

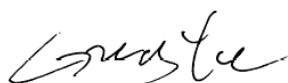
# Certificate of Conformity

Certificate Number: CN-PV-220044

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.

<b>Applicant Name &amp; Address:</b>	Shenzhen Growatt New Energy Co., Ltd 4-13/F, Building A, Sino-German (Europe) Industrial Park, Hangcheng Ave, Bao'an District, Shenzhen, China
<b>Product Description:</b>	Energy Storage system
<b>Ratings &amp; Principle Characteristics:</b>	See appendix for more parameter details.
<b>Models/Type References:</b>	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 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 Control model: HVC 60050-A1
<b>Brand Name:</b>	GROWATT
<b>Tested according to:</b>	CEI 0-16: 2019-04 + V1:2020: Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company
<b>Certificate Issuing Office Name &amp; Address:</b>	Intertek Testing Services Ltd. Shanghai West Area, 2 <sup>nd</sup> 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
<b>Test Report Number:</b>	201230069GZU-002

Additional information in Appendix



Signature

**Certification Manager: Grady Ye**  
**Date: March 01, 2022**



PRD N° 306B

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## APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-220044

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 Control model: HVC 60050-A1 Brands: GROWATT
Inverter Firmware Version .....	YA1.0
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 system) .....	6.912KWh ~ 23.04KWh
Psn (nominal discharge power) .....	Refer to page 4-5
Pcn (nominal charge power) .....	Refer to page 4-5
Psmax (maximum discharge power) :	Refer to page 4-5
Pcmax (maximum charge power) ....:	Refer to page 4-5
BMS Firmware Version .....	QBAA1.0
Battery Firmware Version.....:	--

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

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

## APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-220044

Model	SPH 4000 TL3 BH-UP	SPH 5000 TL3 BH-UP	SPH 6000 TL3 BH-UP	SPH 7000 TL3 BH-UP	SPH 8000 TL3 BH-UP	SPH 10000 TL3 BH-UP
<b>Input data (DC)</b>						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000V	1000V	1000V	1000V	1000V	1000V
Start voltage	120V	120V	120V	120V	120V	120V
Nominal voltage	600V	600V	600V	600V	600V	600V
MPP voltage range	120~1000V	120~1000V	120~1000V	120~1000V	120~1000V	120~1000V
No. of MPP trackers	2	2	2	2	2	2
No. of PV strings per MPP trackers	1	1	1	1	1	1
Max. input current per MPP trackers	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A	13.5A/13.5A
Max. short-circuit current per MPP trackers	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A	16.9A/16.9A
<b>Output data/Input (AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage	3W+N+PE, 230V/400V;					
AC grid frequency	50Hz;					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Power factor	0.8leading ~ 0.8lagging					
<b>Stand-alone (AC power)</b>						
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	50Hz					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
<b>Battery data (DC)</b>						
Battery voltage range	100~550V					
Max. charging / discharging current	25A					
Continuous charging / discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	lithium battery / Lead-acid battery					
Capacity of battery	7.68~76.8kWh					
<b>Others</b>						
Technology	Transformerless					
Protection degree	IP 65					
Operating temperature range	-25 °C ~ +60 °C With derating above 45 °C					
Pollution degree	III					
Protective Class	Class I					
Software Version	YA1.0					

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## APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-220044

Model	SPA 4000 TL3 BH-UP	SPA 5000 TL3 BH-UP	SPA 6000 TL3 BH-UP	SPA 7000 TL3 BH-UP	SPA 8000 TL3 BH-UP	SPA 10000 TL3 BH-UP
<b>Output data(AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage	3W+N+PE, 230V/400V;					
AC grid frequency	50Hz;					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Power factor	0.8leading ~ 0.8lagging					
<b>Stand alone(AC power)</b>						
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	50Hz					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
<b>Battery data (DC)</b>						
Battery voltage range	100~550V					
Max. charging / discharging current	25A					
Type of battery	lithium battery / Lead-acid battery					
Capacity of battery	7.68~76.8kWh					
<b>Others</b>						
Technology	Transformerless					
Protection degree	IP 65					
Operating temperature range	-25 °C ~ +60 °C With derating above 45 °C					
Pollution degree	III					
Protective Class	Class I					
Software Version	YA1.0					

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**Verification of certificate with test report: 201230069GZU-002**

**TYPE OF APPARATUS:**

( Power greater than 11.08 kW and less than or equal to 6 MW )

DISCONNECTION DEVICE	INTERFACE PROTECTION DEVICE	DEVICE FOR CONVERSION	ROTATING GENERATOR DEVICE
		<input checked="" type="checkbox"/>	

Manufacturer: Shenzhen Growatt New Energy Co., Ltd

Apparatus type: Energy Storage system

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

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

Control model: HVC 60050-A1

Brands: GROWATT

Inverter Firmware Version: YA1.0

BMS Firmware Version: QBAA1.0

Number of phases: Three-phase

Nominal power: See certificate for each model

Type: Bidirectional

CUS (useful capacity of the storage system): 6.912KWh ~ 23.04KWh

Nominal power: See Certificate for each model

Maximum power of the destination plant: <400KW

Having assessed the test report 201230069GZU-002 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

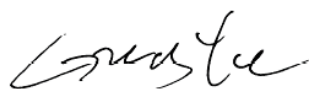
In compliant with ISO/IEC 17025:2017

Accreditation number: TL-395

Having examined the ISO 9001 certificate of the manufacturer No: 02421Q32012223R0M issued by:  
UNIVERSAL CERTIFICATION CENTRE CO., LTD.

The indicated products above comply with CEI 0-16:2019 + V1:2020: Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company

**Signature**



**Name: Grady Ye**

**Date: March 01, 2022**