


# Certificate of Conformity

Certificate Number: CN-PV-220282

On the basis of the tests undertaken, the sample<s> of the below product have been found to comply with the requirements of the referenced specification<s>/standard<s> at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture(s). The manufacturer(s) shall ensure that the manufacturing process assures compliance of the production units with the examined products mentioned in this certificate.

<b>Applicant:</b>	Suzhou Johnray Solar Energy Co., Ltd. Room 209, Building 1, Lejiahui Business Plaza, New District, Suzhou, Jiangsu, China
<b>Product:</b>	Hybrid Inverter
<b>Ratings &amp; Principle Characteristics:</b>	See appendix of Certificate of Conformity
<b>Model:</b>	JH-6K-ML, JH-5K-ML, JH-4K-ML, JH-3.6K-ML, JH-3K-ML
<b>Brand Name&lt;s&gt;:</b>	
<b>Product Complies with:</b>	NTS-631, Version 2.1 Technical standard for monitoring the compliance of power generating modules according to EU Regulation 2016/631
<b>Certificate Issuing Office Name &amp; Address:</b>	Intertek Testing Services Ltd. Shanghai West Area, 2 <sup>nd</sup> Floor, No. 707, Zhangyang Road China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China Accredited by ACCREDIA in accordance with ISO/IEC 17065:2012
<b>Test Report No.&lt;s&gt;:</b>	220913038GZU-003

Additional information in Appendix.



Signature

**Certification Manager: Grady Ye**  
**Date: 12 December 2022**



PRD N° 306B

## APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-220282

MODEL	JH-3K-ML	JH-3.6K-ML	JH-4K-ML	JH-5K-ML	JH-6K-ML
PV String Input data					
Max. Recommended PV power(kW)	7	7	9	9	9
Max.DC voltage(V)	550				
Nominal voltage(V)	360				
MPPT working voltage range(V)	90~550				
Full load dc voltage range(V)	300~450				
Start Voltage/Minimum working voltage(V)	100/80				
Max. input Current of tracker A/tracker B (A)	15/15				
No. of independent MPP trackers/string per MPPT tracker	2/1				
AC Output Data (Grid)					
Rated AC output power(KW)	3	3.6	4	5	6
Max. AC apparent Power(kVA)	3.3	4	4.4	5.5	6.6
Max. AC input power(KW)	6	7.2	8	10	12
AC output voltage	230V, L+N+PE				
Rated AC output frequency	50 /60				
Rated AC output current (A)	13	15.6	18	22	26
Max. AC input current (A)	28	32	38	48	58
Power factor	±0.8				
AC Output Data (Back-up)					
Max. AC output power(KVA)	3.3	4	4.4	5.5	6.6
Rated AC output power(KW)	3	3.6	4	5	6
Rated AC output voltage	230V, L+N+PE				
Rated AC output frequency	50 /60				

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Battery data					
Battery Type	Lithium /Lead-acid				
Nominal voltage(V)	48				
Battery voltage Range(V)	42~59				
Max.charging/discharging current(A)	80/80	80/80	100/100	100/100	100/100
Capacity of battery	25-2000AH				
General Data					
Operating temperature range	-25 °C~ +60 °C				
Environmental Protection	IP65				
Firmware version	HI 1.0				

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Requisito / Requirement	NTS	Tipo / Type	Cumplimiento / Complicant	Nombre Entidad Emisora / Name of issuing Entity	Ev. (*)
Modo regulación potencia-frecuencia limitado sobrefrecuencia (MRPFL-O) / Power-frequency regulation mode limited to overfrequency (MRPFL-O)	5.1	≥A	YES (TRF No. 220913038GZU-003)	Intertek	P
Modo regulación potencia-frecuencia limitado-subfrecuencia (MRPFL-U) / Power-frequency regulation mode limited to underfrequency (MRPFL-U)	5.2	≥C	NOT APPLICABLE	--	--
Modo regulación potencia-frecuencia (MRPF) / Power-frequency regulation mode (MRPF)	5.3	≥C	NOT APPLICABLE	--	--
Control de potencia-frecuencia / Frequency Control	5.4	≥C	NOT APPLICABLE	--	--
Capacidad de control y el rango de control de la potencia activa en remote / Active Power Requirements	5.5	≥C	NOT APPLICABLE	--	--
Emulación de inercia durante variaciones de frecuencia muy rápidas / Intertia Emualtions	5.6	≥C	NOT APPLICABLE	--	--
Capacidad de potencia reactiva a la capacidad máxima y por debajo / Reactive power capabilities at the EUT rated power and below	5.7	≥B	NOT APPLICABLE	--	--
Modos de control de la potencia reactiva / Reactive power control modes	5.8	≥B	NOT APPLICABLE	--	--
Control de amortiguamiento de oscilaciones / Control of oscillation damping	5.10	≥C	NOT APPLICABLE	--	--
Capacidad para soportar huecos de tensión de los MPE conectados por debajo de 110 kV / Capability to withstand voltage grid faults for POC below 110 kV	5.11	≥B	NOT APPLICABLE	--	--
Capacidad para soportar huecos de tensión de los MPE conectados por encima de 110 kV / Capability to withstand voltage grid faults for POC above 110 kV	5.11	D	NOT APPLICABLE	--	--
Recuperación de la potencia activa después de una falta / Active power recovery after a grid fault	5.11	≥B	NOT APPLICABLE	--	--
Inyección rápida de corriente de falta en el punto de conexión en caso de faltas trifásicas) simétricas / Rapid current injection control	5.11	≥B	NOT APPLICABLE	--	--
Capacidad de participar en el funcionamiento en isla / Islanding requirements	5.13	≥C	NOT APPLICABLE	--	--
(*) Evaluado por / Evaluated by: P: Prueba de conformidad / Test of compliance S: Simulación de conformidad / Simulation of compliance					

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