

Certificate of Conformity

No. ESY 117061 0004 Rev. 00

Holder of Certificate: **Shanghai Hoenergy Power Technology Co.,Ltd**

Building 1, 1888 Wangyuan Road
Fengxian District
201400 Shanghai
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter
(Hybrid Solar Inverter)**

Model(s): **iINV-HB3-6.0KH, iINV-HB3-8.0KH,
iINV-HB3-10.0KH, iINV-HB3-12.0KH,
iINV-HB3-15.0KH**

Parameters: See page 3

Applicable standards: EN 50549-1:2019
RfG:2016
NC RfG:2018
PTPIREE:2021

This Certificate of Conformity confirms the compliance with the above listed standards on a voluntary basis. It refers only to the sample submitted to TÜV SÜD Product Service GmbH and does not certify the quality or safety of the serial products. It was issued according to TÜV SÜD Product Service certification program Photovoltaics and Grid Integration. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290223064901

Date, 2022-07-28



(Billy Qiu)

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Technical Certifier (Billy Qiu) appointed by Certification Body TÜV SÜD Product Service GmbH performed assessment of the products listed in this certification in the place: Ridlerstraße 65, 80339 Munich, Germany.

Test requirement	<p>The certification complies with the requirements of the following documents for Type A PGM installations:</p> <p>EN 50549-1:2019 Wymagania dla instalacji wytwórczych przeznaczonych do równoległego przyłączenia do publicznych sieci dystrybucyjnych -- Część 1: Przyłączenie do sieci dystrybucyjnej nN -- Instalacje wytwórcze aż do typu B włącznie <i>(EN: Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network - Generating plants up to and including Type B)</i></p> <p>RfG:2016 Rozporządzenie Komisji (UE) 2016/631 z dnia 14 kwietnia 2016 r. ustanawiające kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (Dz.U. UE L 112/1 z 27.4.2016) <i>(EN: Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for the connection of generating units to the Network (OJ EU L 112/1 of 27.4.2016))</i></p> <p>NC RfG:2018 Wymogi Ogólnego Stosowania wynikające z rozporządzenia komisji UE 2016/631 z dnia 14 kwietnia 2016 r. ustanawiającego kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (NC RfG, 2018) - zatwierdzone Decyzją Prezesa Urzędu Regulacji Energetyki DRE.WOSE.7128.550.2.2018.ZJ z dnia 2 stycznia 2019 r. <i>(EN: General applicability requirements resulting from EU commission regulation 2016/631 of of 14 April 2016 establishing a network code concerning the requirements for with regard to the connection of generating units to the grid (NC RfG-2018)- approved by the Decision of the President of the Energy Regulatory Office DRE.WOSE.7128.550.2.2018.ZJ dated 2 January 2019.)</i></p> <p>PTPiREE:2021 Warunki i procedury wykorzystania certyfikatów w procesie przyłączenia modułów wytwarzania energii do sieci elektroenergetycznych V1.2 <i>(EN: Conditions and procedures for the use of certificates in the process of connecting modules generation modules to the power grid V1.2)</i></p>
Type of certification programme	1(a) according to EN ISO/IEC 17067 Based on Photovoltaics and Grid Integration Certification Program (Revision 6,Dated 5 Dec 2021) for Poland Grid Code
Manufacturer & Address of manufacturing site	Shanghai Hoenergy Power Technology Co.,Ltd Building 1, 1888 Wangyuan Road, Fengxian District 201400 Shanghai, PEOPLE'S REPUBLIC OF CHINA
Software version	ARM: V1.03.08, DSP: V1.02.11
Certificate expiry date	2027-07-27

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Parameters:

Model	iINV-HB3-6.0KH	iINV-HB3-8.0KH	iINV-HB3-10.0KH	iINV-HB3-12.0KH	iINV-HB3-15.0KH
Battery terminal parameters					
Rated battery DC voltage	200 Vd.c.	250 Vd.c.	300 Vd.c.	350 Vd.c.	400 Vd.c.
Battery DC voltage range	125-600 Vd.c.				
Max charging / discharging current	50 Ad.c.				
Battery type	Lithium-ion				
Maximum charge/discharge power	15000 W				
PV terminal parameters					
Max. Input Power	9000 W	12000 W	15000 W	18000 W	22500 W
Maximum DC input voltage	1000 Vd.c.				
MPPT Range	180~850 Vd.c.				
MPPT Range (full load)	250~850 Vd.c.	330~850 Vd.c.	430~850 Vd.c.	510~850 Vd.c.	620~850 Vd.c.
Max. Input Current	2*13 Ad.c.				
Isc PV	2*16 Ad.c.				2*25 Ad.c.
Grid terminal parameters					
Rated output Power	6000 W	8000 W	10000 W	12000 W	15000 W
Maximum continuous output apparent power	6600 VA	8800 VA	11000 VA	13200 VA	16500 VA
Max. AC output current	9.5 Aa.c.	12.7 Aa.c.	15.9 Aa.c.	19.1 Aa.c.	23.8 Aa.c.
Maximum continuous input apparent power	13200 VA	17600 VA	22000 VA	26400 VA	33000 VA
Max. AC input current	19 Aa.c.	25.5 Aa.c.	31.9 Aa.c.	38.2 Aa.c.	47.6 Aa.c.
Rated AC voltage	230/400 Va.c., 3W+N+PE				
Rated AC frequency	50 Hz				
Power factor	0.9lagging to 0.9leading				
Backup terminal parameters					
Rated apparent power	6000 VA	8000 VA	10000 VA	12000 VA	15000 VA
Maximum continuous output apparent power	6600 VA	8800 VA	11000 VA	13200 VA	16500 VA
Max. AC current	9.5 Aa.c.	12.7 Aa.c.	15.9 Aa.c.	19.1 Aa.c.	23.8 Aa.c.
Rated AC voltage	230/400 Va.c., 3W+N+PE				
Rated AC frequency	50Hz				

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Scope of assessment and results

Clause of NfG	Requirement	Type A	Type B	Type C	Type D	Assessment Result
Article 13.1 (a)	Frequency range	Y	-	-	-	Pass
Article 13.1 (b)	Ability to withstand the frequency of change of frequency (RoCoF)	Y	-	-	-	Pass
Article 13.2	Limited frequency sensitive mode — overfrequency (LFSM-O)	Y	-	-	-	Pass
Article 13.4 & 13.5	Maximum power capability reduction with falling frequency	Y	-	-	-	Pass
Article 13.6	Remote ceasing active power	Y	-	-	-	Pass
Article 13.7	Automatic connection to the network	Y	-	-	-	Pass