



**BUREAU
VERITAS**

Certificate of compliance

Applicant: **Jiangsu Hanchu Energy Technology Co.,Ltd.**
No.588, Jinhui Road, Huishan District, Wuxi City, Jiangsu Province
China

Product: Photovoltaic (PV) and battery inverter

Model: **HESS-HY-T-05K, HESS-HY-T-06K, HESS-HY-T-08K, HESS-HY-T-10K, HESS-HY-T-12K,
HESS-HY-T1-05K, HESS-HY-T1-06K, HESS-HY-T1-08K, HESS-HY-T1-10K, HESS-HY-T1-
12K**

Inverter for three-phase parallel connection to the public grid. The network monitoring and disconnection device is an integral part of the above-mentioned model.

Applied rules and standards:

EN 50549-1:2019

Requirements for parallel connection of installations with distribution networks - Part 1: Connection to an LV distribution network - Production of installations up to and including Type B

- 4.4 Normal operating range
- 4.5 Immunity to disturbances
- 4.6 Active response to frequency deviation
- 4.7 Power response to voltage variations and voltage changes
- 4.8 EMC and power quality
- 4.9 Interface protection
- 4.10 Connection and starting to generate electrical power
- 4.11 Ceasing and reduction of active power on set point
- 4.13 Requirements regarding single fault tolerance of interface protection system and interface switch

DIN VDE V 0124-100:2020 (5.5.2.1 Functional safety of network and system protection)

Grid integration of generator plants - Low-voltage - Test requirements for generator units to be connected to and operated in parallel with low voltage distribution networks

Commission Regulation (EU) 2016/631 of 14 April 2016

Establishing a network code on requirements for grid connection of generators (NC RFG).
Type approval for generation units to use in type A and B

At the time of issue of this certificate, the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: PV2312WDG0086-1 **Certification Program:** NSOP-0032-DEU-ZE-V01
Certificate number: U23-1187 **Date of issue:** 2023-12-20

Certification body



Domenik Koll
Head of Energy Systems



Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation to DIN EN ISO/IEC 17065

Testing laboratory accredited according to DIN EN ISO/IEC 17025

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH



Annex to the EN 50549-1 certificate of compliance No. U23-1187

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Appendix				
Extract from test report according to EN 50549-1			No.PV2312WDG0086-1	
Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016				
Manufacturer / applicant	Jiangsu Hanchu Energy Technology Co.,Ltd. No.588, Jinhui Road, Huishan District, Wuxi City, Jiangsu Province China			
Micro-generator Type				
	Photovoltaic (PV) and battery inverter			
	HESS-HY-T-05K	HESS-HY-T-06K	HESS-HY-T-08K	HESS-HY-T-10K
Max. input PV voltage [V]	1100			
Input PV voltage range [V]	150-950	150-950	200-950	200-950
Max. Input PV current [A]	2*20,0	2*20,0	2*20,0	2*20,0
Input Battery voltage range [V]	120-600			
Max. Battery current [A]	30,0	30,0	30,0	30,0
Output AC voltage [V][Grid]	3L/N/PE, 230V, 50Hz			
Nominal Output AC current [A] [Grid]	7,3	8,7	11,6	14,5
Max. Output AC current [A] [Grid]:	8,0	9,6	12,8	16,0
Nominal Output power [kW] [Grid]	5,0	6,0	8,0	10,0
Max. Output power [kVA] [Grid]	5,0	6,0	8,0	10,0
Output AC voltage [V][EPS]	3L/N/PE, 230V, 50Hz			
Nominal Output AC current [A] [EPS]	7,3	8,7	11,6	14,5
Max. Output AC current [A] [EPS]:	8,0	9,6	12,8	16,0
Nominal Output power [kW] [EPS]	5,0	6,0	8,0	10,0
Max. Output power [kVA] [EPS]	5,0	6,0	8,0	10,0
	HESS-HY-T-12K	HESS-HY-T1-05K	HESS-HY-T1-06K	HESS-HY-T1-08K
Max. input PV voltage [V]	1100			
Input PV voltage range [V]	200-950	150-950	150-950	200-950
Max. Input PV current [A]	2*20,0	3*16,0	3*16,0	3*16,0
Input Battery voltage range [V]	120-600			
Max. Battery current [A]	30,0	30,0	30,0	30,0
Output AC voltage [V][Grid]	3L/N/PE, 230V, 50Hz			
Nominal Output AC current [A] [Grid]	17,4	7,3	8,7	11,6
Max. Output AC current [A] [Grid]:	19,2	8,0	9,6	12,8



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Extract from test report according to EN 50549-1 No.PV2312WDG0086-1

Nominal Output power [kW] [Grid]	12,0	5,0	6,0	8,0
Max. Output power [kVA] [Grid]	12,0	5,0	6,0	8,0
Output AC voltage [V][EPS]	3L/N/PE, 230V, 50Hz			
Nominal Output AC current [A] [EPS]	17,4	7,3	8,7	11,6
Max. Output AC current [A] [EPS]:	19,2	8,0	9,6	12,8
Nominal Output power [kW] [EPS]	12,0	5,0	6,0	8,0
Max. Output power [kVA] [EPS]	12,0	5,0	6,0	8,0
	HESS-HY-T1-10K	HESS-HY-T1-12K	--	--
Max. input PV voltage [V]	1100		--	--
Input PV voltage range [V]	200-950	200-950	--	--
Max. Input PV current [A]	3*16,0	3*16,0	--	--
Input Battery voltage range [V]	120-600		--	--
Max. Battery current [A]	30,0	30,0	--	--
Output AC voltage [V][Grid]	3L/N/PE, 230V, 50Hz		--	--
Nominal Output AC current [A] [Grid]	14,5	17,4	--	--
Max. Output AC current [A] [Grid]:	16,0	19,2	--	--
Nominal Output power [kW] [Grid]	10,0	12,0	--	--
Max. Output power [kVA] [Grid]	10,0	12,0	--	--
Output AC voltage [V][EPS]	3L/N/PE, 230V, 50Hz		--	--
Nominal Output AC current [A] [EPS]	14,5	17,4	--	--
Max. Output AC current [A] [EPS]:	16,0	19,2	--	--
Nominal Output power [kW] [EPS]	10,0	12,0	--	--
Max. Output power [kVA] [EPS]	10,0	12,0	--	--
Firmware version	Master Software version: V610-05001-01. Slave Software version: V610-60015-00. Safety version: V610-11022-01.			



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Extract from test report according to EN 50549-1

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Description of the structure of the power generation unit:

The power generation unit is equipped with a PV/DC and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on the inverter bridge and two series-connected relays in each line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.