

1.0 Reference and Address			
Report Number	240500836SHA-001	Original Issued: 29-Sep-2024	Revised: None
Standard(s)	Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023] Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1] Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]		
Applicant	SRNE Solar Co., Ltd	Manufacturer 1	SRNE Solar Co., Ltd
Address	4-5F,13A Wutong Island,Neihuan Rd, Xixiang, Bao`an, SHENZHEN Guangdong 518100	Address	Room 301, Building 5, Fuxing Road, No. 36, Chang'an Town, Dongguan City, Guangdong
Country	China	Country	China
Contact	Xiao tong	Contact	Xiao tong
Phone	18665930846	Phone	18665930846
FAX	--	FAX	--
Email	xiaotong@szshuori.com	Email	xiaotong@szshuori.com

2.0 Product Description	
Product	Solar Storage Inverter(stand-alone Inverter)
Brand name	SRNE
Description	The products covered by this report are indoor use, solar charge, stand alone inverter. AC grid input can be working at split phase mode or single phase mode. The products include PV charge function and AC bypass function. The installation should be in pollution II environment and accordance with the National Electrical Code, NFPA 70 and the Canadian Electrical Code
Models	ABP48 followed by 40, 50, 60 or 65; followed by U; followed by 100, 120 or 140; followed by -H. SPI-followed by 4, 5, 6 or 6.5; followed by K-UBP.
Model Similarity	SPI-4K-UBP is same ABP4840U100-H except front panel and LCD screen. SPI-5K-UBP is same ABP4850U120-H except front panel and LCD screen. SPI-6K-UBP is same ABP4860U140-H except front panel and LCD screen. SPI-6.5K-UBP is same ABP4865U140-H except front panel and LCD screen. All models have same hardware and software except for the different power controlled by software. P stand for parallel. 48 stand for 48V battery voltage. 40 stand for output power 4kW, 50 stand for output power 5kW, 60 stand for output power 6kW, 65 stand for output power 6.5kW. U stand for AC input voltage 120Vac. 100 stand for charging current 100A, 120 stand for charging current 120A, 140 stand for charging current 140A. H stand for PV input voltage 550V.
Ratings	Refer to section 7 Illustration 2 - Ratings
Other Ratings	NA

3.0 Product Photographs

Photo 1 - External view - ABP series

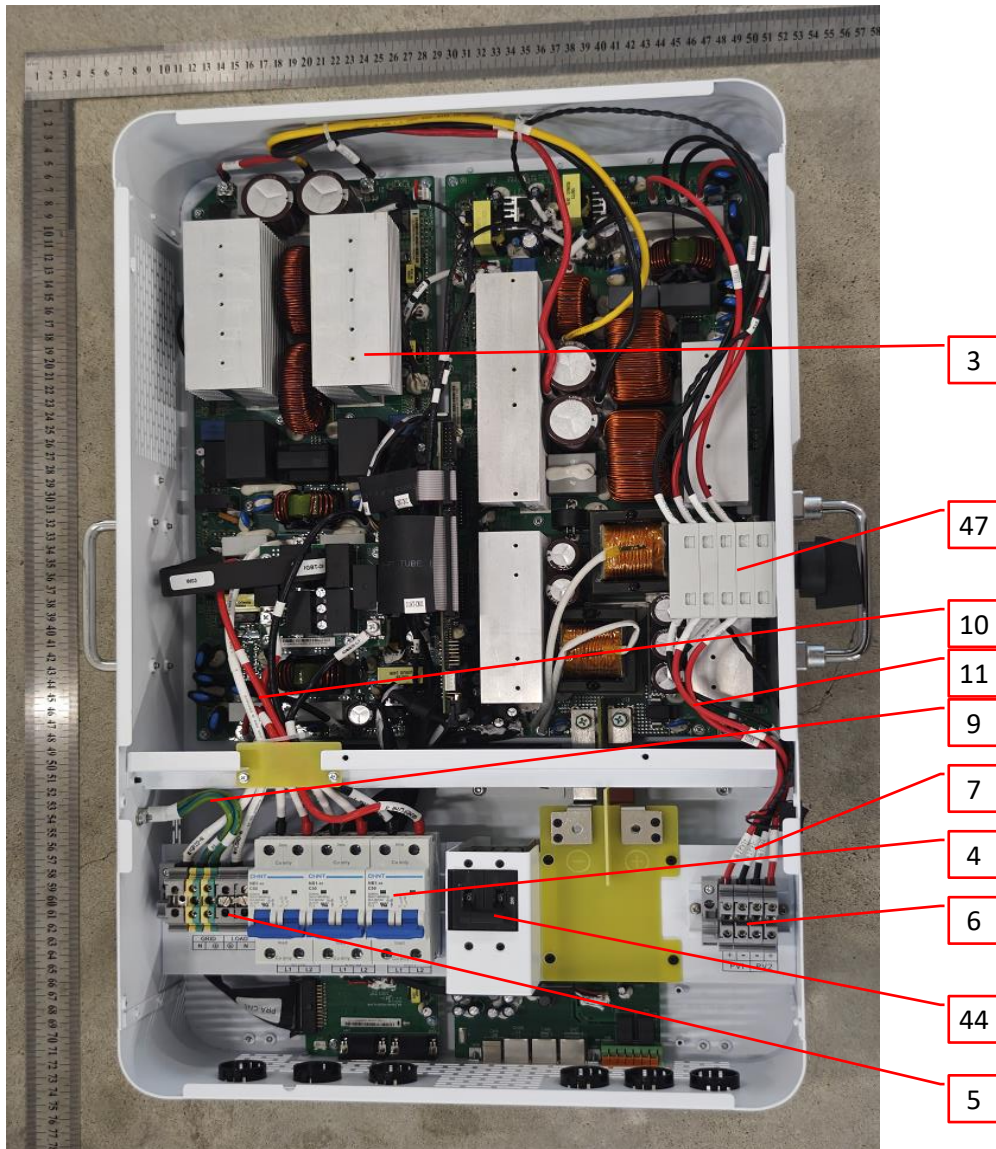


Photo 2 - External view - SPI series



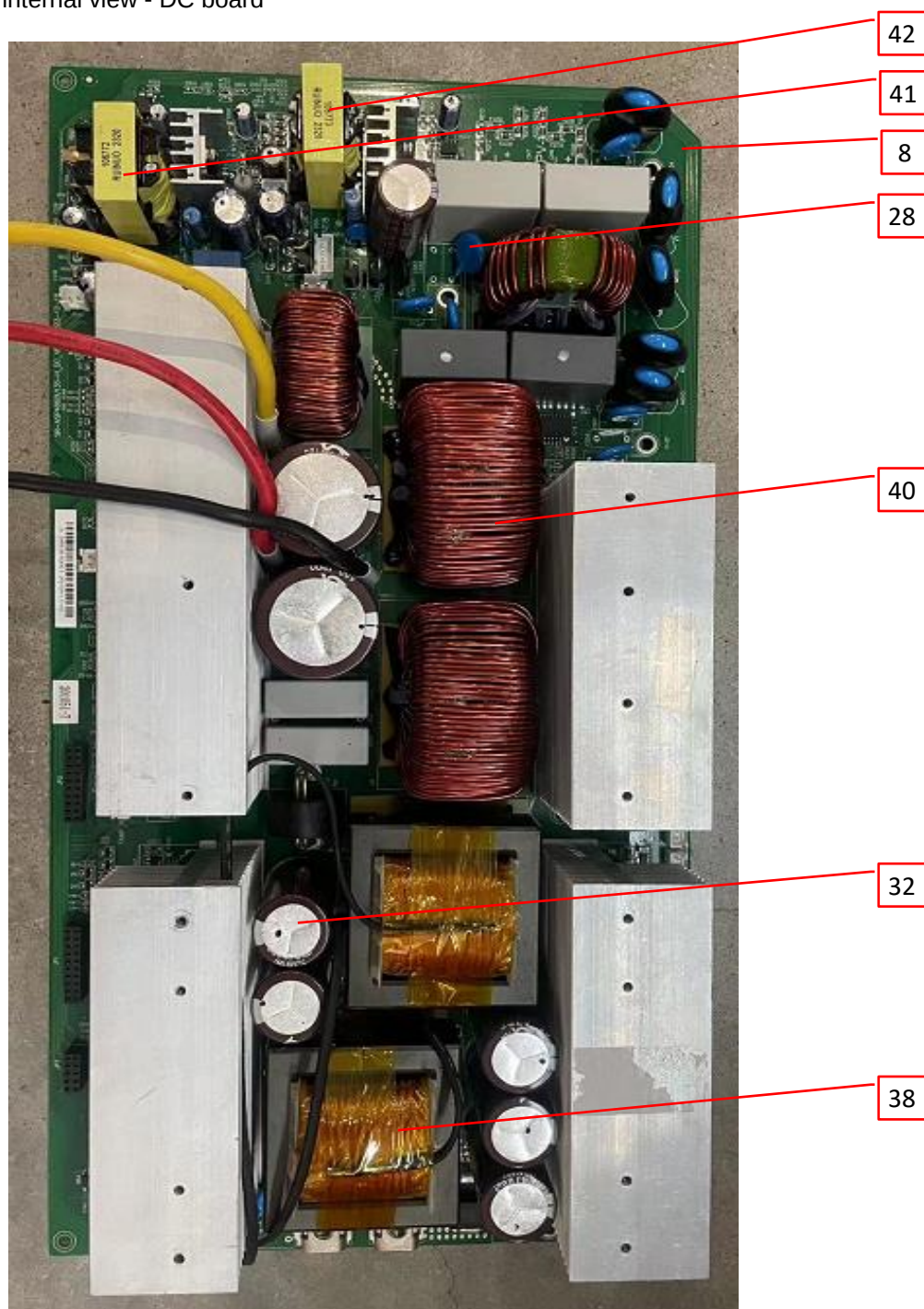
3.0 Product Photographs

Photo 3 - internal view



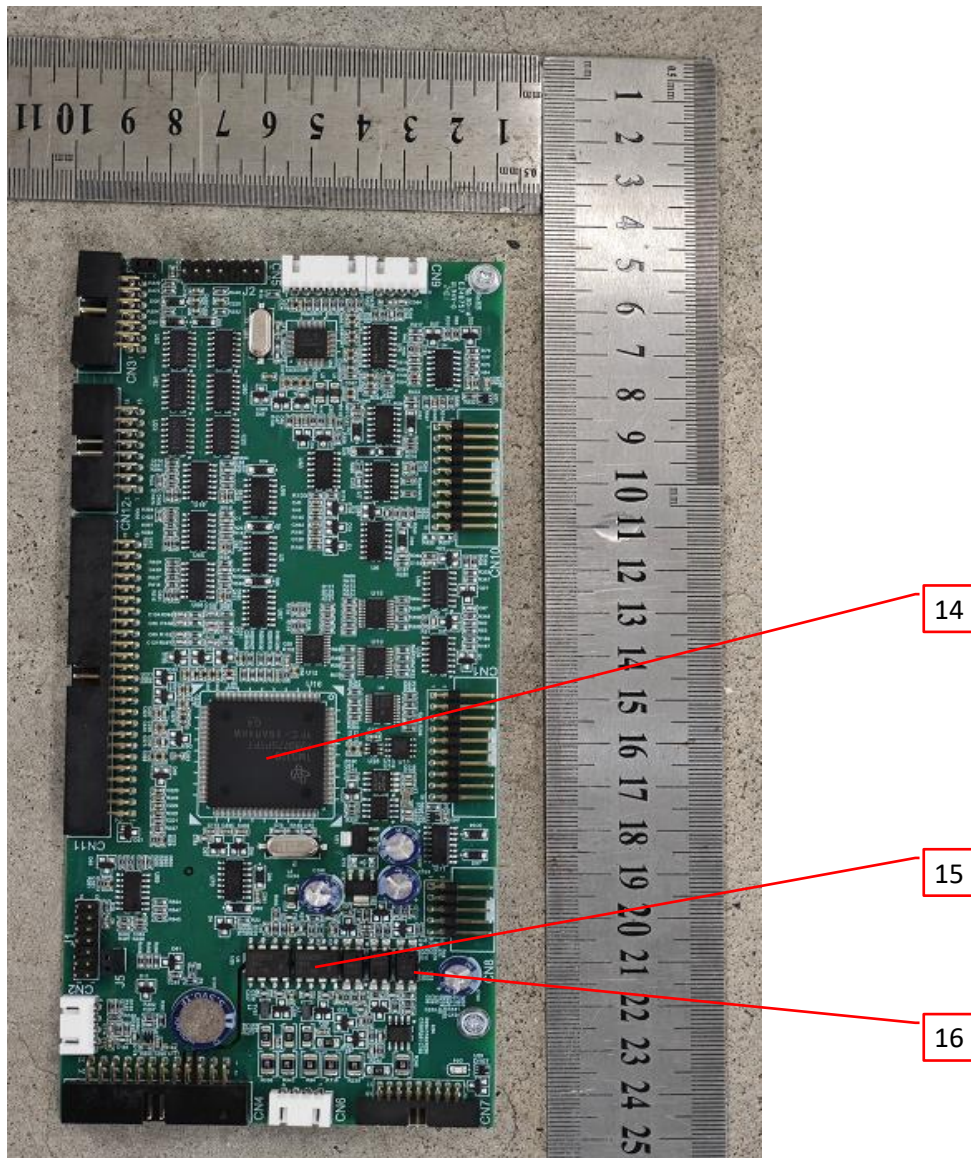
3.0 Product Photographs

Photo 4 - internal view - DC board



3.0 Product Photographs

Photo 5 - control board



3.0 Product Photographs

Photo 6 - com board

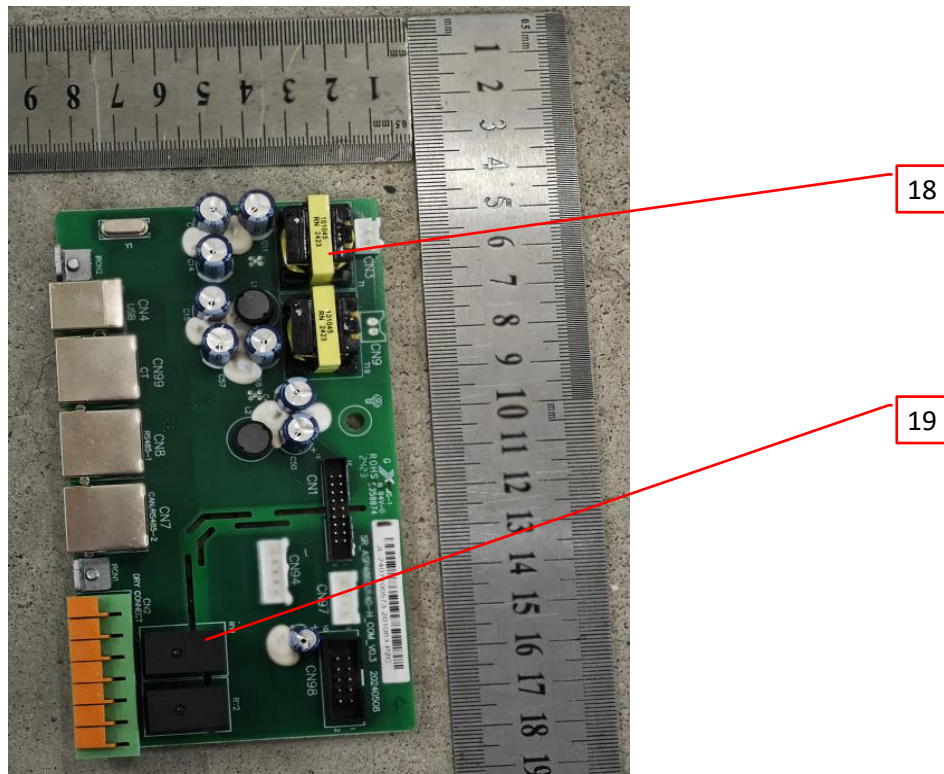
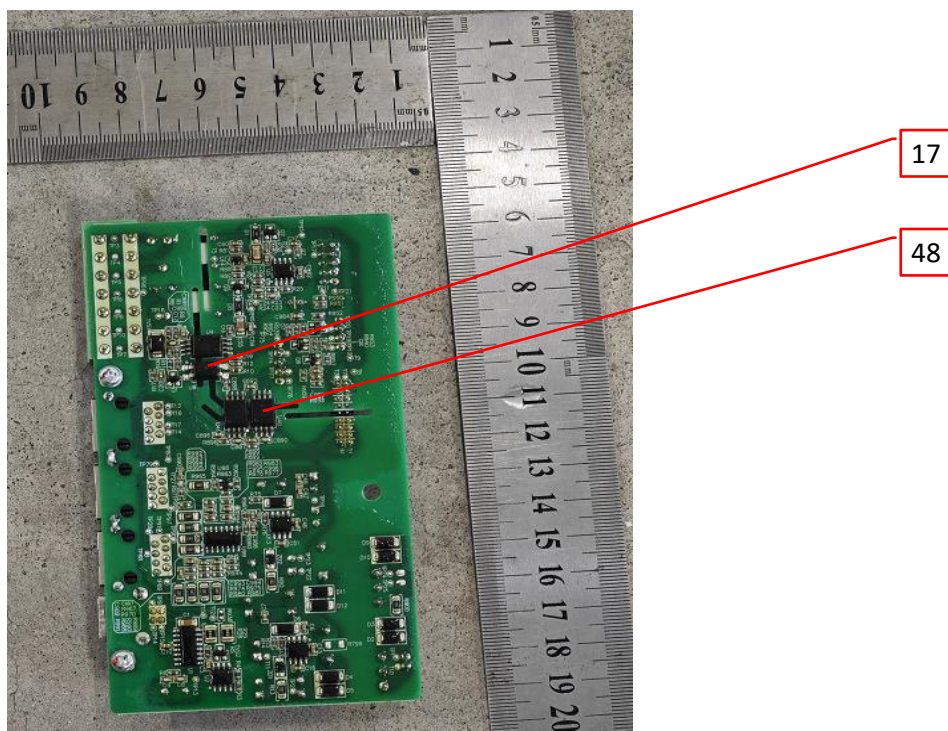
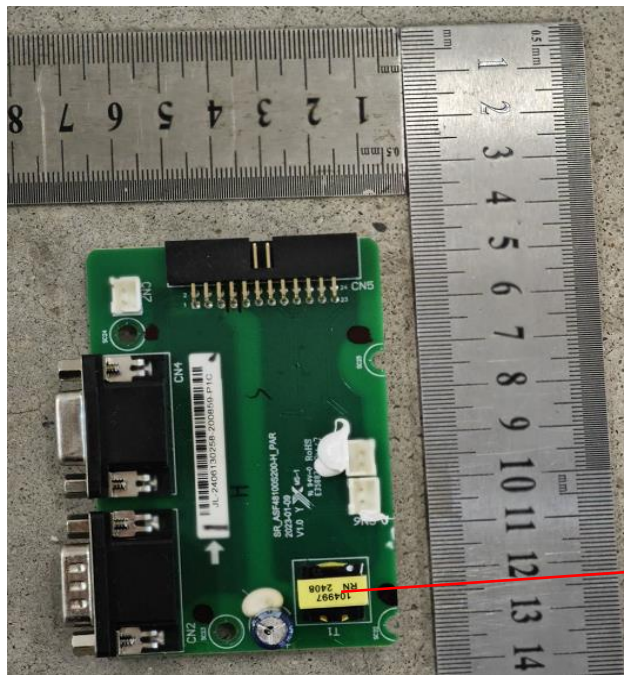


Photo 7 - com board



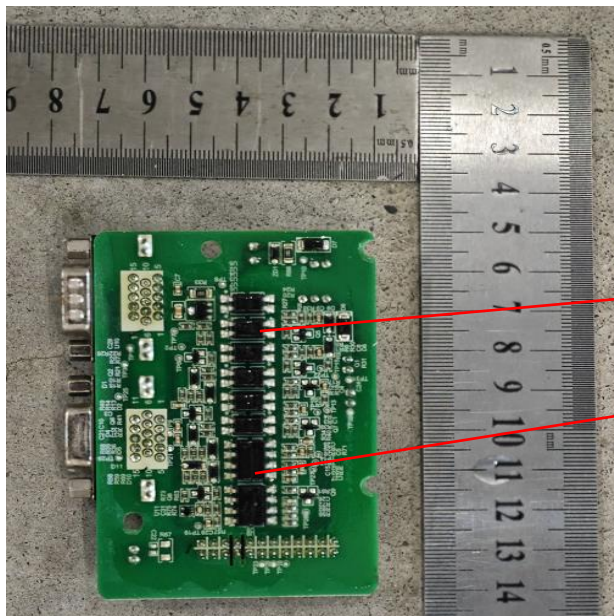
3.0 Product Photographs

Photo 8 - parallel board



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Photo 9 - parallel board

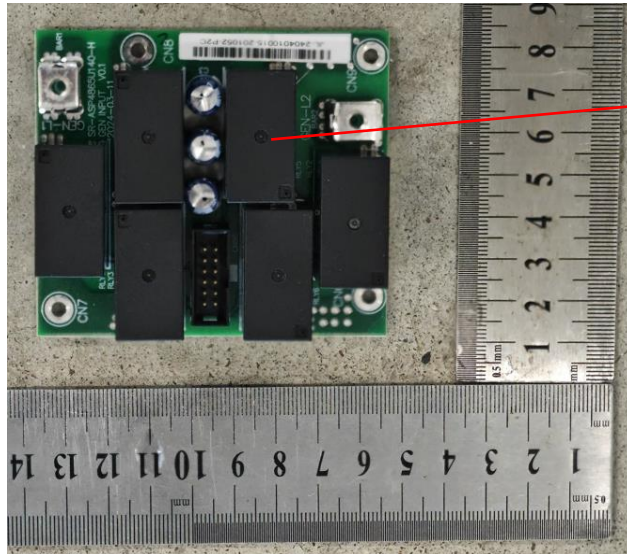


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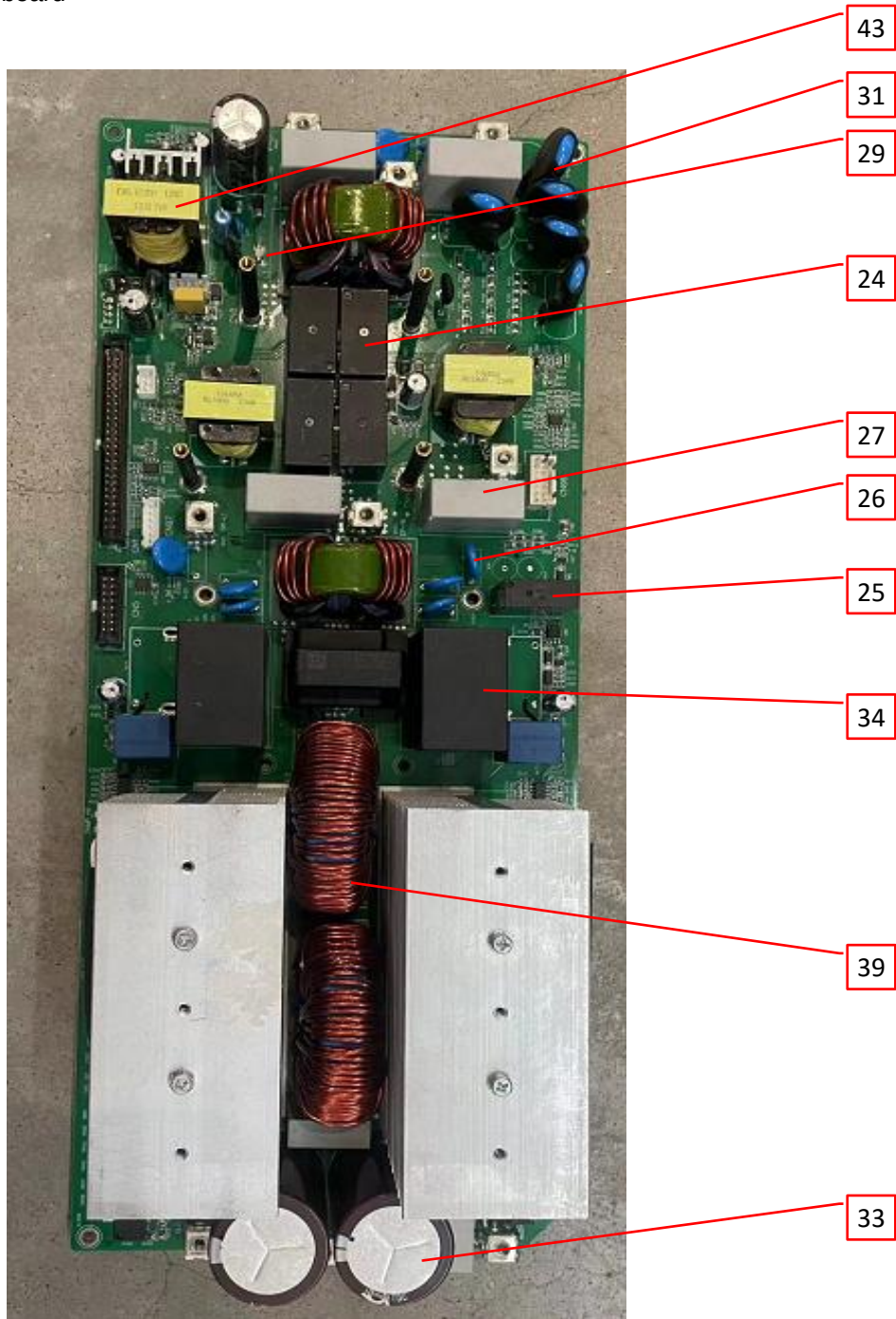
3.0 Product Photographs

Photo 10 - relay board



3.0 Product Photographs

Photo 11 - AC board



4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	1	Adhesive-Type Label (not shown)	3M COMPANY UL MH11410	PS32(L)	Adhesive-Type, Min. 80°C	cURus
1	2	Enclosure of 48V main part	NanGongHuiLi	ABP4865U140-H	648x410x140mm thickness:1.5mm. made of SGCC	NR
			FoShanShi KeTu			NR
			HuiZhou DeHai			NR
			DongGuan DiYe			NR
3	3	Heat-sink of INV heat-sink	Dongguan Hailiang	PV heat-sink 48V	AL6063_116x50x80mm_Natural oxidation_V1.0 H1, H2	NR
			DongGuan World JiXie			NR
			DongGuan World JiXie Co., Ltd.			NR
			DongGuan World JiXie Co., Ltd.			NR
3	4	AC current breaker	CHINT UL E36479	NB1-63-C63	277Vac, 63A, 5kA 80°C	cURus
3	5	AC terminal	Dongguan Dekls UL E513356	DW8-08-05-V2.0	600Vac 65A, 120 °C, 20-8AWG	cURus
3	6	PV terminal	Dongguan Dekls UL E513356	DW8-08-05-V2.0	600Vac 65A, 120 °C, 20-8AWG	cURus
3	7	heat shrink tube	DONGGUAN SALIPT CO.,LTD UL E209436	SALIPT S-901-600	600V ,125°C, VW-1	cURus
4	8	All PCB	Various	FR-4	V-0, 150°C. 2.0mm min,CTI: 175-400, totally covered with coating. Fully comply with UL796	cURus
3	9	Grouding wire	Shenzhen Mingmou UL E474910	1015	10AWG 600V 105°C	cURus
3	10	AC wire	Shenzhen Mingmou UL E474910	1015	12AWG 600V 105°C	cURus

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
3	11	PV wire	Shenzhen Mingmou UL E474910	1015	10AWG 600V 105°C	cURus
3	12	insulation sheet on heat sink (not shown)	SABIC JAPAN L L C UL E207780	FR60	UL94V-0, 130°C Film	cURus
3	13	Fan-internal (not shown)	Shenzhen Huaxia Hengtai Electronic Co Ltd UL E254715	DA08025B12U R	DC12V, 4.2W, 4500RPM, 80*80*25mm, -10°C~70°C	cURus
5	14	CPU 1 on control board	Texas Instrument	TMS320F28377 SPTPT	200MHz,3.3V, -40~125°C U16	NR
5	15	Optocoupler on control board	Texas Instrument UL E181974	ISO1050DUBR	Viso: 5000Vrms, CI 6.1mm, Cr 6.8mm, DUB-8,105°C U8,U25	cURus
			NOVOSENSE UL E500602	NSI1050-DDBR	Viso: 5000Vrms, CI 6.5mm,5Cr 6.5m, DUB-8,125°C U8,U25	cURus
5	16	Optocoupler on control board	RENESAS UL E72422	SMT PS256 1L-1-V-F3-A-L	Viso: 5000Vrms, CI 7.0mm, Cr 7.0mm,100°C, U32, U33, U35, U36, U37, U39, U73, U74, U77	cURus
			COSMO ELECTRONICS UL E169586	K10104CTLD	Viso: 5000Vrms, CI 7.5mm, Cr 7.5mm,115°C, U32, U33, U35, U36, U37, U39, U73, U74, U77	cURus
			LITEON UL E113898	LTV-816S-TP	Viso: 5000Vrms, CI 7.0mm, Cr 7.0mm,100°C, U32, U33, U35, U36, U37, U39, U73, U74, U77	cURus
			EVERLIGHT UL E214129	EL817(S1)(C)(T U)-FG	Viso: 5000Vrms, CI 7.6mm, Cr 7.6mm,110°C, U32, U33, U35, U36, U37, U39, U73, U74, U77	cURus
7	17	Optocoupler on com board	RENESAS UL E72422	SMT PS256 1L-1-V-F3-A-L	Viso: 5000Vrms, CI 7.0mm, Cr 7.0mm,100°C, U6	cURus
			COSMO ELECTRONICS UL E169586	K10104CTLD	Viso: 5000Vrms, CI 7.5mm, Cr 7.5mm,115°C, U6	cURus
			LITEON UL E113898	LTV-816S-TP	Viso: 5000Vrms, CI 7.0mm, Cr 7.0mm,100°C, U6	cURus
			EVERLIGHT UL E214129	EL817(S1)(C)(T U)-FG	Viso: 5000Vrms, CI 7.6mm, Cr 7.6mm,110°C, U6	cURus

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
6	18	Transformer on com board	Ruinuo Electronic Technology Co., Ltd	EE19	22*18*19.5mm,90℃(105℃) T1, T19	See 5.0
6	19	Relay on com board	Xiamen Hongfa Electronic Sound Co., Ltd UL E134517	HF32FA-005-ZS2	250Vac, 5A, 5000Vac,85℃ DC12V_37.5mA_3A,RY2,RY1	cURus
			Panasonic Corporation UL E179944	SLA-24VDC-S LC	24V 1A, 85℃,60V RY1, RY2	cURus
8	20	Transformer on P board	Ruinuo Electronic Technology Co., Ltd	EE13	15*14*15.5mm, 105℃ T1	See 5.0
9	21	Optocoupler on P board	LITE-ON Technology corp./ Optoelectronics UL E113898	6N137S-TA1-L	Viso: 5000Vrms, Cl 6.5mm, Cr 6.5mm,85℃ U8 U9	cURus
			CT MICRO International UL E364000	CT357	Viso: 3750Vrms, Cl 6.5mm, Cr 6.5mm,110℃ U8 U9	cURus
			Renesas Electronics (China) Co., Ltd UL E72422	PS2561-1	Viso: 5000Vrms, Cl 6.5mm, Cr 6.5mm,85℃ U8 U9	cURus
9	22	Optocoupler on P board	RENESAS UL E72422	SMT PS256 1L-1-V-F3-A-L	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100℃ U6 U7 U2 U3 U4 U5	cURus
			LITEON UL E113898	LTV-816S-TP	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100℃ U6 U7 U2 U3 U4 U5	cURus
			EVERLIGHT UL E214129	EL817(S1)(C)(TU)-FG	Viso: 5000Vrms, Cl 7.6mm, Cr 7.6mm,110℃ U6 U7 U2 U3 U4 U5	cURus
10	23	Relay on Relay board	Xiamen Hongfa Electroacoustic Co.,Ltd. UL E134517	HF161F-40W/12-HTF(967)(A38)	50A 277V AC,12V DC, Viso 4500V contact gap: 1.8mm, 1500v -40℃ ~ +85℃ RLY1-6	cURus
			Panasonic UL E43149	AHES3191Q	50A 277V AC,12V DC, Viso 2500V contact gap: 1.8mm, 1500v -40℃ ~ +85℃ RLY1-6	cURus
			Panasonic UL E43028	AHES3291N	250V 48A, 85℃,Viso 1500V RLY1-6	cURus

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
11	24	Relay on AC board	Xiamen Hongfa Electroacoustic Co.,Ltd. UL E134517	HF161F-40W/12-HTF(967)(A38)	50A 277V AC,12V DC, Viso 4500V contact gap: 1.8mm, 1500v -40°C ~ +85°C RLY3, RLY6, RLY9, RLY99	cURus
			Panasonic UL E43149	AHES3191Q	50A 277V AC,12V DC, Viso 2500V contact gap: 1.8mm, 1500v -40°C ~ +85°C RLY3, RLY6, RLY9, RLY99	cURus
			Panasonic UL E43028	AHES3291N	250V 48A, 85°C,Viso 1500V RLY3, RLY6, RLY9, RLY99	cURus
11	25	Relay on AC board	Xiamen Hongfa Electroacoustic Co.,Ltd. UL E134517	HF36F/012-HST	250V 10A, 70°C,2500VA RLY5	cURus
			Panasonic I UL E43028	ALQ312	250V 10A, 70°C,1250VA RLY5	cURus
11	26	Y capacitor on AC board	Shenzhen Hongshunyun Electronics Co., Ltd UL E481614	Y112Y5V1D472 M	Y2_0.01uF_300VAC_M_P=10mm -25°C~+125°C C92, C93, C97, C98, C112, C113	cURus
11	27	X Capacitor on AC board	Shenzhen Hongshunyun Electronics Co., Ltd UL E484578	HMKP474K310 NFAD	X2, 470nF, 310Vac, -40-110°C C95, C96, C106, C110	cURus
4	28	Ycapacitor on DC board	SHENZHEN SHI HONGS UL E481614	CE	Y2:300VAC, 10nF,-25~125°C C2, C7, C10, C11, C34	cURus
11	29	Fuse for AC APS	HOLLYLAND CO LTD UL E156471	25T-040H/L	4A/250Vac,6.1*2.6*2.6 ,- 55°C~125°C. FS1,FS2	cURus
11	30	FUSE for MOV (not shown)	Xiamen SET Electronics Co.,Ltd. UL E214712	CAH0412501	5A/250Vac,125 °C,7.0*2.7*6.6 F1,F2,F3,F4,F5	cURus
11	31	MOV	Shenzhen Junyao Electronics Co., Ltd E327997	20D561K	560VDC, 6.5kA -40°C ~ 85°C, type 5 MOV1 to MOV5	cURus
			Xiamen SET UL E322662	MOV20D561KT	560V , 10KA ,-40°C ~ 85°C MOV1 to MOV5	cURus

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	32	capacitor on DC board	SamYoung Electronics Co.,Ltd.	TDC63VS1000M	4700uF_M_63V_105℃_22*50_P=10mm_2000H_2.86A (Q36,Q37,Q38,Q39,Q40)	NR
			DONGGUANCITY DONGYANGGUA NGCAPACITORS CO.,LTD.	LT2GM	4700uF_M_63V_105℃_22*50_P=10mm_2000H_2.86A (Q36,Q37,Q38,Q39,Q40)	NR
			Lelon Electronics (Huizhou) Co., Ltd.	HBW1022	4700uF_M_63V_105℃_22*50_P=10mm_2000H_2.86A (Q36,Q37,Q38,Q39,Q40)	NR
11	33	capacitor on AC board	SamYoung Electronics Co.,Ltd.	TDC400VS1000M	400V,1000uF, -25-105℃ C8, C51	NR
			DONGGUANCITY DONGYANGGUA NGCAPACITORS CO.,LTD.	LT2GM102R50 OT^	400V,1000uF, -25-105℃ C8, C51	NR
			Lelon Electronics (Huizhou) Co., Ltd.	HBW1022G1VTR-1010K	400V,1000uF, -40-105℃ C8, C51	NR
11	34	solid capacitor	Hongfarad Electronics Co.. Ltd	HAPK256J180V	180V,25uF, -40-105℃ C19 C20	NR
11	35	IGBT- INV Circuit (not shown)	Wuxi NCE Power Co., Ltd	NCE75TD120VT	1200V, 75A, 1.7V -55~+175℃ (Q5, Q7, Q9, Q10, Q11, Q12, Q14, Q15)	NR
			Wuxi NCE Power Co., Ltd	NCE80TD65BT	650V, 80A, 1.85V -40~+175℃ (Q5, Q7, Q9, Q10, Q11, Q12, Q14, Q15)	NR
			Infineon	IKW75N120H7	1200V, 75A, 1.6V -40~+175℃ (Q5, Q7, Q9, Q10, Q11, Q12, Q14, Q15)	NR

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	36	MOS- DC Circuit (not shown)	Infineon	IRF100B201	100V, 136A, 1.85V -40~+175℃ (Q13,Q14,Q17,Q18,Q26,Q27,Q41,Q42,Q45,Q46,Q54,Q55,Q58,Q59)	NR
			L DQ +XD\L 0LFURHOHFWU RQLFV &R /WG	TO-220FB-3	80V, 170A,10 -55~+175℃ (Q13,Q14,Q17,Q18,Q26,Q27,Q41,Q42,Q45,Q46,Q54,Q55,Q58,Q59)	NR
			Hunteck Semiconductor	HGB115N15S	150V, 91A, 1.9V -40~+175℃ (Q13,Q14,Q17,Q18,Q26,Q27,Q41,Q42,Q45,Q46,Q54,Q55,Q58,Q59)	NR
4	37	IGBT- DC Circuit	Wuxi NCE Power Co., Ltd	NCE75TD120V T	1200V, 75A, 1.7V -55~+175℃ (Q1,Q3,Q5,Q8,Q10,Q12)	NR
			HUAJING MICROELECTRONICS	CRG100T75AK 3HD	1000V, 75A, 1.5V -55~+175℃ (Q1,Q3,Q5,Q8,Q10,Q12)	NR
			Infineon	IKW65N120CS6	1200V,65A, 1.7V -40~+175℃ (Q1,Q3,Q5,Q8,Q10,Q12)	NR
			Infineon	IKW65N120H3	1200V, 65A, 2.05V -40~+175℃ (Q1,Q3,Q5,Q8,Q10,Q12)	NR
4	38	The main transformer located on the DC board	SHENZHEN RIGIR PRECISION TECHNOLOGY CO.,LTD	YS05-EE5525-10622	570-670uH_0%_4:20_DMR40_61*59*60mm,155℃ T1, T4	See 5.0
			DongGuan LiYu Electronics CO.,LTD	EE5525	61*59*60mm,620uH_0%,130℃ T1, T4	See 5.0
11	39	Inductor on AC board	GUANGDONG RIGIR RECISION TECHNOLOGY CO.,LTD	NPH226060	318uH_10%_20mR_1.7mm*2P*48T_67*27*69mm_,180℃ L1,L2	NR
			DaXin Electronic Technology Co., Ltd	HPH-226060	318uH,180℃, 2P*48T_67*27*69mm L1,L2	NR
			Ruinuo Electronic Technology Co., Ltd	NPH226060	318uH,180℃ L1,L2	NR

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	40	Inductor on DC board	GUANGDONG RIGIR RECISION TECHNOLOGY CO.,LTD	NPH226060	1352uH_5%_110mR_1.4mm*2P*70T_67*50.5*69mm,130°C L1,L4	NR
			Endela Electronics (Shenzhen) Co.,Ltd.	NPH226060	1352uH,130°C L1,L4	NR
			Ruinuo Electronic Technology Co., Ltd	NPH226060	1352uH,130°C L1,L4	NR
4	41	Main auxiliary transforme	Ruinuo Electronic Technology Co., Ltd	EC28-T9	26uH_±5% , 155°C 31/23.5/36.5mm	See 5.0
4	42	PV auxiliary transformer	Ruinuo Electronic Technology Co., Ltd	ER2834/5P+5P	105uH_±5%, 31*23.5*36.5mm,155°C	See 5.0
11	43	AC auxiliary transformer	Ruinuo Electronic Technology Co., Ltd	EC28B-AC	130uH_±5% 31*25*32mm,155°C	See 5.0
3	44	BAT current breaker	ZHEJIANG DONGYA ELECTRONIC CO.,LTD UL E357198	BCPS3DS300/2 2401	DC 80V, DC 0.5-400A, Rated 4000V ,-40°C~+85°C	cURus
3	47	PV input current breaker	PROJOY electric UL E54080	PEDS-32	1500Vac, 32A, 8kA ,-40°C~+85°C	cURus
7	48	optocoupler on com board	Suzhou Novosense Microelectronics Co., Ltd UL E500602	NSI1300D25-DSWVR	Viso: 5000Vrms, Cl: 8mm, Cr: 8mm, -40°C~125°C U4,U40,U41	cURus

NOTES:

- 1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.
- 2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.
- 3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

5.0 Critical Unlisted CEC Components

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
6	18	Transformer on com board	Ruinuo Electronic Technology Co., Ltd	EE19
Electrical Rating:				Insulation class 105

Component Standard used: Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1]
Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]

MATERIALS LIST (refer to illustration 4 for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD	EE19	EE19 PC44
Bobbin	CHANG CHUN PLASTICS CO LTD E59481	T375J	V-0, 130 °C
Magnet wire	SHANTOU SHENGANG E239508	2UEW	UEW/155°C
Insulating tape	SUZHOU MAILADUONA E188295	JY312#	130 °C
Teflon Tube	DONGGUAN LING FREE HARDWARE E352366	LING FREE PTFE TUBE	300V, 200°C

WINDING(S) RESISTANCE

Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1 (8-10)	Φ0.40x3P	MW 75-C	15	--	--	--
N2 (3-5)	Φ0.30x3P	MW 75-C	18	--	--	--

VERIFICATION PROCESS

Frequency: Annual	Test Site: CEC	Number of samples to test: 1	
Test Name	Test Parameters		
Winding resistance	See resistance per winding above.		
Dielectric Strength	Apply voltage Between	Test Voltage	Test Time
	Primary to secondary & core	2100V	60s
	Secondary to core	500V	60s

5.0 Critical Unlisted CEC Components

INSULATED COIL							
Photo #	Item no.	Name	Manufacturer/Trademark		Type / model		
8	20	Transformer on P board	Ruinuo Electronic Technology Co., Ltd		EE13		
Electrical Rating:					Insulation class 105		
Component Standard used:		Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023] Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1] Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]					
MATERIALS LIST (refer to illustration 4a for assembly drawing)							
Component		Manufacturer	Type/model	Dimensions/thickness/assembly information			
Core		SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD	EE13	EE13 PC44			
Bobbin		CHANG CHUN PLASTICS CO LTD E59481	T375J	V-0, 130 °C			
Magnet wire		SHANTOU SHENGANG E239508	2UEW	UEW/155°C			
Insulating tape		SUZHOU MAILADUONA E188295	CT280	130 °C			
Teflon Tube		DONGGUAN LING FREE HARDWARE E352366	LING FREE PTFE TUBE	300V, 200°C			
WINDING(S) RESISTANCE							
Winding Designation		Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1 (2-3)		Φ0.20x1P	MW 75-C	30	--	--	--
N2 (8-9)		Φ0.20x1P	MW 75-C	60	--	--	--
N3 (3-4)		Φ0.20x1P	MW 75-C	30	--	--	--
VERIFICATION PROCESS							
Frequency: Annual		Test Site: CEC			Number of samples to test: 1		
Test Name		Test Parameters					
Winding resistance		See resistance per winding above.					
Dielectric Strength		Apply voltage Between		Test Voltage		Test Time	
		Primary to secondary & core		2100V		60s	
		Secondary to core		500V		60s	

5.0 Critical Unlisted CEC Components

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
4	38	The main transformer located on the DC board	SHENZHEN RIGIR PRECISION TECHNOLOGY CO.,LTD	YS05-EE5525-10622
Electrical Rating:				Insulation class 105

Component Standard used: Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1]
Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]

MATERIALS LIST (refer to illustration 4b & 4c for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	Wuxi Ferrite Magnetics Co., Ltd.	EE56/25	PC44
	JIANGSUBDKMA GNETICMATERIA L Co., Ltd	EE56/25	PC44
Bobbin	EI DUPOT DE NEMOURS & CO INC E41938	EE5525	FR530, 155°C
Wire	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO., LTD E239508	UEW	0.2mm*50p, 155°C
	NINGBO JINTIAN NEW MATERIAL CO LTD E227047	UEWN	0.2mm*50p, 155°C
Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD E165111	PF*(d)(g)	T0.025mm
Margin tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD E165111	WF*(c)(h)	0.42*2mm
Epoxy	DONG GUAN SHI PAI HUA CHUANG MATERIAL FTY E304477	H907	--

5.0 Critical Unlisted CEC Components						
Copper foil	SHENZHEN JINDONG RUIFA TECHNOLOGY CO., LTD	-	T0.4*35mm			
	SHENZHEN ZIGAO METAL MATELALS CO LTD	-	T0.4*35mm			
PCB Base	KINGBOARD LAMINATES HOLDINGS LTD E123995	FR-4	-			
Tube	GHANGYUAN ELECTRONICS GROUP CO LTD E180908	CB-TT-L	-			
	SHENZHEN WOER HEAT MATERIAL CO LTD E203950	WF	-			
Varnish	HUIZHOU QIANGDA ELECTRONIC CO., LTD E347463	DA-700	-			
	TIANYI INSULATION MATERIAL CO LTD E527258	MG209	-			
NTC	NANJING KEMIN ELECTROMNIC CO., LTD	CWF1	-			
	SHENZHENENSI PU ELECTRONIC CO., LTD	MF52D153H4150 FA-290D	-			
	DONG GUAN KEPENGDA ELECTRONIC CO., LTD	SDB23453	-			
WINDING(S) RESISTANCE						
Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Φ0.2mm*50*2P	2UEW	6.5	--	--	--
N2	T0.4*35mm*1P	Copper foil	4	--	--	--
N3	Φ0.2mm*50*2P	2UEW	13.5	--	--	--
VERIFICATION PROCESS						
Frequency:	Annual	Test Site: CEC			Number of samples to test: 1	

5.0 Critical Unlisted CEC Components

Test Name	Test Parameters		
Winding resistance	See resistance per winding above.		
Dielectric Strength	Apply voltage Between	Test Voltage	Test Time
	Primary to secondary & core	2100V	60s
	Secondary to core	500V	60s

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
4	38	The main transformer located on the DC board	DongGuan LiYu Electronics CO.,LTD	EE5525
Electrical Rating:				Insulation class 105

Component Standard used: Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1]
Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]

MATERIALS LIST (refer to illustration 4d & 4e for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SUNSHINE	EE56/25	PC44
	JIANGSU BDK MAGNETIC MATERIAL CO.,LTD	EE56/25	PC44
Bobbin	EI DUPOT DE NEMOURS & CO INC E41938	FR530L	155°C
PCB	KINGBOARD LAMINATES HOLDINGS LTD E123995	FR-4	130°C
Wire	PACIFIC ELECTRIC WIRE&CABLE(SHENZHEN) CO.,LTD. E201757	UEW	155°C
	TAI-I COPPER(GUANZHOU)CO LTD E234896	UEW	155°C
Copper foil	SHENZHEN ZIGAO METAL MATERIALS CO LTD	-	T0.4*35mm

5.0 Critical Unlisted CEC Components			
Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD E165111	PF*(d)(g)	180°C
Margin tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD E165111	WF*(c)(h)	130°C
Tube	GREAT HOLDING INDUSTRIAL CO LTD E156256	TFL	200°C
Varnish	ELANTAS PDG, INC. E75225	V1630FS	155°C
Glue	DONGGUAN EATTOELECTRO NIC MATERIAL CO LTD E218090	E-500	130°C
NTC	NANJING KEMIN ELECTROMNIC CO., LTD	CWF1 15KH4150- B1	-
	SHENZHENENSI PU ELECTRONIC CO., LTD	MF52D153H4150 FA-290D	-
	DONG GUAN KEPENGDA ELECTRONIC CO., LTD	SDB23453	-

WINDING(S) RESISTANCE						
Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Φ0.2mm*50*2P	2UEW	6.5	--	--	--
N2	T0.4*35mm*1P	Copper foil	4	--	--	--
N3	Φ0.2mm*50*2P	2UEW	13.5	--	--	--

VERIFICATION PROCESS			
Frequency: Annual	Test Site: CEC		Number of samples to test: 1
Test Name	Test Parameters		
Winding resistance	See resistance per winding above.		
Dielectric Strength	Apply voltage Between	Test Voltage	Test Time
	Primary to secondary & core	2100V	60s
	Secondary to core	500V	60s

5.0 Critical Unlisted CEC Components

INSULATED COIL				
Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
4	41	Main auxiliary transforme	Ruinuo Electronic Technology Co., Ltd	EC28-T9
Electrical Rating:				Insulation class 105
Component Standard used:		Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023] Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1] Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]		
MATERIALS LIST (refer to illustration 4f & 4g for assembly drawing)				
Component		Manufacturer	Type/model	Dimensions/thickness/assembly information
Core		SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD	ER2834	PC44
Bobbin		CHANG CHUN PLASTICS CO LTD (UL E59481)	T375J	150°C
Wire		SHENGANG(SHANTOU)ELECTRIC AL INDUSTRIAL CO.,LTD (UL E239508)	UEW	155°C
Insulation tape		SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD (UL E188295)	JY313#	130°C
		XINYU SHENGDAFENG ELECTRIC MATERIAL CO LTD (UL E317896)	SDF-312	130°C

5.0 Critical Unlisted CEC Components						
Margen tape	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD (UL E246950)	WF310(A)	130°C			
Tube	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD (UL E352366)	LING FREE PTFE	300V,200°C			
WINDING(S) RESISTANCE						
Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Ø0.5*4P	2UEW-F	7	--	--	--
N2	Ø0.5*4P	2UEW-F	7	--	--	--
N3	Ø0.5*4P	2UEW-F	3	--	--	--
N4	Ø0.5*3P	2UEW-F	4	--	--	--
N5	Ø0.3*1P	2UEW-F	7	--	--	--
N6	Ø0.15*4P	2UEW-F	7	--	--	--
N7	Ø0.5*4P	2UEW-F	7	--	--	--
VERIFICATION PROCESS						
Frequency: Annual	Test Site: CEC			Number of samples to test: 1		
Test Name		Test Parameters				
Winding resistance		See resistance per winding above.				
Dielectric Strength		Apply voltage Between		Test Voltage		Test Time
		Primary to secondary & core		2100V		60s
		Secondary to core		500V		60s
INSULATED COIL						
Photo #	Item no.	Name	Manufacturer/Trademark		Type / model	
4	42	PV auxiliary transformer	Ruinuo Electronic Technology Co., Ltd		ER2834/5P+5P	
Electrical Rating:					Insulation class 105	
Component Standard used:		Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023] Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1] Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]				
MATERIALS LIST (refer to illustration 4h & 4i for assembly drawing)						
Component	Manufacturer	Type/model	Dimensions/thickness/assembly information			
Core	NANTONG CHENGTAI MAGNETIC MATERIAL CO LTD	ER2934	PC44			

5.0 Critical Unlisted CEC Components			
Bobbin	EI DUPOT DE NEMOURS & CO INC E69578	FR530L	130°C
Wire	SHENGANG(SHANTOU)ELECTRIC AL INDUSTRIAL CO.,LTD (UL E239508)	2UEW-F	155°C
	SHENGANG(SHANTOU)ELECTRIC AL INDUSTRIAL CO.,LTD (UL E239507)	TIW-F	155°C
Insulation tape	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD (UL E188295)	JY312#	130°C
Margen tape	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD (UL E246950)	WF310(A)	130°C
Tube	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD (UL E352366)	LING FREE PTFE	300V,200°C
Glue	DONGGUAN EATTOELECTRONIC MATERIAL CO LTD E218090	E-500	130°C

WINDING(S) RESISTANCE						
Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Ø0.5*2P	2UEW-F	20	--	--	--
N2	Ø0.15*1P	2UEW-F	8	--	--	--
N3	Ø0.5*2P	2UEW-F	32	--	--	--
N4	Ø0.5*2P	2UEW-F	20	--	--	--

VERIFICATION PROCESS		
Frequency: Annual	Test Site: CEC	Number of samples to test: 1
Test Name	Test Parameters	

5.0 Critical Unlisted CEC Components

Winding resistance	See resistance per winding above.		
Dielectric Strength	Apply voltage Between	Test Voltage	Test Time
	Primary to secondary & core	2100V	60s
	Secondary to core	500V	60s

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
11	43	AC auxiliary transformer	Ruinuo Electronic Technology Co., Ltd	EC28B-AC
Electrical Rating:				Insulation class 105

Component Standard used: Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources [UL 1741:2021 Ed.3+R:19May2023]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4+U1]
Power Converters/Inverters and Power Converter/Inverter Systems for Land Vehicles and Marine Crafts [UL 458:2015 Ed.6+R:11Jan2021]

MATERIALS LIST (refer to illustration 4j & 4k for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD	ER2934	PC44
Bobbin	CHANG CHUN PLASTICS CO LTD (UL E59481)	T375J	150°C
Wire	SHENGANG(SHA NTOU)ELECTRIC AL INDUSTRIAL CO.,LTD (UL E239508)	UEW	155°C
Insulation tape	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD (UL E188295)	JY313#	130°C
	XINYU SHENGDAFENG ELECTRIC MATERIAL CO LTD (UL E317896)	SDF-312	130°C
Margen tape	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD (UL E246950)	WF310(A)	130°C

5.0 Critical Unlisted CEC Components						
Glue	DONGGUAN EATTOELECTRO NIC MATERIAL CO LTD E218090	E-500	130°C			
Tube	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD (UL E352366)	LING FREE PTFE	300V,200°C			
WINDING(S) RESISTANCE						
Winding Designation	Wire Size (mm ²)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Ø0.5*2P	UEW-F	19	--	--	--
N2	Ø0.15*1P	UEW-F	8	--	--	--
N3	Ø0.5*2P	UEW-F	30	--	--	--
N4	Ø0.15*1P	UEW-F	44	--	--	--
N5	Ø0.5*2P	UEW-F	19	--	--	--
VERIFICATION PROCESS						
Frequency: Annual	Test Site: CEC			Number of samples to test: 1		
Test Name		Test Parameters				
Winding resistance		See resistance per winding above.				
Dielectric Strength		Apply voltage Between		Test Voltage	Test Time	
		Primary to secondary & core		2100V	60s	
		Secondary to core		500V	60s	

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

1. Spacing - between uninsulated live parts and the walls of the metal enclosure is 12.7 mm through air and 12.7 mm over surfaces
Spacing - between a) uninsulated live parts of opposite polarity; b) uninsulated live parts and low voltage isolated circuits, uninsulated grounded parts other than the enclosure- 9.5 mm minimum spacing are maintained through air and 12.7 mm minimum are maintained over surfaces.
Spacing-between uninsulated live parts and low voltage isolated circuits, uninsulated grounded parts other than the enclosure on PCB is 3.0 mm minimum spacing are maintained through air, 3.0 mm minimum spacing are maintained over surfaces.
2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lockwashers, starwashers, or other mounting format that prevents turning of the component.
3. Corrosion Protection - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4. Accessibility of Live Parts - All uninsulated live parts in primary circuitry are housed within a metal enclosure constructed with no openings other than those specifically described in Sections 4 and 5.
5. Grounding - All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the the equipment grounding terminal.
6. Internal Wiring - Internal wiring is routed away from sharp or moving parts. Internal wiring leads terminating in soldered connections are made mechanically secure prior to soldering. Recognized Component separable (quick disconnect) connectors of the positive detent type, closed loop connectors, or other types specifically described in the text of this report are also acceptable as internal wiring terminals. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by plastic bushings or grommets. All wiring is minimum 12 AWG, with a minimum rating of 600V, 105°C.
7. Schematics - Refer to Illustration No.3. for schematics requiring verification during Field Representative Inspection Audits.
8. Markings - The product is marked on a labeling system as described in item no.1 of Section 4.0 or by molding into polymeric enclosure as follows:
Applicant's name or brand name
Product name
Model number
electrical ratings
date of manufacturer: (the manufacturing date be included in series number, for example SR-2407170009-301678-B01. From Fourth to ninth bit, the 24 denotes the year,07 denotes the month,17 denotes the day.
Note: The contents within brackets are the explanation only and need not be marked on the product.
9. Cautionary Markings - The following are required: refer to Illustration No.1 for details.
10. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No. 5 to 5c for details.

7.0 Illustrations

Illustration 1 - Markings of English and French

CAUTION!

 The product is indoor product,
It is forbidden to use it outdoors.
The machine has strong electricity,
and non professionals are forbidden to touch.

CAUTION!

 Hot surfaces – To reduce the risk of burns.
Do not touch.

CAUTION!

 Risk of electric shock from energy stored in
capacitor.
Do not remove cover until 5 minutes after
disconnecting all sources of supply.

WARNING:

Risk Of Electric Shock – Both ac and dc voltage
sources are terminated inside this equipment.
Each circuit must be individually disconnected
before servicing and when the photovoltaic
array is exposed to light, it supplies a dc voltage
to this equipment.

This unit employs components that tend to
produce arcs or sparks – To prevent fire or
explosion, do not install in compartments
containing batteries or flammable materials.

CAUTION:

For continued protection against risk of fire, or
electric shock replace only with same type and
ratings of fuse.

To prevent fire, do not cover or obstruct ventilation
openings. Do not mount in zero-clearance
compartment. Overheating may result.

To Reduce the Risk of Fire, Use only
battery packs that include the battery management
system and all necessary protection for the
battery pack integral to the pack.

ATTENTION !

 Le produit est un produit intérieur, il est
interdit de l'utiliser à l'extérieur.
La machine contient de l'électricité puissante, et il
est interdit aux non-professionnels de la toucher.

ATTENTION !

 Surfaces chaudes - Pour réduire le risque de
brûlures. Ne pas le toucher.

ATTENTION !

 Risque de choc électrique dû à l'énergie
stockée dans le condensateur.
Ne pas retirer le couvercle dans les 5 minutes
suivant la déconnexion de toutes les sources
d'alimentation.

AVERTISSEMENT :

Risque de choc électrique - Toutes les sources
d'alimentation CA et CC sont terminées à l'intérieur
de cet équipement. Chaque circuit doit être
déconnecté individuellement avant l'entretien et
lorsque le générateur photovoltaïque est exposé à la
lumière, il fournit une tension continue à cet
équipement.

Cette unité emploie des composants qui ont
tendance à produire des arcs ou des étincelles -
pour prévenir l'incendie ou l'explosion, ne pas
installer dans des compartiments contenant
des batteries ou des matériaux inflammables.

Attention:

Pour la protection continue contre le risque
d'incendie, ou la décharge électrique remplacez
seulement avec le même type et les cotes de
fusible.

Pour éviter les incendies, ne pas couvrir ou
obstruer les ouvertures de ventilation. Ne pas
monter dans un compartiment à dégagement nul.
Il peut en résulter une surchauffe.

Pour réduire le risque d'incendie, n'utilisez que
des accouplements qui comprennent le système
de gestion de la batterie et toute la protection
nécessaire pour l'accu qui fait partie de l'accu.

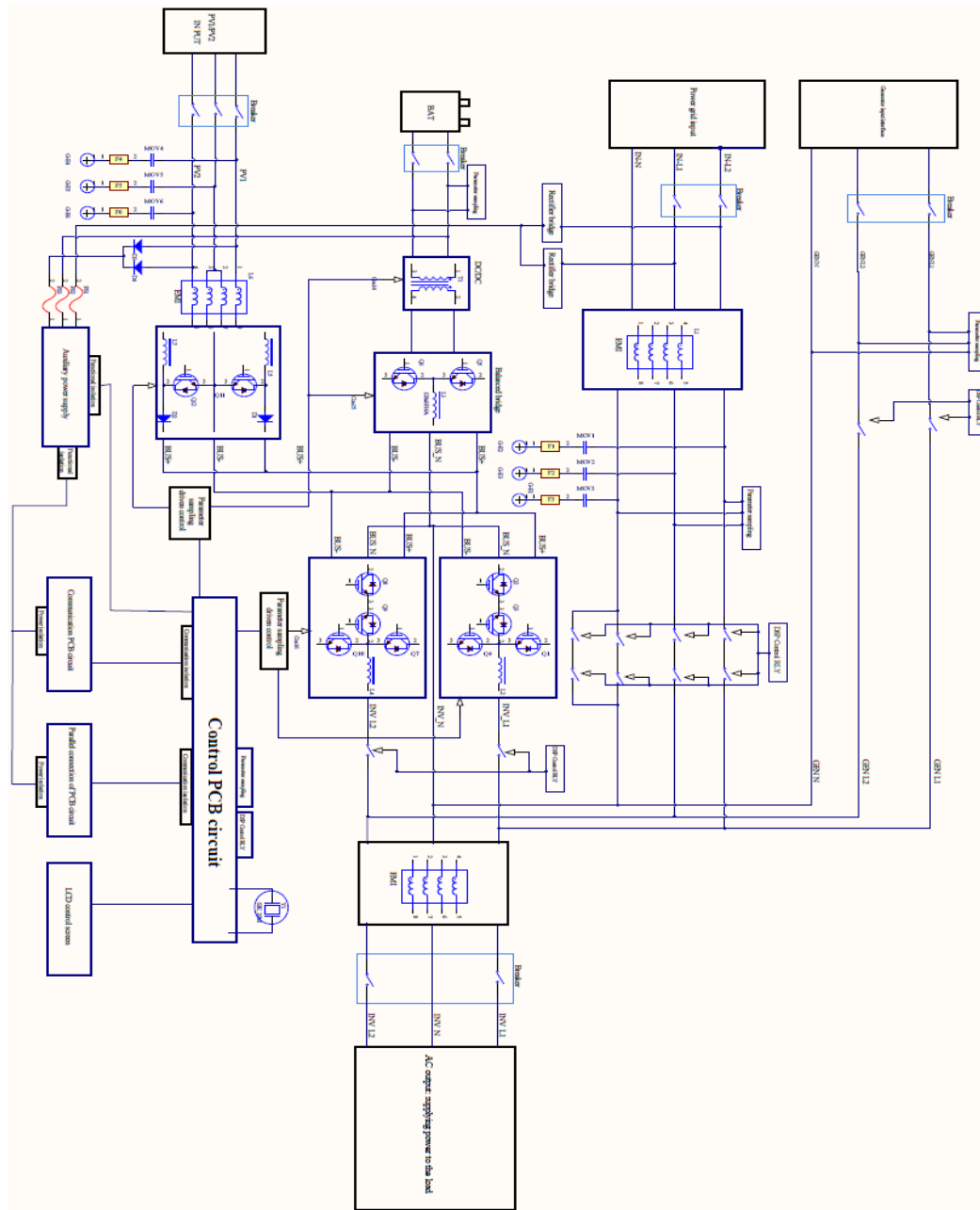
7.0 Illustrations

Illustration 2 - ratings

Specifications table				
Model	ABP4840U100H/ SPI-4K-UBP	ABP4850U120H/ SPI-5K-UBP	ABP4860U140H/ SPI- 6K-UBP	ABP4865U140H/ SPI-6.5K-UBP
PV input				
Vmax PV (Vdc) (absolute Max.)	125 Vdc~550Vdc	125 Vdc~550Vdc	125 Vdc~550Vdc	125 Vdc~550Vdc
Isc PV (absolute Max.) (A)	28.5A*2	28.5A*2	28.5A*2	28.5A*2
Max. PV input current / strings (A)	18A *2	18A *2	18A *2	18A *2
Number MPP trackers	2	2	2	2
Number input strings	1+1	1+1	1+1	1+1
MPPT voltage range (Vdc)	150~450	150~450	150~450	150~450
Vdc range @ full power (Vdc)	166~450	211~450	250~450	278~450
PV Max(kW)	3.0/3.0	3.8/3.8	4.5/4.5	5.0/5.0
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Norma Voltage (Range) (Vdc)	48V (40-60V)			
Max discharge Current(A)	110	130	150	150
Max charge Current(A)	100	120	140	140
Max charge/discharge Power(kW)	5.6KW/4KW	6.7KW/5KW	7.8KW/6KW	7.8KW/6.5KW
AC Grid (input and output)				
Normal AC Voltage (VAC)	240/120 Vac (Split Phase)			
Frequency (Hz)	60 Hz			
Max. cont. input/output current (A)	45Aac	45Aac	45Aac	45Aac
Max. cont. input/output Power (kW)	4	5	6	6.5
Max. cont. Apparent Power (kVA)	4	5	6	6.5
Power factor(adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (L-L) (VAC)	240	240	240	240
Normal Voltage (L-O) (VAC)	120/120	120/120	120/120	120/120
Frequency (Hz)	50/60	50/60	50/60	50/60
Nominal Current(A)	16.66/16.66	20.83/20.83	25.00/25.00	27.08 /27.08
Max. cont. Power (kW)	2.0/2.0	2.5/2.5	3.0/3.0	3.25/3.25
Max. cont. Apparent Power (kVA)	2.0/2.0	2.5/2.5	3.0/3.0	3.25/3.25
Power factor(adjustable)	1.0			
Others				
Ingress protection	TYPE 1			
Temperature (°C)	-10°C to +55°C (Derating 45°C)			
Inverter Isolation	☒ Non-isolated PV - AC ☐ High frequency isolated			
Overvoltage category	OVC III (AC Main), OVC II (PV)			

7.0 Illustrations

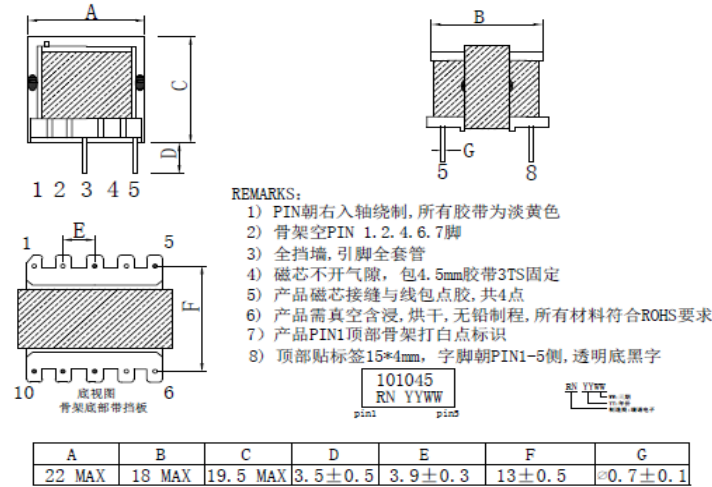
Illustration 3 - system diagram



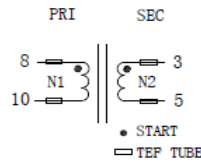
7.0 Illustrations

Illustration 4 - Transformer-EE19

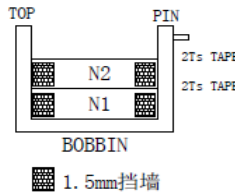
1. 外观 (机械) 图及尺寸: CONFIGURATION&DIMENSIONS (UNIT:mm)



2. 电气原理图/SCHEMATIC



3. 绕组结构图/WINDING



4. 绕线结构表/WINDING STRUCTURE: PIN朝右入轴绕制, 全挡墙, 全套管

WDG	TERMINAL	WIRE SIZE	TURNS	TAPE	MARGIN TOP端	TAPE PIN端	REMARKS
N1	8-10	2UEW/155℃ ∅0.40mm*3P	15	2	1.5mm	1.5mm	密绕
N2	3-5	2UEW/155℃ ∅0.30mm*3P	18	2	1.5mm	1.5mm	密绕

5. 电气特性/ELECTRICAL CHARACTERISTICS

NO.	ITEMS	SPEC	TESTING CONDITIONS	MEASURE
1	电感量 INDUCTANCE	L(8-10) = 200uH MIN	1KHZ 1V	CH 1062
2	漏感 LEAKAGE INDUCTANCE	LK(8-10)=3uH MAX	1KHZ 1V 短路其它脚	
3	耐压测试 HI-POT TEST	PRI-SEC AC2500V PRI-CORE AC1500V SEC-CORE AC1500V	AC/50Hz 5mA/5S	CJ9071A
4	直流电阻 DC RESISTANCE	8-10=28m Ω MAX 3-5=78m Ω MAX	AT 25℃	CH-BC502
5	绝缘电阻 INSULATION RESISTANCE	COIL-COIL COIL-CORE	DC500V 100M Ω MIN	CH 19053
6	温度 TEMPERATURE	CLASS B		

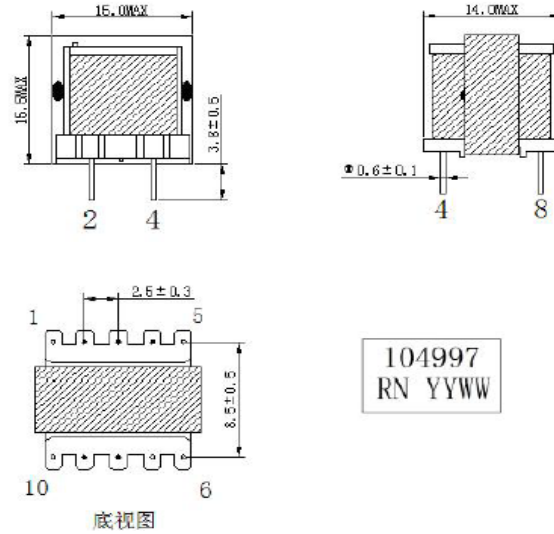
6. 材料清单/MATERIAL LIST

序号 NO.	名称 ITEM	名称 MATERIAL	温度 TEMPERATURE	制造商 MANUFACTURER	UL号 UN NO.
1	骨架 BOBBIN	T375J	150℃	CHANG CHUN PLASTICS CO LTD 长春人造树脂厂股份有限公司	E59481
2	磁芯 CORE	EE19 PC40		SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD 深圳市集顺磁性材料有限公司 (使用)	
3	线材 WIRE	UEW/155℃	155℃	SHENGANG(SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	E239508
4	绝缘胶带 INSULATION TAPE	JY312# SDF-312	130℃ 130℃	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD 苏州麦拉多纳电工材料有限公司 XINYU SHENGDAPENG ELECTRIC MATERIAL CO LTD 新余市盛达丰电工材料有限公司	E188295 E317896
5	挡墙胶带 MARGINTAPE	WF310(A)	130℃	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD 靖江市益胶制品有限公司	E246950
6	套管 TUBE	LING FREE PTFE TUBE (300V)	200℃	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD 东莞市翎飞五金塑胶制品有限公司	E352366
7	凡立水 VARNISH	B962	130℃	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD 珠海市长先新材料科技有限公司	E335405
8	胶 GLUE	E-500	130℃	DONGGUAN BAITO ELECTRONIC MATERIAL CO LTD 东莞市力多电子材料有限公司	E218090

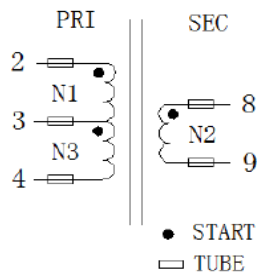
7.0 Illustrations

Illustration 4a - Transformer-EE13

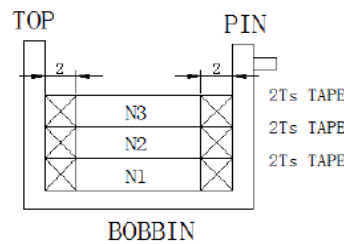
1. 外形尺寸/MECHANICAL DIMENSION (UNIT:mm)



2. SCHEMATIC 电原理图:



3. WINDING/内部结构图



4: 绕线顺序/WINDING SPECIFICATION:

绕组 顺序	挡墙 MarginTape	脚位 PIN 进线 S 收线 F	线径 Wire	Turns (圈数)	胶带 TAPE	套管 Tube	备注 NOTE
N1	2mm	2 3	2UEW Φ 0.20mm*1P	30	2Ts	✓	密绕
N2	2mm	8 9	2UEW Φ 0.20mm*1P	60	2Ts	✓	密绕
N3	2mm	3 4	2UEW Φ 0.20mm*1P	30	2Ts	✓	密绕

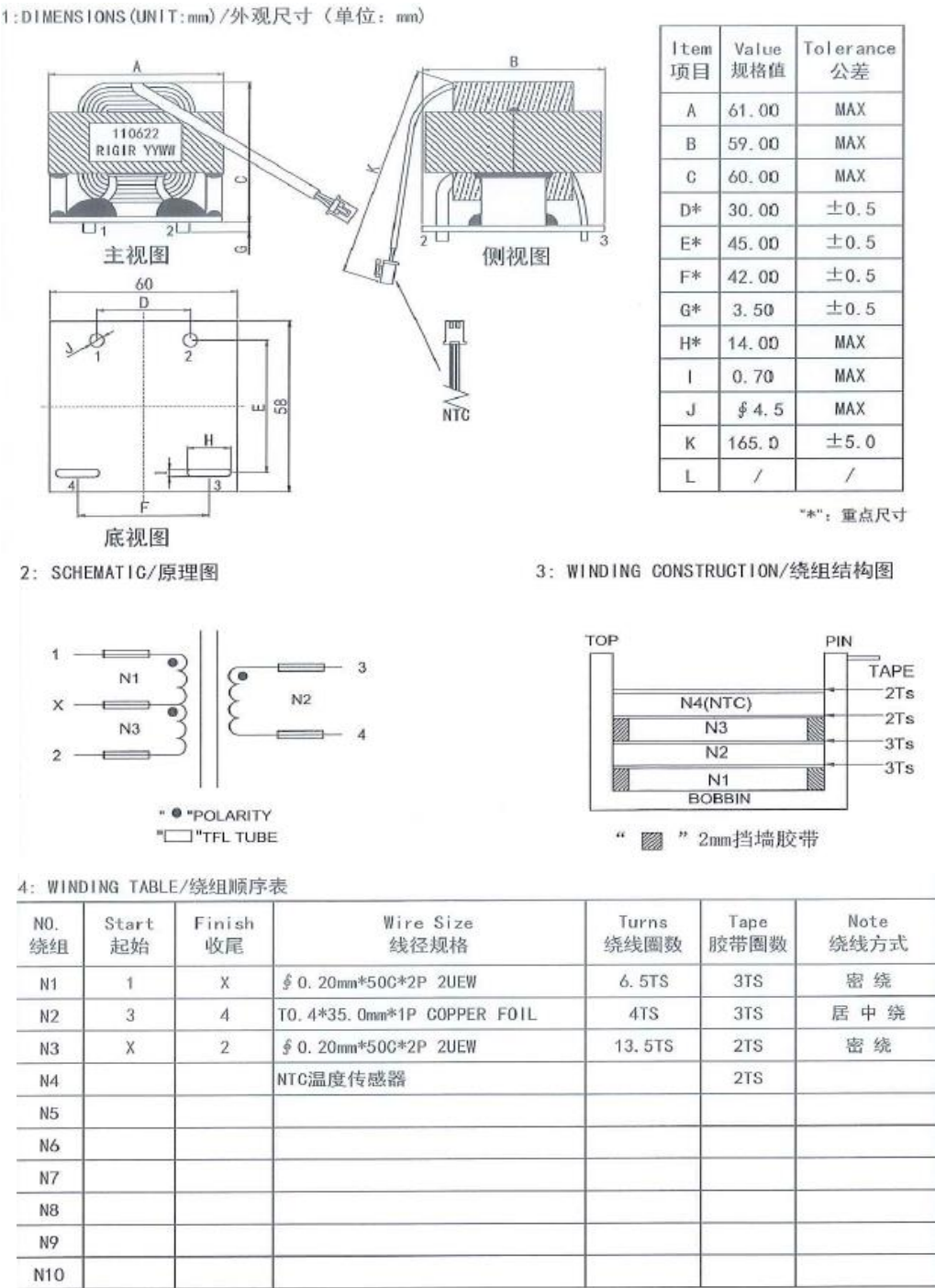
备注: PIN 向右入轴绕制

5. 材料清单/MATERIAL LIST:

序号 No	名称 ITEM	材质型号 MATERIAL	制造商 MANUFACTURER	耐温 TEMP RATING	认证号 UL NO
1	骨架 BOBBIN	T375J	CHANG CHUN PLASTICS CO., LTD 长春	150°C	E59481(S)
2	磁芯 CORE	EE13/13/6 PC44	SHENCHEN JIANGHONG MAGNETIC MATERIAL CO LTD 深圳市继顺磁性材料有限公司		
3	漆包线 MAGNET WIRE	2UEW	SHENGANG (SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	155°C	E239508
4	绝缘胶带 INSULATION TAPE	CT280	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD 苏州麦拉多纳电工材料有限公司	130°C	E188295
5	凡立水 VARNISH	T-4260 (a)	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD 苏州太湖绝缘材料有限公司	130°C	E228349
6	胶 GLUE	E-500	DONGGUAN BAITO ELECTRONIC MATERIAL CO LTD 东莞市力多电子材料有限公司	130°C	E123995

7.0 Illustrations

Illustration 4b - Transformer-YS05-EE5525-10622



7.0 Illustrations

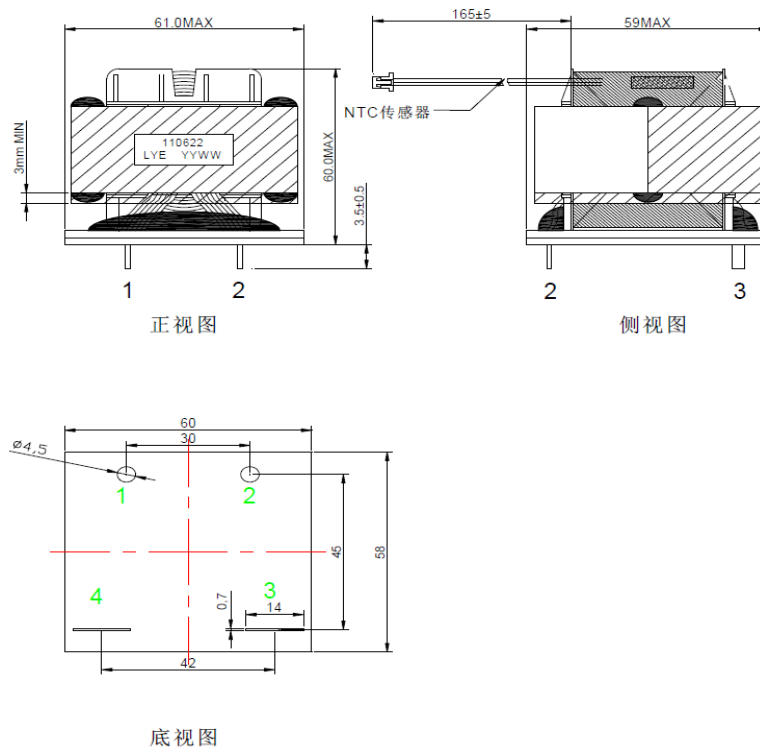
Illustration 4c - Transformer-Transformer-YS05-EE5525-10622

8: BILL OF MATERIALS/材料清单			UL Insulation System: ☒ Not Applicable		
Select 勾选	Item 项目	Type 规格	Material 材质	Manufacturer 供应商	UL NO. UL档案号
✓	BOBBIN/骨架	EE5525	FR530/155°C	EI DUPONT DE NEMOURS & CO INC	E41938
✓	CORE/磁芯	EE56/25	PG44	Wuxi Ferrite Magnetics Co., Ltd.	N/A
			PG44	JIANGSUBDKMAGNETICMATERIALCO.,LTD	N/A
✓	WIRE 漆包线	φ 0.2mm*50P	UEW/155°C	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO.,LTD	E239508
			xUEWN/155	NINGBO JINTIAN NEW MATERIAL CO LTD	E227047
			xUEW-E	(OR EQUIVALENT)	
✓	TAPE 绝缘胶带	T0.025mm	PF* (d) (g)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
✓	MARGIN TAPE 挡墙胶带	0.42*2mm	WF* (c) (h)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
✓	EPOXY / 环氧胶	H907@@		DONG GUAN SHI PAI HUA CHUANG MATERIAL FTY	E304477
✓	COPPER FOIL 铜箔	T0.4*35mm		SHENZHEN JINDONG RUIFA TECHNOLOGY CO.,LTD	N/A
				SHENZHEN ZIGAO METAL MATERIALS CO LTD	N/A
✓	PCB BASE/ 环氧板		FR-4	KINGBOARD LAMINATES HOLDINGS LTD	E123995
✓	TUBE 套管	10L	CB-TT-L	CHANGYUAN ELECTRONICS GROUP CO LTD	E180908
			WF	SHENZHEN WOER HEAT MATERIAL CO LTD	E203950
✓	VARNISH 绝缘油	MW28C	DA-700-*	HUIZHOU QIANGDA ELECTRONIC CO.,LTD	E347463
			MG209	TIANYI INSULATION MATERIAL CO LTD	E527258
✓	TIN/锡		Sn99.3 Cu0.7	THOUSAND ISLAND	N/A
✓	NTC 温度传感器		CWF1 15KH4150-B1	NANJING KEMIN ELECTRONNIC CO.,LTD	N/A
			MF52D153H4150F A-290D	SHENZHEN ENSIPU ELECTRONNIC CO.,LTD	N/A
			SDB23453	DONG GUAN KEPENGDA ELECTRONNIC CO.,LTD	N/A

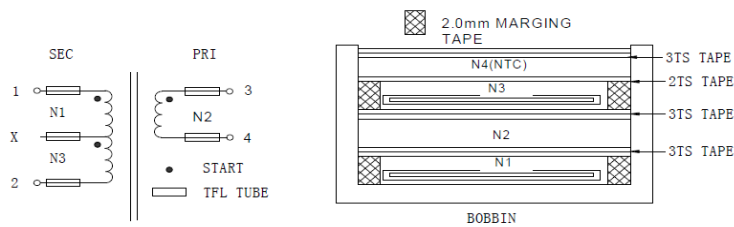
7.0 Illustrations

Illustration 4d - Transformer-EE5525

一：外观及尺寸 Outline And Dimension (Unit:mm)



二：结构及原理图 Construction And schematic



三：绕组次序 Winding sequence

绕组 Winding	端子 Terminal		铜线规格 Wire Gauge	圈数 Turns	套管 Tube		绝缘胶带 Insulation Tape	备注 Remake
	开始 Start	结束 Finish			开始 Start	结束 Finish		
N1	1	X	2UEW $\Phi 0.20\text{mm} \times 50\text{C} \times 2\text{P}$	6.5TS	TFL	TFL	3TS	密绕
N2	3	4	FOIL: $T0.4 \times 35.0\text{mm} \times 1\text{P}$	4TS	TFL	TFL	3TS	居中绕
N3	X	2	2UEW $\Phi 0.20\text{mm} \times 50\text{C} \times 2\text{P}$	13.5TS	TFL	TFL	2TS	密绕
			NTC 温度传感器				3TS	

7.0 Illustrations

Illustration 4e - Transformer-EE5525

五：材料清单 Material List

项目 ITEM	材质 MATERIAL	耐温等级 CLASS	UL 号 UL FILE NO	供应商 MANUFACTURER
1. BOBBIN EE5525	FR530	155℃	E41938	E I DUPONT DE NEMOURS & CO INC
2. CORE EE56/25	EE56/25 SSP44	N/A	N/A	SUNSHINE OR EQUAL
	EE56/25 PC44	N/A	N/A	JIANGSU BDK MAGNETIC MATERIAL CO.,LTD
3. PCB	FR-4	130℃	E123995	KINGBOARD LAMINATES HOLDINGS LTD
4. WIRE	UEWN/U MW	155℃	E201757	PACIFIC ELECTRIC WIRE&CABLE(SHENZHEN) CO.,LTD.
	UEWF	155℃	E234896	TAI-I COPPER(GUANZHOU)CO LTD
5. COPPER FOIL	T0. 4*35mm	N/A	N/A	SHENZHEN ZIGAO METAL MATERIALS CO.,LTD.
6. TAPE	PF*(d) (g)	180℃	E165111	JINGJING YAHUA PRESSURE SENSITIVE GLUE CO LTD
7. MARGAN TAPE	WF*(c) (h)	130℃	E165111	JINGJING YAHUA PRESSURE SENSITIVE GLUE CO LTD
8. NTC	CWF1 15KH4150-B1	N/A	N/A	NANJING KEMIN ELECTRONNIC CO,LTD
	SD823453	N/A	N/A	DONG GUAN KEPENGDA ELECTRONNIC CO.,LTD
	MF52D153H4150FA-290D	N/A	N/A	XHENZHEN ENSIPU ELECTRONNIC CO.,LTD
9. GLUE	E-500	130℃	E218090	DONGGUAN EATTO ELECTRONIC MATERIAL CO.,LTD
10. VARNISH	V1630FS	155℃	E75225	ELANTAS PDG, INC.
11. TUBE	TFL	200℃	E156256	GREAT HOLDING INDUSTRIAL CO LTD
12. TIN	Sn99.3 Cu0.7	N/A	N/A	THOUSAND ISLAND

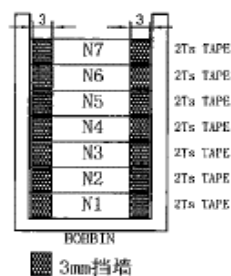
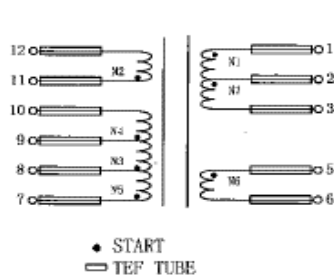
Illustration 4f - Transformer-EC28-T9

磁芯接合处两边线圈包颈点胶固定，共四点：

Technical drawings of the magnetic core assembly showing dimensions and views:

- Top view dimensions: $17.5\text{mm} \pm 0.5$, 12mm , 12 , $5.0\text{mm} \pm 0.5$, 7 , 1 , 6 , 7 . Label: 顶视图.
- Side view dimensions: $32\text{mm} \pm 0.5$, $37.5\text{mm} \pm 0.5$, 1 , 6 . Label: 侧视图.
- Front view dimensions: $31\text{mm} \pm 0.5$, $27\text{mm} \pm 0.5$, 7 , 12 , 12 , $3.5\text{mm} \pm 0.5$. Label: 前视图.
- Bottom view dimensions: $0.8\text{mm} \pm 0.1$. Label: 底视图.

3. 绕组结构图/WINDING



序号 NO.	开始-结束 START-FINISH	线材规格 WIRE SIZE	圈数 TURNS	胶带 TAPE	套管 TEFLON TUBE		挡墙 MARGIN TAPE		备注 REMARKS
					开始	结束	TOP	PIN	
N1	1-2	2UEW-F $\varnothing 0.5 \times 4P$	7	2	√	√	3	3	密绕
N2	11-12	2UEW-F $\varnothing 0.5 \times 4P$	7	2	√	√	3	3	密绕
N3	8-9	2UEW-F $\varnothing 0.5 \times 4P$	3	2	√	√	3	3	疏绕
N4	9-10	2UEW-F $\varnothing 0.5 \times 3P$	4	2	√	√	3	3	疏绕
N5	7-8	2UEW-F $\varnothing 0.3 \times 1P$	7	2	√	√	3	3	疏绕
N6	5-6	2UEW-F $\varnothing 0.15 \times 1P$	7	2	√	√	3	3	疏绕
N7	2-3	2UEW-F $\varnothing 0.5 \times 4P$	7	2	√	√	3	3	密绕

7.0 Illustrations

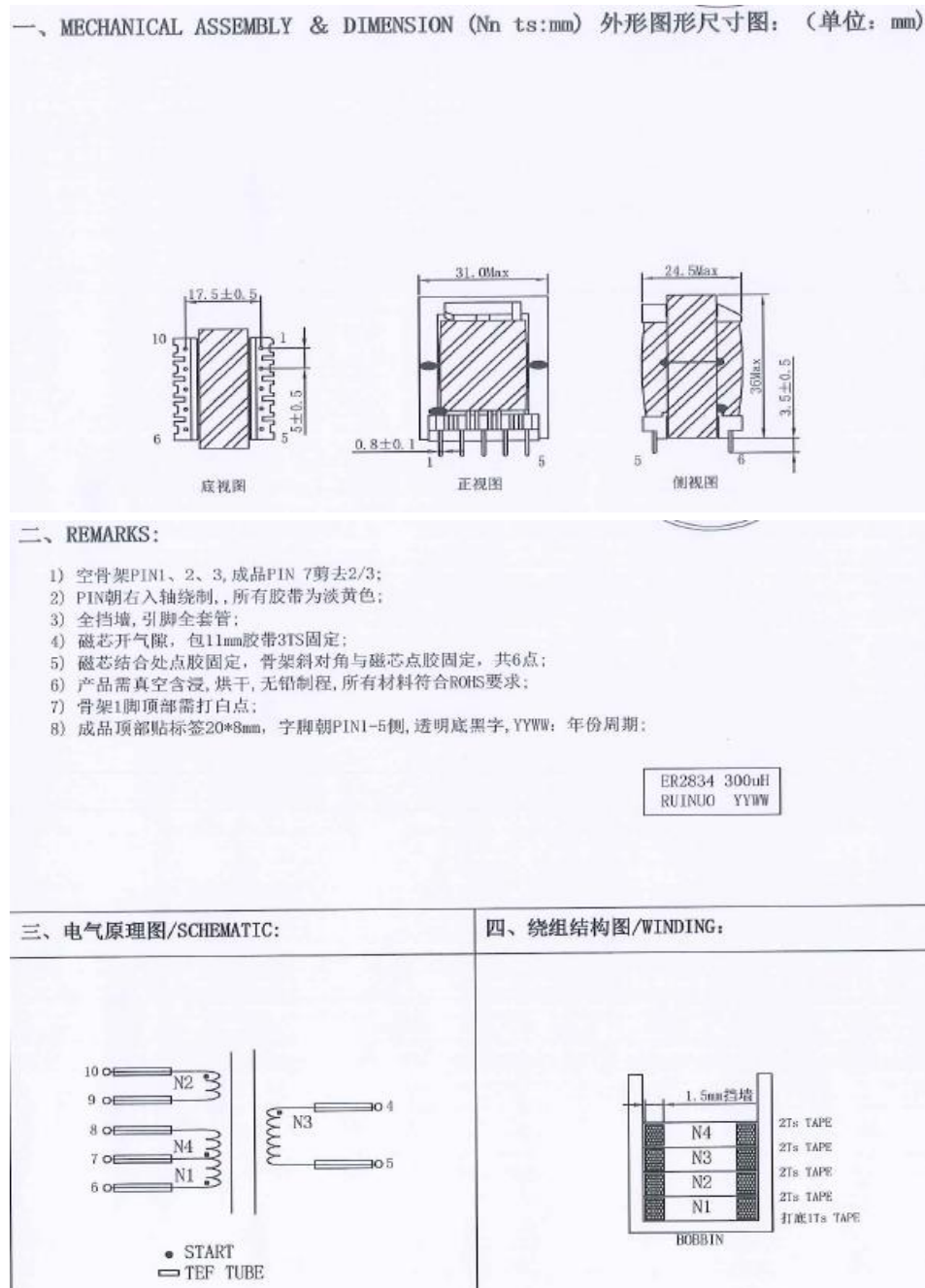
Illustration 4g - Transformer-EC28-T9

6. 材料清单/MATERIAL LIST

序号 NO.	名称 ITEM	名称 MATERIAL	温度 TEMPERATURE	制造商 MANUFACTURER	UL号 UN NO.
1	骨架 BOBBIN	T375J	150℃	CHANG CHEN PLASTICS CO LTD 长春人造树脂厂股份有限公司	E59481
2	磁芯 CORE	ER2834 PC44		SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD 深圳市世顺磁性材料有限公司	
3	线材 WIRE	UEW/150° C	155℃	SHENGANG (SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	E239508
4	绝缘胶带 INSULATION TAPE	JY312#	130℃	SUZHOU MALLADUONA ELECTRIC MATERIAL CO LTD 苏州麦拉多纳电工材料有限公司	E188295
		SDF-312	130℃	XJNTU SHENGDAFENG ELECTRIC MATERIAL CO LTD 新余市盛达丰电工材料有限公司	E317896
5	挡墙胶带 MARGANTAPE	WF310(A)	130℃	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD 靖江靖益胶粘制品有限公司	E246950
6	套管 TUBE	LING FREE PTFE TUBE (300V)	200℃	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD 东莞市领飞五金塑胶制品有限公司	E352366

7.0 Illustrations

Illustration 4h - Transformer-ER2834/5P+5P



7.0 Illustrations

Illustration 4i - Transformer-ER2834/5P+5P

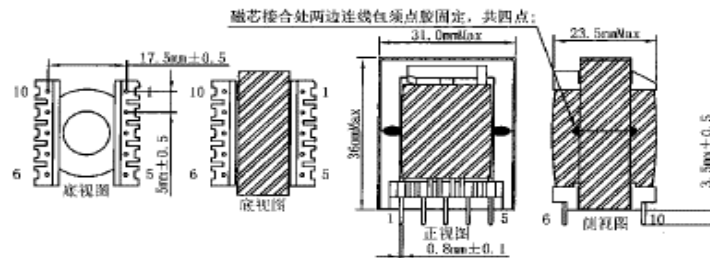
五、绕线结构表/WINDING STRUCTURE:										
No	Terminal		Wire Size 铜 线	绕线圈数 Turns (Ts)	包胶圈数 Tapp (Ts)	套管 TEFLON TUEE		档墙 MARGIN TAPE		备注 REMARKS
	起	收				开始	结束	PIN	TOP	
					1					打底
N1	6-7		2UEW-F $\phi 0.50*2P$	20	2	18L*13	18L*13	1.5mm*2L	1.5mm*2L	密绕
N2	10-9		2UEW-F $\phi 0.15*1P$	8	2	30L*15	30L*15	1.5mm*2L	1.5mm*2L	接N1疏绕
N3	4-5		2UEW-F $\phi 0.50*2P$	32	2	18L*13	18L*13	1.5mm*2L	1.5mm*2L	密绕
N4	7-8		2UEW-F $\phi 0.50*2P$	20	2	18L*13	18L*13	1.5mm*2L	1.5mm*2L	密绕+疏绕

七、MATERIAL LIST 材料清单, 长度单位 (mm)					
No	名称 ITEM	名称 MATERIAL	温度 TEMPERATURE	制造商 MANUFACTURER	料号 IIN NO.
1	骨架 BOBBIN	PET FR530L(F1) PET T375J	130℃	ETDUPONTDENEMOURS&COINC 杜邦公司	E69578 (M)
2	磁芯 CORE	ER2934 PC44	***	NANTONG CHENGTAI MAGNETIC MATERIAL CO LTD 南通成泰磁材科技有限公司	*****
		***	***	***	*****
3	线材 WIRE	2UEW-F	155℃	SHENGANG (SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	E239508
		TIW-F	155℃	SHENGANG (SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	E239507
4	绝缘胶带 INSULATION TAPE	JY312#	130℃	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD 苏州麦拉多纳电工材料有限公司	E188295
5	档墙胶带 MARGINTAPE	WF310 (A)	130℃	JINGJIANG YAHUA ELECTRONICS TECHNOLOGY CO LTD 靖江市亚华电子科技有限公司	E246850
6	套管 TUBE	LING FREE PTFE TUBE (300V)	200℃	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD 东莞市领飞五金塑胶制品有限公司	E352365
7	凡立水 VARNISH	E962	130℃	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD 珠海市长先新材料科技有限公司	E335405
8	胶 GLUE	E-500HB/硬 使用接合处需烘烤干	130℃	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD 东莞市力多电子材料有限公司	E218090
9	胶 GLUE	1. 3300A-1 (5比1) / 软 2. 3300B-1 (5比1) / 软 用2种来配比 / 使用中柱 液体→是自干黑胶			

7.0 Illustrations

Illustration 4j - Transformer-EC28B-AC

1. 外观(机械)图及尺寸: CONFIGURATION&DIMENSIONS (UNIT:mm)



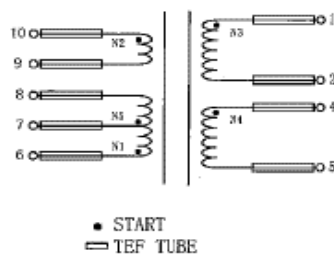
REMARKS:

- 1) PIN朝右入轴绕制, 所有胶带为淡黄色;
- 2) 空骨架3脚空脚, 成品PIN 7剪去2/3;
- 3) 全挡墙, 引脚全套管;
- 4) 磁芯开气隙装于顶部, 中柱点胶, 包11.5胶带3TS固定;
- 5) 产品磁芯两边接合处连线包点胶固定, 共4点;
- 6) 产品需真空含浸, 烘干, 无铅制程, 所有材料符合ROHS要求;
- 7) 产品在1-5脚方向骨架1脚顶部需打上白点;
- 8) 顶部贴标签20*8mm, 字脚朝PIN1-5侧, 透明底蓝字:

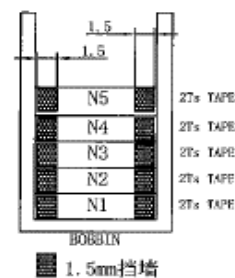
106759
RUIYUO YYWW

YYWW: 年份周期

2. 电气原理图/SCHEMATIC



3. 绕组结构图/WINDING



7.0 Illustrations

Illustration 4k - Transformer-EC28B-AC

4. 绕线结构表/WINDING STRUCTURE: PIN朝右入轴绕制, 全挡墙, 全套管

WDG	TERMINAL	WIRE SIZE	TURNS	TAPE	MARGIN	TAPE	REMARKS
					TOP端	PIN端	
N1	6-7	UEW-F $\varnothing 0.50 \times 2P$	19	2	1.5mm	1.5mm	密绕
N2	10-9	UEW-F $\varnothing 0.15 \times 1P$	8	2	1.5mm	1.5mm	疏绕
N3	1-2	UEW-F $\varnothing 0.50 \times 2P$	30	2	1.5mm	1.5mm	密绕
N4	4-5	UEW-F $\varnothing 0.15 \times 1P$	44	2	1.5mm	1.5mm	接N3密绕
N5	7-8	UEW-F $\varnothing 0.50 \times 2P$	19	2	1.5mm	1.5mm	密绕
N6							
N6							

6. 材料清单/MATERIAL LIST

序号 NO.	名称 ITEM	名称 MATERIAL	温度 TEMPERATURE	制造商 MANUFACTURER	UL号 UN NO.
1	骨架 BOBBIN	T375J	150℃	CHANG CHUN PLASTICS CO LTD 长春人造树脂厂股份有限公司	E59481
2	磁芯 CORE	EC2934 PC44		SHENZHEN JISHENG MAGNETIC MATERIAL CO LTD 深圳市继顺磁性材料有限公司	
3	线材 WIRE	UEW/150° C	155℃	SHENGANG (SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD 汕头市深港电工实业有限公司	E239508
4	绝缘胶带 INSULATION TAPE	JY312#	130℃	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD 苏州麦拉多纳电工材料有限公司	E188295
		SDF-312	130℃	XINVI SHENGDAFENG ELECTRIC MATERIAL CO LTD 新余市盛达丰电工材料有限公司	E317896
5	挡墙胶带 MARGANTAPE	WF310 (A)	130℃	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD 靖江靖益胶粘制品有限公司	E248950
6	凡立水 VARNISH	E962	130℃	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD 珠海市长先新材料科技有限公司	E335405
7	胶 GLUE	E-500	130℃	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD 东莞市力多电子材料有限公司	E218090
8	套管 TUBE	LING FREE PTFE TUBE (300V)	200℃	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD 东莞市领飞五金塑胶制品有限公司	E352366

7.0 Illustrations

Illustration 5 - English manual - ABP series



User Manual



Solar storage inverter

ABP4840U100-H

ABP4850U120-H

ABP4860U140-H

ABP4865U140-H

Version:V1.1

7.0 Illustrations

Illustration 5a - English manual - SPI series

User Manual



Solar storage inverter

SPI-4K-UBP

SPI-5K-UBP

SPI-6K-UBP

SPI-6.5K-UBP

7.0 Illustrations

Illustration 5b - Franch manual - ABP series



7.0 Illustrations

Illustration 5c - Franch manual - SPI series

Manuel de l'utilisateur



Onduleur de stockage solaire

SPI-4K-UBP

SPI-5K-UBP

SPI-6K-UBP

SPI-6.5K-UBP

8.0 Test Summary					
Evaluation Period	2024-05-31 to 2024-08-30		Project No.	240500836SHA	
Sample Rec. Date	30-May-2024	Condition	Prototype	Sample ID.	0240530-01
Test Location	Intertek Testing Services Shanghai				
Test Procedure	Testing Lab				
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.					
The following tests were performed:					
Test Description	UL 1741:2021 Ed.3+R:19May2023 Clause	CSA C22.2#107.1:2016 Ed.4+U1 Clause	UL 458:2015 Ed.6+R:11Jan2021 Clause		
Maximum-Voltage Measurements	45	--	--		
Temperature	46	6.3	38		
Dielectric Voltage-Withstand Test	47	6.5	--		
Output Power Characteristics - Output Rating	48.2	6.2	--		
Output Power Characteristics - DC Input Range	48.3	6.2.3	--		
Output Power Characteristics – Harmonic Distortion	48.4	10.5.2	--		
Abnormal Tests - Output Overload Test	50.2	6.6	--		
Abnormal Tests - Short Circuit Test	50.3	6.6	--		
Abnormal Tests - DC Input Miswiring Test	50.4	6.6	--		
Abnormal Tests - Ventilation test	50.5	6.6	--		
Abnormal Tests - Component Short and Open Circuit	50.6	6.6	--		
Abnormal Tests - Load transfer test	50.7	6.6	--		
Abnormal Tests - Loss of Control Circuit	50.8	6.6	--		
Grounding Impedance Tests	51	4.23	--		
Stability	61	--	--		
Static Load	62	--	--		
Compression test	63	6.9	--		
Normal Operations	76	15.3.2	--		
Temperature	77	15.3.3	--		
Connection Sequence	79	--	--		
Input and output faults	80.2	15.3.5	--		
Charge controller miswiring	80.3	15.3.6	--		
Low-voltage disconnect	80.4	15.3.4	--		
Resistance to impact	--	6.12	--		
Securement of components	--	6.16	--		
AC output voltage for stand-alone inverters	--	10.5.1	--		
Harmonic distortion for stand-alone inverters	--	10.5.2	--		
DC injection	--	10.5.3	--		
Frequency	--	10.5.4	--		
Stand-alone inverter dc output short-circuit current	--	10.5.5	--		
Power Input Test	--	--	34		
Capacitor Voltage Measurement Test	--	--	36		
External Surface Temperature Limits Test	--	--	39		
Dielectric Voltage-Withstand Test	--	--	40		
Test on Transformer insulation Materials	--	--	42		
Abnormal Operation Test: Output short-circuit	--	--	48.2		
Abnormal Operation Test: Component malfunction	--	--	48.4		
Abnormal Operation Test: Vibration test	--	--	48.6		
Abnormal Operation Test: Specific value overload	--	--	48.8		
Abnormal Operation Test: Blanketing test	--	--	48.9		
Abnormal Operation Test: Flanged bobbin transformer	--	--	48.10		
Abnormal Operation Test: Blocked fan	--	--	48.11		
Burnout Test: Transformer burnout	--	--	50.3		

8.0 Test Summary

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the

Completed by:	Leon Wu	Reviewed by:	Sleif Sui
Title:	Engineer	Title:	Review
Signature:	<i>Leon Wu.</i>	Signature:	<i>Sleif Sui</i>

9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	SRNE Solar Co., Ltd
Address	4-5F,13A Wutong Island,Neihuan Rd, Xixiang, Bao`an, SHENZHEN Guangdong 518100
Country	China
Product	Solar Storage Inverter(stand-alone Inverter)

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

For Canadian standards, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

If all standards on the ATM have the same standard title, the shared title or its abbreviation may be used in place of the examples above. Example: "Medical Electrical Equipment" or "MEE"; "Information Technology Equipment" or "ITE"; "Audio/Video Information And Communication Technology Equipment" or "A/V ICTE".

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.

The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

The Applicant will be notified, in writing, via the applicable contact methods, as defined in Section 1.0, when these components must be selected and sent to Component Evaluation Center (CEC) for re-evaluation.

Due to particular testing requirements, some components may be requested to be shipped to specific labs. Thus, specific shipment destination(s) for each sample will be provided in the written notification.

Managing CEC Location:

Intertek Testing Services (Shanghai FTZ) Co., Ltd

ETL Component Evaluation Center

Building No. 86, 1198 Qinzhou Road (North)

Shanghai 200233, China

Attn: Ms. Emiliana Zhou

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

Dielectric Voltage Withstand Test

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

- 1 - a voltmeter in the primary circuit;
- 2 - a selector switch marked to indicate the test potential; or
- 3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.

In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this Report.		
Between PV, AC to battery, communication part & metal enclosure	2100Vac	60s
	or	or
	2520Vac	1s

The following changes are in compliance with the declaration of Section 8.1:

ED 16.3.15 (1-Jul-2022) Mandatory