


Certificate of Conformity

Certificate Number: CN-PV-230476

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, Lejiahui Business Plaza, New District, Suzhou, Jiangsu, China
Product:	Hybrid Inverter
Ratings & Principle Characteristics:	See appendix of Certificate of Conformity
Model:	JH-3K-TH, JH-4K-TH, JH5K-TH, JH-6K-TH, JH-8K-TH, JH-10K-TH, JH-12K-TH, JH-15K-TH, JH-17K-TH, JH-20K-TH, JH-25K-TH, JH-30K-TH, JH-3K-THP, JH-4K-THP, JH-5K-THP, JH-6K-THP, JH-8K-THP, JH-10K-THP, JH-12K-THP
Brand Name<s>:	 JOHNRAY
Product Complies with:	EN 50549-1:2019 Requirements for the connection of generation equipment in parallel with public distribution networks
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>:	230600925SHA-001

Additional information in Appendix.

Signature



Certification Manager: Qiao Qiao

Date: 16 August 2023



PRD N° 306B

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APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-230476

Ratings & Principle Characteristics:

Specifications table					
Model	JH-3K-TH	JH-4K-TH	JH-5K-TH	JH-6K-TH	JH-8K-TH
Input					
Ppv Max (kW)	5	6	7.5	9	12
Vmax PV (V)	1000	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2	30*2
Number of MPP trackers	2	2	2	2	2
Number of input strings	1/1	1/1	1/1	1/1	1/1
Max. PV input range (A)	20*2	20*2	20*2	20*2	20*2
MPPT Voltage Range (V)	150-850	150-850	150-850	150-850	150-850
Vdc range @ full power (V)	200-850	200-850	200-850	250-850	300-850
Battery (input and output)					
Battery type	Li-ion / lead acid etc.				
Battery Voltage Range (V)	150-800 (Field adapt battery voltage range)				
Max. Charge/Discharge Current (A)	30	30	30	30	30
Max. Charge/Discharge Power (kW)	3	4	5	6	8
AC Grid (input and output)					
Nominal Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 / 10.5	20 / 13.5
Nominal Power (kW)	3	4	5	6	8
Max. Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	12 / 8.8
Max. apparent Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	12 / 8.8
Power Factor	1(-0.8~+0.8 adjustable)				
AC Load output					
Nominal Output Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	5.3	7	8.5	10.5	13.5
Nominal Output Power(kW)	3	4	5	6	8
Max. Output Power (kW)	3	4	5	6	8
Max. apparent Power (kVA)	3	4	5	6	8
Power Factor	1				
others					
Ingress protection (IP)	IP65				
Temperature (°C)	-25°C to +60°C (Derating45°C)				
Inverter Isolation	Non-isolated				
Firmware Version	1.01				

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Ratings & Principle Characteristics:

Specifications table					
Model	JH-10K-TH	JH-12K-TH	JH-15K-TH	JH-17K-TH	JH-20K-TH
Input					
Ppv Max (kW)	15	18	22.5	25.5	30
Vmax PV (V)	1000	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30+48	48*2	48*2
Number of MPP trackers	2	2	2	2	2
Number of input strings	1/1	1/1	1/2	2/2	2/2
Max. PV input range (A)	20*2	20*2	20+32	32*2	32*2
MPPT Voltage Range (V)	150-850	150-850	150-850	150-850	150-850
Vdc range @ full power (V)	500-850	500-850	500-850	500-850	500-850
Battery (input and output)					
Battery type	Li-ion / lead acid etc.				
Battery Voltage Range (V)	150-800 (Field adapt battery voltage range)				
Max. Charge/Discharge Current (A)	30	30	50	50	50
Max. Charge/Discharge Power (kW)	10	12	15	17	20
AC Grid (input and output)					
Nominal Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	26 / 17	32 / 21.5	40.5 / 27	45 / 30	48 / 32
Nominal Power (kW)	10	12	15	17	20
Max. Power (kW)	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22
Max. apparent Power (kVA)	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22
Power Factor	1(-0.8~+0.8 adjustable)				
AC Load output					
Nominal Output Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	17	21.5	27	30	32
Nominal Output Power(kW)	10	12	15	17	20
Max. Output Power (kW)	10	12	15	17	20
Max. apparent Power (kVA)	10	12	15	17	20
Power Factor	1				
others					
Ingress protection (IP)	IP65				
Temperature (°C)	-25°C to +60°C (Derating45°C)				
Inverter Isolation	Non-isolated				
Firmware Version	1.01				

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Ratings & Principle Characteristics:

Specifications table					
Model	JH-25K-TH	JH-30K-TH			
Input					
Ppv Max (kW)	37.5	45			
Vmax PV (V)	1000	1000			
Isc PV (absolute Max.) (A)	60*2	60*2			
Number of MPP trackers	2	2			
Number of input strings	2/2	2/2			
Max. PV input range (A)	40*2	40*2			
MPPT Voltage Range (V)	150-850	150-850			
Vdc range @ full power (V)	500-850	500-850			
Battery (input and output)					
Battery type	Li-ion / lead acid etc.				
Battery Voltage Range (V)	150-800 (Field adapt battery voltage range)				
Max. Charge/Discharge Current (A)	60	60			
Max. Charge/Discharge Power (kW)	25	30			
AC Grid (input and output)					
Nominal Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	60 / 40	72 / 48			
Nominal Power (kW)	25	30			
Max. Power (kW)	37.5 / 27.5	45 / 33			
Max. apparent Power (kVA)	37.5 / 27.5	45 / 33			
Power Factor	1(-0.8~+0.8 adjustable)				
AC Load output					
Nominal Output Voltage (V)	3P+N+PE/3P+PE 230/400				
Nominal Frequency (Hz)	50				
Max. continuous Input/output Current (A)	40	48			
Nominal Output Power(kW)	25	30			
Max. Output Power (kW)	25	30			
Max. apparent Power (kVA)	25	30			
Power Factor	1				
others					
Ingress protection (IP)	IP65				
Temperature (°C)	-25°C to +60°C (Derating45°C)				
Inverter Isolation	Non-isolated				
Firmware Version	1.01				

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Ratings & Principle Characteristics:

Specifications table				
Model	JH3K-THP	JH4K-THP	JH5K-THP	JH6K-THP
PV input				
P pv Max(kW)	5	6	7.5	9
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1
Max. PV input current (A)	20*2	20*2	20*2	20*2
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850
Vdc range @ full power (Vdc)	200-850	200-850	200-850	250-850
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	80-600(Field adapt battery voltage range)			
Max charge/discharge Current(A)	50	50	50	50
Max charge/discharge Power(kW)	3	4	5	6
AC Grid (input and output)				
Normal AC Voltage (VAC)	3P+N+PE/3P+PE 230/400			
Frequency (Hz)	50			
Normal AC Current (A)	4.4	5.8	7.3	8.7
Max. cont. input/output current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 / 10.5
Rated Power (kW)	3	4	5	6
Rated Apparent Power (kVA)	3	4	5	6
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Max. cont. Apparent input/output Power (KVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Power factor(adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	3P+N+PE/3P+PE 230/400			
Frequency (Hz)	50			
Nominal Current (A)	4.4	5.8	7.3	8.7
Max. cont. current (A)	5.3	7	8.5	10.5
Max. cont. Power (kW)	3	4	5	6
Rated Apparent Power (kVA)	3	4	5	6
Max. cont. Apparent Power (kVA)	3	4	5	6
Power factor	1.0			
Others				
Ingress protection (IP)	IP65			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (PV-AC-BAT)			
Overvoltage category	OVC III (AC Main), OVC II (PV)			
Firmware Version	V1.01			

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Ratings & Principle Characteristics:

Specifications table			
Model	JH8K-THP	JH10K-THP	JH12K-THP
PV input			
P _{pv} Max(kW)	12	15	18
V _{max} PV (Vdc) (absolute Max.)	1000	1000	1000
I _{sc} PV (absolute Max.) (A)	30*2	30*2	30*2
Number MPP trackers	2	2	2
Number input strings	1/1	1/1	1/1
Max. PV input current (A)	20*2	20*2	20*2
MPPT voltage range (Vdc)	150-850	150-850	150-850
Vdc range @ full power (Vdc)	300-850	500-850	500-850
Battery (charge/discharge)			
Battery type	Li-ion/Lead-acid		
Battery Normal Voltage (Range) (Vdc)	80-600(Field adapt battery voltage range)	120-650(Field adapt battery voltage range)	
Max charge/discharge Current(A)	50	50	50
Max charge/discharge Power(kW)	8	10	12
AC Grid (input and output)			
Normal AC Voltage (VAC)	3P+N+PE/3P+PE 230/400		
Frequency (Hz)	50		
Normal AC Current (A)	11.6	14.5	17.4
Max. cont. input/output current (A)	20 / 13.5	26 / 17	32 / 21.5
Rated Power (W)	8	10	12
Rated Apparent Power (kVA)	8	10	12
Max. cont. input/output Power (kW)	12 / 8.8	15 / 11	18 / 13.2
Max. cont. Apparent input/output Power (kVA)	12 / 8.8	15 / 11	18 / 13.2
Power factor(adjustable)	1.0(-0.8~ +0.8)		
AC Load output (stand alone)			
Normal Voltage (VAC)	3P+N+PE/3P+PE 230/400		
Frequency (Hz)	50		
Nominal Current (A)	11.6	14.5	17.4
Max. cont. current (A)	13.5	17	21.5
Max. cont. Power (kW)	8	10	12
Rated Apparent Power (kVA)	8	10	12
Max. cont. Apparent Power (kVA)	8	10	12
Power factor	1.0		
Others			
Ingress protection (IP)	IP65		
Protective class	Class I		
Temperature (°C)	-25°C to +60°C (Derating 45°C)		
Inverter Isolation	Non-isolated (PV-AC-BAT)		
Overvoltage category	OVC III (AC Main), OVC II (PV)		
Firmware Version	V1.01		

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