



**BUREAU
VERITAS**

Factory inspection-Certificate Certificato di ispezione di fabbrica

Applicant: Shenzhen SOFAR SOLAR Co., Ltd.
Richiedente: 401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community
XinAn Street, BaoAn District, Shenzhen, China

Product type: Grid-tied inverter, AC-coupled storage Converter, Hybrid Inverter
Tipo prodotto:

Model: See Annex / Vedi Allegato
Modello:

Ratings: See Annex / Vedi Allegato
Caratteristiche:

Factory inspection made in accordance with the "APPLICATION RULES FOR SUBSCRIPTION TO REGISTERS AND APPROVAL OF INCENTIVE RATES UNDER THE DM 5. JULY 2012 (FIFTH ENERGY ACCOUNT FOR PHOTOVOLTAIC)", § 4.6.4-Inverter
Ispezione di fabbrica svolta in accordo alle "REGOLE APPLICATIVE PER L'ISCRIZIONE AL REGISTRI E PER L'ACCESSO ALLE TARIFFE INCENTIVANTI DM 5 IUGLIO 2012 (QUINTO CONTO ENERGIA)", §4.6.4-INVERTER

- The factory inspection was based on: / La verifica in fabbrica si è basata su:
CEI 0-21 for LV connection and CEI 0-16 (or TERNA annex A70) for MV/HV connection.
- The report of the factory inspection includes the requirements of GSE applicative rules about the manufacturing quality process and used materials.
Il rapporto di ispezione di fabbrica include i requisiti delle regole GSE applicabili al processo di qualità costruttiva e dei materiali utilizzati.
- Components check has been performed in order to guarantee a constant quality level as based on a detailed description supplied by Licence Holder to BV CPS Germany, as requested by:
Controllo dei componenti è stato effettuato allo scopo di garantire un costante livello di qualità come prescritto nella dettagliata descrizione fornita dal titolare della licenza a BV CPS Germany come consentito dalla: Delibera AEEG n. 84/2012/R/EEL e documenti GSE "Quinto Conto Energia: chiarimenti su definizione edificio energeticamente certificabile e sulle Certificazioni/Attestazioni riguardanti i moduli fotovoltaici ed i gruppi di conversione (inverter)";

Factory location: Dongguan SOFAR SOLAR Co., Ltd.
Sito aziendale: 1F-6F, Building E, No. 1, Jinqi Road, Bihu Industrial Park, Wulian Village
Fenggang Town, Dongguan City, Guangdong Province, P.R.China

with main production steps: development, assembly, measuring and testing
secondo i seguenti principali processi: progettazione, assemblaggio, misura e controllo

Report No.: 16TH0076-CEI 0-21_1, 16TH0130-CEI 0-21_2, 16TH0159-CEI 0-16_0, 16TH0159-CEI 0-21_1
*Rapporto N°.: 17TH0340-CEI 0-16_0, 16TH0185-CEI 0-21_1, 16TH0185-CEI 0-16_0, 17TH0111-CEI 0-21_1
18TH0131-CEI 0-21_0, 17TH0378-CEI 0-21_0, PV171221N009, 18TH0539-CEI 0-21_0,
18TH0561-CEI 0-21_0; 20TH0332-CEI 0-21_0; 2219-0185-H; 2220/0076-A-1; 2220/0076-A-2;
2220/0076-B-E1;*

Certificate No.: 20-005
Certificato N°.:

Issued: 2020-07-23
Emesso il:

Gültig bis: 2021-07-22
Valid until:

The details of the factory inspection are documented in Report No:
I dettagli della Ispezione di fabbrica sono documentati nel rapporto N°:

SOFAR Solar_FI-report from Ida
2020-07-08





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Annex 1 to certificate 20-005 *Allegato 1 al certificato*

Model:
Modello:

Grid-tied inverter:

SOFAR 1100TL, SOFAR 1600TL, SOFAR 2200TL
SOFAR 2700TL, SOFAR 3000TL

SOFAR 3000TLM, SOFAR 3680TLM, SOFAR 4000TLM, SOFAR 4600TLM
SOFAR 5000TLM, SOFAR 6000TLM

SOFAR 10000TL-Sx Series, SOFAR 15000TL-Sx Series
SOFAR 17000TL-Sx Series, SOFAR 20000TL-Sx Series
SOFAR 30000TL, SOFAR 33000TL, SOFAR 40000TL-Sx Series

SOFAR 4.4KTL-X, SOFAR 5.5KTL-X, SOFAR 6.6KTL-X
SOFAR 8.8KTL-X, SOFAR 11KTL-X, SOFAR 12KTL-X

SOFAR 6KTLM-G2, SOFAR 5KTLM-G2, SOFAR 4.6KTLM-G2
SOFAR 4KTLM-G2, SOFAR 3.6KTLM-G2, SOFAR 3KTLM-G2

SOFAR 10000TL-G2, SOFAR 12000TL-G2, SOFAR 15000TL-G2

SOFAR 20000TL-G2, SOFAR 25000TL-G2, SOFAR 30000TL-G2
SOFAR 33000TL-G2

SOFAR 3300TL-G3, SOFAR 3000TL-G3, SOFAR 2700TL-G3
SOFAR 2200TL-G3, SOFAR 1600TL-G3, SOFAR 1100TL-G3

SOFAR 50000TL, SOFAR 60000TL, SOFAR 70000TL-HV

AC-coupled storage Converter

ME 3000SP

Hybrid Inverter

HYD 3000-ES, HYD 36000-ES, HYD 4000-ES, HYD 5000-ES, HYD 6000-ES

HYD 5KTL-3PH, HYD 6KTL-3PH, HYD 8KTL-3PH

HYD 10KTL-3PH, HYD 15KTL-3PH, HYD 20KTL-3PH



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Annex 2 to certificate 20-005 *Allegato 2 al certificato*

Ratings:
Caratteristiche:

Ratings:	SOFAR 1100TL	SOFAR 1600TL	SOFAR 2200TL	SOFAR 2700TL	SOFAR 3000TL
MPP DC voltage range [V]:	110-450 Vdc	165-450 Vdc	170-500 Vdc	200-500 Vdc	
Input DC voltage [V]:	90-450 Vdc		100-500 Vdc		
Input DC current [A]:	10 A max.		13 A max.		
Output AC voltage [V]:	230 Vac; 50 Hz				
Output AC current [A]:	4.5	7.0	9.5	11.5	13.0
Output power [VA]:	1000	1550	2100	2600	3000

Ratings:	SOFAR 3000TLM	SOFAR 3680TLM	SOFAR 4000TLM	SOFAR 4600TLM	SOFAR 5000TLM	SOFAR 6000TLM
MPPT DC voltage range [V]:	100-580			100-580		
Max Input DC voltage [V]:	max. 600			max. 600		
Input DC current [A]:	max. 10.0 x 2	max. 12.0 x 2	max. 13.0 x 2	max. 15.0 x 2		
Output AC voltage [V]:	230 Vac; 50 Hz			230 Vac; 50Hz		
Output AC current [A]:	13.0	16.0	17.5	20.0	22.0	26.0
Output power [VA]:	3000	3680	4000	4600	5000	6000

Ratings:	SOFAR 10000TL-Sx Series	SOFAR 15000TL-Sx Series	SOFAR 17000TL-Sx Series	SOFAR 20000TL-Sx Series
MPP DC voltage range [V]:	350 – 850	370 - 850	420 - 850	430 - 850
Input DC voltage [V]:	250 – 960			
Input DC current [A]:	max. 15.0 x 2	max. 21.0 x 2	max. 21.0 x 2	max. 24.0 x 2
Output AC voltage [V]:	230 Vac; 50 Hz			
Output AC current [A]:	max. 3 x 15.0	max. 3 x 22.0	max. 3 x 25.0	max. 3 x 29.0
Output power [VA]:	10000	15000	17000	20000

Ratings:	SOFAR 30000TL	SOFAR 33000TL	SOFAR 40000TL-Sx Series
MPP DC voltage range [V]:	480 - 800		560-800
Input DC voltage [V]:	250 -1000		250 – 960; max. 1000
Input DC current [A]:	max. 32.0 x 2	max. 35.0 x 2	max. 35.0 x 2
Output AC voltage [V]:	3/N/PE; 230/400 Vac; 50 Hz		3/N/PE; 277/480 Vac; 50 Hz
Output AC current [A]:	max. 43.0 x 3	max. 48.0 x 3	max. 48.0 x 3
Output power [VA]:	30000	33000	max. 40000



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Annex 3 to certificate 20-005

Allegato 3 al certificato

Ratings:
Caratteristiche:

Ratings:	SOFAR 4.4KTL-X	SOFAR 5.5KTL-X	SOFAR 6.6KTL-X
Full load MPP DC voltage range [V]:	190-850	240-850	290-850
Input DC voltage range [V]:	160-1000		
Input DC current [A]:	max.11/11	max.11/11	max.11/11
Output AC voltage [V]:	3N~ + PE; 230/400Vac; 50Hz		
Output AC current [A]:	max. 6.4	max. 8.0	max. 9.6
Output power [VA]:	4400	5500	6600

Ratings:	SOFAR 8.8KTL-X	SOFAR 11KTL-X	SOFAR 12KTL-X
Full load MPP DC voltage range [V]:	380-850	480-850	575-850
Input DC voltage range [V]:	160-1000		
Input DC current [A]:	max.11/11	max.11/11	max.11/11
Output AC voltage [V]:	3N~ + PE; 230/400Vac; 50Hz		
Output AC current [A]:	max. 12.8	max. 15.9	max. 19.1
Output power [VA]:	88000	11000	13200

Ratings:	SOFAR 6KTLM-G2	SOFAR 5KTLM-G2	SOFAR 4.6KTLM-G2
Input DC voltage [V]:	90-600		
MPP DC voltage range [V]:	90-580		
Input DC current [A]:	2×11		
Output AC voltage [V]:	230; 50Hz		
Output AC current [A]:	27.3	22.8	21.0
Output power [W]:	6000	5000	4600

Ratings:	SOFAR 4KTLM-G2	SOFAR 3.6KTLM-G2	SOFAR 3KTLM-G2
Input DC voltage range [V]:	90-600		
MPPT DC voltage range [V]:	90-580		
Input DC current [A]:	2×11		
Output AC voltage [V]:	230; 50Hz		
Output AC current [A]:	18.2	16.8	13.7
Output power [W]:	4000	3680	3000



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Annex 4 to certificate 20-005 Allegato 4 al certificato

Ratings: Caratteristiche:

Ratings:	SOFAR 10000TL-G2	SOFAR 12000TL-G2	SOFAR 15000TL-G2
Input DC voltage range [V]:	Max. 1000		
MPPT DC voltage range [V]:	350-850	500-850	500-850
Input DC current [A]:	21/11		
Output AC voltage [V]:	230/400Vac, 3/N/PE, 50Hz		
Output AC current [A]:	max. 3 x 16.5	max. 3 x 20	max. 3 x 24
Output power [W]:	10000	12000	15000

Ratings:	SOFAR 20000TL-G2	SOFAR 25000TL-G2	SOFAR 30000TL-G2	SOFAR 33000TL-G2
Input DC voltage range [V]:	230-1100			
MPPT DC voltage range [V]:	480-850	460-850	520-850	580-850
Input DC current [A]:	24/24	28/28	30/30	30/30
Output AC voltage [V]:	400V, 3/N/PE, 50Hz			
Output AC current [A]:	max. 32	max. 40	max. 48	max. 53
Output power [VA]:	22000	27500	33000	36300

Ratings:	SOFAR 3300TL-G3	SOFAR 3000TL-G3	SOFAR 2700TL-G3	SOFAR 2200TL-G3	SOFAR 1600TL-G3	SOFAR 1100TL-G3
Input DC voltage [V]:	Max. 550			Max. 500		
MPP DC voltage range [V]:	300-500	275-500	250-500	200-450	150-450	110-450
Input DC current [A]:	12					
Output AC voltage [V]:	230Vac / 50Hz					
Output AC current [A]:	Max. 16	Max. 14.5	Max. 13	Max. 10.6	Max. 7.7	Max. 5.3
Output power [kW]:	3.3	3.0	2.7	2.2	1.6	1.1

Ratings:	SOFAR 50000TL	SOFAR 60000TL	SOFAR 70000TL-HV
Full load MPP DC voltage range [V]	530-800		660-800
Input DC voltage range [V]:	250-950; max. 1000		
Input DC current [A]:	max. 40/30/30	max. 40/40/40	
Output AC voltage [V]:	3~/N/PE; 230/400Vac; 50Hz		3~/PE; 480Vac; 50Hz
Output AC current [A]:	max. 80	max. 90	
Nominal output power [W]	50000	60000	70000
Max. output power [VA]	50000	60000	75000



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Annex 5 to certificate 20-005 Allegato 5 al certificato

Ratings:
Caratteristiche:

Ratings:	ME 3000SP
Battery input DC voltage range [V] [Discharge]:	42-58
Battery input DC current [A] [Discharge]:	max. 60
Output AC voltage [V]:	230; 50Hz
Output AC current [A]:	max. 13
Output power [VA]:	3000

Ratings:	HYD 6000-ES	HYD 5000-ES	HYD 4000-ES	HYD 3600-ES	HYD 3000-ES
Full load MPP DC voltage range [V]:	300-520	250-520	200-520	180-520	160-520
Input DC voltage range[V]:	90 - 580				
Input DC current [A]:	max. 12.0 x 2				
Output AC voltage [V]:	230, 50Hz				
Output AC current [A]:	max. 27.3	max.22.8	max.18.2	max.16.0	max. 13.7
Output power [VA]:	6000	5000	4000	3680	3000
Output DC voltage range [V]: [Battery charge]:	42-58Vdc				
Input DC current [A]: [Battery charge]:	max.65A				
Output DC current [A]: [Battery discharge]:	max. 70A				
Charge and discharge power[VA]:	max. 3000				
Output AC voltage [V]:	230Vac, 50Hz				
Output AC current [A]:	max.13.2				
Output power [VA]:	3000				

Ratings:	HYD 5KTL-3PH	HYD 6KTL-3PH	HYD 8KTL-3PH
Full load MPP DC voltage range [V]:	250-850	320-850	360-850
Input DC voltage range[V]:	180-960		
Input DC current [A]:	Max. 12.5 x 2		
Output AC voltage [V]:	3/N/PE, 230/400, 50Hz		
Output AC current [A]:	8	10	13
Output power [VA]:	Max. 5500	Max. 6600	Max. 8800
Output DC voltage range [V]: [Battery charge]:	180-800		
Input DC current [A]: [Battery charge]:	Max. 25A		
Output DC current [A]: [Battery discharge]:	Max. 25A		
Charge and discharge power[VA]:	Max. 5500	Max. 6600	Max. 8800
Output AC voltage [V]:	3/N/PE, 230/400, 50Hz		
Output AC current [A]:	8	10	13
Output power [VA]:	Max. 5500	Max. 6600	Max. 8800



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Annex 6 to certificate 20-005

Allegato 6 al certificato

Ratings:
Caratteristiche:

Ratings:	HYD 10KTL-3PH	HYD 15KTL-3PH	HYD 20KTL-3PH
Full load MPP DC voltage range [V]:	220-850V	350-850V	450-850V
Input DC voltage range[V]:	180-960V		
Input DC current [A]:	Max. 25.0 x 2		
Output AC voltage [V]:	3/N/PE, 230/400, 50Hz		
Output AC current [A]:	16	24	32
Output power [VA]:	11000	16500	22000
Output DC voltage range [V]: [Battery charge]:	180-800V		
Input DC current [A]: [Battery charge]:	Max. 25A*2		
Output DC current [A]: [Battery discharge]:	Max. 25A*2		
Charge and discharge power[VA]:	11000	16500	22000
Output AC voltage [V]:	3/N/PE, 230/400, 50Hz		
Output AC current [A]:	16	24	32
Output power [VA]:	Max. 11000	Max. 16500	Max. 22000