



Ginlong Technologies Co., Ltd.

No. 57 Jintong Road,
Binhai Industrial Park - Xiangshan
Ningbo - Zhejiang Province, 315712 - P.R. China
Tel: (+86) 574 6580 2188 - info@ginlong.com

Dichiarazione di conformità alle prescrizioni della Norma CEI 0-16:2022-03
Declaration of Conformity to Requirements of the Standard CEI 0-16:2022-03

TIPOLOGIA DEL SISTEMA DI ACCUMULO CUI SI RIFERISCE LA DICHIARAZIONE:
Type of Storage System to Which This Declaration Refers:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotary Generating Device
Si/Yes	Si/Yes	Si/Yes	No

COSTRUTTORE: Manufacturer	MODELLO DI INVERTER: Inverter Model	VERSIONE FIRMWARE: Firmware Version	NUMERO DI FASI (monofase/trifase) Number of Phase (Single/Three Phase)	POTENZA NOMINALE: Rated Power [W]
Ginlong Technologies Co., Ltd. No. 57 Jintong Road, Binhai Industrial Park - Xiangshan Ningbo - Zhejiang Province, 315712 - P.R. Chin	S6-EH3P5K-H-EU-OD S6-EH3P5K2-H-OD S6-EH3P5K-H-EU S6-EH3P5K2-H	A1 e superiore/and upper	Trifase/Three-Phase	5000
	S6-EH3P6K-H-EU-OD S6-EH3P6K2-H-OD S6-EH3P6K-H-EU S6-EH3P6K2-H			6000
	S6-EH3P8K-H-EU-OD S6-EH3P8K2-H-OD S6-EH3P8K-H-EU S6-EH3P8K2-H			8000
	S6-EH3P10K-H-EU-OD S6-EH3P10K2-H-OD S6-EH3P10K-H-EU S6-EH3P10K2-H S6-EH3P10K-H-EU-PRO			10000

Gli inverter suddetti sono certificati in combinazione con una delle seguenti opzioni di Batteria al Litio:
The inverters here above listed are certified according with one of the following options of Lithium Battery:

COSTRUTTORE: Manufacturer	MODELLO DI BATTERIA: Battery Model	Capacità del sistema di accumulo (CUS) Storage system capacity (CUS)	
		Capacità per singolo modulo (kWh) Capacity for each battery module (kWh)	Numero di batterie raccomandate dal costruttore Number(s) of battery module recommended by manufacturer
Pylontech	Force H1-48	3.55	3-7
	Force H2-96	3.55	2-4
BYD	HVS 5.1	5.12	1
	HVS 7.7	7.68	1
	HVS 10.2	10.24	1
	HVS 12.8	12.8	1

NOTA: Il dispositivo è in grado di limitare la I_{dc} allo 0,5% della corrente nominale.
Note: The device is capable to limit I_{dc} to 0.5% of the rated current.

Esaminati i Fascicoli Prove n°CN220KGG 002, CN220KGG 003 and CN220KGG 004, emessi dal laboratorio TÜV Rheinland LGA Products GmbH accreditamento DAkKS (D-ZE-14169-01-02)
Ai sensi degli articoli 46 e 47 del DPR 28 Dicembre 2000, n° 445, il sottoscritto Yiming Wang, in qualità di legale rappresentante di Ginlong Technologies Co., Ltd. - No. 57 Jintong Road - Binhai Industrial Park - Xiangshan - Ningbo - Zhejiang Province - China, dichiara che il prodotto indicato è conforme alle prescrizioni CEI 0-16: 2022-03.





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Taken into account test report No CN220KGG 002, CN220KGG 003 and CN220KGG 004, issued by test lab TÜV Rheinland LGA Products GmbH with DAkkS accreditation (D-ZE-14169-01-02)

According with the articles 46 and 47 of Italian DPR 28 December 2000, n° 445, the undersigned Yiming Wang, as legal representative of Ginlong Technologies Co., Ltd. - No. 57 Jintong Road - Binhai Industrial Park - Xiangshan - Ningbo - Zhejiang Province - China, hereby declares that the product complies with the requirements of CEI 0-16: 2022-03.

DATA 20/10/2023
DATE 20/10/2023

FIRMA LEGALE RAPPRESENTANTE
SIGNATURE LEGAL REPRESENTATIVE



I hereby certify, that the above is the true signature, subscribed in my presence, of

Mr. Yiming Wang, born on April 13, 1981, business address No.57 Jintong Road, Binhai Industrial Park, Xiangshan Ningbo, Zhejiang Province, China, identified himself by submission of his valid government-issued photo identification

Acting on behalf of Ginlong Technologies Co., Ltd. as Chief Executive Officer under the document

Dichiarazioni di
conformit_Declaration_of_Comformity_CEI_0-16_2022-03_S6_3P
H_RHI_REV.00.

Grandall Law Firm (Beijing)

November 10, 2023



CERTIFICATE of Conformity



Registration No.: AK 50588896 0001

Report No.: CN220KGG 003

Holder: **Ginlong technologies Co., Ltd.**
No.57 Jintong Road, Binhai,
(seafront), Industrial Park,
Xiangshan Ningbo
315712 Zhejiang
P.R. China

Product: **Energy Storage system**
(Hybrid Inverter With Storage Battery System)

Identification: Type Designation : S6-EH3PxxK-H-EU S6-EH3PxxK-H-EU-OD
S6-EH3PxxK2-H S6-EH3PxxK2-H-OD
(xx=5, 6, 8, 10) S6-EH3P10K-H-EU-PRO
Serial Number : Engineering Samples
Firmware version : Inverter: A1
Battery System: V1.4
Remark(s) : The product maybe installed with
Storage Battery System Force-H1-48/yyV
(yy=144, 192, 240, 288, 336)

Tested acc. to: CEI 0-16:2022-03

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.

Certification Body

Date 14.06.2023



Bruce Li
Bruce Li

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50588896 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore
Manufacturer

Ginlong technologies Co., Ltd.

No.57 Jintong Road, Binhai, (seafont), Industrial Park, Xiangshan Ningbo
315712 Zhejiang P.R. China

Modello/Tipo Model/Type	S6-EH3P10K-H-EU, S6-EH3P10K-H-EU-OD, S6-EH3P10K2-H, S6-EH3P10K2-H-OD with storage battery system Force-H1-48				
	Force-H1- 48/144V	Force-H1- 48/192V	Force-H1- 48/240V	Force-H1- 48/288V	Force-H1- 48/336V
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]			10000		
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]			10000		
Numero di unità batteria Number of battery unit	3	4	5	6	7
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	5000	6800	8500	10000	10000
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	6100	8050	10000	10000	10000
Capacità della batteria Capacity of battery [kWh]	10.65	14.20	17.76	21.31	24.86
Modello/Tipo Model/Type	S6-EH3P8K-H-EU, S6-EH3P8K-H-EU-OD, S6-EH3P8K2-H, S6-EH3P8K2-H-OD with storage battery system Force-H1-48				
	Force-H1- 48/144V	Force-H1- 48/192V	Force-H1- 48/240V	Force-H1- 48/288V	Force-H1- 48/336V
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]			8000		
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]			8000		
Numero di unità batteria Number of battery unit	3	4	5	6	7
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	5000	6800	8000	8000	8000
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	6100	8000	8000	8000	8000
Capacità della batteria Capacity of battery [kWh]	10.65	14.20	17.76	21.31	24.86

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany



OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50588896 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

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<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore
Manufacturer

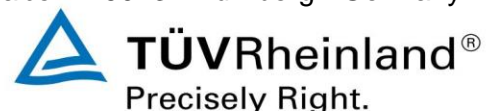
Ginlong technologies Co., Ltd.

No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo
315712 Zhejiang P.R. China

Modello/Tipo Model/Type	S6-EH3P6K-H-EU, S6-EH3P6K-H-EU-OD, S6-EH3P6K2-H, S6-EH3P6K2-H-OD with storage battery system Force-H1-48				
	Force-H1-48/144V	Force-H1-48/192V	Force-H1-48/240V	Force-H1-48/288V	Force-H1-48/336V
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]			6000		
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]			6000		
Numero di unità batteria Number of battery unit	3	4	5	6	7
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	2900	4600	5750	6000	6000
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	3500	5450	6000	6000	6000
Capacità della batteria Capacity of battery [kWh]	10.65	14.20	17.76	21.31	24.86

Modello/Tipo Model/Type	S6-EH3P5K-H-EU, S6-EH3P5K-H-EU-OD, S6-EH3P5K2-H, S6-EH3P5K2-H-OD with storage battery system Force-H1-48				
	Force-H1-48/144V	Force-H1-48/192V	Force-H1-48/240V	Force-H1-48/288V	Force-H1-48/336V
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]			5000		
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]			5000		
Numero di unità batteria Number of battery unit	3	4	5	6	7
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	2900	4600	5000	5000	5000
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	3500	5000	5000	5000	5000
Capacità della batteria Capacity of battery [kWh]	10.65	14.2	17.76	21.31	24.86

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany



OGGETTO: Dichiarazione di conformita aila normative CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50588896 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore
Manufacturer

Ginlong technologies Co., Ltd.


No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo
315712 Zhejiang P.R. China

Modello/Tipo
Model/Type

S6-EH3P10K-H-EU-PRO with storage battery system Force-H1-48

	Force-H1- 48/144V	Force-H1- 48/192V	Force-H1- 48/240V	Force-H1- 48/288V	Force-H1- 48/336V
Potenza Attiva Nominata (P_{NINV}) Nominal Power [W]			10000		
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]			11000		
Numero di unità batteria Number of battery unit	3	4	5	6	7
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	5000	6800	8500	10000	10000
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	6100	8050	10000	10000	10000
Capacità della batteria Capacity of battery [kWh]	10.65	14.20	17.76	21.31	24.86

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany

 **TÜVRheinland**[®]
Precisely Right.

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50588896 0001

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Firmware release
Firmware

Inverter:
A1

Battery system:
V1.4

Numero di Fasi
Number of phases

Trifase
Three Phases

Potenza massima
dell'impianto di destinazione:
Maximum power of the
destination plant:

$P_{\text{plant}} < 400 \text{ kW}$
 $P_{\text{plant}} \geq 400 \text{ kW}$

laboratorio di prova
Test laboratory

TÜV Rheinland (Shanghai) Co., Ltd.
Accreditation CNAS no. L3038

Esaminati I Fascicoli Prove N.: CN220KGG 003 emesso da TÜV Rheinland (Shanghai) S.r.l.
Having assessed the Test Files N. CN220KGG 003 issued by TÜV Rheinland (Shanghai) Co., Ltd.

Si dichiara che i prodotti indicati soddisfano i requisiti della CEI 0-16:2022-03 “Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”
We declare that the products indicated meet the requirements laid down by CEI 0-16:2022-03 “Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Validità della Dichiarazione
Validity of the Declaration

Questa Dichiarazione è valida per i prodotti indicate, così come descritti nei Fascicoli citati. Nuovi requisiti o emendamenti a requisiti esistenti, così come modifiche al prodotto, possono implicare nuove verifiche e certificazioni.
This Declaration is valid only for the products indicated herein, as described in the Files mentioned. New requirements or amendment to existing ones, or modifications to the product, may imply re-verification and re-certification.

Date: 14.06.2023

Signature :

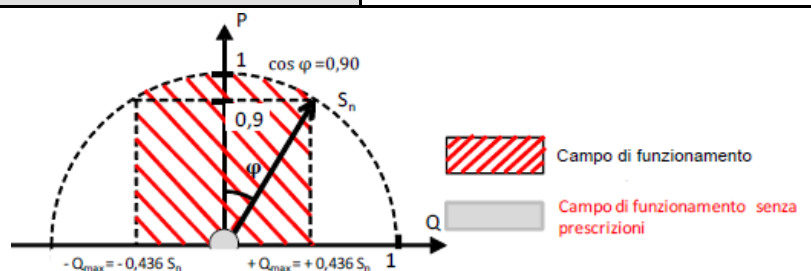
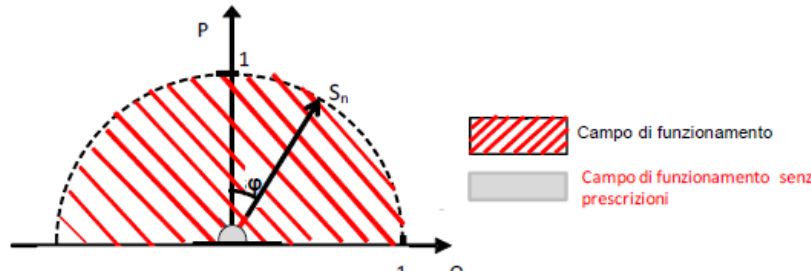
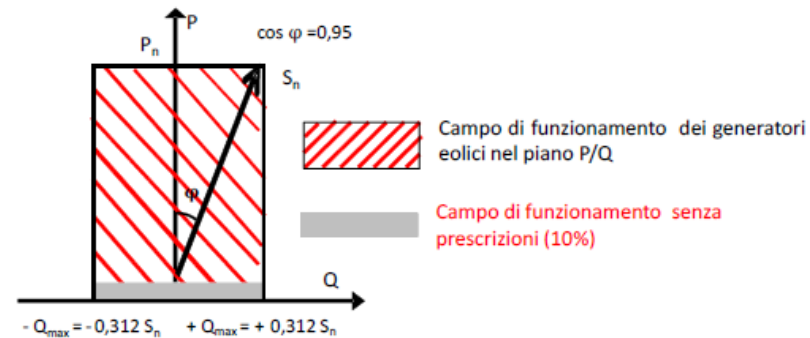
Bruce Li

Bruce Li
Certifier



TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany

 **TÜVRheinland®**
Precisely Right.

N.6.1 Verifica della capability di erogazione della potenza reattiva <i>/reactive power production capability</i>	
Ambient temperature (°C)	25 °C ± 5 °C
Humidity (RH %)	65%
Instrumentation list.....	See table "Measurement equipment and instrumentation"
Uncertainty	See table "Metodi di prova/Testing methods"
Potenza massima dell'impianto di destinazione: <i>Maximum power of the destination plant:</i>	<input checked="" type="checkbox"/> PV _{plant} < 400 KW (see picture 1A) <input type="checkbox"/> PV _{plant} ≥ 400 KW (see picture 1B) <input type="checkbox"/> Wind generator (see picture 1C)
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Picture 1A</p>  </div> <div style="width: 60%;"> <p>Picture 1B</p>  </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 30%;"> <p>Picture 1C</p>  </div> <div style="width: 60%;"> <p>Legend:</p> <ul style="list-style-type: none"> Campo di funzionamento Campo di funzionamento senza prescrizioni Campo di funzionamento dei generatori eolici nel piano P/Q Campo di funzionamento senza prescrizioni (10%) </div> </div>	
Operator	See cover page
Supervisor	See cover page
Test Date.....	See cover page

For each of the 11 levels of active power, 1 values of inductive reactive power and 1 values of capacitive reactive power must be recorded, as averaged values in 1 min, based on the measurements at the fundamental frequency in a window of 200ms.

N.6.1.1 Modalità di esecuzione e registrazione della prova applicabile a generatori statici
/ test execution and recording modes (applicable to static generators)

The DUT is set so that it can absorb (inductive behavior) and deliver (capacitive behavior) the maximum reactive power available in each of the active power bins (0%, 10%, ..., 100%).
The input power is set such that the DUT can deliver the maximum active power.

The maximum absorption capability (Q_{\min}) and delivery (Q_{\max}) of reactive power resulting from the sequence of the above measures and that for $Q = 0$ has to be documented in tabular form.
The test is passed successfully if the detected value of maximum reactive power, reported in a P-Q diagram, is external or at least coincident with the perimeter of the minimum capability of Picture 1B.

For each measured point, a maximum deviation of reactive power $\Delta Q \leq \pm 5\%$ of the rated apparent power is allowed.
Values are measured as 1-min average.

Table 6.1.1a: Maximum capability P-Q (Q=0)

Power-Bin	Active power		Reactive Power		DC Power		Power Factor
	[W]	p.u.	[VA]	p.u.	[W]	p.u.	
0% ±5%	499.1	4.5	63.5	0.6	549.0	5.0	0.999
10% ±5%	998.2	9.1	73.7	0.7	1098.0	10.0	0.999
20% ±5%	1943.5	17.7	84.7	0.8	2137.9	19.4	0.999
30% ±5%	2989.1	27.2	65.7	0.6	3288.0	29.9	0.999
40% ±5%	3975.5	36.1	83.7	0.8	4373.1	39.8	0.999
50% ±5%	5002.2	45.5	74.7	0.7	5502.4	50.0	0.999
60% ±5%	5989.6	54.5	61.7	0.6	6588.6	59.9	0.999
70% ±5%	7002.1	63.7	70.7	0.6	7702.3	70.0	0.999
80% ±5%	7991.1	72.6	80.7	0.7	8790.2	79.9	0.999
90% ±5%	8991.2	81.7	71.7	0.7	9890.3	89.9	0.999
100% ±5%	9962.9	90.6	59.7	0.5	10959.2	99.6	0.999

Table 6.1.1b: Maximum capability P-Q (Q=Q_{max|cap})

Power-Bin	Active power		Reactive Power		Capability limit for reactive power (picture 1B +/- 5%Sn)	DC Power		Power Factor
	[W]	p.u.	[VA]	p.u.		[W]	p.u.	
0% ±5%	499.1	4.5	4821.8	43.8	4843	549	5.0	0.103
10% ±5%	989.2	9.0	4825.1	43.9	4843	1088.1	9.9	0.201
20% ±5%	1943.5	17.7	4827.8	43.9	4843	2137.9	19.4	0.373
30% ±5%	2989.1	27.2	4823.7	43.9	4843	3288	29.9	0.527
40% ±5%	3975.5	36.1	4823.3	43.8	4843	4373.1	39.8	0.636
50% ±5%	4992.1	45.4	4821.6	43.8	4843	5491.3	49.9	0.719
60% ±5%	5959	54.2	4818.4	43.8	4843	6554.9	59.6	0.778
70% ±5%	7002.1	63.7	4820	43.8	4843	7702.3	70.0	0.824
80% ±5%	7949.7	72.3	4819.9	43.8	4843	8744.7	79.5	0.855
90% ±5%	8992.1	81.7	4817.1	43.8	4843	9891.3	89.9	0.881
100% ±5%	9839.9	89.5	4816.2	43.8	4843	10823.9	98.4	0.898

Table 6.1.1c: Maximum capability P-Q (Q=Qmax[ind])

Power-Bin	Active power		Reactive Power		Minimum capability limit (picture 1B +/- 5%Sn)	DC Power		Power Factor
	[W]	p.u.	[VA]	p.u.		[W]	p.u.	
0% ±5%	498.2	4.5	-4910.1	-44.6	4843	548.0	5.0	0.101
10% ±5%	1002.3	9.1	-4911.2	-44.6	4843	1102.5	10.0	0.2
20% ±5%	1974.7	18.0	-4913	-44.7	4843	2172.2	19.7	0.373
30% ±5%	3005.2	27.3	-4912.3	-44.7	4843	3305.7	30.1	0.522
40% ±5%	3978.1	36.2	-4916.6	-44.7	4843	4375.9	39.8	0.629
50% ±5%	5007.1	45.5	-4917.2	-44.7	4843	5507.8	50.1	0.713
60% ±5%	5994.6	54.5	-4926.4	-44.8	4843	6594.1	59.9	0.773
70% ±5%	6998.1	63.6	-4920	-44.7	4843	7697.9	70.0	0.818
80% ±5%	7984.1	72.6	-4929.9	-44.8	4843	8782.5	79.8	0.851
90% ±5%	9010.1	81.9	-4909.2	-44.6	4843	9911.1	90.1	0.878
100% ±5%	9800.2	89.1	-4932.9	-44.8	4843	10780.2	98.0	0.893

CERTIFICATE of Conformity



Registration No.: AK 50586537 0001

Report No.: CN220KGG 002

Holder: **Ginlong technologies Co., Ltd.**
No.57 Jintong Road, Binhai,
(seafront), Industrial Park,
Xiangshan Ningbo
315712 Zhejiang
P.R. China

Product: **Energy Storage system**
(Hybrid Inverter With Storage Battery System)

Identification: Type Designation: S6-EH3P×K-H-EU S6-EH3P×K2-H
S6-EH3P×K-H-EU-OD S6-EH3P×K2-H-OD
(x=5, 6, 8, 10) S6-EH3P10K-H-EU-PRO
Serial Number : Engineering Samples
Firmware version: Inverter:A1, Battery System: V1.6
Remark(s) : The product maybe installed with Storage
Battery System Force-H2-96/xx
(xx=192, 288, 384)
Refer to report CN220KGG 002 for details.

Tested acc. to: CEI 0-16:2022-03

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.

Certification Body

Date 31.05.2023



Weichun Li

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50586537 0001

Page 1/3

TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore Manufacturer	Ginlong technologies Co., Ltd. No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo 315712 Zhejiang P.R. China		
Modello/Tipo Model/Type	S6-EH3P10K-H-EU, S6-EH3P10K2-H, S6-EH3P10K-H-EU-PRO, S6-EH3P10K-H-EU-OD, S6-EH3P10K2-H-OD with storage battery system Force-H2-96		
	Force-H2-96/192	Force-H2-96/288	Force-H2-96/384
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]		10000	
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]	10000 (S6-EH3P10K-H-EU, S6-EH3P10K2-H, S6-EH3P10K-H-EU-OD, S6-EH3P10K2-H-OD) 11000 (S6-EH3P10K-H-EU-PRO)		
Numero di unità batteria Number of battery unit	2	3	4
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	3350	5100	6800
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	3850	5700	7600
Capacità della batteria Capacity of battery [kWh]	7.10	10.65	14.20
Modello/Tipo Model/Type	S6-EH3P8K-H-EU, S6-EH3P8K2-H, S6-EH3P8K-H-EU-OD, S6-EH3P8K2-H-OD with storage battery system Force-H2-96		
	Force-H2-96/192	Force-H2-96/288	Force-H2-96/384
Potenza Attiva Nominale (P_{NINV}) Nominal Power [W]		8000	
Max. Potenza Apparente (S_{MAX}) Maximum Apparent Power [VA]		8000	
Numero di unità batteria Number of battery unit	2	3	4
Potenza di Scarica Massima (P_{Smax})* Maximum Discharge Power [W]	3350	5100	6800
Potenza di Carica massima (P_{Cmax})* Maximum charging power [W]	3850	5700	7600
Capacità della batteria Capacity of battery [kWh]	7.10	10.65	14.20

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany



OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50586537 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERRED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore
Manufacturer

Ginlong technologies Co., Ltd.

No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo
315712 Zhejiang P.R. China

Modello/Tipo
Model/Type

S6-EH3P6K-H-EU, S6-EH3P6K2-H, S6-EH3P6K-H-EU-OD, S6-EH3P6K2-H-OD with storage battery system Force-H2-96

Potenza Attiva Nominale (P_{NINV})
Nominal Power [W]

6000

Max. Potenza Apparente (S_{MAX})
Maximum Apparent Power [VA]

6000

Numero di unità batteria
Number of battery unit

2

3

4

Potenza di Scarica Massima (P_{Smax})*
Maximum Discharge Power [W]

3350

5100

6000

Potenza di Carica massima (P_{Cmax})*
Maximum charging power [W]

3850

5700

6000

Capacità della batteria
Capacity of battery [kWh]

7.10

10.65

14.20

Modello/Tipo
Model/Type

S6-EH3P5K-H-EU, S6-EH3P5K2-H, S6-EH3P5K-H-EU-OD, S6-EH3P5K2-H-OD with storage battery system Force-H2-96

Potenza Attiva Nominale (P_{NINV})
Nominal Power [W]

5000

Max. Potenza Apparente (S_{MAX})
Maximum Apparent Power [VA]

5000

Numero di unità batteria
Number of battery unit

2

3

4

Potenza di Scarica Massima (P_{Smax})*
Maximum Discharge Power [W]

3350

5000

5000

Potenza di Carica massima (P_{Cmax})*
Maximum charging power [W]

3850

5000

5000

Capacità della batteria
Capacity of battery [kWh]

7.10

10.65

14.20

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany

 **TÜVRheinland**[®]
Precisely Right.

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: AK 50586537 0001

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⁽¹⁾ The inverter have a PV input and AC output with the batteries system and it's compliant to Annex A, B and Bbis of standard CEI 0-21
The nominal charging and discharging power can be reached only according with a minimum number of battery modules connected to the inverter with limitation of the inverter's capability.

Firmware release
Firmware

Inverter:
A1

Battery system:
V1.6

Numero di Fasi
Number of phases

Trifase
Three Phases

Potenza massima
dell'impianto di destinazione:
Maximum power of the
destination plant:

$P_{\text{plant}} < 400 \text{ kW}$

$P_{\text{plant}} \geq 400 \text{ kW}$

laboratorio di prova
Test laboratory

TÜV Rheinland (Shanghai) Co., Ltd.
Accreditation CNAS no. L3038

Esaminati I Fascicoli Prove N.: CN220KGG 002 emesso da TÜV Rheinland (Shanghai) S.r.l.
Having assessed the Test Files N. CN220KGG 002 issued by TÜV Rheinland (Shanghai) Co., Ltd.

Si dichiara che i prodotti indicati soddisfano i requisiti della CEI 0-16:2022-03 “Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”
We declare that the products indicated meet the requirements laid down by CEI 0-16:2022-03 “Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Validità della Dichiarazione
Validity of the Declaration

Questa Dichiarazione è valida per i prodotti indicate, così come descritti nei Fascicoli citati.
Nuovi requisiti o emendamenti a requisiti esistenti, così come modifiche al prodotto, possono implicare nuove verifiche e certificazioni.

This Declaration is valid only for the products indicated herein, as described in the Files mentioned. New requirements or amendment to existing ones, or modifications to the product, may imply re-verification and re-certification.

Date: 31.05.2023

Signature :




TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany

 **TÜVRheinland®**
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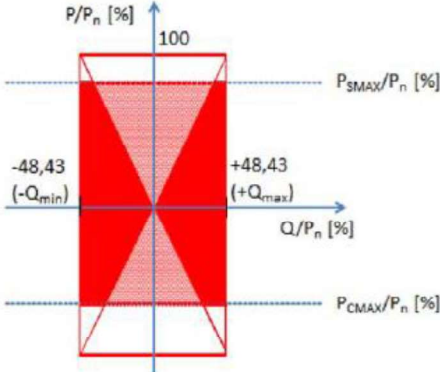
8.4.4.2 Bbis.6.1	TABLE: check of the constructive requirements: reactive power production capability	
Ambient temperature (°C)	25 °C ± 5 °C	
Humidity (RH %)	65% ± 5% RH	
Instrumentation list	See table "Measurement equipment and instrumentation"	
Uncertainty	See table	
Max. cosφ declared.....	<input type="checkbox"/> cosφ: 0.9 → Pout ≤ 11.08 KW (triangular) <input checked="" type="checkbox"/> Q/Pn% = 48.43% → Pout > 11.08 KW (rectangular)	
 <p> ■ Capability "rettangolare" Per ogni P = P_n; Q = 0,4843 P_n </p> <p> ▴ Capability "triangolare" Per ogni P = P_n; Q = 0,4843 P </p>		
Figura 3Bbis – Capability per un sistema di accumulo con inverter bidirezionale.		
Supplementary information: <i>For each of the 10 levels of active power, 1 value of inductive reactive power and 1 value of conductive reactive power shall be registered as average values in 1 min, based on the measurements at the fundamental in a window of 200ms.</i>		
Operator	See cover page.	
Supervisor	See cover page.	
Test Date.....	See cover page.	

TABLE: Reactive power production with set point Q = 0

Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q[%Pn]	ΔQ/Sn
90% - 100% $P_{S_{max}}$	6713.7	61.03	319.2	2.90	1.000	2.90	0	<±5%
70% - 80% $P_{S_{max}}$	5387.5	48.98	249.3	2.27	1.000	2.27	0	<±5%
50% - 60% $P_{S_{max}}$	4046.4	36.79	256.5	2.33	0.998	2.33	0	<±5%
30% - 40% $P_{S_{max}}$	2690.3	24.46	228.9	2.08	0.996	2.08	0	<±5%
10% - 20% $P_{S_{max}}$	1337.1	12.16	202.4	1.84	0.989	1.84	0	<±10%
10% - 20% $P_{C_{max}}$	-1229.8	-11.18	-81.5	-0.74	0.977	-0.74	0	<±10%
30% - 40% $P_{C_{max}}$	-2662.0	-24.20	-81.7	-0.74	0.996	-0.74	0	<±5%
50% - 60% $P_{C_{max}}$	-4102.9	-37.30	-78.8	-0.72	0.998	-0.72	0	<±5%
70% - 80% $P_{C_{max}}$	-5762.4	-52.39	4.7	0.04	0.999	0.04	0	<±5%
90% - 100% $P_{C_{max}}$	-7222.5	-65.66	147.6	1.34	0.999	1.34	0	<±5%

TABLE: Reactive power adsorbed with set point Q = Qmin								
Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q[%Pn]	ΔQ/Sn
90% - 100% $P_{S_{max}}$	6720.1	61.09	4804.2	43.67	0.814	-0.35	48.43	<±5%
70% - 80% $P_{S_{max}}$	5394.0	49.04	4802.3	43.66	0.747	-0.37	48.43	<±5%
50% - 60% $P_{S_{max}}$	4047.6	36.80	4804.3	43.68	0.645	-0.35	48.43	<±5%
30% - 40% $P_{S_{max}}$	2687.8	24.43	4806.9	43.70	0.489	-0.33	48.43	<±5%
10% - 20% $P_{S_{max}}$	1340.4	12.19	4804.5	43.68	0.269	-0.35	48.43	<±5%
10% - 20% $P_{C_{max}}$	-1137.7	-10.34	-4853.5	-44.12	0.228	-0.10	48.43	<±5%
30% - 40% $P_{C_{max}}$	-2678.0	-24.35	-4852.3	-44.11	0.483	-0.08	48.43	<±5%
50% - 60% $P_{C_{max}}$	-4161.9	-37.84	-4850.2	-44.09	0.651	-0.07	48.43	<±5%
70% - 80% $P_{C_{max}}$	-5736.1	-52.15	-4850.2	-44.09	0.764	-0.07	48.43	<±5%
90% - 100% $P_{C_{max}}$	-7279.4	-66.18	-4849.3	-44.08	0.832	-0.06	48.43	<±5%

TABLE: Reactive power produced with set point Q = Qmax								
Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q[%Pn]	ΔQ/Sn
90% - 100% $P_{S_{max}}$	6740.1	61.27	4825.5	43.87	0.813	-0.16	48.43	<±5%
70% - 80% $P_{S_{max}}$	5397.8	49.07	4819.3	43.81	0.746	-0.22	48.43	<±5%
50% - 60% $P_{S_{max}}$	4034.4	36.68	4815.0	43.77	0.643	-0.25	48.43	<±5%
30% - 40% $P_{S_{max}}$	2701.0	24.55	4813.5	43.76	0.490	-0.27	48.43	<±5%
10% - 20% $P_{S_{max}}$	1340.1	12.18	4811.3	43.74	0.269	-0.29	48.43	<±5%
10% - 20% $P_{C_{max}}$	-1274.8	-11.59	4841.8	44.02	0.255	-0.01	48.43	<±5%
30% - 40% $P_{C_{max}}$	-2652.9	-24.12	4843.6	44.03	0.480	0.01	48.43	<±5%
50% - 60% $P_{C_{max}}$	-4131.6	-37.56	4844.1	44.04	0.649	0.01	48.43	<±5%
70% - 80% $P_{C_{max}}$	-5700.7	-51.82	4847.8	44.07	0.762	0.04	48.43	<±5%
90% - 100% $P_{C_{max}}$	-7269.4	-66.09	4851.1	44.10	0.832	0.07	48.43	<±5%
Note(s):								

CERTIFICATE of Conformity



Registration No.: A3 50605065 0001

Report No.: CN220KGG 004

Holder: **Ginlong technologies Co., Ltd.**
No.57 Jintong Road, Binhai,
(seafront), Industrial Park,
Xiangshan Ningbo
315712 Zhejiang
P.R. China

Product: **Energy Storage system**
(Hybrid Inverter With Storage Battery System)

Identification: Type Designation : S6-EH3PxxK-H-EU S6-EH3PxxK-H-EU-OD
S6-EH3PxxK2-H S6-EH3PxxK2-H-OD
(xx=5,6,8,10) S6-EH3P10K-H-EU-PRO
Serial Number : A003550118-001
Firmware version : Inverter: A1
Battery System Minimum Firmware Version: BMU 3.20, BMS 3.26
Remark(s) : The product maybe installed with Storage
Battery System HVS 5.1/7.7/10.2/12.8.
Refer to report CN220KGG 004 for details.

Tested acc. to: CEI 0-16:2022-03

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

Certification Body

Date 17.10.2023

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


A. Chen

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: A3 50605065 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:
 TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore <i>Manufacturer</i>	Ginlong technologies Co., Ltd. No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo 315712 Zhejiang P.R. China			
Modello/Tipo <i>Model/Type</i>	S6-EH3P10K-H-EU, S6-EH3P10K-H-EU-OD, S6-EH3P10K2-H, S6-EH3P10K2-H-OD with battery storage system: HVS 5.1, 7.7, 10.2, 12.8			
	HVS 5.1	HVS 7.7	HVS 10.2	HVS 10.2
Potenza Attiva Nominale (P _{NINV}) <i>Nominal Power [W]</i>			10000	
Max. Potenza Apparente (S _{MAX}) <i>Maximum Apparent Power [VA]</i>			10000	
Numero di unità batteria <i>Number of battery unit</i>	2	3	4	5
Potenza di Scarica Massima (P _{Smax})* <i>Maximum Discharge Power [W]</i>	5000	7500	10000	10000
Potenza di Carica massima (P _{Cmax})* <i>Maximum charging power [W]</i>	5700	8500	10000	10000
Capacità della batteria <i>Capacity of battery [kWh]</i>	5.12	7.68	10.24	12.80
Modello/Tipo <i>Model/Type</i>	S6-EH3P8K-H-EU, S6-EH3P8K-H-EU-OD, S6-EH3P8K2-H, S6-EH3P8K2-H-OD with battery storage system: HVS 5.1, 7.7, 10.2, 12.8			
	HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8
Potenza Attiva Nominale (P _{NINV}) <i>Nominal Power [W]</i>			8000	
Max. Potenza Apparente (S _{MAX}) <i>Maximum Apparent Power [VA]</i>			8000	
Numero di unità batteria <i>Number of battery unit</i>	2	3	4	5
Potenza di Scarica Massima (P _{Smax})* <i>Maximum Discharge Power [W]</i>	5000	7500	8000	8000
Potenza di Carica massima (P _{Cmax})* <i>Maximum charging power [W]</i>	5700	8000	8000	8000
Capacità della batteria <i>Capacity of battery [kWh]</i>	5.12	7.68	10.24	12.80

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company

Certificate No.: A3 50605065 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<p>Costruttore <i>Manufacturer</i></p> <p>Modello/Tipo <i>Model/Type</i></p> <p>Potenza Attiva Nominata (P_{NINV}) <i>Nominal Power [W]</i></p> <p>Max. Potenza Apparente (S_{MAX}) <i>Maximum Apparent Power [VA]</i></p> <p>Numero di unità batteria <i>Number of battery unit</i></p> <p>Potenza di Scarica Massima (P_{Smax})* <i>Maximum Discharge Power [W]</i></p> <p>Potenza di Carica massima (P_{Cmax})* <i>Maximum charging power [W]</i></p> <p>Capacità della batteria <i>Capacity of battery [kWh]</i></p>	<p>Ginlong technologies Co., Ltd. No.57 Jintong Road, Binhai, (seafont), Industrial Park, Xiangshan Ningbo 315712 Zhejiang P.R. China</p> <p>S6-EH3P6K-H-EU, S6-EH3P6K-H-EU-OD, S6-EH3P6K2-H, S6-EH3P6K2-H-OD with battery storage system: HVS 5.1, 7.7, 10.2, 12.8</p> <p style="text-align: center;">HVS 5.1 HVS 7.7 HVS 10.2 HVS 12.8</p> <p style="text-align: right;">6000</p> <p style="text-align: right;">6000</p> <p style="text-align: center;">2 3 4 5</p> <p style="text-align: right;">5000 6000 6000 6000</p> <p style="text-align: right;">5700 6000 6000 6000</p> <p style="text-align: right;">5.12 7.68 10.24 12.80</p>
<p>Modello/Tipo <i>Model/Type</i></p> <p>Potenza Attiva Nominata (P_{NINV}) <i>Nominal Power [W]</i></p> <p>Max. Potenza Apparente (S_{MAX}) <i>Maximum Apparent Power [VA]</i></p> <p>Numero di unità batteria <i>Number of battery unit</i></p> <p>Potenza di Scarica Massima (P_{Smax})* <i>Maximum Discharge Power [W]</i></p> <p>Potenza di Carica massima (P_{Cmax})* <i>Maximum charging power [W]</i></p> <p>Capacità della batteria <i>Capacity of battery [kWh]</i></p>	<p>S6-EH3P5K-H-EU, S6-EH3P5K-H-EU-OD, S6-EH3P5K2-H, S6-EH3P5K2-H-OD with battery storage system: HVS 5.1, 7.7, 10.2, 12.8</p> <p style="text-align: center;">HVS 5.1 HVS 7.7 HVS 10.2 HVS 12.8</p> <p style="text-align: right;">5000</p> <p style="text-align: right;">5000</p> <p style="text-align: center;">2 3 4 5</p> <p style="text-align: right;">5000 5000 5000 5000</p> <p style="text-align: right;">5000 5000 5000 5000</p> <p style="text-align: right;">5.12 7.68 10.24 12.80</p>

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: A3 50605065 0001

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TIPOLOGIA DI APPARATO A CUI SI RIFERISCE LA DICHIARAZIONE:

TYPE OF APPARATUS WHICH THE DECLARATION IS REFERED TO:

DISPOSITIVO DI INTERFACCIA Interface Device	PROTEZIONE DI INTERFACCIA Interface Protection Device	DISPOSITIVO DI CONVERSIONE STATICA Static Conversion Device	DISPOSITIVO DI GENERAZIONE ROTANTE Rotating Device
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Costruttore
Manufacturer

Ginlong technologies Co., Ltd.
No.57 Jintong Road, Binhai, (seafront), Industrial Park, Xiangshan Ningbo
315712 Zhejiang P.R. China

Modello/Tipo
Model/Type

S6-EH3P10K-H-EU-PRO with battery storage system: HVS 5.1, 7.7, 10.2, 12.8

Potenza Attiva Nominale (P_{NINV})
Nominal Power [W]

10000

Max. Potenza Apparente (S_{MAX})
Maximum Apparent Power [VA]

11000

Numero di unità batteria
Number of battery unit

2

3

4

5

Potenza di Scarica Massima (P_{Smax})*
Maximum Discharge Power [W]

5000

7500

10000

10000

Potenza di Carica massima (P_{Cmax})*
Maximum charging power [W]

5700

8500

10000

10000

Capacità della batteria
Capacity of battery [kWh]

5.12

7.68

10.24

12.80



Deutsche
Akkreditierungsstelle
D-ZE-14169-01-02



TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg · Germany

OGGETTO: Dichiarazione di conformità alla normativa CEI 0-16:2022-03

“Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica”

SUBJECT: Declaration of Conformity to CEI 0-16:2022-03

“Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company”

Certificate No.: A3 50605065 0001

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Firmware release
Firmware

Inverter: A1
Battery System Minimum Version: BMU 3.20, BMS 3.26

Numero di Fasi
Number of phases

Trifase
Three-Phases

Potenza massima
dell'impianto di destinazione:
Maximum power of the
destination plant:

$P_{\text{plant}} < 400 \text{ kW}$
 $P_{\text{plant}} \geq 400 \text{ kW}$

laboratorio di prova
Test laboratory

TÜV Rheinland (Shanghai) Co., Ltd.
Accreditation CNAS no. L3038

Esaminati I Fascicoli Prove N.: CN220KGG 004 emesso da TÜV Rheinland (Shanghai) S.r.l.
Having assessed the Test Files N. CN220KGG 004 issued by TÜV Rheinland (Shanghai) Co., Ltd.

Si dichiara che i prodotti indicati soddisfano i requisiti della CEI 0-16:2022-03 “Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti BT delle imprese distributrici di energia elettrica”

We declare that the products indicated meet the requirements laid down by CEI 0-16:2022-03 “Reference technical rules for the connection of active and passive users to the LV electrical Utilities”

Validità della Dichiarazione
Validity of the Declaration

Questa Dichiarazione è valida per i prodotti indicate, così come descritti nei Fascicoli citati. Nuovi requisiti o emendamenti a requisiti esistenti, così come modifiche al prodotto, possono implicare nuove verifiche e certificazioni.

This Declaration is valid only for the products indicated herein, as described in the Files mentioned. New requirements or amendment to existing ones, or modifications to the product, may imply re-verification and re-certification.

Date: 17.10.2023

Signature :

A. Chen



Deutsche
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Nbis. 6 Verifica dei requisiti costruttivi circa lo scambio di potenza reattiva <i>/Reactive power capability</i>				
Test	Ref. CEI 0-16	Ref. standard	Result	Sample
Verifica della capability di erogazione della potenza reattiva <i>/reactive power production capability</i>	Nbis.6.1	CEI 0-16:2022-03	P	Refer to CEI 0-21 test report CN22DTPT 001
Scambio di potenza reattiva secondo un livello assegnato <i>/Reactive power production according to an assigned level</i>	Nbis.6.4	CEI 0-16:2022-03	P	Refer to CEI 0-21 test report CN22DTPT 001
Tempo di risposta ad una variazione a gradino del livello assegnato <i>/Reaction time after a step variation of the assigned level.</i>	Nbis.6.5	CEI 0-16:2022-03	P	Refer to CEI 0-21 test report CN22DTPT 001
Regolazione automatica di potenza reattiva secondo una curva caratteristica $\cos\phi = f(P)$ <i>/Automatic reactive power production according to a characteristic curve $\cos(\phi)=f(P)$</i>	Nbis.6.7	CEI 0-16:2022-03	P	Refer to CEI 0-21 test report CN22DTPT 001
Erogazione/assorbimento automatico di potenza reattiva secondo una curva caratteristica $Q=f(V)$ applicabile a generatori con capability rettangolare <i>/Automatic reactive power production according to a characteristic curve $Q=f(V)$</i>	Nbis.6.8	CEI 0-16:2022-03	P	Refer to CEI 0-21 test report CN22DTPT 001

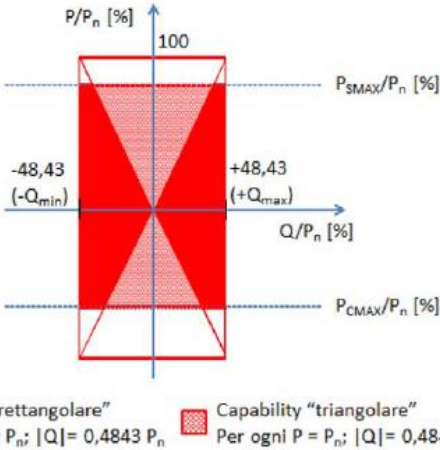
8.4.4.2 Bbis.6.1 Bbis.6.2	TABLE: check of the constructive requirements: reactive power production capability	
Ambient temperature (°C):	25 °C ± 5 °C	
Humidity (RH %):	65% ± 5% RH	
Instrumentation list.....:	See table "Measurement equipment and instrumentation"	
Uncertainty:	See table	
Max. cosφ declared.....:	<input type="checkbox"/> cosφ: 0.9 → Pout ≤ 11.08 KW (triangular) <input checked="" type="checkbox"/> Q/Pn% = 48.43% → Pout > 11.08 KW (rectangular)	
 <p>Figura 3Bbis – Capability per un sistema di accumulo con inverter bidirezionale.</p>		
Supplementary information: <i>For each of the 10 levels of active power, 1 value of inductive reactive power and 1 value of conductive reactive power shall be registered as average values in 1 min, based on the measurements at the fundamental in a window of 200ms.</i>		
Operator:	see cover page	
Supervisor:	see cover page	
Test Date:	see cover page	

TABLE: Reactive power production with set point Q = 0								
Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q	ΔQ/Sn
90% - 100% $P_{S_{max}}$	4958.7	45.08	70.9	0.64	0.999	0.64	0	<±5%
70% - 80% $P_{S_{max}}$	4015.9	36.51	63.2	0.57	0.998	0.57	0	<±5%
50% - 60% $P_{S_{max}}$	2970.6	27.01	58.7	0.53	0.997	0.53	0	<±5%
30% - 40% $P_{S_{max}}$	2011.5	18.29	40.9	0.37	0.994	0.37	0	<±5%
10% - 20% $P_{S_{max}}$	1002.2	9.11	10.8	0.10	0.977	0.10	0	<±10%
10% - 20% $P_{C_{max}}$	-1197.8	-10.89	-314.7	-2.86	0.967	-2.86	0	<±10%
30% - 40% $P_{C_{max}}$	-2395.1	-21.77	-312.1	-2.84	0.992	-2.84	0	<±5%
50% - 60% $P_{C_{max}}$	-3584.8	-32.59	-313.4	-2.85	0.996	-2.85	0	<±5%
70% - 80% $P_{C_{max}}$	-4813.1	-43.76	-321.2	-2.92	0.998	-2.92	0	<±5%
90% - 100% $P_{C_{max}}$	-6048.7	-54.99	-328.8	-2.99	0.999	-2.99	0	<±5%

TABLE: Reactive power adsorbed with set point Q = Qmin

Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q	ΔQ/Sn
90% - 100% $P_{S_{max}}$	4981.2	45.28	-4958.3	-45.08	0.709	-1.05	-4843	<±5%
70% - 80% $P_{S_{max}}$	4020.1	36.55	-4954.0	-45.04	0.630	-1.01	-4843	<±5%
50% - 60% $P_{S_{max}}$	2981.2	27.10	-4952.4	-45.02	0.516	-0.99	-4843	<±5%
30% - 40% $P_{S_{max}}$	2004.9	18.23	-4950.3	-45.00	0.375	-0.98	-4843	<±5%
10% - 20% $P_{S_{max}}$	993.6	9.03	-4949.7	-45.00	0.197	-0.97	-4843	<±5%
10% - 20% $P_{C_{max}}$	-1179.6	-10.72	-4910.7	-44.64	0.234	-0.62	-4843	<±5%
30% - 40% $P_{C_{max}}$	-2340.7	-21.28	-4910.4	-44.64	0.430	-0.61	-4843	<±5%
50% - 60% $P_{C_{max}}$	-3609.3	-32.81	-4914.2	-44.67	0.592	-0.65	-4843	<±5%
70% - 80% $P_{C_{max}}$	-4737.0	-43.06	-4916.8	-44.70	0.694	-0.67	-4843	<±5%
90% - 100% $P_{C_{max}}$	-6081.0	-55.28	-4924.5	-44.77	0.777	-0.74	-4843	<±5%

TABLE: Reactive power produced with set point Q = Qmax								
Power Step	Active Power		Reactive Power		Power Factor	Deviation	Target value	Limit
	[W]	[%Sn]	[VAr]	[%Sn]	Cosφ	ΔQ/Sn[%]	Q	ΔQ/Sn
90% - 100% $P_{S_{max}}$	4933.0	44.85	4866.6	44.24	0.712	0.21	4843	<±5%
70% - 80% $P_{S_{max}}$	4004.5	36.40	4868.9	44.26	0.635	0.24	4843	<±5%
50% - 60% $P_{S_{max}}$	2987.2	27.16	4867.0	44.25	0.523	0.22	4843	<±5%
30% - 40% $P_{S_{max}}$	1989.6	18.09	4870.9	44.28	0.378	0.25	4843	<±5%
10% - 20% $P_{S_{max}}$	1007.7	9.16	4870.7	44.28	0.203	0.25	4843	<±5%
10% - 20% $P_{C_{max}}$	-1167.9	-10.62	4830.3	43.91	0.235	-0.12	4843	<±5%
30% - 40% $P_{C_{max}}$	-2330.1	-21.18	4831.5	43.92	0.434	-0.10	4843	<±5%
50% - 60% $P_{C_{max}}$	-3573.6	-32.49	4828.7	43.90	0.595	-0.13	4843	<±5%
70% - 80% $P_{C_{max}}$	-4744.9	-43.14	4828.4	43.89	0.701	-0.13	4843	<±5%
90% - 100% $P_{C_{max}}$	-6077.0	-55.25	4827.0	43.88	0.783	-0.15	4843	<±5%
Note(s):								