Topology	Transformer					



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