


Certificate of Conformity


Certificate Number: CN-PV-230184R1

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.

Applicant:	Suzhou Johnray Solar Energy Co., Ltd. Room 209, Building 1, Lejihui Business Plaza, New District, Suzhou, Jiangsu, China
Product:	Hybrid inverter
Ratings & Principle Characteristics:	See appendix of Certificate of Conformity
Model:	Inverter conversion device: JH-6K-ML, JH-5K-ML, JH-4K-ML, JH-3.6K-ML, JH-3K-ML Batteries and BMS - Battery Management System Battery module model: 1*JRW48100, 2*JRW48100, 3*JRW48100, 4*JRW48100
Brand Name<s>:	
Product Complies with:	CEI 0-21:2022-03 + V1:2022-11: Reference technical rules for the connection of active and passive users to the LV electrical Utilities
Certificate Issuing Office Name & Address:	Intertek Testing Services Ltd. Shanghai West Area, 2 nd 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
Test Report No.<s>:	220913034U-001, Revision 1: 6 May 2023 Issued by Intertek Testing Services Shenzhen Ltd. Guangzhou Branch accredited by IAS (TL-395) in accordance with ISO/IEC 17025:2017

Replaces certificate CN-PV-230184 dated 21 April 2023

Additional information in Appendix.






Signature
Certification Manager: Grady Ye
Date: 17 May 2023



PRD N° 306B

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-230184R1

Test item description.....:	Hybrid inverter
Trade Mark.....:	
Manufacturer.....:	Same as applicant
Model/Type reference.....:	Inverter conversion device: JH-6K-ML, JH-5K-ML, JH-4K-ML, JH-3.6K-ML, JH-3K-ML
	Brands: 
	Batteries and BMS - Battery Management System
	Battery module model: 1*JRW48100, 2*JRW48100,3*JRW48100, 4*JRW48100
	Battery pack: JRW48100
	Brands: 
Inverter Firmware Version.....:	HI1.0
Number of phases.....:	Single-phase
Nominal Power	3000W (JH-3K-ML), 3600W (JH-3.6K-ML), 4000W (JH-4K-ML), , 5000W (JH-5K-ML), 6000W (JH-6K-ML)
Type.....:	Bidirectional
CUS (useful capacity of the storage system)	4.608kWh (1*JRW48100), 9.216kWh (2*JRW48100) 13.824kWh (3*JRW48100), 18.432kWh (4*JRW48100)
Psn (nominal discharge power) ...:	3840W (1*JRW48100), 5000W (2*JRW48100, 3*JRW48100, 4*JRW48100)
Pcn (nominal charge power).....:	3840W (1*JRW48100), 5000W (2*JRW48100, 3*JRW48100, 4*JRW48100)
Psmax (maximum discharge power) :	Same as above
Pcmax (maximum charge power)	Same as above
BMS Firmware Version.....:	1101-ZH56

Battery		Total energy (kWh)	CUS (useful capacity of the storage system)	
Basic Model	Manufacturer		Capacity of per battery module (kWh)	Number of Battery pack
JRW48100	Suzhou Johnray Solar Energy Co., Ltd.	5.12	4.608	1
JRW48100		10.24	9.216	2
JRW48100		15.36	13.824	3
JRW48100		20.48	18.432	4

Note:

1. Batteries are not integrated within the inverter and shall be installed according to local regulation.

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-230184R1

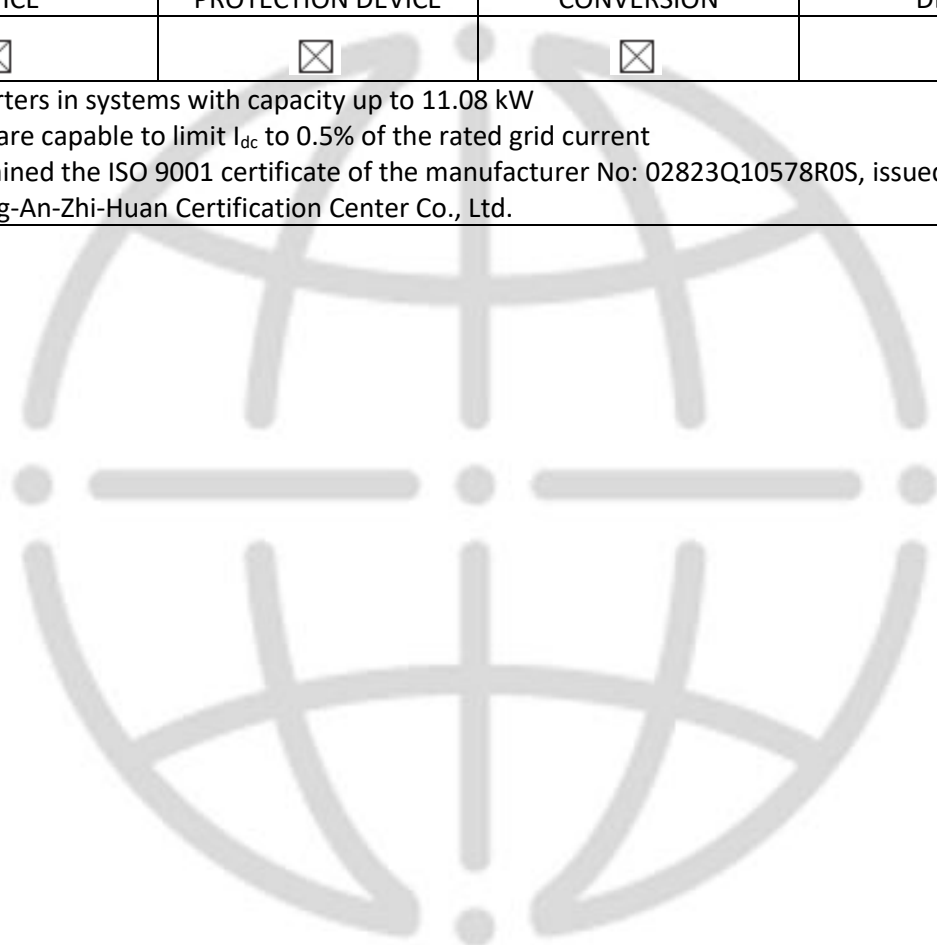
MODEL	JH-3K-ML	JH-3.6K-ML	JH-4K-ML	JH-5K-ML	JH-6K-ML
PV String Input data					
Max. Recommended PV power (kW)	7	7	9	9	9
Max. DC voltage (V)	550				
Nominal voltage (V)	360				
MPPT working voltage range (V)	90~550				
Full load dc voltage range (V)	300~450				
Start Voltage/Minimum working voltage (V)	100/80				
Max. input Current of tracker A/tracker B (A)	15/15				
PV array short circuit current I _{sc} (A)	18/18				
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 output apparent Power (KVA)	3.3	4	4.4	5.5	6.6
Max. AC input apparent power (KVA)	6	7.2	8	10	12
AC output voltage	230V, L+N+PE				
Rated AC output frequency	50 /60 Hz				
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

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-230184R1

TYPE OF APPARATUS: All-In-One Energy Storage System			
Number of phases: three-phase			
DISCONNECTION DEVICE	INTERFACE PROTECTION DEVICE	DEVICE FOR CONVERSION	ROTATING GENERATOR DEVICE
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<p>Static converters in systems with capacity up to 11.08 kW The devices are capable to limit I_{dc} to 0.5% of the rated grid current Having examined the ISO 9001 certificate of the manufacturer No: 02823Q10578R0S, issued by: Beijing Zhong-An-Zhi-Huan Certification Center Co., Ltd.</p>			



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.