

CERTIFICATE of Conformity



Registration No.: A3 50655633 0001

Report No.: CN24LQEI 001

Holder: **Guangzhou Sanjing Electric Co., Ltd.**
No.9, Lizhishan Road, Science City,
Guangzhou High-tech Zone,
Guangdong
P.R. China

Product: **Energy Storage System**
(All-in-one Energy Storage System)

Identification: Type Designation : HS3-3K-S2-W-BX, HS3-3.6K-S2-W-BX,
HS3-4K-S2-W-BX, HS3-4.6K-S2-W-BX, HS3-5K-S2-W-BX,
HS3-6K-S2-W-BX, HS3-3K-S2-G-BX, HS3-3.6K-S2-G-BX,
HS3-4K-S2-G-BX, HS3-4.6K-S2-G-BX, HS3-5K-S2-G-BX,
HS3-6K-S2-G-BX, HS3-3K-S2-W-PX, HS3-3.6K-S2-W-PX,
HS3-4K-S2-W-PX, HS3-4.6K-S2-W-PX, HS3-5K-S2-W-PX,
HS3-6K-S2-W-PX, HS3-3K-S2-G-PX, HS3-3.6K-S2-G-PX,
Continued on page 0002

Tested acc. to: NTS Version 2.1
NTS Version 2.1-Correction 1.0
UNE 217001:2020

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.

Durch die DAKKS nach
DIN EN ISO/IEC 17065:2013

akkreditierte Zertifizierungsstelle.
Die Akkreditierung gilt nur für den in der
Urkundenanlage D-ZE-14169-01-02
aufgeführten Akkreditierungsumfang.

Certification Body

Date 05.12.2024

Dean Cao

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CERTIFICATE of Conformity



Registration No.: A3 50655633 0002

Report No.: CN24LQEI 001

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

Product: Energy Storage System
(All-in-one Energy Storage System)

Identification: As page 0001 continuation
HS3-4K-S2-G-PX, HS3-4.6K-S2-G-PX, HS3-5K-S2-G-PX,
HS3-6K-S2-G-PX, HS3-5K-S2-W-BX-BE, HS3-5K-S2-G-BX-BE,
HS3-5K-S2-W-PX-BE, HS3-5K-S2-G-PX-BE, HS3-6K-S2-W-BX-IE,
HS3-6K-S2-G-BX-IE, HS3-6K-S2-W-PX-IE, HS3-6K-S2-G-PX-IE
(X=1, 2, 3, 4, 5, 6, 7, 8 (Number of battery modules))
Firmware version : DSP: V1.100, MCU: V1.010
Remark: Refer to test report CN24LQEI 001 for details.

Tested acc. to: NTS Version 2.1
NTS Version 2.1-Correction 1.0
UNE 217001:2020

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Date 05.12.2024

Dean Cao



TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

Certificado no.: A3 50655633 0001

Certificado De Conformidad

Fabricante: Guangzhou Sanjing Electric Co., Ltd.
Manufacturer: No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R. China

Tipo de producto: Energy Storage System
Type of product: (All-in-one Energy Storage System)

Modelo: HS3-3K-S2-W-BX, HS3-3.6K-S2-W-BX, HS3-4K-S2-W-BX, HS3-4.6K-S2-W-BX, HS3-5K-S2-W-BX,
Model: HS3-6K-S2-W-BX, HS3-3K-S2-G-BX, HS3-3.6K-S2-G-BX, HS3-4K-S2-G-BX, HS3-4.6K-S2-G-BX,
HS3-5K-S2-G-BX, HS3-6K-S2-G-BX, HS3-3K-S2-W-PX, HS3-3.6K-S2-W-PX, HS3-4K-S2-W-PX,
HS3-4.6K-S2-W-PX, HS3-5K-S2-W-PX, HS3-6K-S2-W-PX, HS3-3K-S2-G-PX, HS3-3.6K-S2-G-PX,
HS3-4K-S2-G-PX, HS3-4.6K-S2-G-PX, HS3-5K-S2-G-PX, HS3-6K-S2-G-PX, HS3-5K-S2-W-BX-BE,
HS3-5K-S2-G-BX-BE, HS3-5K-S2-W-PX-BE, HS3-5K-S2-G-PX-BE, HS3-6K-S2-W-BX-IE, HS3-6K-
S2-G-BX-IE, HS3-6K-S2-W-PX-IE, HS3-6K-S2-G-PX-IE
(X=1, 2, 3, 4, 5, 6, 7, 8 (Number of battery modules))

Versión de firmware: DSP: V1.100
Firmware version: MCU: V1.010

Estándar: NTS Version 2.1
Standard: Norma técnica de supervisión de la conformidad de los módulos de generación de electricidad según el Reglamento UE 2016/631

NTS Version 2.1-Correction 1.0
Corrección de errores de la versión 2.1 (del 9/7/2021) de la Norma Técnica de Supervisión de la Conformidad de los Módulos de Generación de Electricidad según el Reglamento UE 2016/631

UNE 217001: 2020
Ensayos para sistemas que eviten el vertido de energía a la red de distribución

Reporte no.: CN24LQEI 001
Report No.:

Fecha de emisión: 2024-12-05
Date of issue:

El certificado de conformidad hace referencia al producto mencionado anteriormente. Esto es para certificar que la muestra se encuentra en conformidad con el requisito de evaluación mencionado anteriormente. Este certificado no implica una evaluación de la producción del producto y no permite el uso de una marca de conformidad TÜV Rheinland.

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


Dean Cao
Certificador

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Apéndice 1
Appendix 1

Appendix 1

Información del inversor Inverter information						
Modelo Model	HS3-3K-S2-W-BX, HS3-3K-S2-G-BX, HS3-3K-S2-W-PX, HS3-3K-S2-G-PX	HS3-3.6K-S2-W-BX, HS3-3.6K-S2-G-BX, HS3-3.6K-S2-W-PX, HS3-3.6K-S2-G-PX	HS3-4K-S2-W-BX, HS3-4K-S2-G-BX, HS3-4K-S2-W-PX, HS3-4K-S2-G-PX	HS3-4.6K-S2-W-BX, HS3-4.6K-S2-G-BX, HS3-4.6K-S2-W-PX, HS3-4.6K-S2-G-PX	HS3-5K-S2-W-BX, HS3-5K-S2-G-BX, HS3-5K-S2-W-PX, HS3-5K-S2-G-PX, HS3-5K-S2-W-BX-BE, HS3-5K-S2-G-BX-BE, HS3-5K-S2-W-PX-BE, HS3-5K-S2-G-PX-BE	HS3-6K-S2-W-BX, HS3-6K-S2-G-BX, HS3-6K-S2-W-PX, HS3-6K-S2-G-PX, HS3-6K-S2-W-BX-IE, HS3-6K-S2-G-BX-IE, HS3-6K-S2-W-PX-IE, HS3-6K-S2-G-PX-IE
Potencia nominal CA Nominal AC Power	3000W	3600W	4000W	4600W	5000W	6000W 5750W (IE model)
Tensión nominal CA Nominal AC voltage	L+N+PE, 230V					
Corriente máxima CA Maximal AC current	14.3A	15.7A	19.1A	20A	23.9A 21.7A (BE model)	26.1A 25A (IE model)
Frecuencia nominal Nominal frequency	50/60Hz					
Rango de tension MPPT MPPT voltage range	90-550V					
Tensión CC máxima Max. DC voltage	600V					
Corriente DC máxima Max. DC current	Basic:16/16A, Professional:20/20A					
Elemento de control Control device	Controller in Inverter					
Tipo de dispositivo de control Type of control device	Integrated					
Información general del transductor de corriente externo / medidor de potencia **) General information of external current transductor/ power meter						
Número de inversores Number of inverters	Single			Multiple		
Fabricante Manufacturer	Zhejiang CHINT Instrument & Meter Co., Ltd.			Guangzhou Sanjing Electric Co., Ltd.		
Modelo Model	DDSU666			eManager		
Aplicación Application	1-phase			3-phase		
Tensión nominal Nominal voltage	230V			230V		
Corriente máxima Max. current	100A			63A per line conductor		
Clase de precisión Class of accuracy	I			I		
Tipo de comunicación Type of communication	RS485			LAN		



Esquema básico del sistema **)

Basic system diagram

One hybrid inverter, single-phase grid:

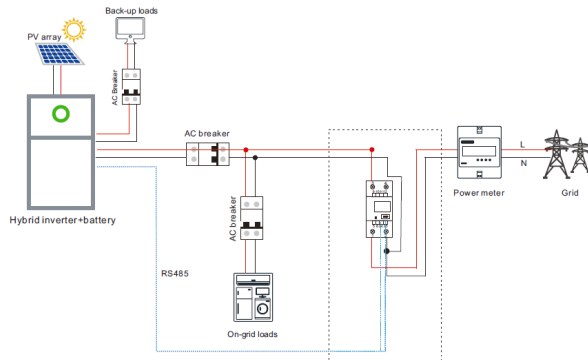


Figure 1. Internal 80A CT connection (current ≤ 80 A)

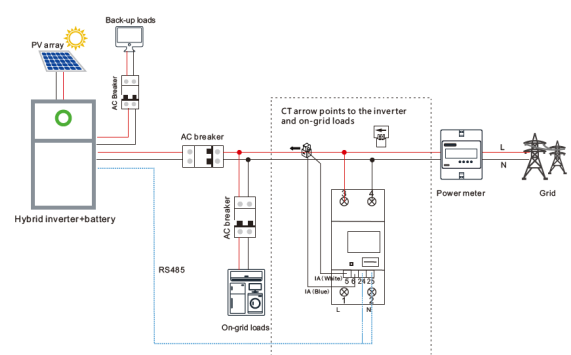


Figure 2. External 100A CT connection (current ≤ 100 A)

Multiple hybrid inverters, single-phase grid:

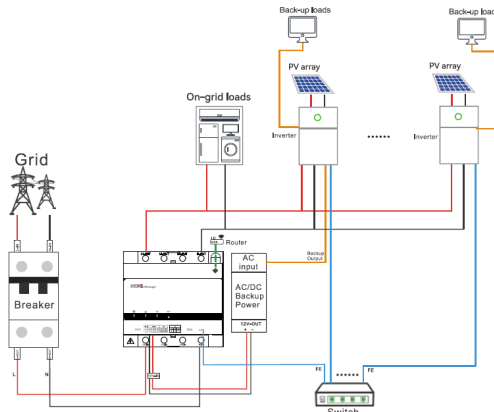


Figure 3. Internal CT connection (current ≤ 63 A)

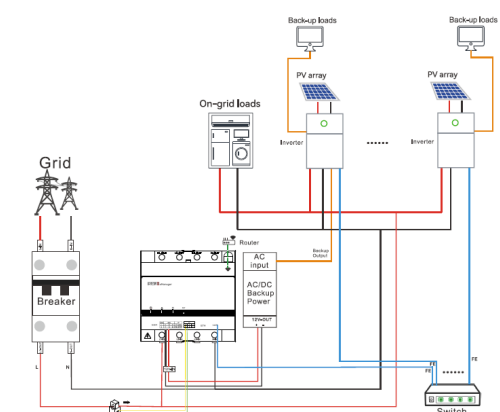


Figure 4. External CT connection (current > 63 A)

Nota : Pueden ser incluidos en la solución certificada modelos variantes de analizador de red (sin control) y transformadores de corriente y tensión siempre que cumplan con:

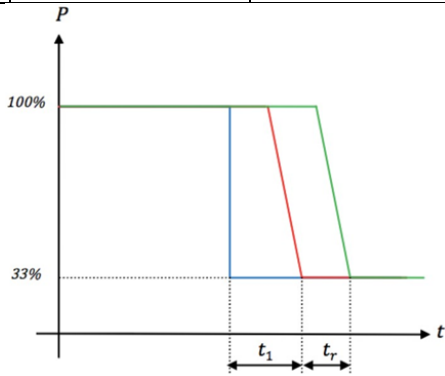
Note : Variant models of network analyzers (without control) and current and voltage transformers can be included in certified solutions, provided they comply with:

- **Mismo régimen de conexión (monofásico o trifásico)**
- **Same connection scheme (single-phase or three-phase)**
- **Misma tolerancia de medida**
- **Same measurement tolerance**
- **Mismo tiempo de refresco o inferior**
- **Same or shorter refresh time**
- **Mismo tipo de Comunicaciones**
- **Communication of the same type**
- **En el caso de que se requieran transformadores de corriente o tensión adicionales, misma precisión del conjunto o superior.**
- **If additional current or voltage transformers are required, the component accuracy shall be the same or higher.**

Apéndice 2

Appendix 2

Condición de transferencia de potencia Transfer of power condition	Energía de la red a la carga (W) Power from grid to load (W)	Limitado Potencia de la red a la carga (W) Limited Power from grid to load (W)	Hora de inyección a la red [t ₁] Time of feed into grid [t ₁]	Plazo(s) Time limit(s)
Generadores individuales Single generators				
100% (fase R) 100% (phase R)	184.2	>0	0.67	2
33% (fase R) 33% (phase R)	215.7	>0		
100% (fase S) 100% (phase S)	--	>0	--	
33% (fase S) 33% (phase S)	--	>0		
100% (fase T) 100% (phase T)	--	>0	--	
33% (fase T) 33% (phase T)	--	>0		
Condición de transferencia de potencia Transfer of power condition	Energía de la red a la carga (W) Power from grid to load (W)	Limitado Potencia de la red a la carga (W) Limited Power from grid to load (W)	Hora de inyección a la red [t ₂] Time of feed into grid [t ₂]	
único generador Two generators				
100% (fase R) 100% (phase R)	179.5	>0	0.81	2
33% (fase R) 33% (phase R)	166.5	>0		
100% (fase S) 100% (phase S)	--	>0	--	
33% (fase S) 33% (phase S)	--	>0		
100% (fase T) 100% (phase T)	--	>0	--	
33% (fase T) 33% (phase T)	--	>0		



$t_1=0.67s$
 $t_r=(0.81-0.67)=0.14s$
 $N \leq (2-t_1)/t_r+1=[(2-0.67)/0.14]+1=10$

el número máximo de generadores que es posible incluir en el sistema es de 10.
Maximum number of generators that can be included in the system is 10.

Note:

$$t_1 + t_r \cdot (N - 1) \leq 2 s$$
$$N \leq \frac{2 - t_1}{t_r} + 1$$

N es el número máximo de generadores que es posible incluir en el sistema;
t₁ es el tiempo de respuesta con un único generador. Se tomará el tiempo de respuesta máximo obtenido;
t_r es la diferencia entre el tiempo de respuesta máximo con uno y dos generadores;

N Maximum number of generators that can be included in the system;
t₁ Response time with a single generator. the maximum response time obtained will be taken;
t_r Difference between the maximum response time with one and two generators

