

CERTIFICATE OF CONFORMITY

CERTIFICATO DI CONFORMITÀ

Issued to: Afore New Energy Technology (Shanghai) Co., Ltd.
Rilasciato a: Building 7, No.333 Wanfang Rd, Minhang District, Shanghai, China

For the product: Hybrid Inverter
Tipo prodotto:

Trade name:
Marchio:



Type/Model: AF36K-TH, AF40K-TH, AF45K-TH, AF50K-TH, AF60K-TH;
Riferimento modello: AF36K-TH-0, AF40K-TH-0, AF45K-TH-0, AF50K-TH-0, AF60K-TH-0;

Ratings: See Annex
Dati di targa:

Manufactured by: Afore New Energy Technology (Shanghai) Co., Ltd.
Costruttore: Building 7, No.333 Wanfang Rd, Minhang District, Shanghai, China

Requirements: CEI 0-21:2022-03+V1:2022-11+V2:2024-01
Requisiti: Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti BT delle imprese distributrici di energia elettrica

The tested models are suitable for installation in systems with a total power greater than 11.08 kW.

I modelli testati sono adatti per l'installazione in sistemi con potenza di uscita maggiore di 11.08 kW.

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6217736.50

Il presente certificato è rilasciato a causa di un esame da parte di DEKRA, i cui risultati sono riportati in un file riservato n. 6217736.50

The examination has been carried out on one single specimen of the product. The certificate does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

L'esame è stato effettuato su un unico esemplare del prodotto. Questo attestato di conformità è rilasciato sulla base dei risultati di prova riferiti nel rapporto sopra menzionato. La valutazione non include una verifica della produzione di serie né del luogo di produzione.

This Test Certificate expires at the latest on 2030-05-30 or expires upon withdrawal of one of the above mentioned standards.

Il presente certificato di prova scade al più tardi il 2030-05-30 o scade al momento del ritiro di uno dei suddetti standard.

Shanghai, 30 May 2025

Certificate Number: 6217736.01COC

DEKRA Testing and Certification (Shanghai) Ltd.

Kreny Lin
Certification Manager



PCA-141

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ESA-CER-F021 v4.1

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the People's Republic of China
requests all civil and military
authorities of foreign countries to
allow the bearer of this passport to
pass freely and afford assistance in
case of need.*

国家码/Country Code
CHN

护照号码/Passport No.

EM5232998

姓名/Name

陈星和
CHEN, XINGHE

性别 / Sex

国籍/Nationality

出生日期 / Date of birth

男/M

中國/CHINESE

20 DEC 1966

出生地点/Place of birth

浙江/ZHEJIANG

签发日期/Date of issue

22 5月/MAY 2024

签发地点/Place of issue

上海 / SHANGHAI

有效期至 / Date of expiry

21 5月/MAY 2034

签发机关/Authority

中华人民共和国国家移民管理局
National Immigration Administration, PRC

持照人签名/ Bearer's signature

1. 和

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EM52329982CHN6612201M3405215LDMCNAMHLKMNA932

Document no. : 6217736.01COC

Ratings of the testing Hybrid Inverter:

Valutazioni dell'invertitore ibrido di prova:

Model	AF36K-TH	AF40K-TH	AF45K-TH	AF50K-TH	AF60K-TH
PV input					
P pv Max (kW)	54	60	67.5	75	90
Vmax PV (Vdc) (absolute Max.)	1000				
Isc PV (absolute Max.) (A)	48*4				
Number MPP trackers	4				
Number input strings	2/2/2/2				
Max. PV input current (A)	40*4				
MPPT voltage range (Vdc)	150-850				
Vdc range @ full power (Vdc)	500-850				
Battery (charge/discharge)					
Battery type	Rechargeable Li-ion Battery/ LiFePO4/ Lead-acid				
Battery Normal Voltage Range (Vdc)	150-800 (Field adapt battery voltage range)				
Max charge/discharge Current(A)	120				
Max charge/discharge Power(kW)	36	40	45	50	60
AC Grid (input and output)					
Normal AC Voltage (Vac)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50 / 60				
Normal AC Current (A)	52.2	58	65.3	72.5	87
Max. cont. input/output current (A)	81.9 / 60.5	91.1 / 67	102.3 / 75.5	113.7 / 83.5	136.5 / 96
Rated Power (kW)	36	40	45	50	60
Rated Apparent Power (kVA)	36	40	45	50	60
Max. cont. input/output Power (kW)	54 / 39.6	60 / 44	67.5 / 49.5	75 / 55	90 / 66
Max. cont. Apparent input/output Power (kVA)	54 / 39.6	60 / 44	67.5 / 49.5	75 / 55	90 / 66
Power factor(adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand-alone)					
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50 / 60				
Nominal Current (A)	52.2	58	65.3	72.5	87
Max. cont. current (A)	60.5	67	75.5	83.5	96
Rated Apparent Power (kVA)	36	40	45	50	60
Max. cont. Power (kW)	36	40	45	50	60
Max. cont. Apparent Power (kVA)	36	40	45	50	60
Power factor	1.0				
Others					
Ingress protection (IP)	IP66				
Protective class	Class I				
Temperature (°C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV - AC - BAT)				
Overvoltage category	OVC III (AC Main), OVC II (DC)				
Firmware version	1.03				

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Model	AF36K-TH-0	AF40K-TH-0	AF45K-TH-0	AF50K-TH-0	AF60K-TH-0
Battery (charge/discharge)					
Battery type	Rechargeable Li-ion Battery/ LiFePO4/ Lead-acid				
Battery Normal Voltage Range (Vdc)	150-800 (Field adapt battery voltage range)				
Max charge/discharge Current(A)	120				
Max charge/discharge Power(kW)	36 / 39.6	40 / 44	45 / 49.5	50 / 55	60 / 66
AC Grid (input and output)					
Normal AC Voltage (Vac)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50 / 60				
Normal AC Current (A)	52.2	58	65.3	72.5	87
Max. cont. input/output current (A)	81.9 / 60.5	91.1 / 67	102.3 / 75.5	113.7 / 83.5	136.5 / 96
Rated Power (kW)	36	40	45	50	60
Rated Apparent Power (kVA)	36	40	45	50	60
Max. cont. input/output Power (kW)	54 / 36	60 / 40	67.5 / 45	75 / 50	90 / 60
Max. cont. Apparent input/output Power (kVA)	54 / 36	60 / 40	67.5 / 45	75 / 50	90 / 60
Power factor(adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand-alone)					
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50 / 60				
Nominal Current (A)	52.2	58	65.3	72.5	87
Max. cont. current (A)	60.5	67	75.5	83.5	96
Rated Apparent Power (kVA)	36	40	45	50	60
Max. cont. Power (kW)	36	40	45	50	60
Max. cont. Apparent Power (kVA)	36	40	45	50	60
Power factor	1.0				
Others					
Ingress protection (IP)	IP66				
Protective class	Class I				
Temperature (°C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (AC - BAT)				
Overvoltage category	OVC III (AC Main), OVC II (DC)				
Firmware version	1.03				

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The battery used for testing with the Hybrid Inverter covered by this certificate:

La batteria utilizzata per i test con l'invertitore ibrido coperto dal presente certificato:

Battery Models	LV-IESS-RH10.240Aa-HBox-n (“n” = 3, 4, 5...15)				
Manufacturer	Dongguan Lithium Valley Energy Co., Ltd.				
Number of battery module in parallel	3	4	5	6	7
Nominal Voltage	153.6 V	204.8 V	256.0 V	307.2 V	358.4 V
Nominal capacity	200 Ah				
Battery System Capacity	30.72 kWh	40.96 kWh	51.20 kWh	61.44 kWh	71.68 kWh
Number of battery module in parallel	8	9	10	11	12
Nominal Voltage	409.6 V	460.8 V	512.0 V	563.2 V	614.4 V
Nominal capacity	200 Ah				
Battery System Capacity	81.92 kWh	92.16 kWh	102.40 kWh	112.64 kWh	122.88 kWh
Number of battery module in parallel	13	14	15	--	
Nominal Voltage	665.6 V	716.8 V	768.0 V	--	
Nominal capacity	200 Ah				
Battery System Capacity	133.12 kWh	143.36 kWh	153.60 kWh	--	
Remark: The CB test certificate No. of the battery: SG SGS-00173 When the batteries are connected in parallel, the charge/ discharge current is superimposed and is limited by the maximum current of the battery port of the Hybrid Inverter. The batteries are not integrated into the Hybrid Inverter and must be installed according to the local regulations.					

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Type of generating unit:

Tipologia di apparato:

Static Conversion Device <i>Dispositivo di conversione statica</i>	Interface Protection <i>Protezione di interfaccia</i>	Interface Protection Device <i>Dispositivo di interfaccia</i>	Rotating Generator Device <i>Dispositivo di generazione rotante</i>
Yes/Si	Yes/Si	Yes/Si	No/No

REMARK: the device is capable to limit the I_{dc} to 0.5% of the nominal current

NOTA: Il dispositivo è in grado di limitare la I_{dc} allo 0.5% della corrente nominale

Hardware version: 1.03

Versione hardware: 1.03

Software version: V01

Versione software: V01

Testing Laboratory:

Laboratorio prove:

Testing Laboratory for CEI 0-21:2022-03+V1:2022-11+V2:2024-01

DEKRA Testing and Certification (Suzhou) Co., Ltd.

No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China

Accreditation Number: L5313 (CNAS-ILAC)

Testing Laboratory for EMC:

1. Intertek Testing Services Shanghai

Building No.86, 1198 Qinzhou Road (North), Caohejing Development Zone, Shanghai 200233, China

Accreditation Number: 3309.02 (A2LA-ILAC)

2. Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd.

No.103, Caobao Road, Xuhui District, Shanghai, China

Accreditation Number: L0130 (CNAS-ILAC)

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