

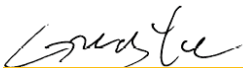
Certificate of Conformity

Certificate Number: CN-PV-210174

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. This certificate is superseded the certificate: CN-PV-210155.

Applicant Name & Address:	Shenzhen Growatt New Energy Co., Ltd 2F and 3F, Building 4, Jiayu Company Industrial Park, Xibianling, Shangyu Village, Shiyan Street, Bao'an District, Shenzhen, China
Product Description:	Accumulation system
Ratings & Principle Characteristics:	See appendix for more parameter details.
Models/Type References:	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 Battery pack: ARK 2.5H-A1 Control model: HVC 60050-A1
Brand Name:	GROWATT
Tested according to:	CEI 0-21:2019-04: Reference technical rules for the connection of active and passive users to the LV electrical Utilities
Certificate Issuing Office Name & Address:	Intertek Testing Services Ltd. Shanghai West Area, 2 nd Floor, No. 707, Zhangyang Road China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China Accredited by CNAS in accordance with ISO/IEC 17065:2012
Test Report Number:	210625019GZU-001

Certification procedure: SMS-PV-OP-19
Product certification scheme type: Type test
Additional information in Appendix



Signature

Certification Manager: Grady Ye

Date: 15 July 2021



中国认可
产品
PRODUCT
CNAS C058-P

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APPENDIX: Certificate of Conformity

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

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 system)	6.912KWh ~ 23.04KWh
Psn (nominal discharge power)	Same as maximum power
Pcn (nominal charge power)	Same as maximum power
Psmax (maximum discharge power) :	Same as maximum power
Pcmx (maximum charge power):	Same as maximum power
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 Battery pack
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:

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.

APPENDIX: Certificate of Conformity

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

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
Input data (DC)						
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
Output data/Input (AC)						
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					
Stand-alone (AC power)						
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
Battery data (DC)						
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					
Others						
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-210174

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
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	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					
Stand alone(AC power)						
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
Battery data (DC)						
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					
Others						
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: 210625019GZU-001

TYPE OF APPARATUS:

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

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

Manufacturer: Shenzhen Growatt New Energy Co., Ltd

Apparatus type: Accumulation 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

Battery pack: ARK 2.5H-A1

Control model: HVC 60050-A1

Brands: GROWATT

Inverter Firmware Version: YA1.0 (SPH series), YA1.0(SPA series)

BMS Firmware Version: QBAA1.0

Battery Firmware Version: --

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

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

Having assessed the test report 201230069GZU-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

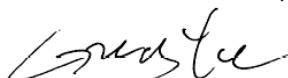
In compliant with ISO/IEC 17025:2017

Accreditation number: CNAS L0220

Having examined the ISO 9001 certificate of the manufacturer No: UKQ1809003R2 issued by:

UNVERSAL CERTIFICATION CENTRE 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: 15 July 2021