

### DICHIARAZIONE DI CONFORMITÁ ALLA NORMA CEIO-21

I seguenti generato	ri rispettano le prescri	zioni della norma CEI	0-21: 2022-03 + V1: 20	)22-11				
Costruttore	Shenzhen Growatt New Energy Co., Ltd 4-13/F, Building A, Sino-German (Europe) Industrial Park, Hangcheng Ave, Bao'an District, Shenzhen, China							
Tipo apparecchiatura	Inverter solari ibridi	per sistemi fotovoltaic	i; (v. RdP All. B) e (v. Ro	dP All. Bbis)				
Marca	Growatt							
Numero fasi	Trifase Frequenza: 50 Hz	Tensione: 400 Va	nc					
Modello del generatore	SPH 5000 TL3 BH-UP	SPH 6000 TL3 BH-UP	SPH 8000 TL3 BH-UP	SPH 10000 TL3 BH- UP				
Potenza Nominale	5 kW	6 kW	8 kW	10 kW				
II generatore	È idoneo per installazione in impianti con potenza fino a 11,08 kW È idoneo per installazione in impianti con potenza superiore a 11,08 kW è in grado di limitare la Idc allo 0,5% della corrente nominale Utilizza una funzione di protezione sensibile alla corrente continua							
Caratteristiche del	sistema di protezione	di interfaccia						
Costruttore	Shenzhen Growatt N	Shenzhen Growatt New Energy Co., Ltd						
Modello del generatore	SPH 5000 TL3 BH-UP         SPH 6000 TL3 BH-UP         SPH 8000 TL3 BH-UP         SPH 10000 TL3 BH-UP							
Tipo	Integrata							
Caratteristiche del	convertitore statico							
Modello del convertitore statico	SPH 5000 TL3 BH-UP	SPH 6000 TL3 BH-UP	SPH 8000 TL3 BH-UP	SPH 10000 TL3 BH- UP				
Costruttore del convertitore statico	Shenzhen Growatt New Energy Co., Ltd							
Versione FW	YA 1.0 e superiori							
Potenza nominale del convertitore	5 kW 6 kW 8 kW 10 kW							
Caratteristiche del	sistema di accumulo	(SdA)						
Modello	SPH 5000 TL3 BH-UP         SPH 6000 TL3 BH-UP         SPH 8000 TL3 BH-UP         SPH 10000 TL3 BH-UP							
Psn (potenza di Scarica Nominale)	5 kW	5 kW 6 kW 8 kW 10 kW						

深圳古瑞瓦特新能源有限公司 Shenzhen Growatt New Energy Co.,Ltd



					I		
Pcn (potenza di Carica Nominale)	5 kW			6 kW	8 kW	10 kW	
Psmax (potenza di Scarica Massima)	5 kW			6 kW	8 kW	10 kW	
Pcmax (potenza di							
Carica Massima)	5 kW			6 kW	8 kW	10 kW	
Note	La po	tenza di carica e	e scarica può essere limitata dalla potenza nominale dell'inverter				
Tipologia				Bidirez	ionale		
Batterie utilizzabili	i per i c	onvertitori stat	ici so	pra riportati			
Marca				GR	ROWATT		
Tecnologia				Litio Fe	erro Fosfato		
Modello sistema batter	ia	ARK 7.6XH-A	1	ARK 10.2XH-A1	ARK 12.8XH-A1	ARK 15.3XH-A1	
Modello batterie		ARK 2.5H-A1					
Modello BMS				HVC	60050-A1		
CUS (kWh)		6,912		9,216	11,52	13,82	
Versione Firmware del I	BMS			QI	BAA 1.0		
Numero moduli		3		4	5	6	
Modello sistema batter	ia	ARK 17.9XH-A	۱1	ARK 20.4XH-A1	ARK 23.0XH-A1	ARK 25.6XH-A1	
Modello batterie				ARK	( 2.5H-A1		
Modello BMS		HVC 60050-A1					
CUS (kWh)		16,13		18,43	20,74	23,04	
Versione Firmware del B	BMS	QBAA 1.0					
Numero moduli		7		8	9	10	
Note		Le batterie non sono integrate nell'inverter e devono essere installate secondo le normative locali; Il sistema di accumulo in batteria ARK H-A1 è formato da un BMS, HVC 60050-A1, più i moduli batteria ARK 2.5H-A1, da 3 a 10 pezzi;					

2. Riferimenti dei laboratori che hanno eseguito le prove e dei relativi fascicoli di prova:					
Fascicoli di prova n.	231128151GZU-001				
Emessi da	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch				
Accreditamento	ACCREDIA, PRD N° 306B				

深圳古瑞瓦特新能源有限公司 Shenzhen Growatt New Energy Co.,Ltd



#### Dichiarazione di conformità alle prescrizioni CEI 0-21: 2022-03 + V1: 2022-11

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 Liangcai Wu residente in Shenzhen (Cina), in qualità di CTO e vicepresidente della società Shenzhen Growatt New Energy Co., Ltd. con sede in 4-13/F, Building A, Sino-German (Europe) Industrial Park, Hangcheng Ave, Bao'an District, Shenzhen, China, Numero di registrazione 91440300570039265Y

#### **DICHIARA**

che gli inverter di propria costruzione di cui al precedente punto 1, sono conformi alle prescrizioni della norma CEI 0-21: 2022-03 + V1: 2022-11

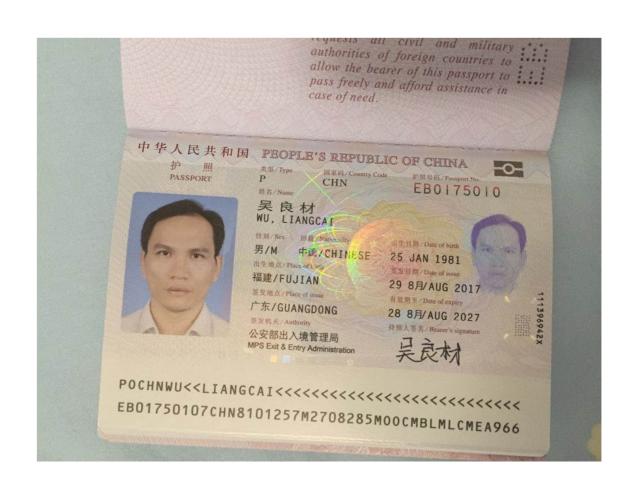
Si attesta inoltre che la produzione delle apparecchiature oggetto di questa dichiarazione avviene in regime di qualità secondo ISO 9001:2015.

Shenzhen Growatt New Energy Co., Ltd.

Shenzhen, P.R. China, lì 02/01/2024

Firma del dichiarante Liangcai Wu & Vice President







# Certificate of Conformity

### Certificate Number: CN-PV-210174R2

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.

**Applicant:** Shenzhen Growatt New Energy Co., Ltd.

4-13/F, Building A, Sino-German (Europe) Industrial Park,

Hangcheng Ave, Bao'an District, Shenzhen, China

**Product:** Energy Storage system

Ratings & Principle See appendix of Certificate of Conformity Characteristics:

Model: Inverter conversion device:

SPH 4000TL3 BH-UP, SPH 5000TL3 BH-UP, SPH 6000TL3 BH-UP, SPH 7000TL3 BH-UP, SPH 8000TL3 BH-UP, SPH 10000TL3 BH-UP, SPA 4000TL3 BH-UP, SPA 5000TL3 BH-UP, SPA 6000TL3 BH-UP, SPA 7000TL3 BH-UP, SPA 8000TL3 BH-UP, SPA 10000TL3 BH-UP

Batteries and BMS - Battery Management System

Battery system: ARK 7.6H-A1, ARK 10.2H-A1, ARK 12.8H-A1, ARK 15.3H-A1,

ARK 17.9H-A1, ARK 20.4H-A1, ARK 23.0H-A1, ARK 25.6H-A1

Battery pack: ARK 2.5H-A1 Control model: HVC 60050-A1

Brand Name: GROWATT

**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 Intertek Testing Services Ltd. Shanghai

Name & Address: West Area, 2nd 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 Number:** 231128151GZU-001, 12 Dec 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-210174R1, dated 10 November 2022

Additional information in Appendix

Signature

**Certification Manager: Grady Ye** 

Date: 13 December 2023



PRD N° 306B



#### This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

Test item description:	Energy Storage system
Trademark:	GROWATT
Manufacturer:	Same as applicant
Model/Type reference	Inverter conversion device: SPH 4000TL3 BH-UP, SPH 5000TL3 BH-UP, SPH 6000TL3 BH-UP, SPH 7000TL3 BH-UP, SPH 8000TL3 BH-UP, SPH 10000TL3 BH-UP SPA 4000TL3 BH-UP, SPA 5000TL3 BH-UP, SPA 6000TL3 BH-UP, SPA 7000TL3 BH-UP, SPA 8000TL3 BH-UP, SPA 10000TL3 BH-UP Brands: GROWATT Batteries and BMS - Battery Management System Battery model: ARK 7.6H-A1, ARK 10.2H-A1, ARK 12.8H-A1, ARK 15.3H-A1, ARK 17.9H-A1, ARK 20.4H-A1, ARK 23.0H-A1, ARK 25.6H-A1 Battery pack: ARK 2.5H-A1 Control model: HVC 60050-A1 Brands: GROWATT
Inverter Firmware Version:	YA1.0 (SPH series), YA1.0(SPA series)
Number of phases:	Three-phase
Nominal Power:	4000W (SPH 4000TL3 BH-UP, SPA 4000TL3 BH-UP) 5000W (SPH 5000TL3 BH-UP, SPA 5000TL3 BH-UP) 6000W (SPH 6000TL3 BH-UP, SPA 6000TL3 BH-UP) 7000W (SPH 7000TL3 BH-UP, SPA 7000TL3 BH-UP) 8000W (SPH 8000TL3 BH-UP, SPA 8000TL3 BH-UP) 10000W (SPH 10000TL3 BH-UP, SPA 10000TL3 BH-UP)
Type	Bidirectional
CUS (useful capacity of the storage	6.912KWh ~ 23.04KWh for battery system 1; 4.5kWh ~ 27kWh
system)	battery system 2 See below table for details
Psn (nominal discharge power): Pcn (nominal charge power):	See below table for details  See below table for details
Psmax (maximum discharge power)	See below table for details  See below table for details
Pcmax (maximum charge power):	See below table for details
BMS Firmware Version:	QBAA1.0



#### This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

Battery		CUS (useful capacity of the storage system)		
Battery system	Manufacturer	Capacity of battery Number of battery		
		system (kWh)	recommended by the	
			manufacturer	
ARK 7.6XH-A1		6.912	3	
ARK 10.2XH-A1		9.216	4	
ARK 12.8XH-A1		11.52	5	
ARK 15.3XH-A1	Shenzhen Growatt New	13.82	6	
ARK 17.9XH-A1	Energy Co., Ltd.	16.13	7	
ARK 20.4XH-A1		18.43	8	
ARK 23.0XH-A1		20.74	9	
ARK 25.6XH-A1		23.04	10	

#### Note:

- 1. Batteries are not integrated within the inverter and shall be installed according to local regulation.
- 2.The ARK high voltage battery system is composed of a high voltage controller HVC 60050-A1 and 3 to 10 battery packs ARK 2.5H-A1 in series.





This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

Battery system	ARK 5.1XH-A1	ARK 7.6XH-A1	ARK 10.2XH-A1	ARK 12.8XH-A1	ARK 15.3XH-A1		
High Voltage Controller Model		BDC 95045-A1					
Battery module		ARK 2.	5H-A1(2.56kWh	n,51.2V)			
Number of Modules in Series	2	3	4	5	6		
Psn*	2.5kW	3.75kw	5kw	6.25kw	7.5kw		
Pcn*	2.5kW	3.75kw	5kw	6.25kw	7.5kw		
Psmax*	2.5kW	3.75kw	5kw	6.25kw	7.5kw		
Pcmax*	2.5kW	3.75kw	5kw	6.25kw	7.5kw		
BMS Firmware Version	QBAA1.0						
Battery system	ARK 17.9XH-A1	ARK 20.4XH-A1		ARK 23.0XH-A1	ARK 25.6XH-A1		
High Voltage Controller Model		BDC 95045-A1					
Battery module		ARK 2.	5H-A1(2.56kWh	ı,51.2V)			
Number of Modules in Series	7		8	9	10		
Psn*	8.75kW	10	)kW	11.25kW	12.5kW		
Pcn*	8.75kW	10	)kW	11.25kW	12.5kW		
Psmax*	8.75kw		)kW	11.25kw	12.5kw		
Pcmax*	8.75kW		10kW 11.25kW		12.5kW		
BMS Firmware Version	QBAA1.0						

<sup>\*</sup> It could be limited by power of inverter, if the battery module used with inverter and has more power than inverter.



#### This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

_							
Model	SPH 4000	SPH 5000	SPH 6000	SPH 7000	SPH 8000	SPH 10000	
	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	
Input data (DC)					,		
Max. DC voltage	1000V	1000V	1000V	1000V	1000V	1000V	
MPP voltage range	120~1000V	120~1000V	120~1000V	120~1000V	120~1000V	120~1000V	
Max. input current per	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	
MPP trackers							
Max. short-circuit current	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	
per MPP trackers			100				
Output data/Input (AC)		11 1	- 10				
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W	
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA	
Nominal AC voltage	D	7.	3W+N+PE,	230V/400V;			
AC grid frequency	The same		50				
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A	
Power factor			0.8leading	~ 0.8lagging	- 10		
Stand-alone (AC power)	- 40				- 10		
AC nominal output power	4000W	5000W	6000W	7000W	8000W	10000W	
Max. AC apparent power	4000VA	5000 VA	6000 VA	7000 VA	8000 VA	10000 VA	
Nominal AC voltage			3W+N+PE,	230V/400V;	- 0		
Nominal AC frequency			50	Hz			
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A	
Battery data (DC)	100						
Battery voltage range	100		100~	550V	- 10		
Max. charging / discharging current			25	5A			
Continuous charging / discharging power	4000W	5000W	6000W	7000W	8000W	10000W	
Type of battery	E 1	lith	nium battery /	Lead-acid batte	ry		
Capacity of battery	100		7.68~7	6.8kWh	V.		
Others			. 660				
Technology	Transformerless						
Protection degree	IP 65						
Operating temperature	−25 °C ~ +60 °C						
range	With derating above 45 °C						
Pollution degree	III						
Protective Class	Class I						



#### This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

	SPA 4000	SPA 5000	SPA 6000	SPA 7000	SPA 8000	SPA 10000
Model	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP	TL3 BH-UP
Output data(AC)						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage		7	3W+N+PE,	230V/400V;		
AC grid frequency			50	Hz;		
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Power factor			0.8leading	0.8lagging		
Stand alone(AC power)					- 10	
AC nominal output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000 VA	6000 VA	7000 VA	8000 VA	10000 VA
Nominal AC voltage	-		3W+N+PE,	230V/400V;		
Nominal AC frequency			50	Hz		
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Battery data(DC)				7	_//	
Battery voltage range			100~	550V		
Max. charging / discharging current			25	5A		
Type of battery	lithium battery / Lead-acid battery					
Capacity of battery	7.68~76.8kWh					
Others						
Technology	Transformerless					
Protection degree	IP 65					
Operating temperature range	$-25~^{\circ}\text{C} \sim +60~^{\circ}\text{C}$ With derating above 45 $^{\circ}\text{C}$					
Pollution degree	III					
Protective Class	Class I					



This is an Appendix to Certificate of Conformity Number: CN-PV-210174R2

TYPE OF APPARATUS: Energy Storage system						
Number of phases: three-phase						
DISCONNECTION	INTERFACE DEVICE FOR ROTATING GENERATOR					
DEVICE	PROTECTION DEVICE CONVERSION DEVICE					

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.: 02421Q32012223R0M, issued by: SHENZHEN UNIVERSAL CERTIFICATION CENTRE Co., Ltd.