1.0 Reference and Address			
Report Number	240400413SHA-001	Original Issued: 11-Jun-2024	Revised: 13-Nov-2024
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]		

Applicant	SRNE Solar Co.,Ltd	Manufacturer	**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	liang yechao	Contact	liang yechao
Phone	15002069032	Phone	15002069032
FAX	--	FAX	--
Email	liangyc@szshuori.com	Email	liangyc@szshuori.com

2.0 Product Description	
Product	All-in-one solar charge inverter(Stand alone inverter)
Brand name	SRNE
Description	The products covered by this report are indoor, single-phase, non-isolated, stand-alone inverter. The unit does not provide galvanic separation from input to output (transformerless). The output is switched off redundant by the high-power switching bridge and two relays which ensures that the opening of the output circuit can operate in case of one error. The installation should be in pollution II environment and accordance with the National Electrical Code, NFPA 70 and the Canadian Electrical Code
Models	HYP followed by 48; followed by 30, 35, 40 or 50; followed by U100-H. SYP followed by 3K, 3.5K, 4K, 5K; followed by -U.
Model Similarity	All models have same hardware and software except for the different power controlled by software. HYP： 48 stand for 48V battery voltage. U stand for 120Vac, 30 stand for output power 3kW,35 stand for output power 3.5kW, 40 stand for output power 4kW, 50 stand for output power 5kW 100 stand for charging current 100A, H represents the maximum PV voltage of 500V， SYP: 3K stand for output power 3kW,3.5 K stand for output power 3.5kW, 4K stand for output power 4kW, 5Kstand for output power 5kW. U stand for 120Vac.
Ratings	Refer to section 7 Illustration 2 - Ratings
Other Ratings	NA

3.0 Product Photographs

Photo 1 - External view

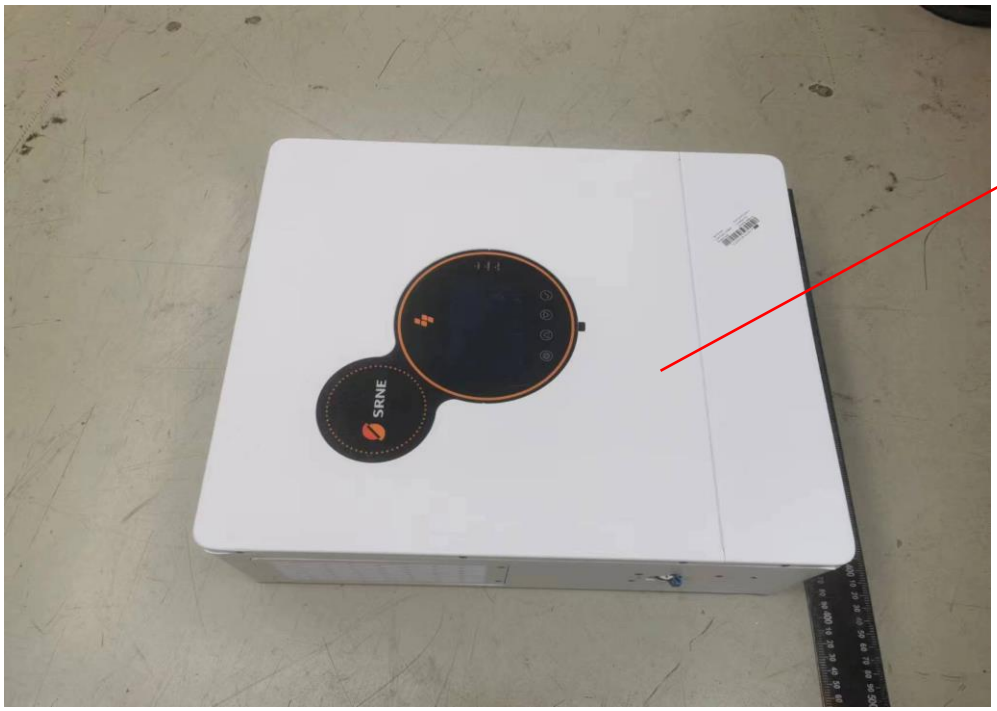


Photo 2 - External view

3.0 Product Photographs

Photo 3 - External view

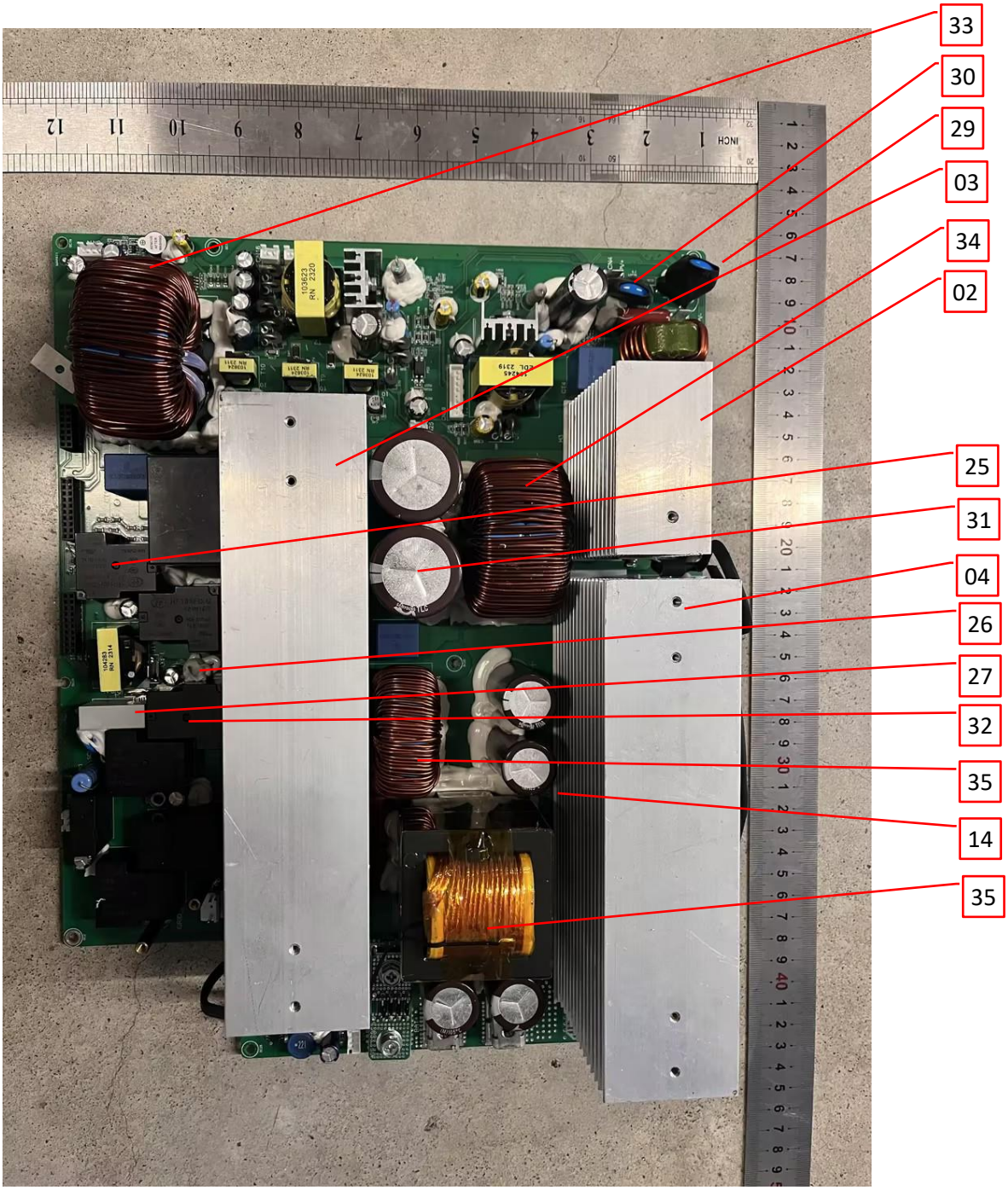
Photo 4 - External view

3.0 Product Photographs

Photo 5 - External view

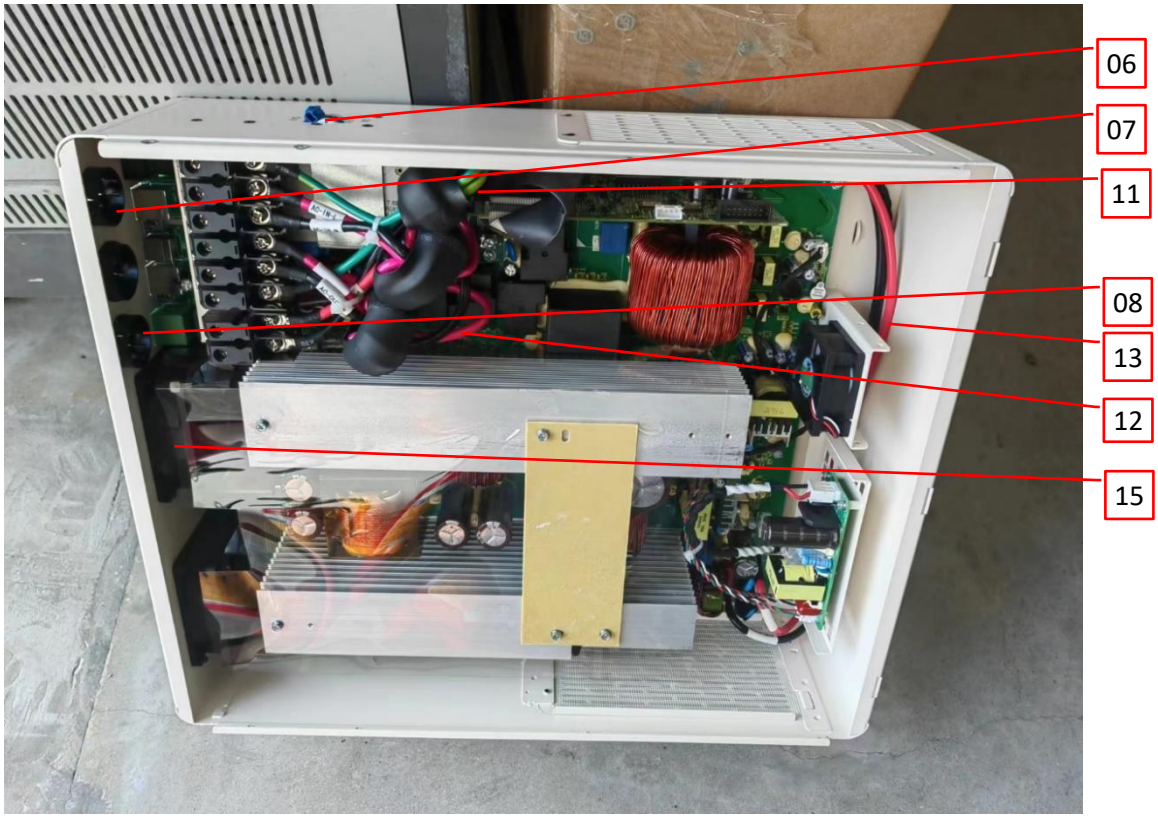
3.0 Product Photographs

Photo 6- Internal view



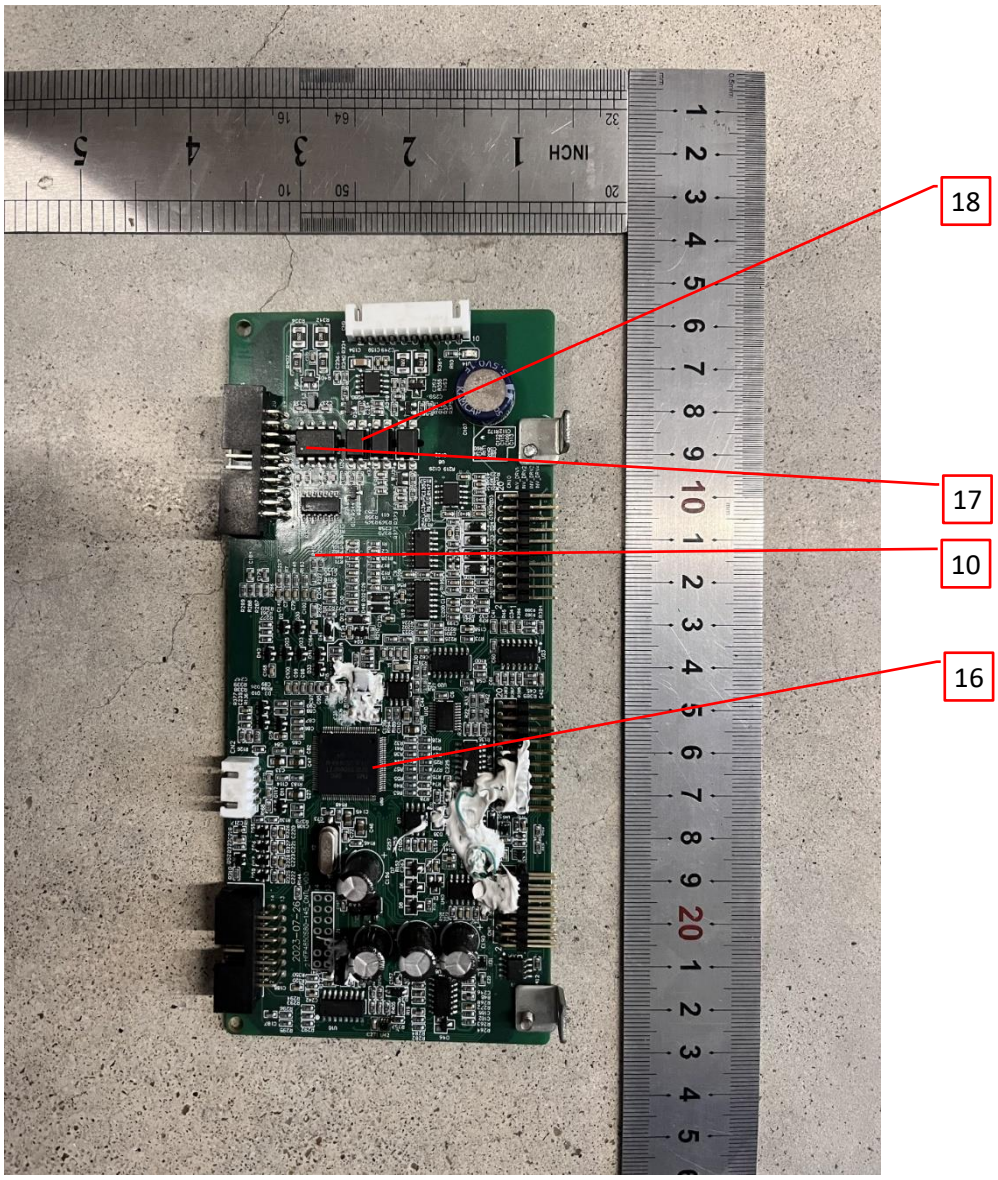
3.0 Product Photographs

Photo 7- Internal view



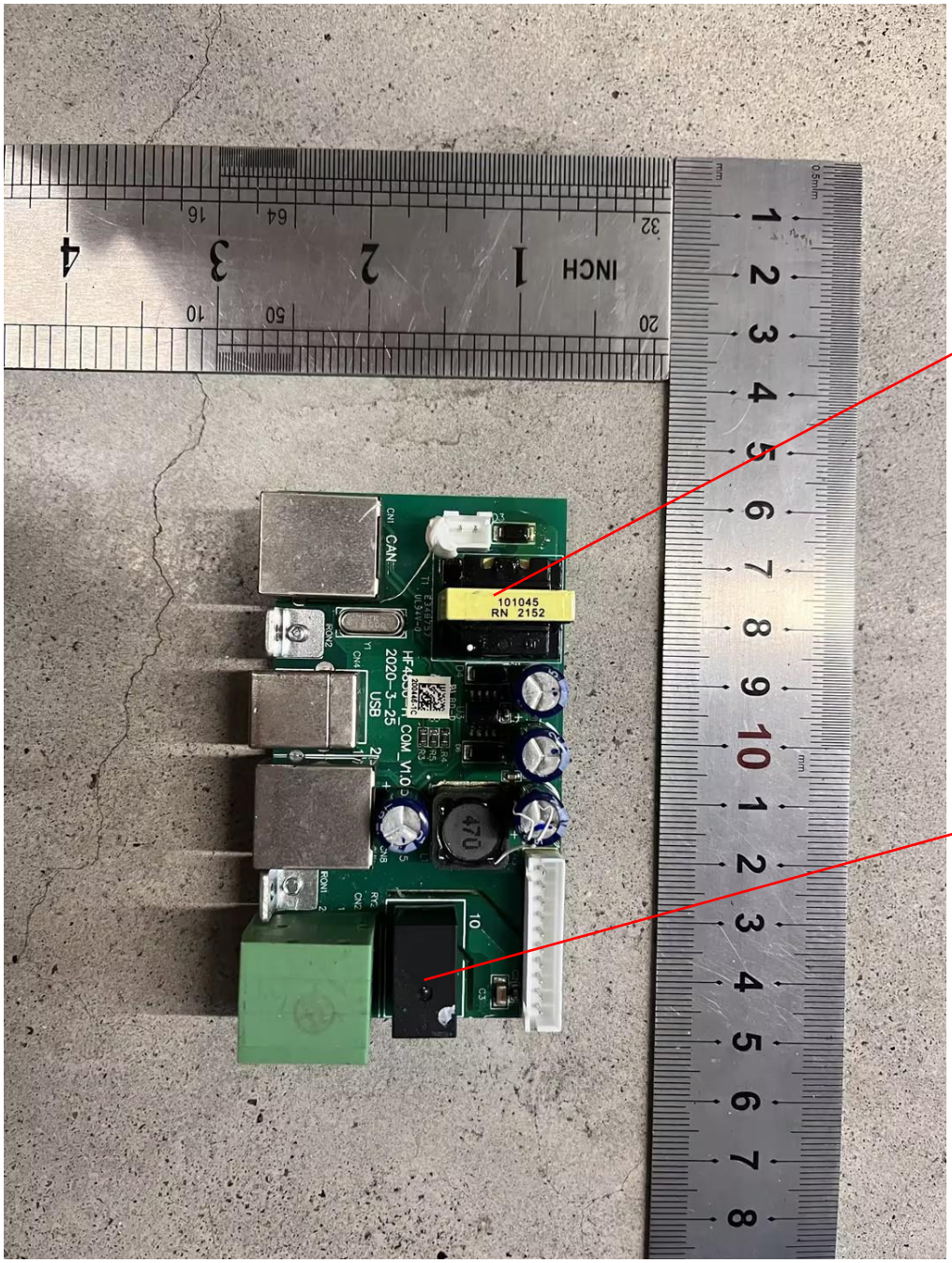
3.0 Product Photographs

Photo 8- Internal view



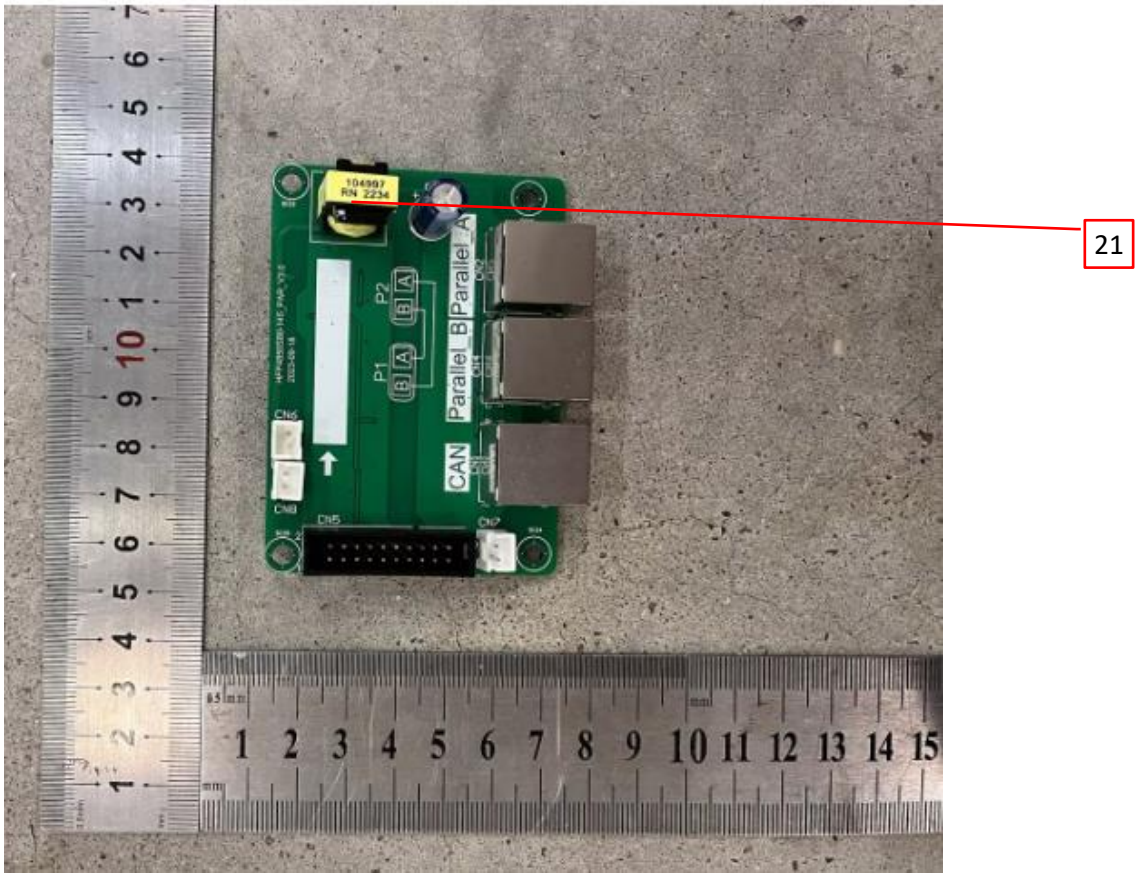
3.0 Product Photographs

Photo 9- Internal view



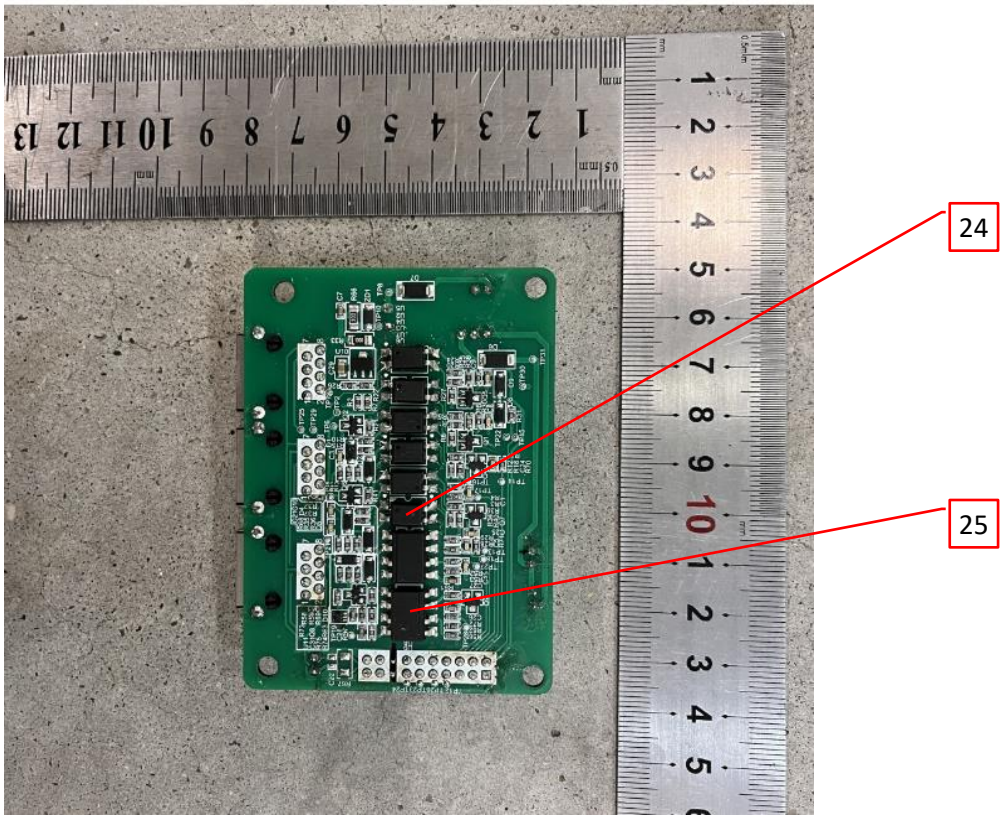
3.0 Product Photographs

Photo 10- Internal view



3.0 Product Photographs

Photo 11- Internal view



3.0 Product Photographs

Photo 12- Internal view

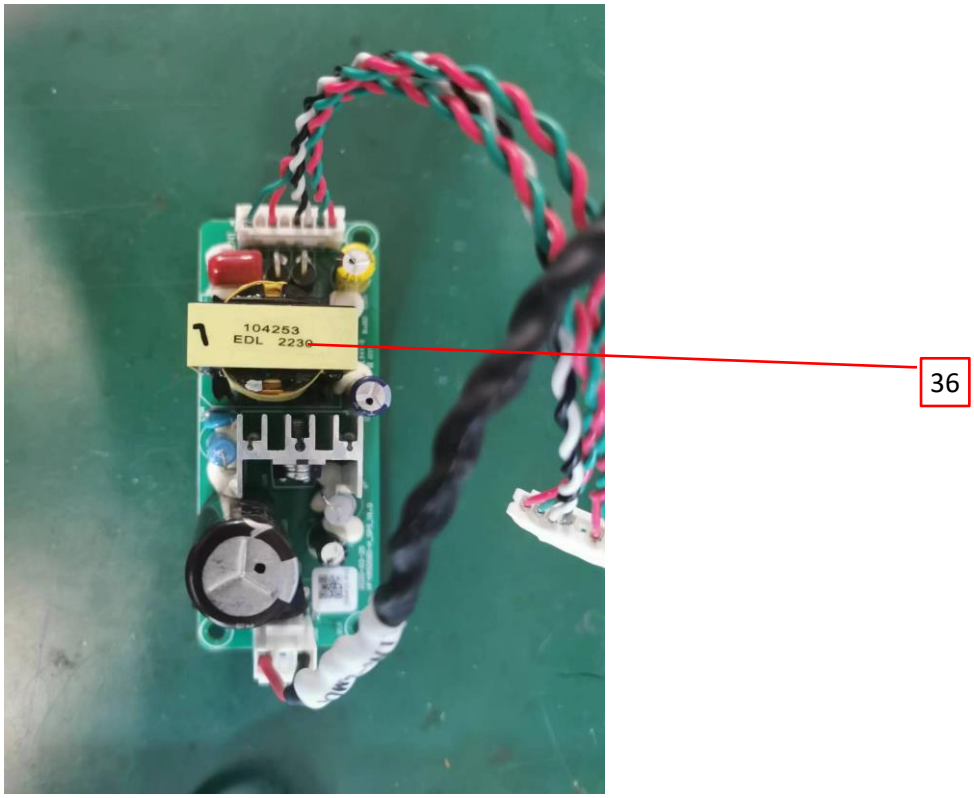
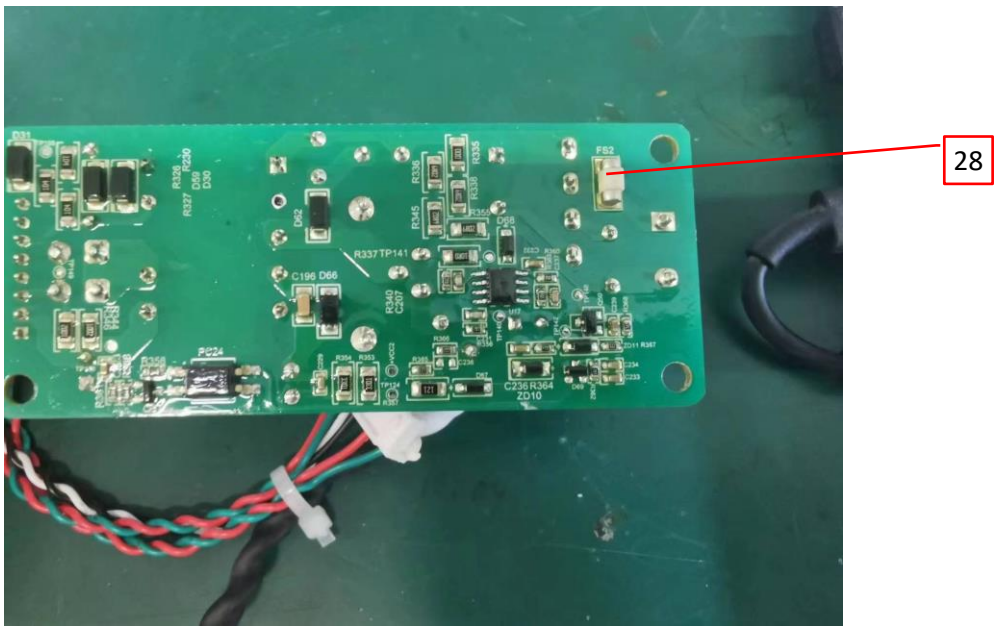


Photo 13- Internal view



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	Enclosure of 48V main part	Foshan DeHai Technology Co.Ltd	HYP4850S 100-H 48V	439X350X132mm thickness:1.2mm. made of SGCC	NR
6	2	Heat-sink of TW heat-sink 48V	Dongguan Hailiang Precision Hardware Co., Ltd.	TW heat-sink 48V	189.8*50*80mm made of aluminum 6063. for 48V model	NR
6	3	Heat-sink of INV heat-sink 48V	Dongguan Hailiang Precision Hardware Co., Ltd.	INV heat-sink HYP4850S 100-H	222.2*50*80mm made of aluminum 6063. for 48V model	NR
6	4	Heat-sink of PV heat-sink 48V	Dongguan Hailiang Precision Hardware Co., Ltd.	PV heat-sink 48V	68*35*80mm made of aluminum 6063. for 48V model	NR
7	5	Adhesive-Type Label (not shown)	3M COMPANY UL MH11410	PS32(L)	Adhesive-Type, Min. 80°C	cURus
7	6	AC input current breaker	CHINT UL E218157	NB1-63_C63	63A_277Vac_5kA	cURus
7	7	AC terminal	Dongguan Telian Electronics Co., Ltd. UL E228872	PA12DS	300Vac 50A, 105 °C, 14-8AWG	cURus
7	8	PV terminal	Dongguan Telian Electronics Co., Ltd. UL E228872	PA12DS	300Vac 50A, 105 ℃, 14-8AWG	cURus
7	9	heat shrink tube	CHANGYUAN ELECTRONICS GROUP CO LTD UL E180908	Various	600V ,125°C, VW-1	cURus
8	10	All PCB	Various	Various	V-0 or better, 150°C. 2.0mm min,CTI: 175-400, totally covered with coating. Fully comply with UL796	cURus
7	11	Grouding wire	Shenzhen Mingmou Technology Co., Ltd UL E474910	1015	10AWG 600V 105°C	cURus
7	12	AC wire	Shenzhen Mingmou Technology Co., Ltd UL E474910	1015	12AWG 600V 105°C	cURus
7	13	PV wire	Shenzhen Mingmou Technology Co., Ltd UL E474910	1015	10AWG 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]
7	14	insulation sheet on heat sink (not shown)	SABIC JAPAN L L C UL E207780	FR60	UL94V-0, 130°C Film	cURus
7	15	Fan on enclosure	Shenzhen Huaxia Hengtai Electronic Co Ltd UL E254715	DA08025B 12UR	DC12V, 4.2W, 4500RPM, 80*80*25mm	cURus
8	16	CPU 1 on control board	Texas Instrument	TMS320F2 8069_PZT_ LQFP-100	60MHz,3.3V, -40~105°C U50	NR
8	17	Optocoupler on control board	Texas Instrument UL E181974	ISO1050D UBR	6.1mm, Cr 6.8mm, DUB-8,105°C U25	cURus
			NOVOSENSE UL E500602	NSI1050-DDBR	Viso: 5000Vrms, Cl 6.5mm,5Cr 6.5m, DUB-8,125°C U25	cURus
			Analog Devices Inc. UL E214100	ADM3050	Viso: 5700Vrms, Cl 7.4mm,5 Cr 7.6mm, DUB-8,125°C U25	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]
8	18	Optocoupler on control board	RENESAS UL E72422	SMT PS256 1L-1-V-F3-A-L	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100°C U36	cURus
			COSMO ELECTRONICS CORP UL E169586	K10104CTLD	Viso: 5000Vrms, Cl 7.5mm, Cr 7.5mm,115°C U36	cURus
			LITEON UL E113898	LTV-816S-TP	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100°C U36	cURus
			EVERLIGHT UL E214129	EL817(S1)(C)(TU)-FG	Viso: 5000Vrms, Cl 7.6mm, Cr 7.6mm,110°C U36	cURus
9	19	Transformer on com board	SRNE Sloar Co.,Ltd.	high-frequency transformer	22*18*19.5mm,105°C T1	See 5.0
9	20	Relay on com board	Xiamen Hongfa Electroacoustic Co.,Ltd. UL E134517	HF32FA-005-ZS2	250Vac, 5A, 5000Vac,85℃ RY2	cURus
			Panasonic Industrial Devices Sales (China) Co., Ltd UL E43028	DSP2a-DC5V	250Vac, 5A, 5000Vac,85℃ RY2	cURus
10	21	Transformer on PAR board	SRNE Sloar Co.,Ltd.	high-frequency transformer EE13	15*14*15.5mm, 105°C T1	See 5.0
6	22	Inductor (L4)of 48V	GUANGDONG RIGIR RECISIONTECHNOLOGY CO.. LTD	YS05-F467060-06409	760uH,155℃ L4	NR
			Shenzhen Ruinuo Electronic Technology Co., Ltd.	L4106409	760uH,155℃ L4	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]
11	23	Optocoupler on PAR board	LITEON UL E113898	6N137S-TA1	Viso: 5000Vrms, Cl 6.5mm, Cr 6.5mm,85°C U8	cURus
			EVERLIGHT UL E214129	6N137S	Viso: 5000Vrms, Cl 6.5mm, Cr 6.5mm,85°C U8	cURus
			ON UL E90700	6N137SDM	Viso: 5000Vrms, Cl 6.5mm, Cr 6.5mm,85°C U8	cURus
11	24	Optocoupler on PAR board	RENESAS UL E72422	SMT PS256 1L-1-V-F3-A-L	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100°C U6	cURus
			COSMO ELECTRONICS CORP UL E169586	K10104CTL D	Viso: 5000Vrms, Cl 7.5mm, Cr 7.5mm,115℃ U6	cURus
			LITEON UL E113898	LTV-816S-TP	Viso: 5000Vrms, Cl 7.0mm, Cr 7.0mm,100°C U6	cURus
			EVERLIGHT UL E214129	EL817(S1)(C)(TU)-FG	Viso: 5000Vrms, Cl 7.6mm, Cr 7.6mm,110°C U6	cURus
6	25	Relay for grid disconnection (RLY1-3)	Xiamen Hongfa Electroacoustic Co.,Ltd. UL E134517	HF165FD-G/12-HY1STF	40A 277V AC,12V DC, Viso 2500V contact gap: 1.8mm, 1500v –40°C ~ +85°C	cURus
			Panasonic Industrial Devices Sales (China) Co., Ltd UL E43149	AHES3191Q	40A 277V AC,12V DC, Viso 2500V contact gap: 1.8mm, 1500v –40°C ~ +85°C	cURus
6	26	YCapacitor	DONG GUAN HONGFARAD ELECTRONICS CO LTD UL E481614	CE	Y2:300VAC, 10nF -25~125℃ (C2,C4,C17,C40,C16,C39)	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	27	X Capacitor	DONG GUAN HONGFARAD ELECTRONICS CO LTD UL E484578	HMKP474K310NFAD	X2, 470nF, 310Vac, -40-110°C C150,C269	cURus
			Xiamen Faratronic Co.,Ltd. UL E186600	MKP62 474K310V	X2, 470nF, 310Vac, -40-110°C C150,C269	cURus
13	28	Fuse for AC SPS	HOLLYLAND CO LTD UL E156471	25T-040H/L	4A/250Vac,6.1*2.6*2.6 FS2	cURus
6	29	FUSE for MOV	Xiamen SET Electronics Co.,Ltd. UL E214712	CAH0412501	5A/250Vac,6.1*2.6*2.6 F1,F2,F3	cURus
6	30	DC MOV	Brightking E327997	102KD20	1000VDC，10kA -40°C ~ 85°C, type 5 (MOV2,MOV3,MOV4)	cURus
			Xiamen SET Electronics Co., Ltd. UL E322662	MOV102KD20	1000V , 10KA ,-40°C ~ 85°C (MOV2,MOV3,MOV4)	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	31	Film capability	Shenzhen Hong First Electronics Co., Ltd	HAPK256J 180V	180V,25uF, -25-105°C C35	NR
			Xiamen Faratronic Co.,Ltd.	C6AE2156	180V,25uF, -25-105°C C35	NR
			QINGDAO SAMYOUNG ELECTRONICS CO., LTD.	TLS500VS 470M	470uF_M_500V_105℃ C27,C28	NR
			Lelon Electronics Corp.	LSG471M2 H--A3550ACS	470uF，500V，-20-105℃ C27,C28	NR
			Nantong Jianghai Capacitor Co.,Ltd	ECS2HKC4 71MLA350 060E	470uF，500V，-20-105℃ C27,C28	NR
			Hunan Aihua Group Co., LTD	ELH2HM47 1R50KTK	470uF，500V，-20-105℃ C27,C28	NR
			Hunan Aihua Group Co., LTD	ELH1JM47 2P45KT	63 V 4700 μF -20～+105 C10,C11,C12,C156	NR
			QINGDAO SAMYOUNG ELECTRONICS CO., LTD.	TDA63VB4 700M	63 V 4700 μF -20～+105 C10,C11,C12,C156	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]
6	32	IGBT- INV Circuit	ST	STGWT80H65DFB	650V, 80A, 1.6V -40~+175°C (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	NR
			ST	STGWA80H65DFB	650V, 80A, 1.6V -40~+175°C (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	NR
			Shanghai Luxin Electronic Technology Co., Ltd	YGW75N65FP	650V, 75A, 1.8V -40~+175°C (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	NR
			Wuxi NCE Power Co., Ltd	NCE80TD60BT	650V, 75A, 1.7V -40~+175℃ (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	NR
			China Resources Microelectronics Co. LTD	CRG75T60AK3HD	650V, 75A, 1.7V -40~+175℃ (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	NR
			Shenzhen Sanrise Technology Co., LTD	SRE100N065FSUD8T-G	650V, 75A, 1.46V -40~+175℃ (Q7,Q8,Q12,Q13,Q31,Q32,Q33,Q34,Q35,Q36)/(Q4,Q5,Q6,Q9,Q10,Q11,Q16,Q17,Q18,Q19,Q24,Q25,Q38,Q39,Q40,Q41)	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]
6	33	Inductor (L4A)of 48V	SRNE Sloar Co., Ltd.	L4103645	500uH,130℃ L4A	NR
6	34	Inductor (L3)of 48V	SHENZHEN YIXINGWENDA ELECTRONICS CO.,LTD	L3104244	1080uH,180℃ L3	NR
6	35	transformer(T1) of 48V	SRNE Sloar Co.,Ltd.	T1104238	Class 155℃	See 5.0
12	36	transformer(T8)	SHENZHEN YIXINGWENDA ELECTRONICS CO..LTD	WD191084	290uH±8％ 130℃ T8	See 5.0

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
9	19	Transformer on com board	SRNE Sloar Co.,Ltd.	high-frequency transformer
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]		

MATERIALS LIST (refer to illustration 4 for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SHENZHEN JI SHENG MAGNETIC MATERIAL CO LTD	EE19	PC40
Bobbin	CHANG CHUN PLASTI CS CO LTD (E59481)	T375J	150℃
WIRE	SHENGANG(SHANTOU) ELECTRICAL INDUSTRIAL CO., LTD (E239508)	UEW	155℃
INSULATION TAPE	SUZHOU MAI LADUONA ELECTRIC MATERI AL CO LTD (E188295)	JY312#	130℃
INSULATION TAPE	XINYU SHENGDAFENG ELECTRIC MATERI AL CO LTD (E317896)	SDF- 312	130℃
MARGANTAPE	JINGJI ANG JINGYI ADHESIVE PRODUCT CO LTD (E246950)	WF310(A)	130℃

5.0 Critical Unlisted CEC Components			
TUBE	DONGGUAN LI NG FREE HARDWARE PLASTI CS PRODUCT CO LTD (E352366)	LI NG FREE PTFE TUBE	300V 200℃
VARNISH	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD (E335405)	E962	130℃
GLUE	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD (E218090)	E- 500	130℃

WINDING(S) RESISTANCE

Winding Designation	Wire Size (mm^2)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Ø0. 40mm* 3P	2UEW	15	-	-	-
N2	Ø0. 40mm* 3P	2UEW	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 core	2000V	60s
	Primary to secondary	2000V	60s
	Secondary to core	2000V	60s

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
10	21	Transformer	SRNE Sloar Co.,Ltd.	high-frequency transformer
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]

MATERIALS LIST (refer to illustration 4a for assembly drawing)

Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SHENZHEN JI SHENG MAGNETIC MATERIAL CO LTD	EE13/ 13/ 6	PC44

5.0 Critical Unlisted CEC Components			
Bobbin	CHANG CHUN PLASTICS CO. , LTD (E59481(S))	T375J	150℃
MAGNET WIRE	SHENGANG(SHANTOU) ELECTRICAL INDUSTRIAL CO. , LTD (E239508)	2UEW	155℃
INSULATION TAPE	SUZHOU MAI LADUONA ELECTRIC MATERIAL CO LTD (E188295)	CT280	130℃
VARNISH	SUZHOU TAI HU ELECTRIC ADVANCED MATERIAL CO (E228349)	T- 4260(a)	130℃
GLUE	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD (E123995)	E- 500	130℃

WINDING(S) RESISTANCE

Winding Designation	Wire Size (mm^2)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:	
N1	Φ0. 20mm* 1P	2UEW	30	-	-	-	-
N2	Φ0. 20mm* 1P	2UEW	60	-	-	-	-
N3	Φ0. 20mm* 1P	2UEW	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 core	2000V	60s
	Primary to secondary	2000V	60s
	Secondary to core	2000V	60s

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
6	35	transformer(T1) of 48V	SRNE Sloar Co.,Ltd.	T1104238
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]

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

5.0 Critical Unlisted CEC Components			
Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SUNSHINE ELECTRONIC TECHNOLOGY CO.,LTD	SSP-4	EE55/55/25
	NANJING NEW CONDA MAGNETIC INDUSTRIAL CO .,LTD	LP3	EE55/55/25
	TIANCHANG ZHONGDE TECHNOLOGY CO.,LTD	ZP40	EE55/55/25
Bobbin	ISOVOLTA OESTERREICHISCHE ISOLIERSTOFFWERKEAG (E208136)	NMN NOMEX 416	155℃
MAGNET WIRE	SHENZHEN DAYANG INDUSTRY CO.,LTA (E176101)	Xuew/MW79-C	155℃
INSULATION TAPE	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD (E165111)	PF*(d)(g)	180℃
MARGAN TAPE	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD (E165111)	WF*(c)(h) 2mm	130℃

5.0 Critical Unlisted CEC Components			
VARNISH	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD (E228349)	T-4260(a)	130℃
TUBE	GREAT HOLDING INDUSTRIAL CO LTD (E156256)	TFL	200℃
EPOXY	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD (E218090)	3300A-1/B-1	130℃
SHIELD	BOTONG COPPER INDUSTRY(SHENZHEN)CO.,LTD	COPPER	0.3*35mm
SPACER	KINGBOARD LAMINATES HOLDINGS LTD (E123995)	FR-4/KB-6150	130℃

WINDING(S) RESISTANCE

Winding Designation	Wire Size (mm2)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Φ0.15mm80C*3P	2UEW-F	9.5Ts	-	-	-
N2	TM0.3*35mm*4P	SHIELD	2Ts	-	-	-
N3	Φ0.15mm80C*3P	2UEW-F	5.5Ts	-	-	-

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 core	2000V	60s
	Primary to secondary	2000V	60s
	Secondary to core	2000V	60s

INSULATED COIL

Photo #	Item no.	Name	Manufacturer/Trademark	Type / model
12	36	transformer(T8)	SHENZHEN YIXINGWENDA ELECTRONICS CO.,LTD	WD191084

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]

5.0 Critical Unlisted CEC Components			
MATERIALS LIST (refer to illustration 4c for assembly drawing)			
Component	Manufacturer	Type/model	Dimensions/thickness/assembly information
Core	SHENZHEN TIANWEIDA ELECTRONIC CO.,LTD	ER2934	PC44
Bobbin	CHANG CHUN PLASTICS CO LTD (E59481)	T374HF	150℃
Wire	SHENGANG(SHANTOU) ELECTRICAL INDUSTRIAL CO.,LTD (E239508)	2UEW-F	155℃
Insulation tape	SHEN ZHEN XINHUAHUI ELECTRONIC MATERIALS CO LTD (E328315)	HMT	130℃
	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD (E188295)	JY313#	130℃
Margantape	SHEN ZHEN XINHUAHUI ELECTRONIC MATERIALS CO LTD (E328315)	HWT	130℃

5.0 Critical Unlisted CEC Components			
Tube	DONGGUAN LINGFREE HARDWARE PLASTICS PRODUCT CO LTD (E352366)	LING FREE PTFE TUBE	300V 200℃
Varnish	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD (E228349)	T-1168(a)	150℃
Glue	DONGGUAN LEATTO ELECTRONIC MATERIAL CO LTD (E218090)	E-500HB	130℃

WINDING(S) RESISTANCE

Winding Designation	Wire Size (mm^2)	Wire Type	Turns	Volts	Amps	DC resistance (Ω) +/- 10%:
N1	Φ0.10*15P*2	2UEW-F	21	-	-	-
N2	Φ0.27*1P	2UEW-F	8	-	-	-
N3	Φ0.27*1P	2UEW-F	40	-	-	-
N4	Φ0.10*15P*3	2UEW-F	23	-	-	-
N5	Φ0.10*15P*2	2UEW-F	21	-	-	-

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 core	2000V	60s
	Primary to secondary	2000V	60s
	Secondary to core	2000V	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.

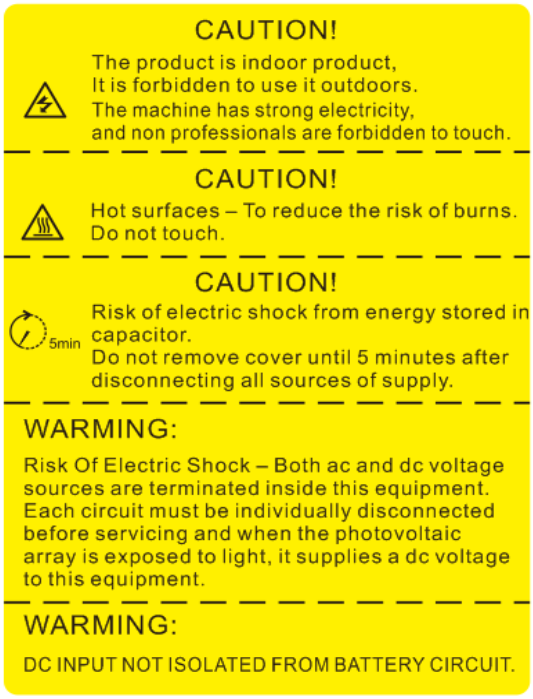
Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

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 spacing at field wiring termials.
   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 and field wiring termials- 3.0 mm minimum spacing are maintained through air and 5.0 mm minimum spacing
   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.5 of Section 4.0 or by molding into polymeric enclosure as follows:
   Applicant's name or brand name
   Product name(Utility Interactive Inverter)
   Model number
   electrical ratings
   date of manufacturer: (the manufacturing date be included in series number, for example ZRY1906140001-300001-B00. From Fourth to seventh bit, the 19 denotes the year,06 denotes the month.
   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, 5a , 5b, 5c for details.

7.0 Illustrations

Illustration 1 - Markings of english and French



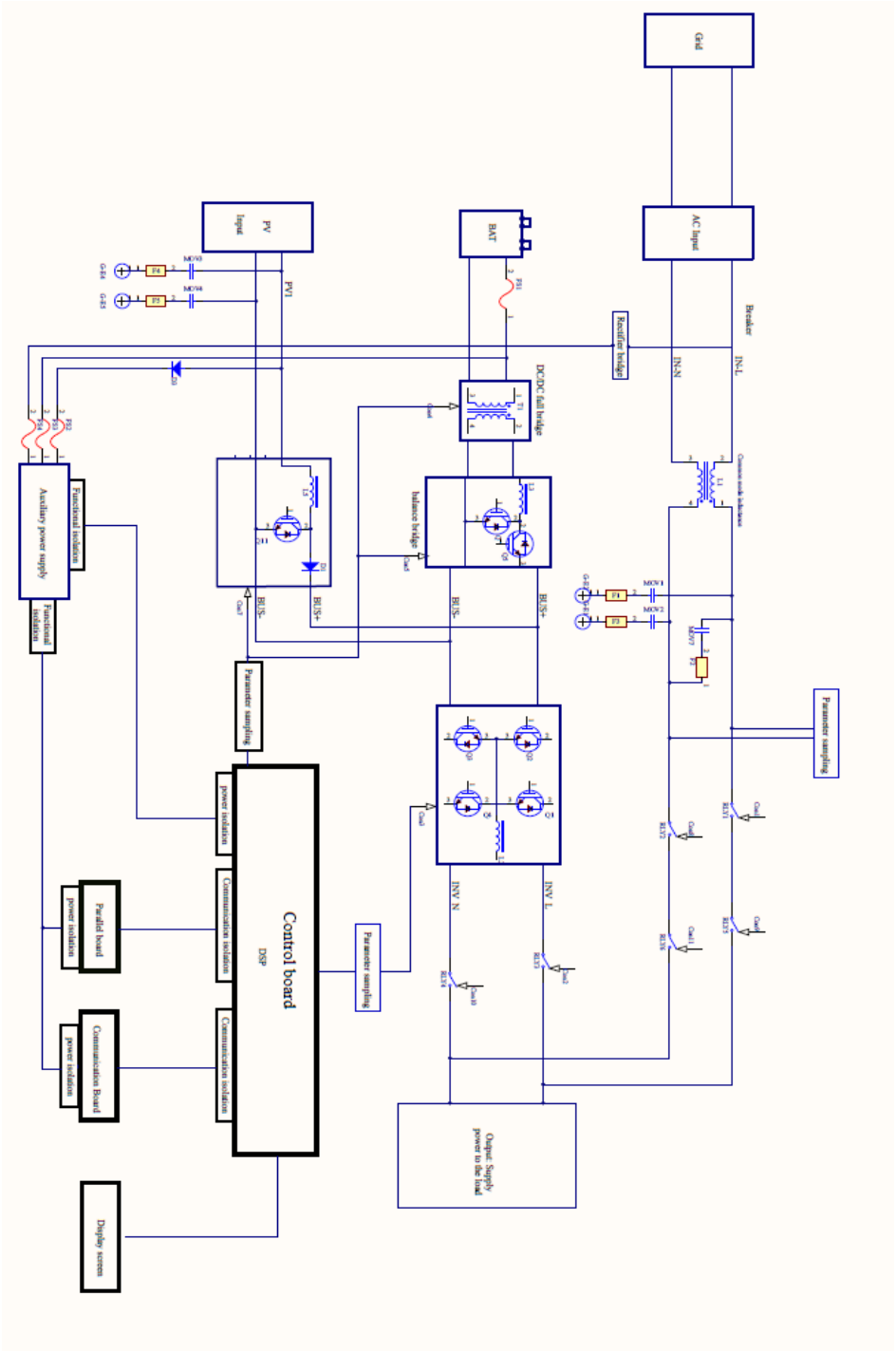
7.0 Illustrations

Illustration 2- rating

Specifications table				
Model	HYP4830U100-H	HYP4835U100-H	HYP4840U100-H	HYP4850U100-H
	SYP 3K-U	SYP 3.5K-U	SYP 4K-U	SYP 5K-U
Battery (charge/discharge***)***				
Battery type	Li-ion/Lead-acid			
Battery Norma Voltage (Range) (Vdc)	48V (40-60V) or (Field adapt battery voltage range)			
Full load voltage range:	120Vac (100/105/110Vac Settable)			
Max discharge Current(A)	72A	84A	96A	118A
Max discharge Power(kW)	3kW	3.5 kW	4 kW	5kW
Max charge Current(A)	100A	100A	100A	100A
Max charge Power(kW)	5.84kW	5.84kW	5.84kW	5.84kW
PV (input)				
Normal DC Voltage (VDC)	120V-500VDC			
MPPT voltage range	120-450Vdc			
Max. cont. input current (A)	22A	22A	22A	22A
Max. cont. input Power (kW)	5.5 kW	5.5 kW	5.5 kW	5.5 kW
Charging short circuit rotection	Blown fuse			
Wiring protection	Reverse polarity protection			
AC Grid (input and output)				
Normal AC Voltage (VAC)	120Vac			
Frequency (Hz)	60Hz			
Max. cont. input current (A)	40A	40A	40A	40A
Max. cont. input Power (kW)	4.8 kW	4.8 kW	4.8 kW	4.8 kW
Max. cont. output current (A)	25A	29.2A	33.4A	41.7A
Max. cont. output Power (kW)	3kW	3.5kW	4kW	5kW
Max. cont. Apparent Power (kVA)	3kVA	3.5kVA	4kVA	5kVA
Reverse polarity protection	6000VA	7000VA	8000VA	10000VA
Power factor(adjustable)	1.0			
Others				
Protective class	Type 1 (indoor use)			
Temperature (℃)	-25°C ~ 60°C (-13°F ~140°F)			
Overvoltage category	OVC III (AC Main), OVC II (PV)			

7.0 Illustrations

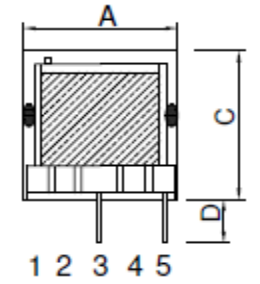
Illustration 3 - Schematics - Schematics

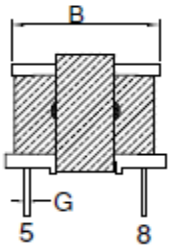


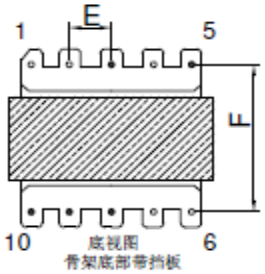
7.0 Illustrations

Illustration 4 - Transformer

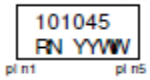
1. 外观(机械)图及尺寸: CONFIGURATION&DIMENSIONS(UNIT: mm)

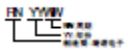






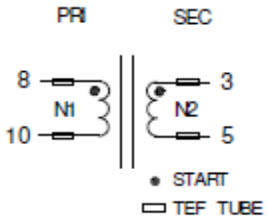
REMARKS:
1) PIN朝右入轴绕制, 所有胶带为淡黄色
2) 骨架空PIN 1. 2. 4. 6. 7脚
3) 全挡墙, 引脚全套管
4) 磁芯不开气隙, 包4. 5mm胶带3TS固定
5) 产品磁芯接缝与线包点胶, 共4点
6) 产品需真空含浸, 烘干, 无铅制程, 所有材料符合ROHS要求
7) 产品PIN1顶部骨架打白点标识
8) 顶部贴标签15*4mm, 字脚朝PIN1-5侧, 透明底黑字



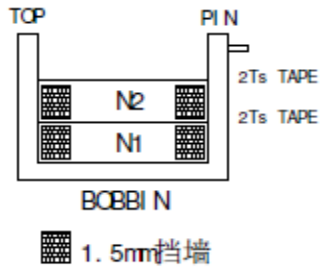


A	B	C	D	E	F	G
22 MAX	18 MAX	19.5 MAX	3.5±0.5	3.9±0.3	13±0.5	⌀0.7±0.1

2. 电气原理图/ SCHEMATIC



3. 绕组结构图/ WINDING



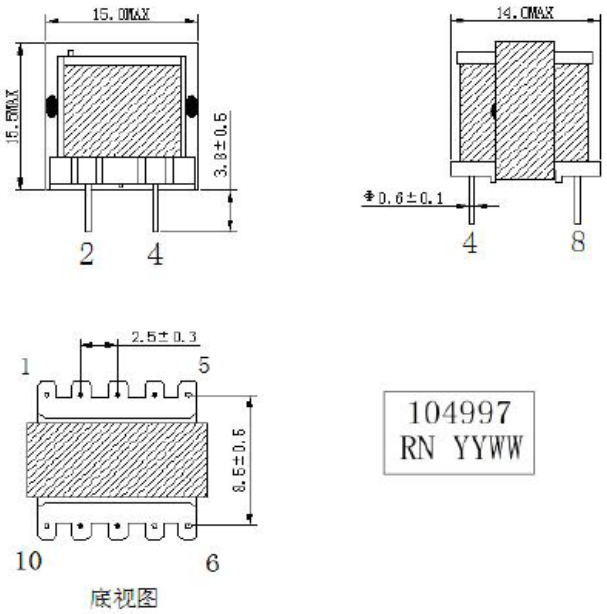
4. 绕线结构表/ WINDING STRUCTURE: PIN朝右入轴绕制, 全挡墙, 全套管

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

7.0 Illustrations

Illustration 4a - Transformer

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

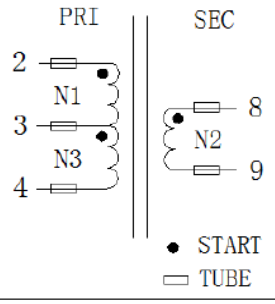


底视图

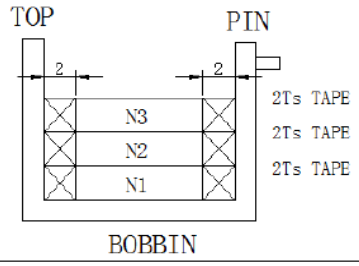
备注：

1、骨架空 PIN1、5、6、7、10；
2、PIN 朝右入轴绕制，所有胶带淡黄；
3、磁芯不开气隙，包 6mm 胶带 3 圈固定；
4、PIN1-5 侧磁芯结合处与线包点胶固定，共 2 点；
5、产品需真空含浸，烘干，无铅制程，所有材料符合 ROHS 要求；
6、骨架 PIN 1 顶部打白点标识；
7、成品顶部喷码或贴标签 12*5mm，字脚朝 PIN 1，透明底黑字。

2. SCHEMATIC 电原理图:



3. WINDING/ 内部结构图



4：绕线顺序/ WINDING SPECIFICATION:

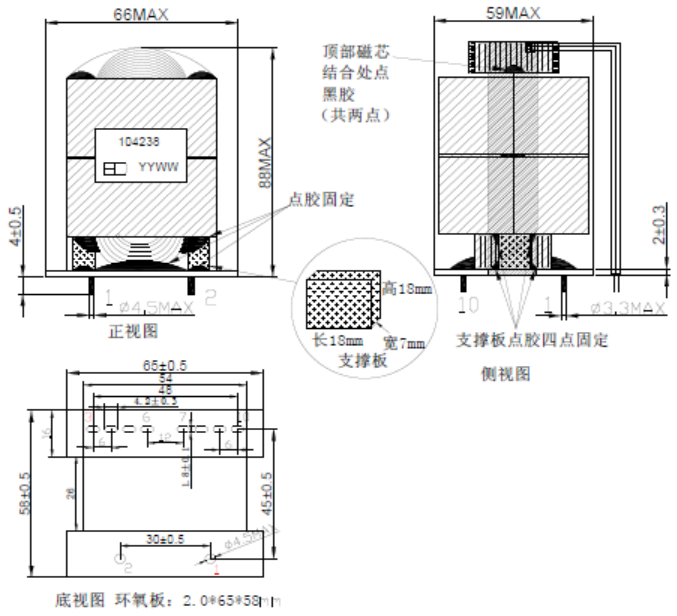
绕组顺序	挡墙 MarginTape		脚位 PIN 进线 S	脚位 PIN 收线 F	线径 Wire	Turns (圈数)	胶带 TAPE	套管 Tube		备注 NOTE
N1	2mm	2mm	2	3	2UEW Φ0.20mm 1P	30	2Ts	√	√	密绕
N2	2mm	2mm	8	9	2UEW Φ0.20mm 1P	60	2Ts	√	√	密绕
N3	2mm	2mm	3	4	2UEW Φ0.20mm 1P	30	2Ts	√	√	密绕

备注：PIN向右入轴绕制

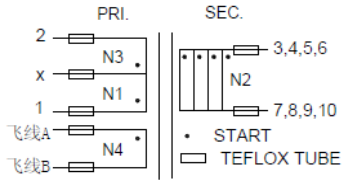
7.0 Illustrations

Illustration 4b - Transformer

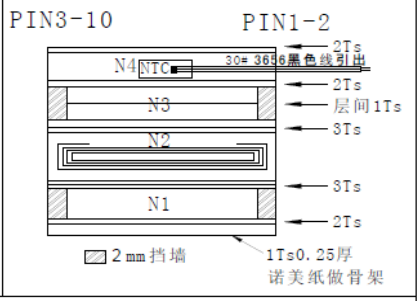
1. 外形尺寸/MECHANICAL DIMENSION(UNIT:mm)



2. SCHEMATIC 电原理图:



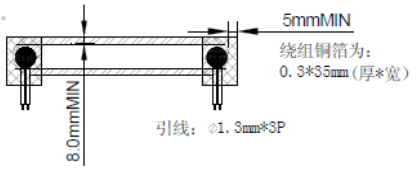
3. WINDING/内部结构图



4：绕线顺序/WINDING SPECIFICATION: PIN1-2 脚朝右顺时针方向绕线

绕组顺序	挡墙 MarginTape		脚位 PIN		线径 Wire	Turns (圈数)	胶带 TAPE	套管 Tube		备注 NOTE
			进线 S	收线 F						
					诺美纸 T0.25*37mm	1.1Ts	2Ts			
N1	3mm	3mm	1	X	2UEW-F Φ0.15mm80C*3P	9.5Ts	3Ts	6L	6L	密绕一层
N2	/	/	3, 4, 5, 6	7, 8, 9, 10	背胶铜箔 TM0.3*35mm*4P	2Ts	3Ts	9L	9L	四根铜箔并绕
N3	3mm	3mm	X	2	2UEW-F Φ0.15mm80C*3P	5.5Ts	2Ts	6L	6L	密绕两层，层间包一层绝缘胶带
N4	/	/	A	B	CWF1 15KH4150-B1	/	2Ts			

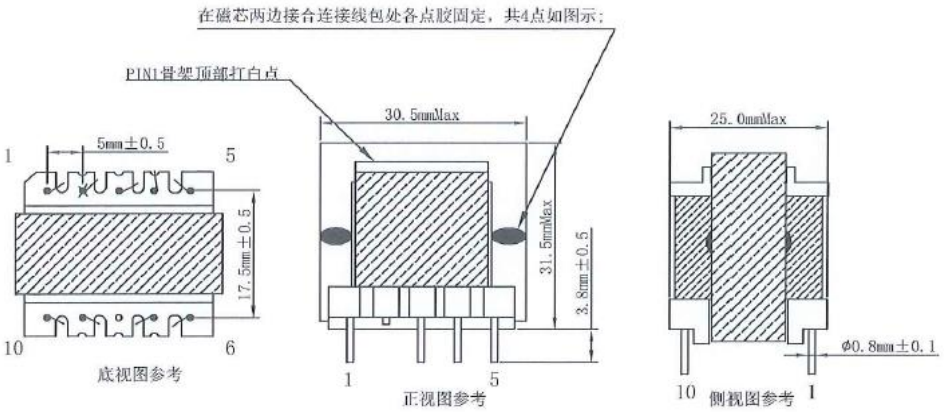
备注：1. 所有胶带为高温胶带；2. X 为预留线不剪断 N3 接着绕；3. 每块铜箔两端各个焊点用漆包引线Φ1.3mm*3P 引出；4. N4 需埋 1PCS 热敏电阻，A.B 飞线从顶部初级边引出。



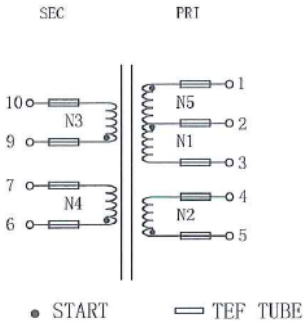
7.0 Illustrations

Illustration 4c - Transformer

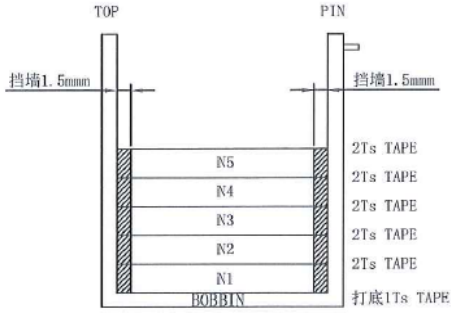
一、MECHANICAL ASSEMBLY & DIMENSION (Nn ts:mm) 外形图形尺寸图：（单位：mm）



三、电气原理图/SCHEMATIC:



四、绕组结构图/WINDING:



五、绕线结构表/WINDING STRUCTURE:

No	Terminal 起	Terminal 收	Wire Size 铜线	绕线圈数 Turns(Ts)	包胶圈数 Tapp(Ts)	套管 TEFLON TUEE 开始	套管 TEFLON TUEE 结束	档墙 MARGIN TAPE TOP	档墙 MARGIN TAPE PIN	备注 REMARKS
					1					打底胶带
N1	2	3	2UEW-F∮0.10*15P*2条 绞合线	21	2	19L*12	19L*12	1.5*2L*4T	1.5*2L*4T	密绕+层间
N2	5	4	2UEW-F∮0.27*1P	8	2	28L*12	28L*12	1.5*2L*1T	1.5*2L*1T	疏绕
N3	9	10	2UEW-F∮0.27*1P	40	2	28L*12	28L*12	1.5*2L*1T	1.5*2L*1T	密绕
N4	6	7	2UEW-F∮0.10*15P*3条 绞合线	23	2	17L*12	17L*12	1.5*2L*6T	1.5*2L*6T	密绕+层间 14mm层间
N5	1	2	2UEW-F∮0.10*15P*2条 绞合线	21	2	19L*12	19L*12	1.5*2L*3T	1.5*2L*3T	密绕+层间

7.0 Illustrations

Illustration 5 - English manual

All-in-one solar storage inverter

User Manual

Product models:

HYP4830U100-H / HYP4835U100-H

HYP4840U100-H / HYP4850U100-H

Version: V2.3

7.0 Illustrations

Illustration 5a - French manual

Onduleur de stockage solaire tout-en-un

Manuel de l'utilisateur

Modèles de produits :

HYP4830U100-H / HYP4835U100-H
HYP4840U100-H / HYP4850U100-H

Version: V2.3

7.0 Illustrations

Illustration 5b - English manual

All-in-one solar storage inverter

User Manual

Product models:
SYP 3K-U / SYP 3.5K-U
SYP 4K-U /SYP 5K-U

Version: V2.3

7.0 Illustrations

Illustration 5c - English manual

Onduleur de stockage solaire tout-en-un

Manuel de l'utilisateur

Modèles de produits :

SYP 3K-U/ SYP 3.5K-U
SYP 4K-U/ SYP 5K-U

Version : V2.3

8.0 Test Summary					
Evaluation Period	2024-04-30 to 2024-05-26			Project No.	240400413SHA
Sample Rec. Date	30-Apr-2024	Condition	Prototype	Sample ID.	A240430-27
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	
Maximum-Voltage Measurements	45	--	
Temperature	46	6.3	
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	
Static Load	62	--	
Compression test	63	6.9	
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	
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	--
Test Description - Functional Safety			

8.0 Test Summary			
Functional Safety Clauses 15A Interlocking of Medium	NA		
Functional Safety Clauses 97 PVRSS and PVRSE	NA		
Functional Safety Clauses 99 Functional Safety	NA		

8.1 Signatures

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

Completed by:	Eddie Xu	Reviewed by:	Sleif Sui
Title:	Engineer	Title:	Review
Signature:	*Signature on file*	Signature:	*Signature on file*

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 lsland,Neihuan Rd,Xixiang, Bao`an, SHENZHEN Guangdong 518100
Country	China
Product	All-in-one solar charge 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

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

11.1 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:

Product	Test Voltage	Test Time
All products covered by this Report.	1700 Vac	60 s
Between DC & AC part to communication part,	or	
DC & AC part to metal enclosure	2050 Vac	1 s

12.0 Revision Summary

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

Date/ Proj # Site ID	Project Handler/ Reviewer	Section	Item	Description of Change
2411B1065SHA	Eddie Xu Eddie Xu	2	-	Correct the model name from "SYP followed by 48; followed by 30, 35, 40 or 50; followed by U100-H." to "SYP followed by 3K, 3.5K, 4K, 5K; followed by -U" No evaluation to the standards needed
13-Nov-2024	Sleif Sui Sleifsui	7	2	Correct the model name from "SYP followed by 48; followed by 30, 35, 40 or 50; followed by U100-H." to "SYP followed by 3K, 3.5K, 4K, 5K; followed by -U" in parameter table. No evaluation to the standards needed
		7	5b&5c	Add English and French manual of model name "SYP followed by 3K, 3.5K, 4K, 5K; followed by -U" No evaluation to the standards needed