

CERTIFICATE

of Conformity

Registration No.:

AK 50480786 0001

Report No.:

60404587 001

Holder:

Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City,

Guangzhou High-tech Zone,

Guangdong P.R. China

Product:

PV-Inverter

(Hybrid Solar Inverter)

Identification:

Type Designation: H1-3K-S2, H1-3.6K-S2, H1-4K-S2

H1-4.6K-LS2, H1-4.6K-S2, H1-5K-LS2

rtification Bod

H1-5K-S2, H1-6K-LS2, H1-6K-S2

Serial Number : H1S2602G2012E00004

Remark

: Refer to test report 60404587 001

for details.

Tested acc. to:

IEC 62109-1:2010 TEC 62109-2:2011 EN 62109-1:2010

EN 62109-2:2011

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of ATÜV Rhainland mark of conformity. TÜVRheinland

Date 14.09.2020

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

TÜV Rheinland (China) Ltd. Member of TÜV Rheinland Group



Guangzhou Sanjing Electric Co.,

Ltd.

Mr. Li Yun

Date : 14/09/2020

Our ref.: YY 02 Your ref.: L.Y

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong P.R. China

Ref : AK Certificate of Conformity

Type of Equipment: Hybrid Solar Inverter

Model Designation : See Certificate Certificate No. : AK 50480786 0001 Report No. : 60404587 001

Dear Mr. Li Yun,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body

Enclosure

Tel: (8610)8524 2222
Fax: (8610)8524 2200
e-mail: info@bj.chn.tuv.com
Internet: http://www.chn.tuv.com



No. D 077831 0018 Rev. 00

Holder of Certificate: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City

510663 Guangzhou High-tech Zone, Guangdong

PEOPLE'S REPUBLIC OF CHINA

Product: Converter

(Hybrid Solar Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290203078401

Date, 2021-08-06

(Billy Qiu)



No. D 077831 0018 Rev. 00

Model(s): H1-3K-S2, H1-3.6K-S2, H1-4K-S2,

H1-4.6K-LS2, H1-5K-LS2, H1-6K-LS2,

H1-4.6K-S2, H1-5K-S2, H1-6K-S2

Parameters:

Model:	H1-3K-S2 H1-3.6K-S2 H1-4K-S2					
PV input parameter						
Input voltage range		80~600 Vd.c.				
Maximum input voltage	600 Vd.c.					
Maximum input current	12.5*2 Ad.c.					
PV I _{SC}	15*2 Ad.c.					
Battery input/output parameter						
Input voltage range	42~58.4 Vd.c.					
Maximum input/output voltage	58.4 Vd.c.					
Maximum input/output current	60 Ad.c.					
Grid parameter						
Rated output voltage		230 Va.c.				
Rated output frequency		50 Hz				
Rated output current	13.1 Aa.c.	16.0 Aa.c.	17.4 Aa.c.			
Maximum continuous output current	13.6 Aa.c.	16.7 Aa.c.	18.2 Aa.c.			
Rated output active power	3 kW 3.68 kW 4 kW					
Power factor	0.9 leading to 0.9 lagging					
Protection class		Class I				

Model:	H1-4.6K-LS2	H1-5K-LS2	H1-6K-LS2		
PV input parameter					
Input voltage range		80~600 Vd.c.			
Maximum input voltage		600 Vd.c.			
Maximum input current		12.5*2 Ad.c.			
PV I _{SC}		15*2 Ad.c.			
Battery input/output parameter					
Input voltage range	42~58.4 Vd.c.				
Maximum input/output voltage	58.4 Vd.c.				
Maximum input/output current		60 Ad.c.			
Grid parameter					
Rated output voltage		230 Va.c.			
Rated output frequency		50 Hz			
Rated output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.		
Maximum continuous output current	20.9 Aa.c.	22.7 Aa.c.	27.3 Aa.c.		
Rated output active power	4.6 kW	5 kW	6 kW		
Power factor	0.9 leading to 0.9 lagging				
Protection class		Class I			



No. D 077831 0018 Rev. 00

Model:	H1-4.6K-S2	H1-5K-S2	H1-6K-S2		
PV input parameter					
Input voltage range		80~600 Vd.c.			
Maximum input voltage		600 Vd.c.			
Maximum input current	12.5*2 Ad.c.				
PV I _{SC}	15*2 Ad.c.				
Battery input/output parameter					
Input voltage range	42~58.4 Vd.c.				
Maximum input/output voltage	58.4 Vd.c.				
Maximum input/output current		100 Ad.c.			
Grid parameter					
Rated output voltage		230 Va.c.			
Rated output frequency		50 Hz			
Rated output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.		
Maximum continuous output current	20.9 Aa.c.	22.7 Aa.c.	27.3 Aa.c.		
Rated output active power	4.6 kW	5 kW	6 kW		
Power factor	0.9 leading to 0.9 lagging				
Protection class		Class I			

Tested according to:

EN 50549-1:2019/AC:2019



No. D 077831 0021 Rev. 00

Holder of Certificate: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City

510663 Guangzhou High-tech Zone, Guangdong

PEOPLE'S REPUBLIC OF CHINA

Product: Converter

(Hybrid Solar Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290203078701

Date, 2021-10-14

(Billy Qiu)



No. D 077831 0021 Rev. 00

Model(s): H1-3K-S2, H1-3.6K-S2, H1-4K-S2,

H1-4.6K-S2, H1-5K-S2, H1-6K-S2,

H1-4.6K-LS2, H1-5K-LS2, H1-6K-LS2

Parameters:

Model:	H1-3K-S2	H1-3.6K-S2	H1-4K-S2			
PV input parameter						
Input voltage range		80~600 Vd.c.				
Maximum input voltage		600 Vd.c.				
Maximum input current	12.5*2 Ad.c.					
PV I _{SC}	15*2 Ad.c.					
Battery input/output parameter						
Input voltage range	42~58.4 Vd.c.					
Maximum input/output voltage	58.4 Vd.c.					
Maximum input/output current		60 Ad.c.				
Grid parameter						
Rated output voltage		230 Va.c.				
Rated output frequency		50 Hz				
Rated output current	13.1 Aa.c.	16.0 Aa.c.	17.4 Aa.c.			
Maximum continuous output current	13.6 Aa.c. 16.7 Aa.c. 18.2					
Rated output active power	3 kW	3.68 kW	4 kW			
Power factor	0.9 leading to 0.9 lagging					
Protection class		Class I				



No. D 077831 0021 Rev. 00

Model:	H1-4.6K-LS2 H1-5K-LS2 H1-6K-LS					
PV input parameter						
Input voltage range		80~600 Vd.c.				
Maximum input voltage		600 Vd.c.				
Maximum input current	12.5*2 Ad.c.					
PV I _{SC}		15*2 Ad.c.				
Battery input/output parameter						
Input voltage range	42~58.4 Vd.c.					
Maximum input/output voltage	58.4 Vd.c.					
Maximum input/output current		60 Ad.c.				
Grid parameter						
Rated output voltage		230 Va.c.				
Rated output frequency		50 Hz				
Rated output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.			
Maximum continuous output current	20.9 Aa.c.	27.3 Aa.c.				
Rated output active power	4.6 kW	5 kW	6 kW			
Power factor	0.9 leading to 0.9 lagging					
Protection class		Class I				

Model:	H1-4.6K-S2 H1-5K-S2 H1-6K-S2						
PV input parameter							
Input voltage range		80~600 Vd.c.					
Maximum input voltage		600 Vd.c.					
Maximum input current	12.5*2 Ad.c.						
PV I _{SC}	15*2 Ad.c.						
Battery input/output parameter							
Input voltage range	42~58.4 Vd.c.						
Maximum input/output voltage	58.4 Vd.c.						
Maximum input/output current		100 Ad.c.					
Grid parameter							
Rated output voltage		230 Va.c.					
Rated output frequency		50 Hz					
Rated output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.				
Maximum continuous output current	20.9 Aa.c. 22.7 Aa.c. 27.3 Aa.						
Rated output active power	4.6 kW	5 kW	6 kW				
Power factor	0.9 leading to 0.9 lagging						
Protection class		Class I					



No. D 077831 0021 Rev. 00

Tested according to:

IEC 61727:2004 IEC 62116:2014



No. D 077831 0022 Rev. 00

Holder of Certificate: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City

510663 Guangzhou High-tech Zone, Guangdong

PEOPLE'S REPUBLIC OF CHINA

Product: Converter

(Hybrid Solar Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290203078601

Date, 2021-12-29

(Billy Qiu)



No. D 077831 0022 Rev. 00

Model(s): H1-3K-S2, H1-3.6K-S2, H1-4K-S2,

H1-4.6K-S2, H1-5K-S2, H1-6K-S2,

H1-4.6K-LS2, H1-5K-LS2, H1-6K-LS2

Parameters:

Model:	H1-3K-S2 H1-3.6K-S2 H1-4K-S2		H1-4K-S2			
PV input parameter						
Input voltage range		80~600 Vd.c.				
Input voltage range (Full load)		250~550 Vd.c.				
Rated input voltage		360 Vd.c.				
Maximum input voltage	600 Vd.c.					
Maximum input current		12.5 Ad.c. * 2				
PV I _{SC}	15 Ad.c. * 2					
Battery input / output parameter						
Input voltage range	42~58.4 Vd.c.					
Rated voltage	48 Vd.c.					
Maximum input / output voltage	58.4 Vd.c.					
Maximum input / output current	60 Ad.c.					
Grid parameter						
Rated voltage		230 Va.c.				
Rated frequency		50 Hz				
Rated input / output current	13.1 Aa.c.	16.0 Aa.c.	17.4 Aa.c.			
Maximum continuous input / output current	13.6 Aa.c.	16.7 Aa.c.	18.2 Aa.c.			
Rated output active power	3 kW	3.68 kW	4 kW			
Power factor	0.0	e leading to 0.9 lagging leading to 0.9 lagging leading to 0.9 lagging leading to 0.9 lagging leading leading to 0.9 lagging leading leading to 0.9 lagging leading leading to 0.9 lagging leading lea	ng			
Back-up parameter						
Rated output voltage		230 Va.c.				
Rated output frequency		50 Hz				
Maximum output current	13.6 Aa.c.					
Maximum output active power	3 kW					
General						
Protection class		Class I				



No. D 077831 0022 Rev. 00

Model:	H1-4.6K-LS2	H1-5K-LS2	H1-6K-LS2		
PV input parameter					
Input voltage range		80~600 Vd.c.			
Input voltage range (Full load)		250~550 Vd.c.			
Rated input voltage		360 Vd.c.			
Maximum input voltage	600 Vd.c.				
Maximum input current	12.5 Ad.c. * 2				
PV I _{SC}	15 Ad.c. * 2				
Battery input / output parameter					
Input voltage range		42~58.4 Vd.c.			
Rated voltage	48 Vd.c.				
Maximum input / output voltage	58.4 Vd.c.				
Maximum input / output current	60 Ad.c.				
Grid parameter					
Rated voltage		230 Va.c.			
Rated frequency		50 Hz			
Rated input / output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.		
Maximum continuous input / output current	20.9 Aa.c.	22.7 Aa.c.	27.3 Aa.c.		
Rated output active power	4.6 kW	5 kW	6 kW		
Power factor	0.9	leading to 0.9 laggir	ng		
Back-up parameter					
Rated output voltage		230 Va.c.			
Rated output frequency		50 Hz			
Maximum output current	13.6 Aa.c.				
Maximum output active power	3 kW 3 kW 3 kW				
General					
Protection class		Class I			



No. D 077831 0022 Rev. 00

Model:	H1-4.6K-S2	H1-5K-S2	H1-6K-S2			
PV input parameter						
Input voltage range		80~600 Vd.c.				
Input voltage range (Full load)		250~550 Vd.c.				
Rated input voltage		360 Vd.c.				
Maximum input voltage		600 Vd.c.				
Maximum input current		12.5 Ad.c. * 2				
PV I _{SC}		15 Ad.c. * 2				
Battery input / output parameter						
Input voltage range	42~58.4 Vd.c.					
Rated voltage	48 Vd.c.					
Maximum input / output voltage	58.4 Vd.c.					
Maximum input / output current	100 Ad.c.					
Grid parameter	·					
Rated voltage		230 Va.c.				
Rated frequency		50 Hz				
Rated input / output current	20.0 Aa.c.	21.8 Aa.c.	26.1 Aa.c.			
Maximum continuous input / output current	20.9 Aa.c.	22.7 Aa.c.	27.3 Aa.c.			
Rated output active power	4.6 kW	5 kW	6 kW			
Power factor	2.0	9 leading to 0.9 laggi	ng			
Back-up parameter						
Rated output voltage		230 Va.c.				
Rated output frequency		50 Hz				
Maximum output current	20.9 Aa.c.	22.7 Aa.c.	22.7 Aa.c.			
Maximum output active power	4.6 kW 5 kW 5 kW					
General						
Protection class		Class I				



No. D 077831 0022 Rev. 00

Tested according to:

IEC 61683:1999



CERTIFICATE

of Conformity

Registration No.:

AK 50475961 0001

Report No.:

60387394 001

Holder:

Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City,

Guangzhou High-tech Zone,

Guangdong P.R. China

Product:

PV-Inverter

(Hybrid Solar Inverter)

Identification:

Type Designation: H1-3K-S2 H1-3.6K-S2 H1-4K-S2 H1-4.6K-S2

H1-4.6K-LS2 H1-5K-LS2 H1-5K-S2 H1-6K-LS2 H1-6K-S2

Serial Number : H1S2602G2012E00004

Fimware Version: Control board: V1.203, Display board: 2.034

Remark : Refer to test report 60387394 001.

Tested acc. to:

UTE C15-712-1/07.13

DIN VDE 0126-1-1/A1 VFR2013

Enedis-NOI-RES_20E:2019

VFR 2019

SEI REF 04 Version 7

EDT V1:2011

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rhemland mark of conformity.

Date <u>28.07.2020</u>

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

TÜV Rheinland (China) Ltd. Member of TÜV Rheinland Group



Date : 28/07/2020 Our ref. : 02 Guangzhou Sanjing Electric Co.,

Ltd. Your ref.: L.Y Mr. Li Yun

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong P.R. China

Ref : AK Certificate of Conformity

Type of Equipment: Hybrid Solar Inverter

Model Designation : See Certificate : AK 50475961 0001 Certificate No. : 60387394 001 Report No.

Dear Mr. Li Yun,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body

Enclosure

Tel: (8610)8524 2222 Fax: (8610)8524 2200 e-mail: info@bj.chn.tuv.com Internet: http://www.chn.tuv.com



CERTIFICATE

of Conformity

AK 50462534 0001 Registration No.:

Report No.: 50347798 001

Guangzhou Sanjing Electric Co., Ltd. No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Holder:

Guangdong P.R. China

Product: PV-Inverter

(Hybrid Solar Inverter)

Identification: Type Designation : H1-3K-S2 H1-3.6K-S2 H1-4K-S2

H1-5K-S2 H1-6K-S2

Serial Number : H1S2602G2012E00004, H1S2302G2012E00023

Firmware Version : Control board: V1.203,

Display board: 2.034

: Refer to test report 50347798 001. Remark

Tested acc. to: UNE 206006 IN:2011

UNE 206007-1 IN:2013

RD 1699:2011 RD 661:2007 RD 413:2014

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TUV Rheinland mark of

conformity.

Certification Body

A. Ober

and LGA Pro

27.03.2020 Date

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CERTIFICADO



de conformidad

Adjunto a Attachment to

Número de registro:

AK 50462534 0001

Registration No.

Reporte no: 50347798 001 Report No.

Titular de la licencia: Guangzhou Sanjing Electric Co., Ltd.

No.9. Lizhishan Road, Science City, Guangzhou High-tech Zone, License Holder

Guangdong P. R. China

Tipo de produccion:

Type of production

Inversor solar híbrido

H1-3K-S2, H1-3.6K-S2, H1-4K-S2, Modelo:

H1-5K-S2, H1-6K-S2 Model

Versión de firmware:

Firmware version

Control board: V1.203, Display board: 2.034

UNE 206006:2011 IN Normas:

Ensavos de detección de funcionamiento en isla de múltiples inversores Standards

fotovoltaicos conectados a red en paralelo

UNE 206007-1:2013 IN

Requisitos de conexión a la red eléctrica Parte 1: Inversores para conexión a la

red de distribución RD1699/2011

Real Decreto 1699/2011, de 18 de noviembre, por el que se regula la conexión a red de instalaciones de producción de energía eléctrica de pequeña potencia.

Real Decreto 661/2007, de 25 de mayo, por el que se regula la actividad de

producción de energía eléctrica en régimen especial.

RD 413/2014

Real Decreto 413/2014, de 6 de junio, por el que se regula la actividad de producción de energía eléctrica a partir de fuentes de energía renovables.

cogeneración y residuos.

Fecha de emisión: 27.03.2020 Válido hasta el: 26.03.2023

Valid until the Date of issue

El certificado de conformidad se refiere al producto mencionado anteriormente. Esto es para certificar que el espécimen está en conformidad con el requisito de evaluación mencionado anteriormente. Este certificade no implisa una evaluación de la producción del producto y no permite el uso de una marca de conformidad TUN Rheinfand.

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. TÜVRheinland

Organismo de certificación

TÜV Rheinland (China) Ltd. Member of TÜV Rheinland Group



Guangzhou Sanjing Electric Co.,

Ltd.

Mr. Li Yun

Date : 27.03.2020 Our ref. : zhangco 02

Your ref.: 168142917

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong P.R. China

Ref : AK Certificate of Conformity

Type of Equipment : Hybrid Solar Inverter

Model Designation : See Certificate Certificate No. : AK 50462534 0001 Report No. : 50347798 001

Dear Mr. Li Yun,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body

Enclosure

Tel: (8610)8524 2222 Fax: (8610)8524 2200 e-mail: info@bj.chn.tuv.com Internet: http://www.chn.tuv.com



Certificate of Conformity

Certificate Number: CN-PV-210205

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

Guangzhou Sanjing Electric Co., Ltd. **Applicant Name & Address:**

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong,

P.R.China

Product Description: Energy Storage System

Ratings & Principle See appendix of Certificate of Conformity

Models/Type References: Inverter conversion device:

H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-4.6K-S2,

H1-5K-LS2, H1-5K-S2, H1-6K-LS2, H1-6K-S2

Batteries and BMS - Battery Management System

See appendix of Certificate of Conformity

Brand Name: SAI

Tested according to: CEI 0-21:2019-04: Reference technical rules for the connection of active and

passive users to the LV electrical Utilities Intertek Testing Services Ltd. Shanghai

Certificate Issuing Office Name & Address:

West Area, 2nd Floor, No. 707, Zhangyang Road

China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China Accredited by China National Accreditation Service for Conformity Assessment (CNAS C058-P) in accordance with ISO/IEC 17065:2012

Test Report Number: 190619145GZU-001, Revision 2: 02 Sep 2021

Certification procedure: SMS-PV-OP-19 Product certification scheme type: Type test

/ susta

Additional information in Appendix

Signature

Characteristics:

Certification Manager: Grady Ye

Date: 09 September 2021



中国认可 **PRODUCT** CNAS C058-P



This is an Appendix to Certificate of Conformity Number: CN-PV-210205

Model/Type reference.....: Inverter conversion device:

H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-4.6K-S2,

H1-5K-LS2, H1-5K-S2, H1-6K-LS2, H1-6K-S2

Brands: SAJ

Batteries and BMS - Battery Management System 1

Battery model: B1-5.1-48

Control model: the first module will work as controller

Brands: SAJ

Batteries and BMS - Battery Management System 2

Battery model: US2000 Control model: 2P15S Brands: PYLONTECH

Batteries and BMS - Battery Management System 3

Battery model: B4850 is basic module, the extensional model:

PowerDepot H2.5 (make up of 1 basic module B4850)
PowerDepot H5.0 (make up of 2 basic module B4850)
Powerbox F -2.5 (make up of 1 basic module B4850)
Powerbox F -5.0 (make up of 2 basic module B4850)
Powerbox F -7.5 (make up of 3 basic module B4850)
Powerbox F-10.0 (make up of 4 basic module B4850)
Control model: the first module will work as controller

Brands: Dyness

Batteries and BMS - Battery Management System 4

Battery model: LS 48V 2.4 kWh

Brands: Turbo Energy

Inverter Firmware Version.....: Display board: V2.081; Control board: V1.311

Number of phases : Single-phase

Nominal Power : 3000W (H1-3K-S2)

3680W (H1-3.6K-S2)

4000W (H1-4K-S2)

4600W (H1-4.6K-LS2, H1-4.6K-S2)

5000W (H1-5K-LS2, H1-5K-S2) 6000W (H1-6K-LS2, H1-6K-S2)

Type: Bidirectional

CUS (useful capacity of the storage

system): See following table
Psn (nominal discharge power): See following table
Pcn (nominal charge power): See following table
Psmax (maximum discharge power): See following table

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.



This is an Appendix to Certificate of Conformity Number: CN-PV-210205

Pcmax (maximum charge power): See following table BMS Firmware Version See following table

Battery		CUS (useful capacity	CUS (useful capacity of the storage system)		
Model	Manufacturer	Capacity of per battery module (kWh)	Number of Max modules recommended by the manufacturer		
B1-5.1-48	SAJ	5.12	8		
US2000	PYLONTECH	2.4	8		
B4850	Dyness	2.4	12		
LS 48V 2.4 kWh	Turbo Energy	2.4	12		

Note: batteries are not integrated within the inverter, and shall be installed according to local regulation.

Brand		S	AJ	Dyne	ess/ Turbo Er	nergy	ı	PYLONTECH	1
	Model		B1-5.1-48		B4850/ LS 48V 2.4 kWh			US2000	
Nu	mber of modules	1	2 to 8	1	2	3 to 12	1	2	3 to 8
Psn	H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-5K- LS2, H1-6K-LS2,	3000W	3000W	2400W	3000W	3000W	2400W	3000W	3000W
	H1-4.6K-S2,	3000W	4600W	2400W	4600W	4600W	2400W	4600W	4600W
	H1-5K-S2, H1-6K-S2	3000W	5000W	2400W	4800W	5000W	2400W	4800W	5000W
Pcn	H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-5K- LS2, H1-6K-LS2,	3000W	3000W	2400W	3000W	3000W	2400W	3000W	3000W
	H1-4.6K-S2,	3000W	4600W	2400W	4600W	4600W	2400W	4600W	4600W
	H1-5K-S2, H1-6K-S2	3000W	5000W	2400W	4800W	5000W	2400W	4800W	5000W

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This is an Appendix to Certificate of Conformity Number: CN-PV-210205

Psmax	H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-5K- LS2, H1-6K-LS2,	3000W	3000W	2400W	3000W	3000W	2400W	3000W	3000W
	H1-4.6K-S2,	3000W	4600W	2400W	4600W	4600W	2400W	4600W	4600W
	H1-5K-S2, H1-6K-S2	3000W	5000W	2400W	4800W	5000W	2400W	4800W	5000W
Pcmax	H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-5K- LS2, H1-6K-LS2,	3000W	3000W	2400W	3000W	3000W	2400W	3000W	3000W
	H1-4.6K-S2,	3000W	4600W	2400W	4600W	4600W	2400W	4600W	4600W
	H1-5K-S2, H1-6K-S2	3000W	5000W	2400W	4800W	5000W	2400W	4800W	5000W
BMS Firmware Version		V1	142	POWER_Protect_1 _201027DPBM(2)_1		V2.4			



This is an Appendix to Certificate of Conformity Number: CN-PV-210205

Ratings & Principle Characteristics:

Model	H1-3K- S2	H1- 3.6K-S2	H1-4K- S2	H1-4.6K-S2 H1-4.6K-LS2	H1-5K-S2 H1-5K-LS2	H1-6K-S2 H1-6K-LS2	
Max.PV voltage [V]		600V					
PV voltage range [V]		90-550					
PV Isc [A]				15 /15			
Max.input current [A]				12.5 / 12.5			
Battery parameters		-					
Rated DC voltage [V]	111		B	48			
DC voltage range [V]	1		1	42 – 58.5			
Max. Charging / discharging current [A]		60/60 (H1- 4.6K-LS2) LS2) 100/100 (H1- 4.6K-S2) S2)					
Grid parameters					- 10		
Rated Output Power [W]	3000	3680	4000	4600	5000	6000	
Max.Output Power [VA]	3000	3680	4000	4600	5000	6000	
Rated Output Current [A]	13.1	16.0	17.4	20.0	21.8	26.1	
Max Output Current [A]	14.4	16.0	19.2	20.9	24.0	26.1	
Nominal Frequency	li i			50Hz	7	-1	
Power factor range	0.		0.8	BLeading – 0.8 laggi	ng		
AC Output [Back-up Mode]	A.		111				
Rated Output Power [W]	3000 (H1- 4.6K-LS2) LS2) 4600 (H1- 4.6K-S2) 5000 (H1-5K-S2, H1-6K 4.6K-S2) S2)				S2) K-S2, H1-6K-		
Output Voltage [V]	230						
Output Frequency [Hz]	50/60						
Safety level	Class I						
Ingress Protection	IP 65						
Operation Ambient Temperature	-25°C - +60°C						

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.



Verification of certificate with test report: 190619145GZU-001, Revision 2: 02 Sep 2021

TYPE OF APPARATUS:

(the static converters in systems with capacity up to 11.08 kW)

DISCONNECTION	INTERFACE PROTECTION	DEVICE FOR	ROTATING GENERATOR
DEVICE	DEVICE	CONVERSION	DEVICE
\boxtimes	\boxtimes	\boxtimes	

Manufacturer: Guangzhou Sanjing Electric Co., Ltd.

Apparatus type: Energy Storage System Model: Inverter conversion device:

H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-4.6K-S2,

H1-5K-LS2, H1-5K-S2, H1-6K-LS2, H1-6K-S2

Brands: SAJ

Batteries and BMS - Battery Management System 1

Battery model: B1-5.1-48

Control model: the first module will work as controller

Brands: SAJ

Batteries and BMS - Battery Management System 2

Battery model: US2000 Control model: 2P15S Brands: PYLONTECH

Batteries and BMS - Battery Management System 3

Battery model: B4850 is basic module, the extensional model:

PowerDepot H2.5 (make up of 1 basic module B4850) PowerDepot H5.0 (make up of 2 basic module B4850) Powerbox F -2.5 (make up of 1 basic module B4850) Powerbox F -5.0 (make up of 2 basic module B4850) Powerbox F -7.5 (make up of 3 basic module B4850) Powerbox F-10.0 (make up of 4 basic module B4850) Control model: the first module will work as controller

Brands: Dyness

Batteries and BMS - Battery Management System 4

Battery model: LS 48V 2.4 kWh

Brands: Turbo Energy

Inverter Firmware Version: Display board: V2.081; Control board: V1.311

BMS Firmware Version for system: V1142 (for BMS system 1); V2.4 (for BMS system 2);

POWER_Protect_1_201027DPBM(2)_1 (for BMS system 3)

Number of phases: Single-phase

Nominal power: See certificate for each model

Type: Bidirectional

CUS (useful capacity of the storage system): See certificate

Remark: The devices are capable to limit I_{dc} to 0.5% of the rated grid current



Verification of certificate with test report: 190619145GZU-001, Revision 2: 02 Sep 2021

Having assessed the test report 190619145GZU-001 Issued by laboratory:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science

City, GETDD, Guangzhou, Guangdong, China

In compliant with ISO/IEC 17025:2017 Accreditation number: CNAS L0220

(susta

Having examined the ISO 9001 certificate of the manufacturer No: U0019Q50075RIM issued by: Zhongjian Certification Co., Ltd

The indicated products above are complied with CEI 0-21:2019-04: Reference technical rules for the connection of active and passive users to the LV electrical Utilities

Signature

Name: Grady Ye

Date: 09 September, 2021



Test Verification of Conformity

Verification Number: 210726096GZU-VOC001

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the regulation(s) listed on this verification at the time the tests were carried out. Other standards and Regulations may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <them>.

Once compliance with all product relevant $\square \cap$ mark regulations are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R.China

Product Description: Hybrid Solar Inverter

Models/Type References: H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-4.6K-S2,

H1-5K-LS2, H1-5K-S2, H1-6K-LS2, H1-6K-S2 See Appendix to Certificate of Conformity

Ratings & Principle Characteristics: Brand Name:

Relevant EN 61000-6-1:2007

Standards/Regulations: EN 61000-6-3:2007+A1:2011

EN 61000-6-2:2005

EN 61000-6-4:2007+A1:2011

Electromagnetic Compatibility Regulations 2016

Verification Issuing Office Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Name & Address: Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2.

Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

Date of Tests:

Test Report Number(s): 210726096GZU-001

Sky 2hu

Note: The latest version standards indicated in the technical file meets the requirements of the Regulation.

Additional information in Appendix.

Signature

Name: Sky Zhu

Position: Team Leader Date: 04 August 2021



APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 210726096GZU-VOC001

Ratings & Principle Characteristics:

	114 314		114 416	114 4 61/ 62	114 51/ 62	114 61/ 62		
Model	H1-3K- S2	H1- 3.6K-S2	H1-4K- S2	H1-4.6K-S2 H1-4.6K-LS2	H1-5K-S2 H1-5K-LS2	H1-6K-S2 H1-6K-LS2		
Max.PV voltage [V]		600V						
PV voltage range [V]		90-550						
PV Isc [A]				15 /15				
Max.input current [A]				12.5 / 12.5				
Battery parameters								
Rated DC voltage [V]	<i>-</i>	_		48				
DC voltage range [V]			0 .	42 – 58.5				
Max. Charging / discharging current [A]		60/60 (H1-4.6K- LS2) 6K-LS2) 100/100 (H1- 4.6K-S2) 6K-S2, H						
Grid parameters								
Rated Output Power [W]	3000	3680	4000	4600	5000	6000		
Max.Output Power [VA]	3000	3680	4000	4600	5000	6000		
Rated Output Current [A]	13.1	13.1 16.0 17.4 20.0 21.8				26.1		
Max Output Current [A]	14.4	16.0	19.2	20.9	24.0	26.1		
Nominal Frequency				50Hz				
Power factor range			0.8L	eading – 0.8 lagging				
AC Output [Back-up Mode]							
Rated Output Power [W]	3000 (H1-4.6K- LS2) 3000 (H1-5K-LS2, H1- LS2) 6K-LS2) 4600(H1-4.6K- S2) 5000(H1-5K-S2, H1-6K- S2)							
Output Voltage [V]	230							
Output Frequency [Hz]	50/60							
Safety level	Class I							
Ingress Protection	IP 65							
Operation Ambient Temperature	-25℃ - +60℃							

Signature

Name: Sky Zhu

Position: Team Leader Date: 04 August 2021



Test Verification of Conformity

Verification Number: 210716151GZU-VOC001

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the regulation(s) listed on this verification at the time the tests were carried out. Other standards and Regulations may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <them>.

Once compliance with all product relevant \square mark regulations are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R.China

Product Description: Hybrid Solar Inverter

Ratings & Principle See Appendix to Certificate of Conformity

Characteristics:

Models/Type References: H1-3K-S2, H1-3.6K-S2, H1-4K-S2, H1-4.6K-LS2, H1-4.6K-S2,

H1-5K-LS2, H1-5K-S2, H1-6K-LS2, H1-6K-S2

Brand Name:

Relevant IEC 62109-1

Standards/Regulations: Safety of Power Converter for use in Photovoltaic Power Systems Part 1: General

requirements

Verification Issuing Office Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Name & Address: Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2.

Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

Date of Tests: 15 Apr 2020-15 Jul 2021

Test Report Number(s): 60404587 001

Additional information in Appendix.

Signature

Name: Tommy Zhong

Position: Technical Manager

Date: 26 July 2021



APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 210716151GZU-VOC001

Ratings & Principle Characteristics:

	1	1	1	T	1	,	
Model	H1-3K-	H1-	H1-4K-	H1-4.6K-S2	H1-5K-S2	H1-6K-S2	
	S2	S2 3.6K-S2 S2 H1-4.6K-LS2 H1-5K-LS2 H1-6K-LS					
Max.PV voltage [V]				600V			
PV voltage range [V]				90-550			
PV Isc [A]	n 4	15 /15					
Max.input current [A]	7	1		12.5 / 12.5			
Battery parameters	1						
Rated DC voltage [V]				48			
DC voltage range [V]				42 – 58.5			
Max. Charging / discharging current [A]		60/60 (H1-4.6K- 60/60 (H1-5K-LS2, LS2) 6K-LS2) 100/100 (H1- 100/100 (H1-5K-S2 4.6K-S2) 6K-S2)					
Grid parameters					10.		
Rated Output Power [W]	3000	3680	4000	4600	5000	6000	
Max.Output Power [VA]	3000	3680	4000	4600	5000	6000	
Rated Output Current [A]	13.1	16.0 17.4		20.0	21.8	26.1	
Max Output Current [A]	14.4	16.0	19.2	20.9	24.0	26.1	
Nominal Frequency				50Hz			
Power factor range			0.8L	eading – 0.8 lagging	/		
AC Output [Back-up Mode]			///			
Rated Output Power [W]	3000 (H1-4.6K- LS2) 3000 (H1-5K-LS2, H1- LS2) 6K-LS2) 4600(H1-4.6K- S2) 5000(H1-5K-S2, H1-6K- S2) S2)					.S2) (-S2, H1-6K-	
Output Voltage [V]	230						
Output Frequency [Hz]	50/60						
Safety level	Class I						
Ingress Protection	IP 65						
Operation Ambient Temperature	-25°C - +60°C						

Signature

Name: Tommy Zhong

Position: Technical Manager

Date: 26 July 2021



No. D 077831 0019 Rev. 00

Holder of Certificate: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City

510663 Guangzhou High-tech Zone, Guangdong

PEOPLE'S REPUBLIC OF CHINA

Product: Converter

(Hybrid Solar Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290203078801

Date, 2021-09-10

(Billy Qiu)



No. D 077831 0019 Rev. 00

Model(s): H1-3K-S2, H1-3.6K-S2, H1-4K-S2,

H1-4.6K-LS2, H1-5K-LS2, H1-4.6K-S2,

H1-5K-S2

Parameters:

raiailleteis.							
Model:	H1-3K-S2	H1-3.6K-S2	H1-4K-S2				
PV input parameter							
Input voltage range		80~600 Vd.c.					
Maximum input voltage		600 Vd.c.					
Maximum input current		12.5*2 Ad.c.					
PV I _{SC}		15*2 Ad.c.					
Battery input/output parameter							
Input voltage range		42~58.4 Vd.c.					
Maximum input/output voltage		58.4 Vd.c.					
Maximum input/output current	60 Ad.c.						
Grid parameter							
Rated voltage	230 Va.c.						
Rated frequency	50 Hz						
Rated current	13.1 Aa.c.	16.0 Aa.c.	17.4 Aa.c.				
Maximum continuous current	13.6 Aa.c.	16.7 Aa.c.	18.2 Aa.c.				
Rated output active power	3 kW 3.68 kW 4 kW						
Power factor	0.98 leading to 0.98 lagging						
Protection class	Class I						
Back-up parameter							
Rated output voltage	230 Va.c.						
Rated output frequency	50 Hz						
Maximum output active power	3 kW						



No. D 077831 0019 Rev. 00

Model:	H1-4.6K-LS2	H1-5K-LS2	H1-4.6K-S2	H1-5K-S2				
PV input parameter								
Input voltage range	80~600 Vd.c.							
Maximum input voltage		600 V	d.c.					
Maximum input current		12.5*2	Ad.c.					
PV ISC		15*2 <i>A</i>	∖d.c.					
Battery input/output parameter								
Input voltage range		42~58.4	Vd.c.					
Maximum input/output voltage	58.4 Vd.c.							
Maximum input/output current	60 Ac	d.c.	100 A	∖d.c.				
Grid parameter								
Rated voltage	230 Va.c.							
Rated frequency		50 H	Нz					
Rated current	20.0 Aa.c.	20.0 Aa.c.	20.0 Aa.c.	20.0 Aa.c.				
Maximum continuous current	20.9 Aa.c.	20.9 Aa.c.	20.9 Aa.c.	20.9 Aa.c.				
Rated active power	4.6 kW	4.6 kW	4.6 kW	4.6 kW				
Power factor	0.98 leading to 0.98 lagging							
Protection class	Class I							
Back-up parameter								
Rated output voltage	230 Va.c.							
Rated output frequency	50 Hz							
Maximum output active power	3 kW 4.6 kW 5 kW							

Remark

The utility interface of small-scale embedded generation is evaluated according to NRS 097-2-1:2017 edition 2.1.

Tested according to:

NRS 097-2-1:2017 Edition 2.1





No. D 077831 0017 Rev. 00

Holder of Certificate: Guangzhou Sanjing Electric Co., Ltd.

No.9, Lizhishan Road, Science City

510663 Guangzhou High-tech Zone, Guangdong

PEOPLE'S REPUBLIC OF CHINA

Product: Converter

(Hybrid Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290203078501

Date, 2021-07-21

(Billy Qiu)



No. D 077831 0017 Rev. 00

Model(s): H1-3K-S2, H1-3.6K-S2, H1-4K-S2,

H1-4.6K-LS2, H1-4.6K-S2, H1-5K-LS2,

H1-5K-S2

Parameters:

Model:	H1-3K-S2 H1-3.6K-S2 H1-4K-S2				
PV input parameter					
Input voltage range		80~600 Vd.c.			
Maximum input voltage		600 Vd.c.			
Maximum input current		12.5*2 Ad.c.			
PV I _{SC}		15*2 Ad.c.			
Battery input/output parameter					
Input voltage range		42~58.4 Vd.c.			
Maximum input/output voltage		58.4 Vd.c.			
Maximum input/output current		60 Ad.c.			
Grid parameter					
Rated output voltage		230 Va.c.			
Rated output frequency		50 Hz			
Rated output current	13.1 Aa.c. 16.0 Aa.c. 17.4 Aa.c.				
Maximum continuous output current	13.6 Aa.c. 16.7 Aa.c. 18.2 Aa.c				
Rated output active power	3 kW 3.68 kW 4 kW				
Power factor	>0.99				
Protection class	Class I				



No. D 077831 0017 Rev. 00

Model:	H1-4.6K-LS2	H1-4.6K-S2	H1-5K-LS2	H1-5K-S2				
PV input parameter								
Input voltage range		80~600 Vd.c.						
Maximum input voltage		600	Vd.c.					
Maximum input current		12.5*2	2 Ad.c.					
PV I _{SC}		15*2	Ad.c.					
Battery input/output parameter								
Input voltage range	42~58.4 Vd.c.							
Maximum input/output voltage	58.4 Vd.c.							
Maximum input/output current	60 Ad.c.	60 Ad.c. 100 Ad.c. 60 Ad.c.						
Grid parameter								
Rated output voltage		230 '	Va.c.					
Rated output frequency		50	Hz					
Rated output current	20.0 Aa.c.	20.0 Aa.c.	21.8 Aa.c.	21.8 Aa.c.				
Maximum continuous output current	20.9 Aa.c.	20.9 Aa.c.	22.7 Aa.c.	22.7 Aa.c.				
Rated output active power	4.6 kW	4.6 kW	5 kW	5 kW				
Power factor	>0.99							
Protection class	Class I							

Tested according to: C10/11:2021

