

**Dichiarazione di conformità alle prescrizioni della Norma CEI 0-21**  
*Declaration of conformity to the requirements of the standard CEI 0-21*

**1. TIPOLOGIA DI APPARECCHIATURA CUI SI RIFERISCE LA DICHIARAZIONE:**

*TYPE OF DEVICE TO WHICH THIS DECLARATION REFERS:*

<b>Dispositivo di conversione statica</b> <i>Static conversion device</i>	<b>Dispositivo di interfaccia</b> <i>Interface device</i>	<b>Protezione di interfaccia</b> <i>Interface protection</i>	<b>Dispositivo di generazione rotante</b> <i>Rotary generating device</i>
SI / YES	SI / YES (*)	SI / YES (*)	NO

<b>COSTRUTTORE</b> <i>MANUFACTURER</i>	<b>MODELLO</b> <i>MODEL</i>	<b>VERSIONE FIRMWARE</b> <i>FIRMWARE VERSION:</i>	<b>NUMERO DI FASI (monofase/trifase)</b> <i>NUMBER OF PHASE (single/threephase)</i>	<b>POTENZA NOMINALE</b> <i>RATED POWER</i>
SUNGROW POWER SUPPLY CO.LTD. Stabilimento: No. 1699 Xiyou Rd., New & High Technology Industrial Development Zone Hefei, 230088 Anhui, P.R.China	SH5.0RT	ARM_SAPPHIRE-H_V11_V01_B; MDSP_SAPPHIRE-H_V11_V01_B	Trifase <i>Threephase</i>	5.000 W
	SH6.0RT			6.000 W
	SH8.0RT			8.000 W
	SH10RT			10.000 W

(\*) applicabile ad impianti di potenza nominale  $\leq 11,08$  kW  
*applicable to installations with a rated power  $\leq 11,08$  kW*

NOTA: Il dispositivo è in grado di limitare la  $I_{dc}$  allo 0,5% della corrente nominale.  
 REMARK: The device is capable to limit  $I_{dc}$  to 0,5% of the rated current.

## BATTERIE UTILIZZABILI CON GLI INVERTER IN OGGETTO

<b>COSTRUTTORE</b>	<b>SUNGROW POWER SUPPLY CO., LTD.</b>					
<b>MODELLO</b>	<b>SBR096</b>	<b>SBR128</b>	<b>SBR160</b>	<b>SBR192</b>	<b>SBR224</b>	<b>SBR256</b>
<b>TECNOLOGIA</b>	Litio Ferro Fosfato					
<b>CAPACITÀ NOMINALE DEL SINGOLO MODULO (kWh)</b>	3.2					
<b>NUMERO DI MODULI BATTERIA RACCOMANDATI</b>	3	4	5	6	7	8
<b>CUS (CAPACITÀ UTILE DEL SISTEMA) (kWh)</b>	9.6	12.8	16.0	19.2	22.4	25.6
	<b>CON 3 MODULI BATTERIA</b>					
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT		
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	5.76	5.76	5.76		
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	5.76	5.76	5.76		
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	6.57	6.57		
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	6.57	6.57		
	<b>CON 4 MODULI BATTERIA</b>					
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT		
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	7.68	7.68		
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	7.68	7.68		
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		
	<b>CON 5 MODULI BATTERIA</b>					
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT		
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	9.6		
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	9.6		
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		
	<b>CON 6, 7, 8 MODULI BATTERIA</b>					
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT		
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0		
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0		
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0		

<b>COSTRUTTORE</b>	BYD COMPANY LIMITED			
<b>MODELLO</b>	HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8
<b>TECNOLOGIA</b>	Litio Ferro Fosfato			
<b>CAPACITÀ NOMINALE DEL SINGOLO MODULO (kWh)</b>	2.56			
<b>NUMERO DI MODULI BATTERIA RACCOMANDATI</b>	2	3	4	5
<b>CUS (CAPACITÀ UTILE DEL SISTEMA) (kWh)</b>	5.12	7.68	10.24	12.80
	CON 2 MODULI BATTERIA			
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	5.1	5.1	5.1
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	5.1	5.1	5.1
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0
	CON 3 MODULI BATTERIA			
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	7.68	7.68
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	7.68	7.68
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0
	CON 4, 5 MODULI BATTERIA			
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0

<b>COSTRUTTORE</b>	BYD COMPANY LIMITED				
<b>MODELLO</b>	HVM 11.0	HVM 13.8	HVM 16.6	HVM 19.3	HVM 22.1
<b>TECNOLOGIA</b>	Litio Ferro Fosfato				
<b>CAPACITÀ NOMINALE DEL SINGOLO MODULO (kWh)</b>	2.76				
<b>NUMERO DI MODULI BATTERIA RACCOMANDATI</b>	4	5	6	7	8
<b>CUS (CAPACITÀ UTILE DEL SISTEMA) (kWh)</b>	11.04	13.80	16.56	19.32	22.08
	CON 4, 5, 6, 7, 8 MODULI BATTERIA				
	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT	
<b>PSN (POTENZA DI SCARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0	
<b>PCN (POTENZA DI CARICA NOMINALE) (kW)</b>	5.0	6.0	8.0	10.0	
<b>PSMAX (POTENZA DI SCARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0	
<b>PCMAX (POTENZA DI CARICA MASSIMA) (kW)</b>	5.0	6.0	8.0	10.0	

**Riferimento del laboratorio che ha eseguito le prove e dei relativi fascicoli di prova**

*Reference of the laboratory which carried out the tests and of the relative test dossiers*

Numero di certificato / *Certificate number*: COCPVP12051/21E-01\_R1

Test report n° : TRPVP12051/21E/01 Datato/dated 23.06.2022

Emesso da / *issued by*:

TÜV NORD (HANGZHOU) CO., LTD, Floor 5, No. 50, Jiuhan Road, Jianggan District Hangzhou, 310019, P.R. China.

In accordo con / *In compliance with*: DIN EN ISO/IEC 17065:2012

Laboratorio accreditato da / *Laboratory Accredited by* CNAS

Numero di accreditamento / *Accreditation number*: CNAS C183-P

**2. Dichiarazione di conformità alle prescrizioni della norma CEI 0-21:2019-04**

*Declaration of conformity to the requirements of the standard CEI 0-21:2019-04*

Con la presente dichiarazione, resa ai sensi degli artt. 46 e 47 DPR 28 Dicembre 2000, n. 445, consapevole delle responsabilità e delle sanzioni penali previste dall'art. 76 del citato DPR per false attestazioni e dichiarazioni mendaci, il sottoscritto Huang Jie, residente a No.1699 Xiyou Rd., New & High Technology Industrial Development Zone, Hefei, P. R. China., 230088, Certification Ingegnere della società SUNGROW POWER SUPPLY CO.LTD con sede in Xiyou road n°1699, 230088 Hefei – Anhui, P.R. China, iscritta al registro delle imprese Hefei Administration for Industry & Commerce con n° di registrazione 913401001492097421 (3-3)

*With this declaration, made pursuant to articles 46 and 47 of Presidential Decree 28 December 2000, n. 445, aware of the responsibilities and penal sanctions provided for by art. 76 of the aforementioned DPR for false statements and false declarations, the undersigned Huang Jie, born in P.R. China the No.1699 Xiyou Rd., New & High Technology Industrial Development Zone, Hefei, P. R. China., 230088 as certification engineer of the company SUNGROW POWER SUPPLY CO.LTD based in Xiyou road No. 1699, 230088 Hefei - Anhui, P.R. China, registered in the business register of Hefei Administration for Industry & Commerce with registration no. 913401001492097421 (3-3)*

**DICHIARA  
DECLARE**

Che l'inverter di propria produzione di cui al punto 1 è conforme alle prescrizioni contenute nella norma CEI 0-21:2019-04. Attesta altresì che la produzione dei dispositivi avviene in regime di qualità (secondo ISO 9001, ed. 2000 e s.m.i.) / *That the inverter of own production referred to in point 1 complies with the requirements contained in the CEI 0-21:2019-04 standard. It also certifies that the production of the devices takes place in a quality regime (according to ISO 9001, ed. 2000 and subsequent modifications and supplements).*

Hefei, lì 23.06.2022

Firma del dichiarante/ *Signature of the declarant*



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# Certificate of Conformity

Registered No.:  
**COCPPV12051/21E-01\_R1**

File reference  
PVP12051/21E-01

Test report No.  
TRPVP12051/21E/01

Date of issue  
2022-06-23

On the basis of the tests undertaken, the samples of the below product(s) have been found to comply with the essential requirements of the referenced specifications at the time the tests were carried out:

**Applicant:** **Sungrow Power Supply Co., Ltd.**  
No. 1699 Xiyou Rd., New & High Technology Industrial Development  
Zone Hefei, Anhui 230088, P. R. China

**Manufacturer:** **Sungrow Power Supply Co., Ltd.**  
No. 1699 Xiyou Rd., New & High Technology Industrial Development  
Zone Hefei, Anhui 230088, P. R. China

**Factory 1:** **Sungrow Power Supply Co., Ltd.**  
No. 1699 Xiyou Rd., New & High Technology Industrial Development  
Zone Hefei, Anhui 230088, P. R. China

**Factory 2:** **Sungrow Power Supply Co., Ltd.**  
No. 608, Changning Avenue, New & High Technology Industrial,  
Development, Zone, 230088 Hefei City, Anhui Province, PEOPLE'S  
REPUBLIC OF CHINA

**Factory 3:** **Sungrow Developers (India) Private Limited**  
No. 85, kanmike village, Kengeri hobli, Bangalore South Taluk, 560074  
Bangalore, INDIA

**Product:** GRID-CONNECTED HYBRID INVERTER

**Type designation:** SH5.0RT, SH6.0RT, SH8.0RT, SH10RT  
Three-phase, Firmware version: ARM\_SAPPHIRE-H\_V11\_V01\_B;  
MDSP\_SAPPHIRE-H\_V11\_V01\_B

**Type of equipment:**  Interface device  
 Interface protection  
 Static conversion device  
 Rotary generation device



Renewable Energy

ESS-T-012 COC



中国认可  
产品  
**PRODUCT**  
**CNAS C183-P**

TÜV NORD (HANGZHOU) CO., LTD.  
Member of TÜV NORD Group  
Tel: +86-571-85386989  
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P.R. China

**Certification program:** Remark: The device is for plants of each power.  
BOS-P-01 Rev. 00

**Certification fundamental(s):** CEI 0-21:2019-04 "Reference technical rules for the connection of active and passive users to the LV electrical Utilities"  
See test report for detailed information.

**Certification body:** TÜV NORD (HANGZHOU) CO., LTD.  
Room B409, Building 1, No 9 Jiujuan Road, Shangcheng District, Hangzhou, Zhejiang Province, 310019, China  
Accredited by CNAS according to ISO/IEC 17065:2012, certificate no. CNAS C183-P.

**Testing laboratory:** Dongguan BALUN Testing Technology Co., Ltd.  
Room 104/204/205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China  
Accredited by CNAS according to ISO/IEC 17025:2017, certificate no. CNAS L14701

**Conclusion:** After verifying following documents, it is concluded that the product is in compliance with the requirements of CEI 0-21:2019-04.

- ISO 9001 certificate:  
Certificate no. CN15/21022.00&IN18/05814, issued by SGS United Kingdom Ltd.
- Test report of CEI 0-21:2019-04:  
Report no. BL-DG2220524-B01, issued by Dongguan BALUN Technology Co., Ltd., accredited by CNAS according to ISO/IEC 17025:2017, certificate no. CNAS L14701
- Test report of EMC:  
Report no. 50345689 001, issued by TÜV Rheinland (Shanghai) Co., Ltd., accredited by CNAS according to ISO/IEC 17025:2017, certificate no. CNAS L3038.  
Report no. J22-127-WT, issued by Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd., accredited by CNAS according to ISO/IEC 17025:2017, certificate no. CNAS L0130

This document is based on the evaluation of the samples of the above mentioned product(s). It does not imply an assessment of the mass-production of the product(s), and it does not permit the use of a TÜV NORD mark. The holder of this document may use it in connection with the related test report(s).



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Tel: +86-571-85386989  
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P.R. China

Version 1.2

## Description of product(s):

Model types .....	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
<b>General information</b>				
Firmware .....	ARM_SAPPHIRE-H_V11_V01_B; MDSP_SAPPHIRE-H_V11_V01_B			
<b>PV input</b>				
Vmax PV [V d.c.].....	1000			
Mpp voltage range [V d.c.] .....	150 - 950	200 - 950		
Isc PV [A d.c.] .....	16/16			16/32
Max. input current [A d.c.].....	12.5/12.5			12.5/25
Overvoltage category (OVC).....	II			
<b>AC output and input parameters</b>				
Rated output voltage [V a.c.] .....	220/230/ 240, 3/N/PE			
Raged output frequency [Hz].....	50/60			
Rated output power [W] .....	5000	6000	8000	10000
Max. apparent power [VA] .....	5000	6000	8000	10000
Max. output current [A a.c.] .....	7.6	9.1	12.1	15.2
Max. input power [W].....	12500	15000	18600	20600
Max. input current [A a.c.].....	18.1	21.7	27	30
Power factor cosφ [λ].....	0.8 leading ... 1 ... 0.8 lagging			
Overvoltage category (OVC).....	III			
<b>Battery parameters</b>				
Battery Type .....	Lithium			
Voltage range[V d.c.] .....	150 - 600			
Max. Charge Current [A d.c.] .....	30			
Max. Discharge Current [A d.c.] .....	30			
<b>Back-up output parameters:</b>				
Rated output voltage [V a.c.] .....	220/230/ 240, 3/N/PE			
Raged output frequency [Hz].....	50/60			



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P.R. China

Version 1.2

Max. output power [W] .....	5000	6000	8000	10000
Max. output power (battery mode) [W] .....	5000	6000	8000	10000
Max. output current [A a.c.] .....	7.6	9.1	12.1	15.2

**Remark: The inverters listed above may be installed with the following batteries:**

The inverters listed above may be installed with the following batteries:			
Manufacturer	Sungrow Power Supply Co., Ltd.		
Accumulator Model / Battery Model	SBR096	SBR128	SBR160
Capacity of each battery module (kWh)	3.2		
Number(s) of battery modules recommended by the manufacturer	3	4	5
Accumulator Model / Battery Model	SBR192	SBR224	SBR256
Capacity of each battery module (kWh)	3.2		
Number(s) of battery modules recommended by the manufacturer	6	7	8

Manufacturer	BYD Company Limited			
Accumulator Model / Battery Model	HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8
Capacity of each battery module (kWh)	2.56			
Number(s) of battery modules recommended by the manufacturer	2	3	4	5
Accumulator Model / Battery Model	HVM 8.3	HVM 11.0	HVM 13.8	
Capacity of each battery module (kWh)	2.76			
Number(s) of battery modules recommended by the manufacturer	3	4	5	
Accumulator Model / Battery Model	HVM 16.6	HVM 19.3	HVM 22.1	
Capacity of each battery module (kWh)	2.76			
Number(s) of battery modules recommended by the manufacturer	6	7	8	

Note:

The batteries are not integrated into the inverter and must be installed according to the local regulations.



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