1.0 Reference and Address			
Report Number	2501B1495SHA-001	Original Issued: 22-Aug-2025	Revised: None
Standard(s)	Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources [UL 1741:2021 Ed.3+R:22Apr2025] Power Conversion Equipment (R2021) [CSA C22.2#107.1:2016 Ed.4] Interconnecting Distributed Resources With Electric Power Systems (R2008) [IEEE 1547:2003] Amendment 1 to IEEE 1547 - Interconnecting Distributed Resources With Electric Power Systems [IEEE 1547a:2014] IEEE Standard Conformance Test Procedures For Equipment Interconnecting Distributed Resources With Electric Power Systems [IEEE 1547.1:2005] Photovoltaic (PV) DC Arc-Fault Circuit Protection [UL 1699B:2018 Ed.1+R:09Jul2024]		

Applicant	Afore New Energy Technology (Shanghai) Co., Ltd.	Manufacturer 1	**Afore New Energy Technology (Shanghai) Co., Ltd.**
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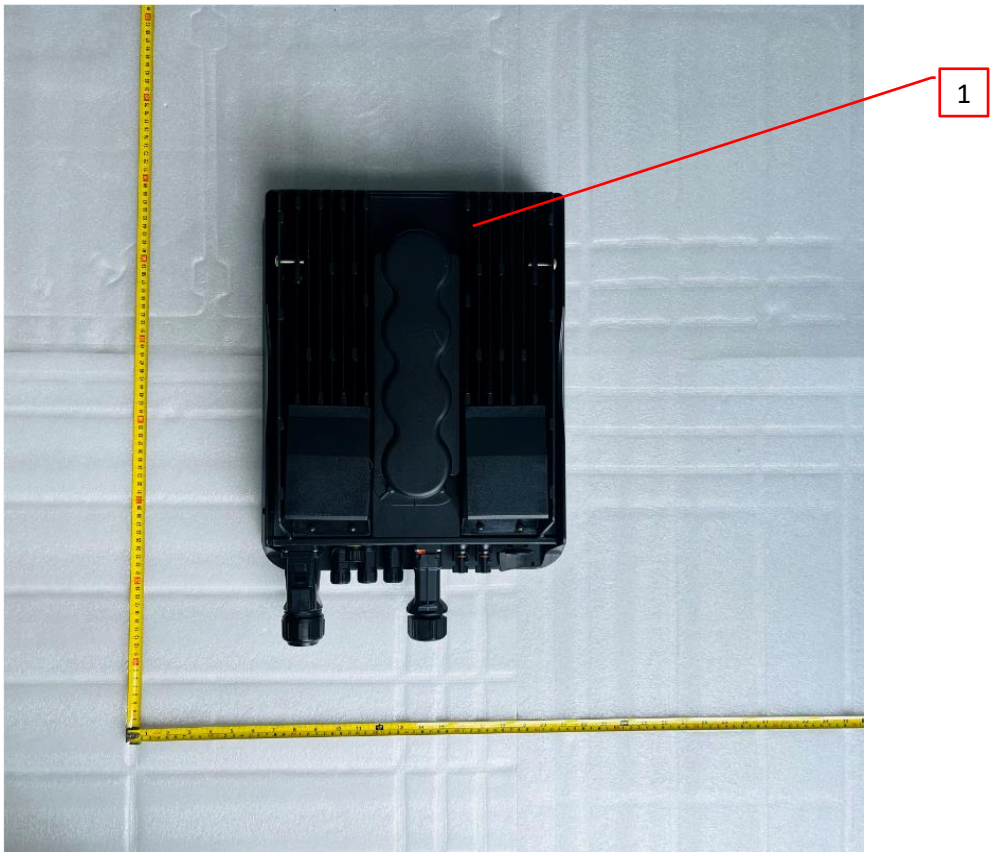
2.0 Product Description	
Product	Utility Interactive Inverter(Non-Isolated Inverter)
Brand name	Afore
Description	The products covered by this report are outdoors, Single-phase, Non-isolated, grid connected inverters for solar power generation and connect to ungrounded PV arrays. The unit does not provide galvanic separation from input to output (transformerless). The AC Grid output is switched off redundant by the high power switching bridge and two relays. This assures that the opening of the output circuit can operate in case of one error. The products are Utility Interactive inverter. The setting need accordance with local requirement.The installation should be in pollution II environment and input and output by connector accordance with Local National Electrical Code, For example Mexico Electrical Code. This products are also integrated with a photovoltaic(PV) DC arc-fault detector. When the series arc occurred in PV side, the detector would shut down the inverter and alarm. The inverter AC output will be disconnected by the relays at the same time. The DC arc-fault detector incorporate self-test circuit which will automatically operate when the inverter restart every day. The self-test circuit can also be activated manually by reset the input power (open the DC switch then reclose) and remote reset through communication .
Models	AF followed by 1K,1.5K,2K,2.5K,3K,3.6K,4K,4.6K,5K,5.5K or 6K; followed by -SL-0 AF followed by 1K,1.5K,2K,2.5K,3K or 3.6K; followed by -SL-1 AF followed by 3K,3.6K,4K,4.6K,5K,5.5K or 6K; followed by -SL AF followed by 4K,4.6K,5K,5.5K or 6K; followed by -SLP AF followed by 1K, 1.5K, 2K, 2.5K, 3K or 3.6K; followed by -SLA-0 AF followed by 1K or 1.5K; followed by -SLA-1 AF followed by 1K, 1.5K, 2K, 2.5K, 3K or 3.6K; followed by -SLA
Model Similarity	All models have same circuit, PWB layout and software. And differences between models are output rating, PV input string number and fan number. Model AF*-SL-0 (*= 1K, 1.5K, 2K, 2.5K, 3K, 3.6K, 4K, 4.6K, 5K, 5.5K, 6K) have no PV input and no PV switch. Model AF*-SL-1 (*= 1K, 1.5K, 2K, 2.5K, 3K, 3.6K) have one PV input string and one PV switch. Model AF*-SL (*= 3K, 3.6K, 4K, 4.6K, 5K, 5.5K, 6K), AF*-SLP (*= 4K, 4.6K, 5K, 5.5K, 6K) have 2 PV input strings and one PV switch. Model AF*-SL-0 (*= 1K, 1.5K, 2K, 2.5K, 3K, 3.6K), AF*-SL-1 (*= 1K, 1.5K, 2K, 2.5K, 3K, 3.6K), AF*-SL (*= 3K, 3.6K) have no external fan. Model AF*-SL-0 & AF*-SL & AF*-SLP (*= 4K, 4.6K, 5K, 5.5K, 6K) have 2 external fans. The BAT port current of model AF*-SL (*= 4K, 4.6K, 5K, 5.5K, 6K) is 80A, and the BAT port current of model AF*-SLP (*= 4K, 4.6K, 5K, 5.5K, 6K) is 120A. Model AF*-SLA-1 & AF*-SLA (*= 1K, 1.5K) are identical with model AF*-SL-1 & AF*-SL (*= 3K, 3.6K), except power and voltage of PV input, BAT current, AC output ratings as well as AC voltage is L+N+PE 120V instead of L+N+PE 220V. AF*-SLA (*=2K, 2.5K, 3K, 3.6K) are identical with model AF*-SLP (*=4K, 5K, 6K), except power and voltage of PV input, BAT current, AC output ratings as well as AC voltage is L+N+PE 120V instead of L+N+PE 220V.
Ratings	Refer to section 7 Illustration 2 to 2J- Ratings
Other Ratings	NA

3.0 Product Photographs

Photo 1 - External view

Photo 2 - Rear for AF6K-SL and AF6K-SLP



3.0 Product Photographs

Photo 3 - Rear for AF6K-SL-0

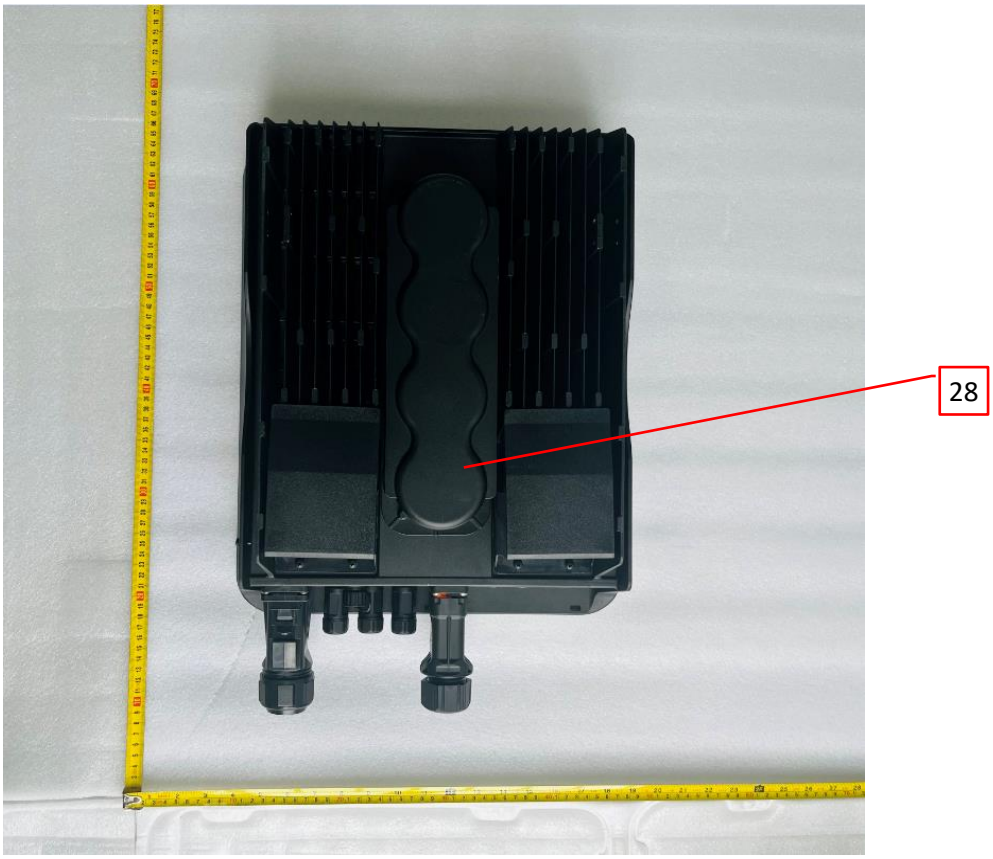
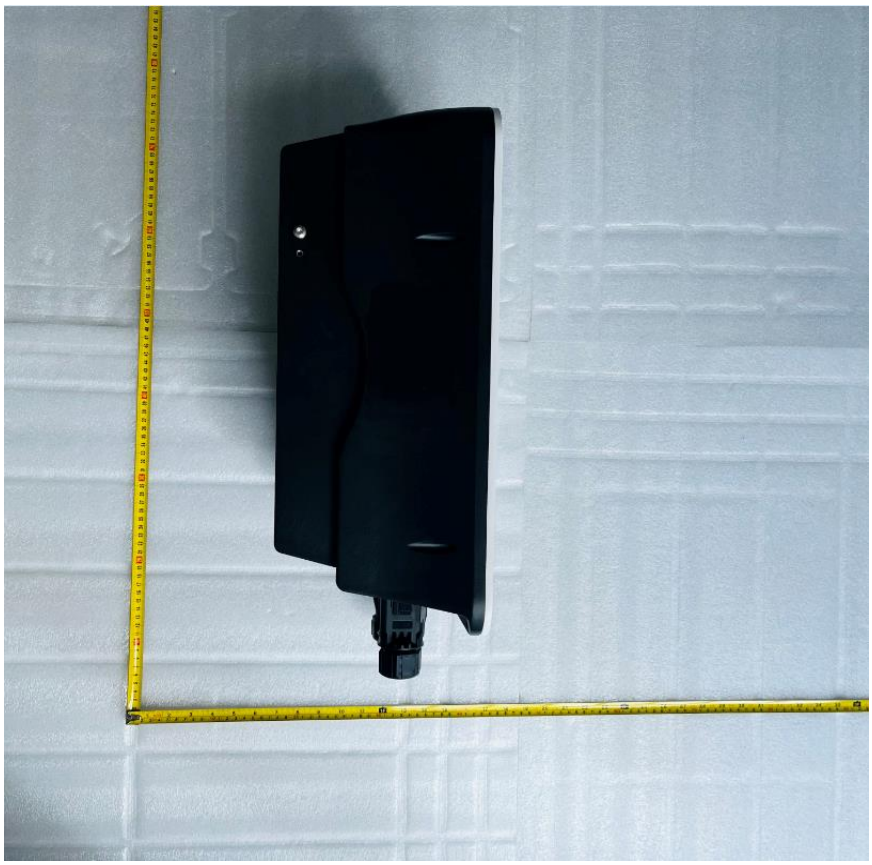


Photo 4 - Left side view



3.0 Product Photographs

Photo 5 - Right side view

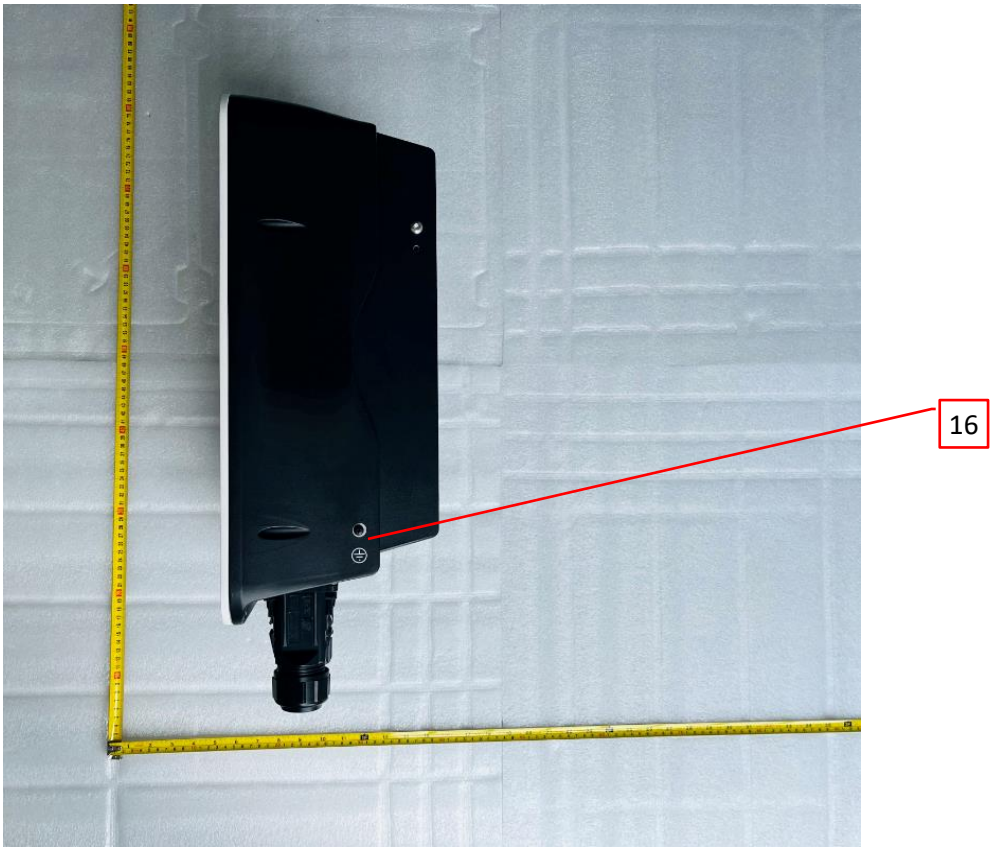
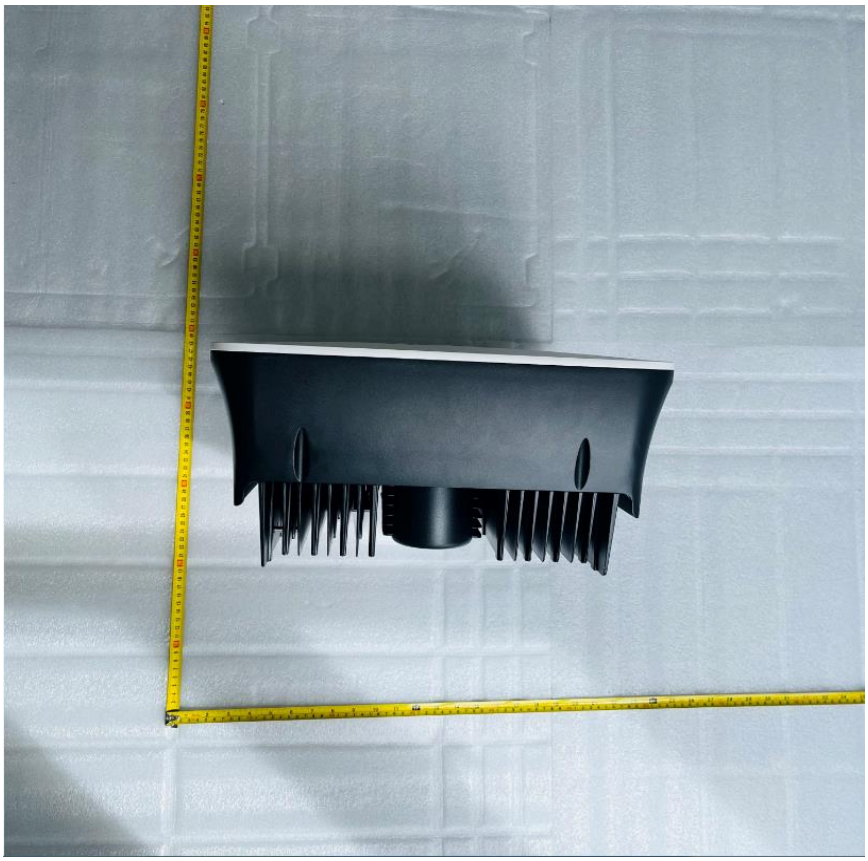


Photo 6 - Top side view



3.0 Product Photographs

Photo 7 - Bottom View for AF6K-SL and AF6K-SLP

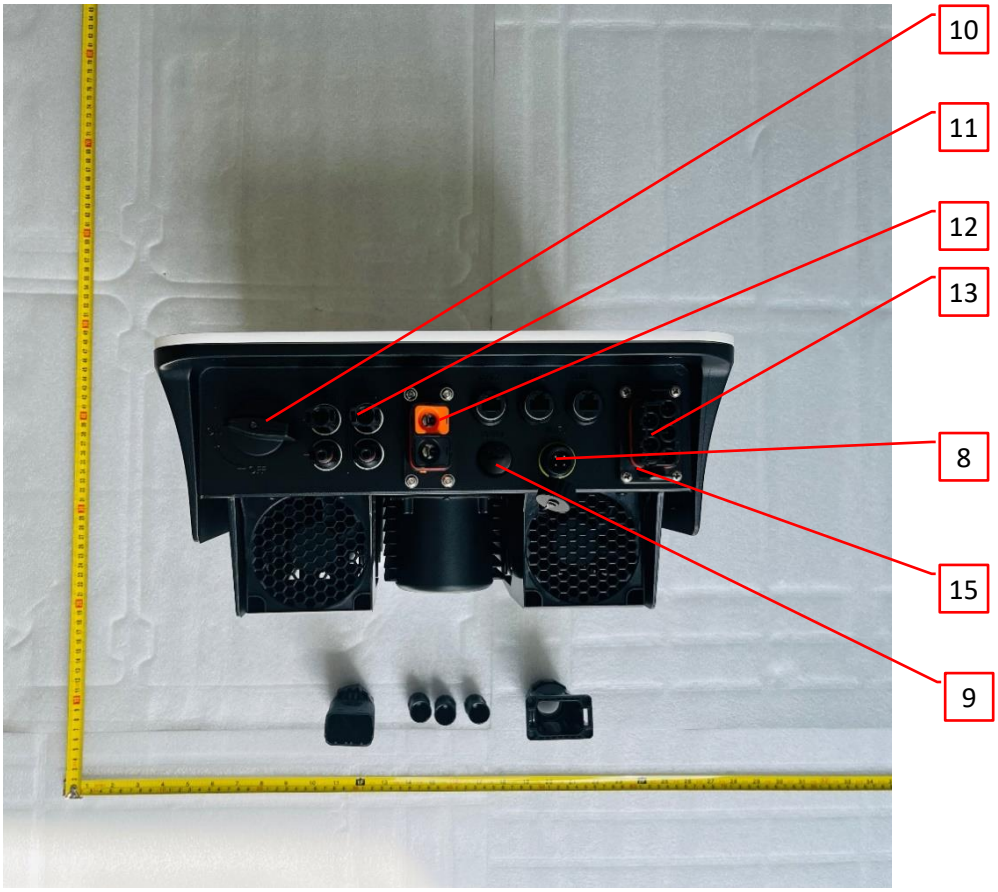
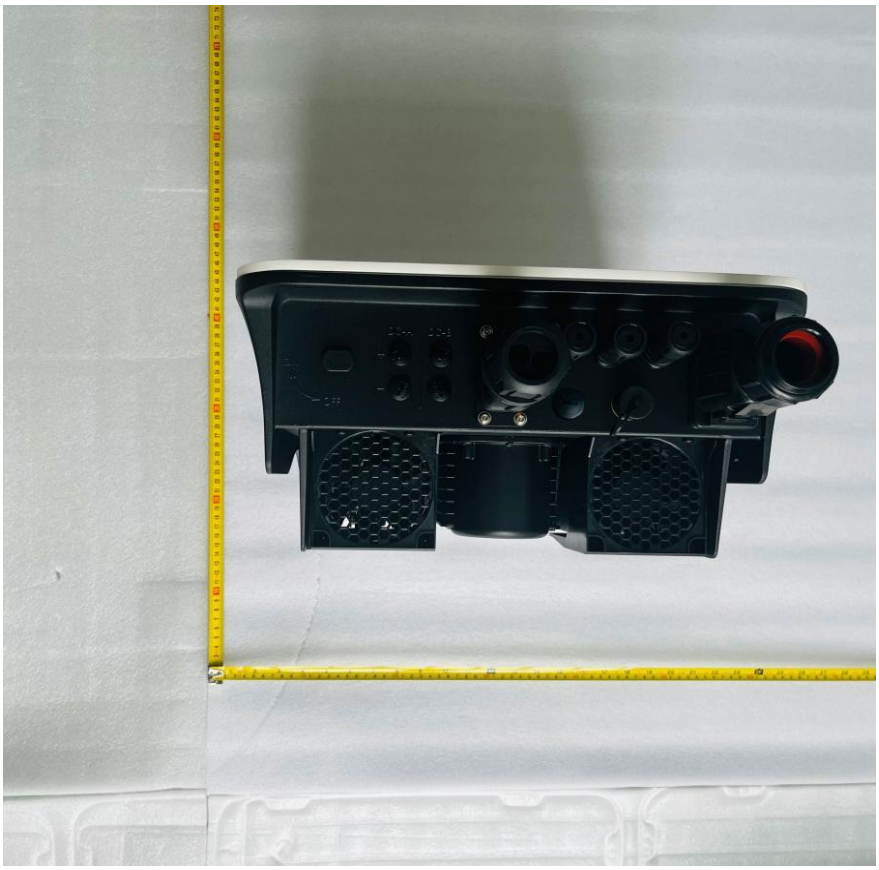


Photo 8 - Bottom View for AF6K-SL-0



3.0 Product Photographs

Photo 9 - Internal view of inverter for AF6K-SL and AF6K-SLP

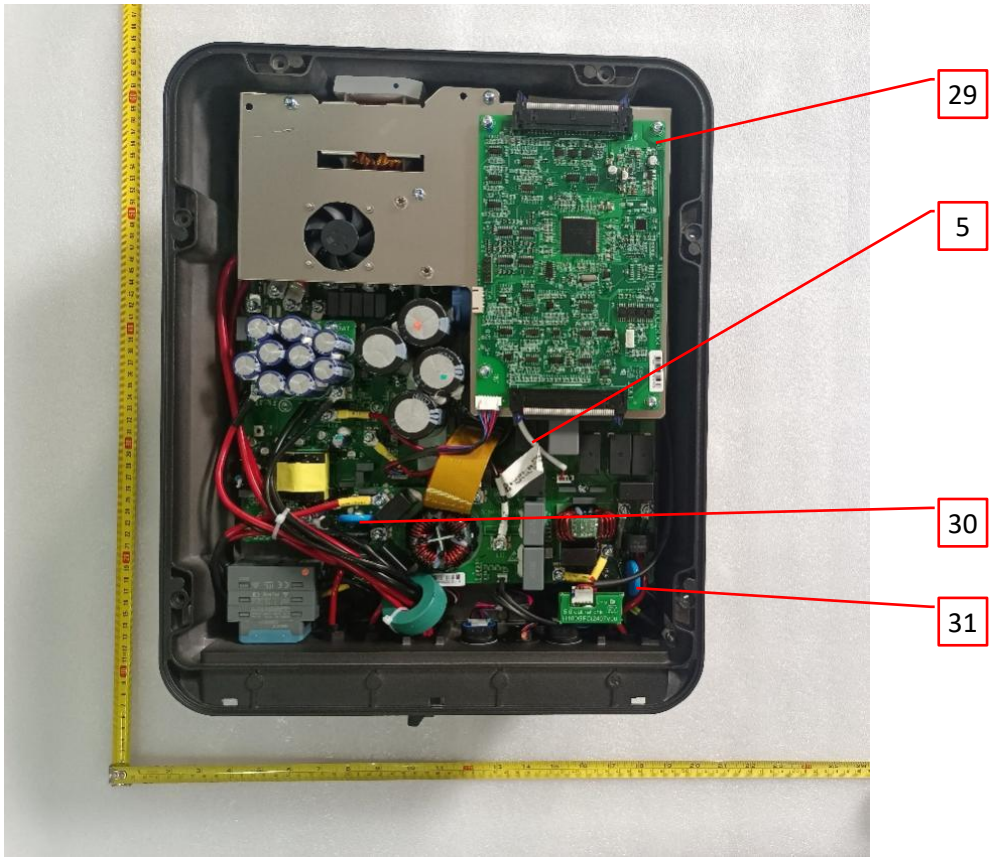
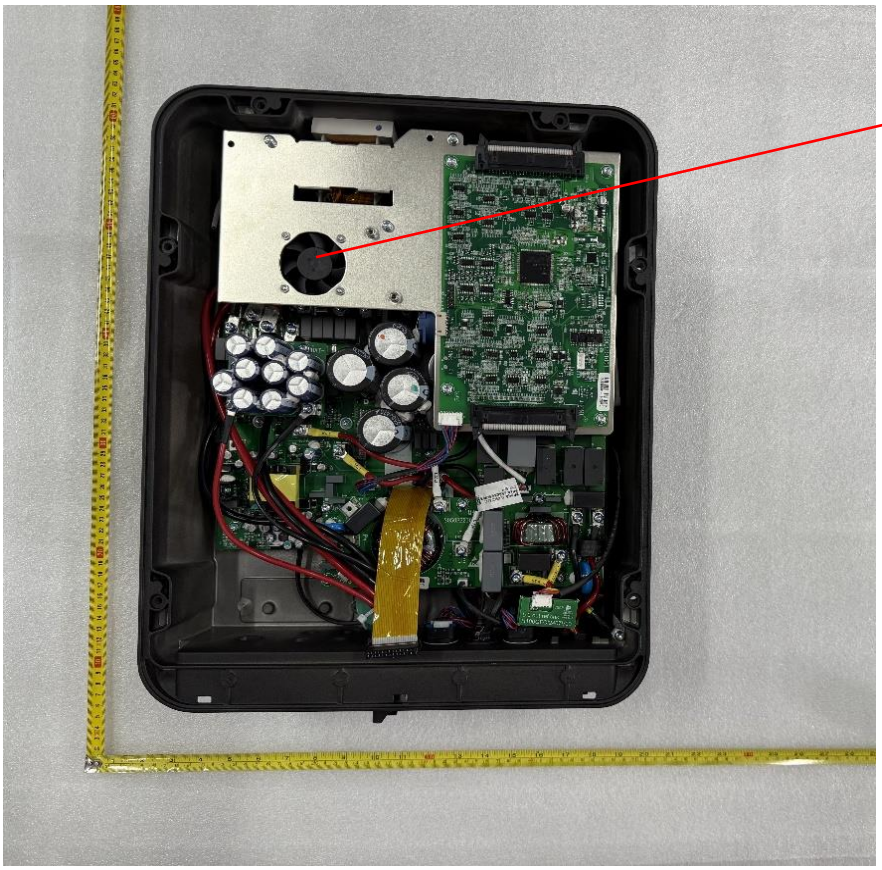


Photo 10 - Internal view of inverter for AF6K-SL-0



3.0 Product Photographs

Photo 11 - Internal view

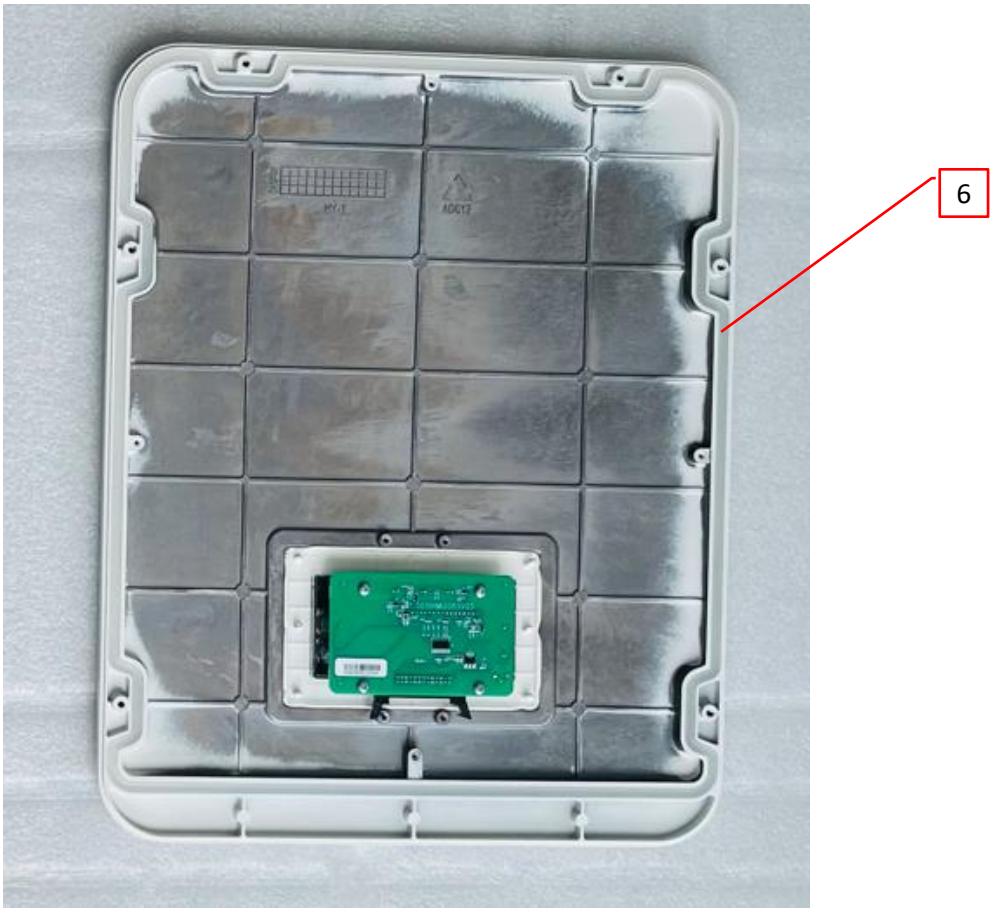
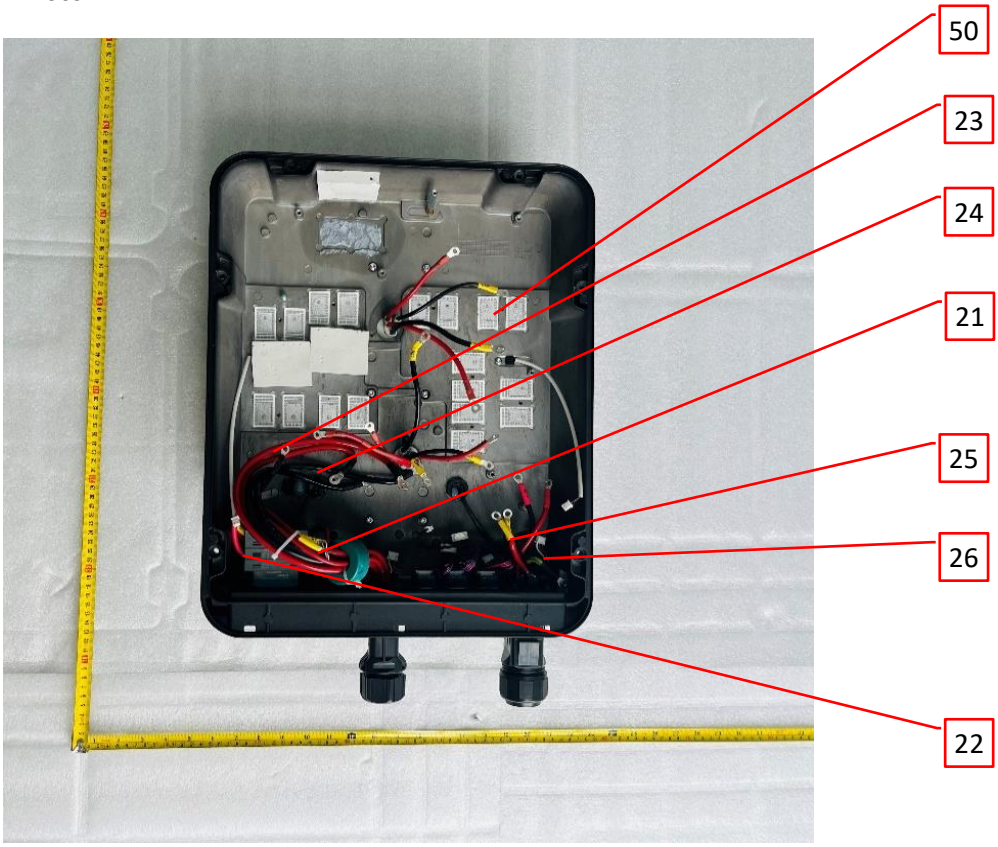


Photo 12 - Internal view



3.0 Product Photographs

Photo 13 - Internal view

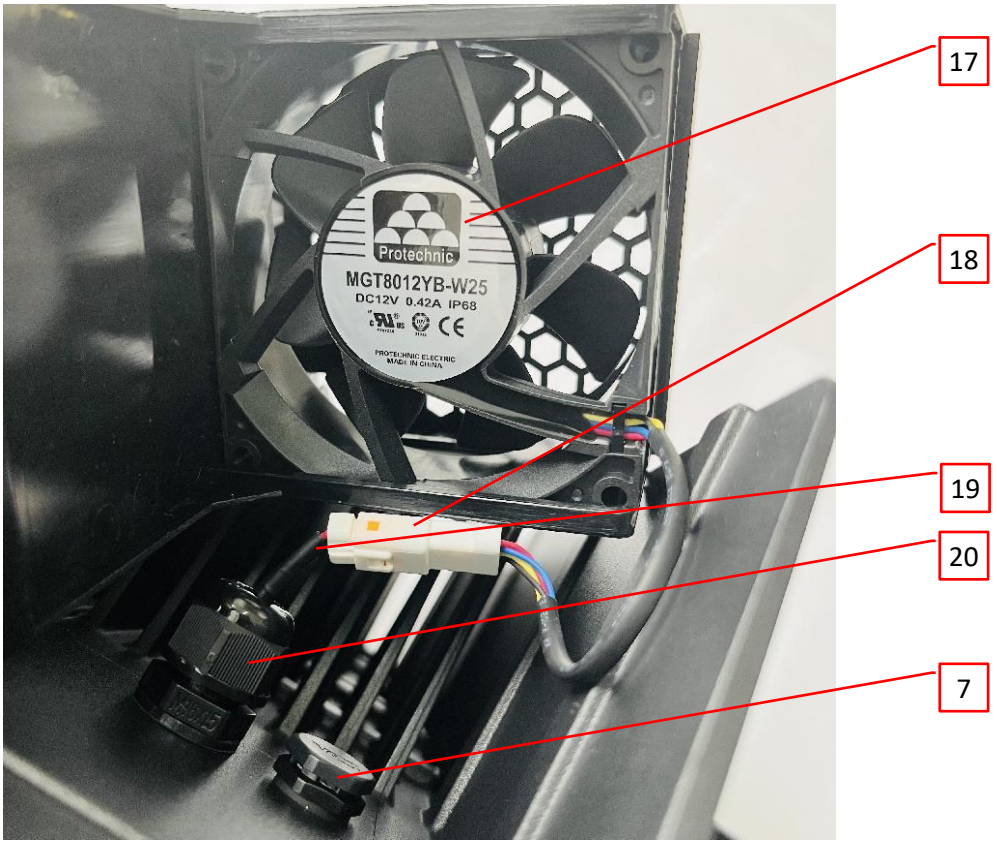
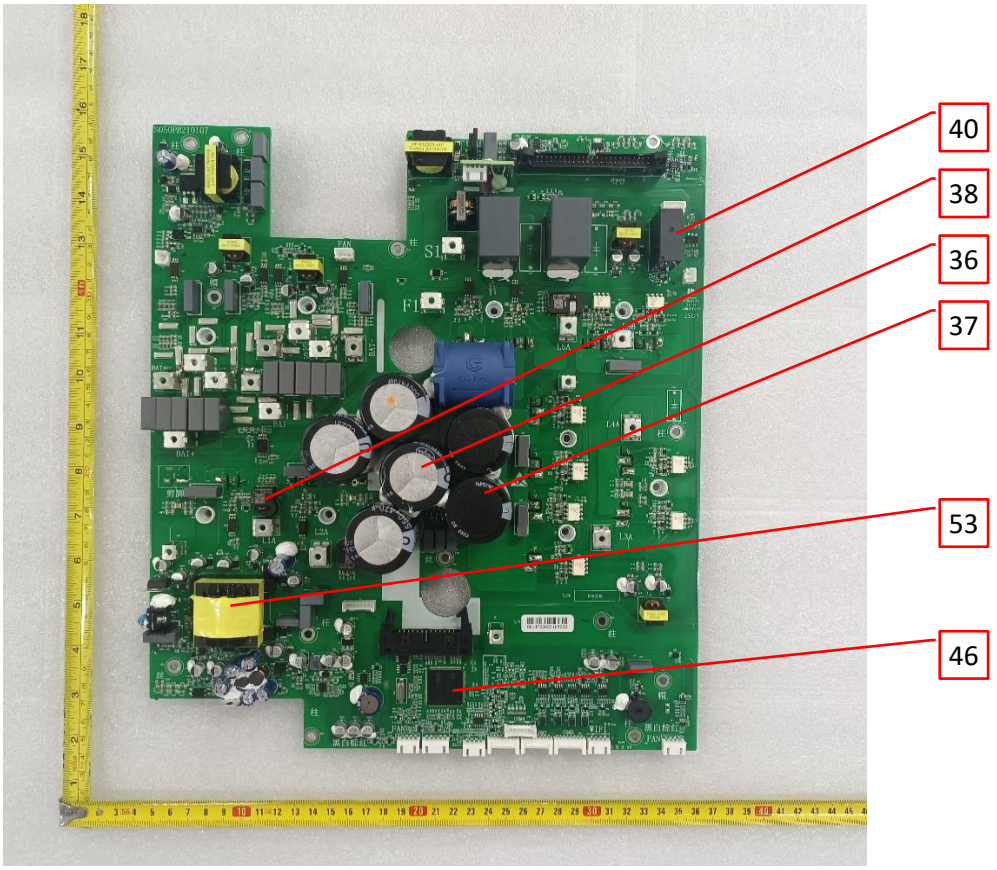


Photo 14 - Internal view



3.0 Product Photographs

Photo 15 - Internal view

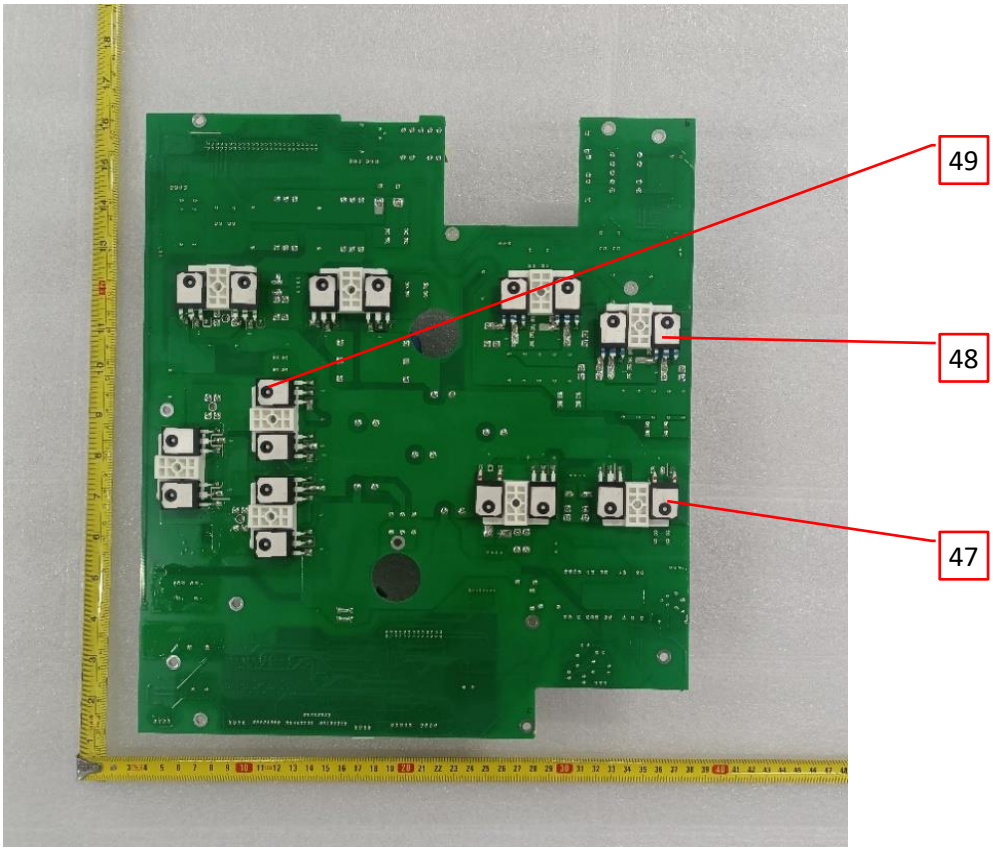
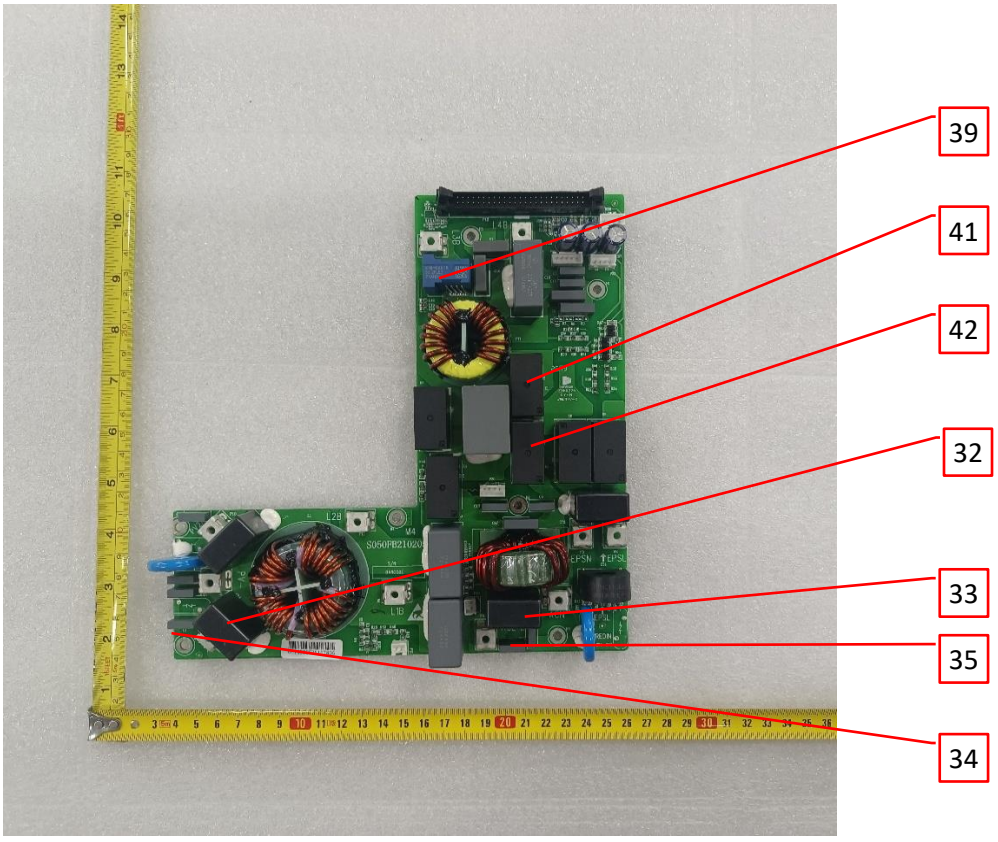


Photo 16 - Internal view



3.0 Product Photographs

Photo 17 - Internal view

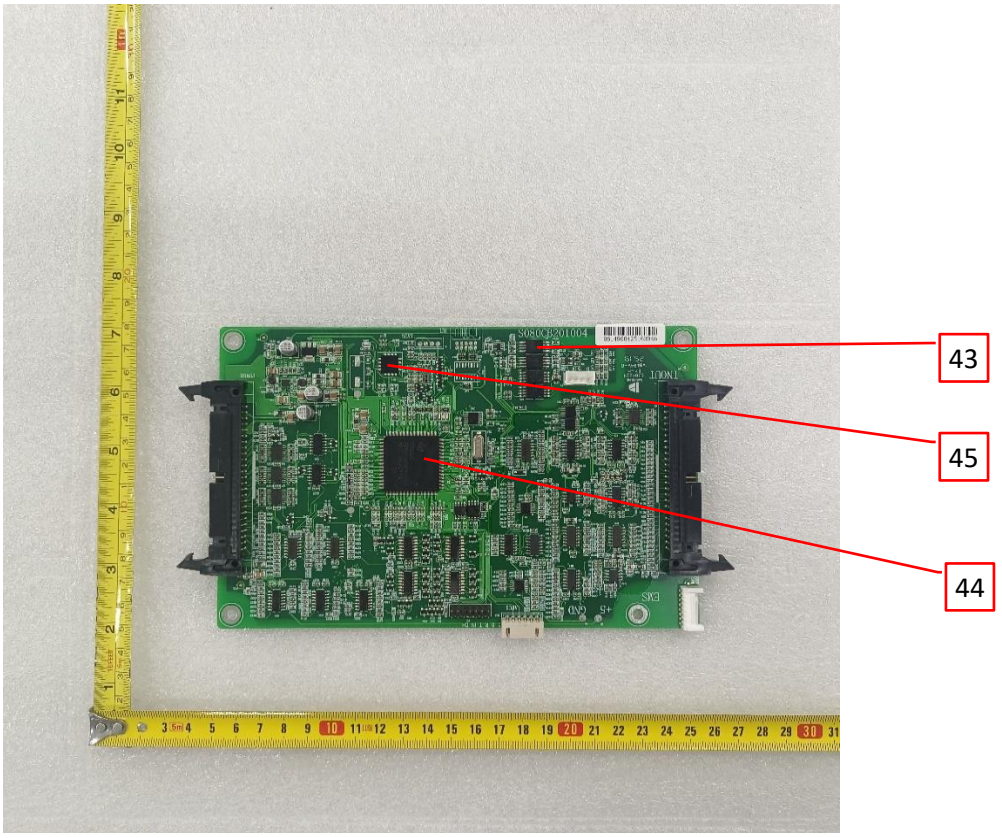
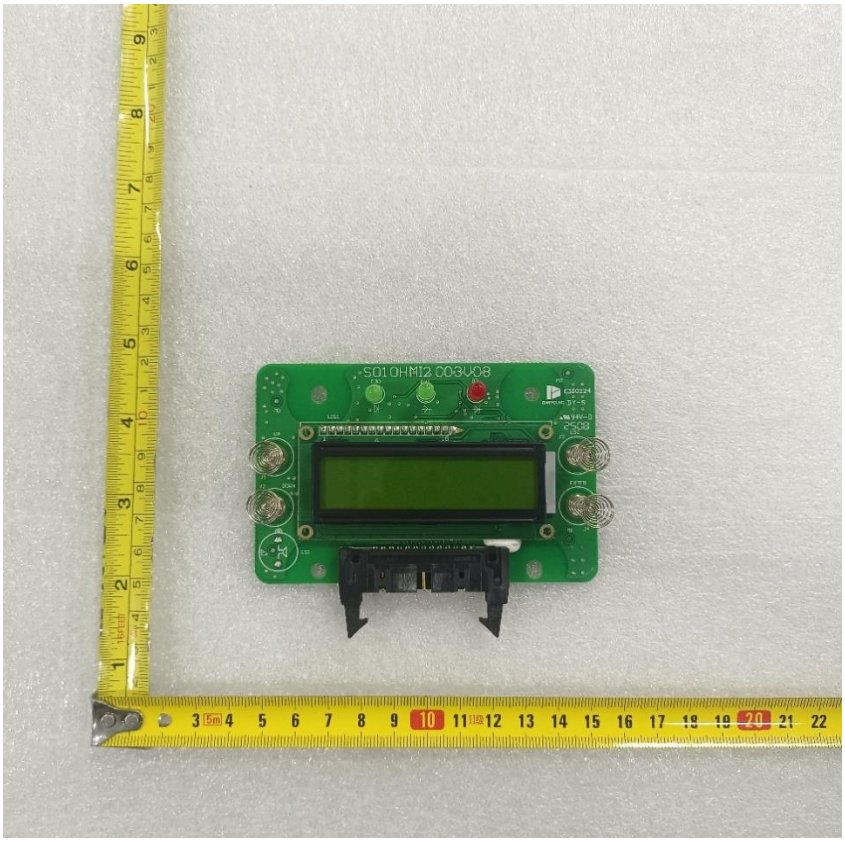


Photo 18 - Internal view



3.0 Product Photographs

Photo 19 - Internal view

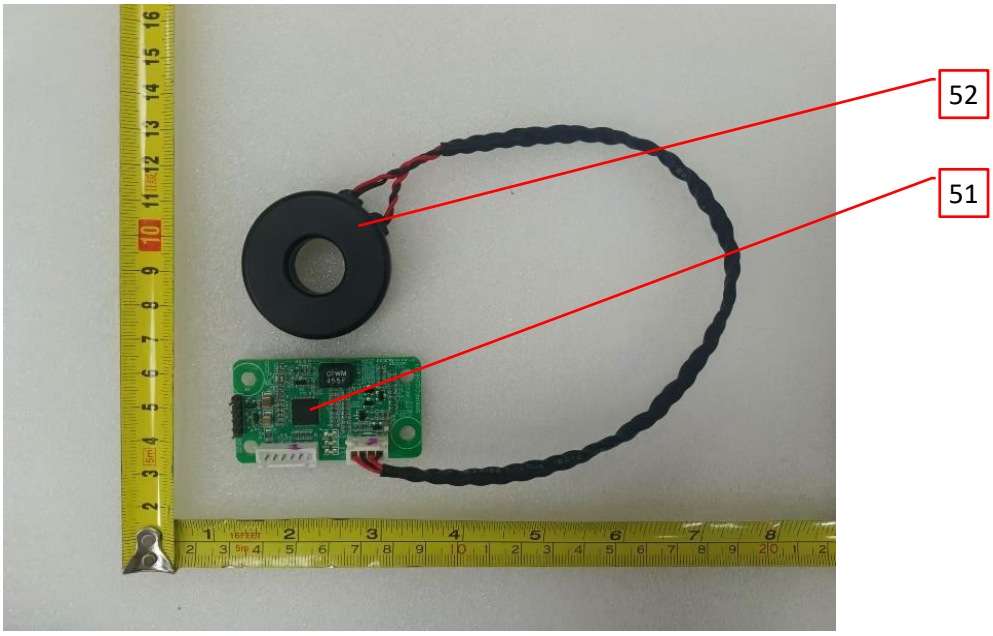
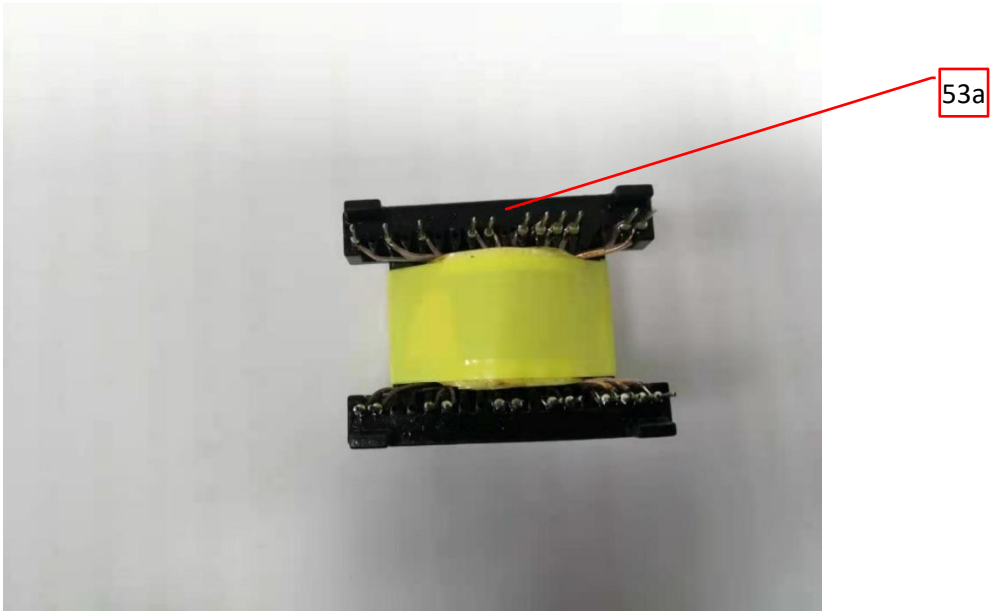
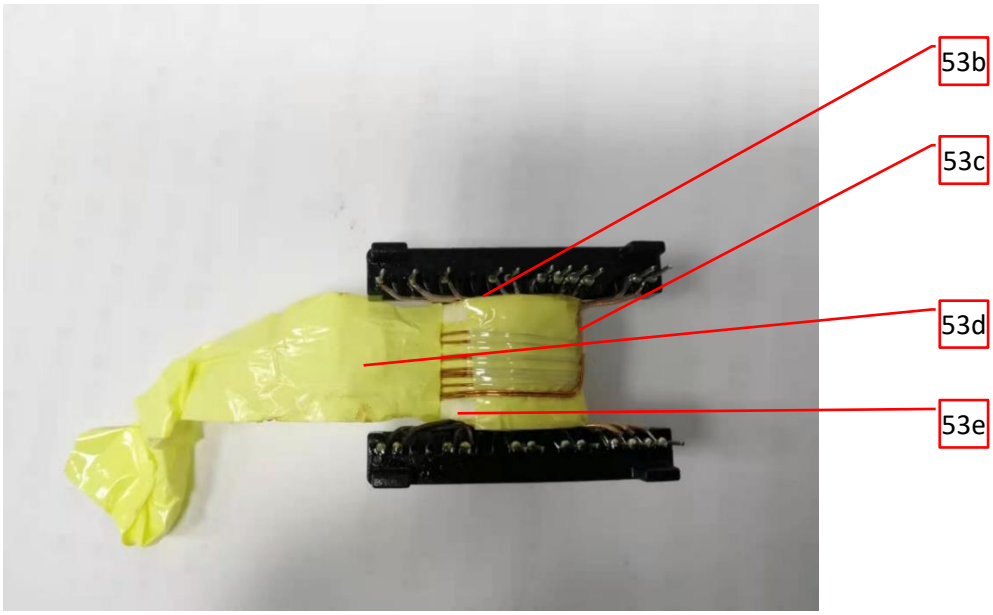


Photo 20 - Internal view



3.0 Product Photographs

Photo 21 - 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]
2	1	Enclosure	HAINING MINGYI ELECTRONIC	HT1028	370*460*176 mm, ADC12, Min. thickness: 2mm	NR
			Ningbo Win'o Manufacturing	(H75) HL2006	370*460*176 mm, ADC12, Min. thickness: 2mm	NR
1	2	Cover of enclosure	HAINING MINGYI ELECTRONIC TECHNOLOGY CO., LTD	HT1030	370*460*19.5 mm, ADC12, Min. thickness: 2mm	NR
			Jiaxing Zhulian Electric Appliance Co., LTD	6533-0209	370*460*19.5 mm, ADC12, Min. thickness: 2mm	NR
1	3	Display Window	Covestro Deutschland AG [PC Resins] (UL E41613)	GF9425 + (z)(f1)	PC, display size 66.5*16.5*1.6mm, V-0, f1, -40~+115ºC	cURus
1	4	Adhesive-type label (not shown)	3M COMPANY (UL MH16411)	7816(f)(i)	Al surface Outdoor use, -40~+150ºC, UL 969	cURus
			AVERY DENNISON (CHINA) CO LTD (UL MH20558)	50um White PET TC/S333	Al surface Outdoor use, -40~+150ºC, UL 969	cURus
			AVERY DENNISON (CHINA) CO LTD (UL MH20558)	2M WH PET TC/S-8005	Al surface Outdoor use, -40~+150ºC, UL 969	cURus
9	5	Heat shrink tube	CHANGYUAN ELECTRONICS GROUP CO LTD (UL E180908)	CB-600	600V, 105°C, VW-1.	cURus
11	6	Gasket sealing	RAMPF Polymer Solution GmbH & Co KG (UL MH30032)	RAKU®PUR 32-3250-28 LV	UL 94 - HB, 4X, -40~+100°C.	cURus
13	7	Muti-functional Vents	Shangda Energy Technology Co., Ltd.	SD-P2FM123B02-B10-9520B	IP67, UV resistance.	NR
13	7a	Material for Muti-functional Vents(not shown)	SABIC JAPAN L L C (UL E207780)	945U(f1)(GG)□	Outdoor use, PC, V-0, f1, 130ºC	cURus
7	8	Com connector	Suzhou Luyi Electronic Technology Co., Ltd	HJA042101	10A/250V, IP68, -40~+85°C	NR
7	8a	Material for com connector (not shown)	CELANESE INTERNATIONAL CORP (UL E41938)	FR50(+)(f1)	Outdoor use, PA66, V-0, f1, 130ºC	cURus
7	9	Waterproof seals	Ningbo Yusheng Electric Co., Ltd.	M20x1.5	PA6, V-2, IP68, -40~+110°C.	NR
7	9a	Material for Waterproof seals (not shown)	DOMO ENGINEERING PLASTICS EUROPE SPA (UL E170540)	FR 6G30V0E (f2)	Outdoor use, PA6, V-0, f2.	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	10	DC Switch	WENZHOU JINHONG ELECTRICAL APPLIANCE CO LTD (UL E525303)	EDS6HM/13/4	4P, 600V, 32A, -40~+85ºC, IP66	cURus
			WENZHOU JINHONG ELECTRICAL APPLIANCE CO LTD (UL E525303)	EDS6HM/13/3	3P, 600V, 32A, -40~+85ºC, IP66	cURus
7	11	DC connector	Jiangxi Jinko PV Material Co., Ltd. (UL E346240)	PV-JK01M-F/RB, PV-JK01M-M/RB	1500V/45A, IP68, -40~+85°C	cURus
7	12	BAT terminal	Jiangsu Handa Power Technology Co., Ltd.	HDB-150i2	1000Vdc, 120A, -40~+85ºC	cTUVus
7	13	AC terminal	Suzhou Luyi Electronic Technology Co., Ltd (UL E544404)	G-Y2HT05-N10	1000Vdc/Vac, 76A, 120ºC	cURus
7	14	Material for enclosure of AC output (not shown)	Celanese (Suzhou) Engineering Plastics Co Ltd (UL E331274)	A3 RV0 (f1)	Outdoor use, PA66, V-0, f1, 105ºC	cURus
			Celanese (Suzhou) Engineering Plastics Co Ltd (UL E331274)	A 63 R V0 (f1)	Outdoor use, PA66, V-0, f1,105ºC	cURus
7	15	Gasket enclosure of AC output	WUJIANG FLYUP (UL MH60110)	3FH60B09	NBR+F13, NEMA 4X, -40~+75ºC.	cURus
5	16	Grounding terminal	SUZHOU RESTER PRECISION FASTENERS CO., LTD.	M4*10 Three combination screws	M4*10, SUS304	NR
13	17	External fan	DONGGUAN PROTECHNIC ELECTRIC CO LTD (UL E187236)	MGT8012YB-W25	12V, 5300RPM, -20~+70ºC, IP68.	cURus
			MINEBEAMITSUMI INC (UL E89936)	08025DE-12N-CUD	12V, 5250RPM, -20~+70ºC, IP68.	cURus
			Suzhou Longwin High-Tech Co Ltd (UL E528871)	A180251MBO4F4000	12V, 4600RPM, -10~+70ºC, IP68.	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]
13	18	External fan connector	JAPAN SOLDERLESS TERMINAL MFG CO LTD (UL E60389)	XH series SXH-001T-P0.6N/JST	10A max, -25~+85°C	cURus
13	19	External fan wire	SHANGHAI JINGFENG WIRE & CABLE CO LTD (UL E320487)	2547	500V, 80ºC, 22AWG.	cURus
13	20	Gland or outlet bushing for external fan wire	JiaXing ShengYang Electric Co Ltd (UL E506986)	JAR-K-M16	M16*1.5, PA66, -40~+100ºC	cURus
12	21	DC wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1250Vdc,105 ºC, 10AWG.	cURus
12	22	DC wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1250Vdc,105 ºC, 12AWG.	cURus
12	23	BAT wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1250Vdc,105 ºC, 12AWG.	cURus
12	24	BAT wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1250Vdc,105 ºC, 8AWG.	cURus
			3Q WIRE & CABLE CO LTD (UL E341104)	10269	1250Vdc,105 ºC, 10AWG.	cURus
12	25	AC wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1000Vac, 105ºC, 10AWG.	cURus
12	26	AC wire	3Q WIRE & CABLE CO LTD (UL E341104)	10269	1000Vac, 105ºC, 12AWG.	cURus
10	27	Internal fan	Ningbo ShengJiu Technology Co Ltd (UL E471112)	SA120515BUCRR001	12V, 6400RPM, -10~+70ºC,	cURus
3	28	Inductor for main circuit	HaiNing LianFeng DongJing Electronic co., Ltd	LF-AFIB006B-01	Class H, 2500VAC	NR
			HEFEI ECRIEE-TAMURA ELECTRIC CO., LTD.	AF-6KW	Class H, 2500VAC	NR
			SHANGHAI JINGWAY ELECTRONICS CO., LTD	PD100221009A0	Class H, 2500VAC	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]
9	29	All PCB	KUNSHAN DAYANG PRINTED CIRCUIT BOARD CO LTD (UL E360224)	DY-M, Multilayer	V-0, 130°C. 2mm min, CTI: 175, totally covered with coating.Fully comply with UL 796.	cURus
			Various	Various	V-0, 130°C. 2mm min, CTI: 175, totally covered with coating.Fully comply with UL 796.	cURus
9	30	Varistor for DC part (RV3~5)	Huizhou Derui Electrical Appliance Co., Ltd (UL E485395)	COV25D821K	510Vac, 670Vdc, 820V_{1mA}, -40~+85ºC	cURus
			THINKING ELECTRONIC INDUSTRIAL CO LTD (UL E314979)	TVT20821-AK	510Vac, 670Vdc, 820V_{1mA}, -40~+85ºC	cURus
9	31	Varistor for AC part (RV1~2)	Huizhou Derui Electrical Appliance Co., Ltd (UL E485395)	COV25D821K	510Vac, 670Vdc, 820V_{1mA}, -40~+85ºC	cURus
			THINKING ELECTRONIC INDUSTRIAL CO LTD (UL E314979)	TVT20821-AK	510Vac, 670Vdc, 820V_{1mA}, -40~+85ºC	cURus
16	32	X Capacitor for DC part (C14, C24)	Xiamen Faratronic Co., Ltd. (UL E186600)	C4BQ2225K9WC000	X2, 305Vac, 560Vdc, 2.2uF, -40~+110ºC	cURus
16	33	X Capacitor for AC part (C6, C22)	Xiamen Faratronic Co., Ltd. (UL E186600)	C4BQ2225K9WC000	X2, 305Vac, 560Vdc, 2.2uF, -40~+110ºC	cURus
16	34	Y Capacitor for DC part (C7, C17, C21, C25)	Xiamen Faratronic Co., Ltd. (UL E186600)	C43Q1102M40C000	Y2, 300 Vac, 1500Vdc, 1nF, -40~+110ºC	cURus
16	35	Y Capacitor for AC part (C5, C9)	Xiamen Faratronic Co., Ltd. (UL E186600)	C43Q1102M40C000	Y2, 300 Vac, 1500Vdc, 1nF, -40~+110ºC	cURus
14	36	DC bus capacitor (C220, C221)	HUNAN AIHUA GROUP CO., LTD.	ELT2FM102R45KT	1000uF, 315V, -25~+105ºC	NR
			NCC	EKMQ3B1VSN102MA45S	1000uF, 315V, -25~+105ºC	NR
			NCC	ELXS3B1VSN102MA45S	1000uF, 315V, -25~+105ºC	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]
14	37	DC bus capacitor (C208, C210, C211, C231)	HUNAN AIHUA GROUP CO., LTD.	ELT2JM471R60KT	470uF, 550V, -25~+105°C	NR
			HUNAN AIHUA GROUP CO., LTD.	ELT2HM471R55KT	470uF, 500V, -25~+105°C	NR
			Nantong Jianghai Capacitor Co., Ltd.	ECS2YBB471MLA350060E	470uF, 550V, -25~+105°C	NR
			CAPXON ELECTRONIC (SHEN ZHEN) CO., LTD	UL471M550P700AP4	470uF, 550V, -40~+105°C	NR
14	38	Current sensor for DC part (HCT1~3)	Ningbo Sinomags Technology Co., LTD (UL E507664)	STK-HD	Ipn: 32A, -40~+105ºC	cURus
16	39	Current sensor for AC part (HCT1)	Ningbo Sinomags Technology Co., LTD (UL E507664)	STB-50CAS/K	Ipn: 50A, -40~+105ºC	cURus
			LEM (UL E189713)	CKSR50-NP	Ipn: 50A, -40~+85ºC	cURus
			LEM (UL E189713)	CASR25-NP	Ipn: 25A, -40~+85ºC	cURus
14	40	Relay -ISO detection (ALFG1)	XIAMEN HONGFA ELECTROACOUSTIC CO., LTD (UL E134517)	HF140FF/012-2HSWTF	12VDC, 10A, Viso 2500V, -40~+85ºC.	cURus
16	41	Relay for grid disconnection (K1, K3)	XIAMEN HONGFA ELECTROACOUSTIC CO., LTD (UL E134517)	HF161F-W12-HT(477)	33A, 277Vac, -40~+85ºC, Viso 2500V, Contact gap: 1.8 mm	cURus
16	42	Relay for grid disconnection (K2, K4, K5, K6)	XIAMEN HONGFA ELECTROACOUSTIC CO., LTD (UL E134517)	HF161F-40W/12-HTF (967)	43A, 277Vac, -40~+85ºC, Viso 2500V, Contact gap: 1.8 mm	cURus
			ZETTLER RELAY (XIAMEN) CO LTD (UL E365652)	AZSR143-1AE-12D103	50A, 277Vac, -40ºC~+85ºC, Viso 2500V, Contact gap: 2.0 mm	cURus
17	43	Communication optocoupler (G3, G5)	EVERLIGHT ELECTRONICS CO LTD (UL E214129)	EL2501SK	Viso 5000Vrms, CI 7.6mm, Cr 7.6mm, -55~+110ºC	cURus
			EVERLIGHT ELECTRONICS CO LTD (UL E214129)	6N137	Viso 5000Vrms, CI 7.6mm, Cr 7.6mm, -40~+85ºC	cURus
			Suzhou Novosense Microelectronics Co., Ltd (UL E500602)	NSi1300D25 - DSWVR	Viso 7000Vrms, CI 8.0mm, Cr 8.0mm, -40~+125ºC	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]
17	44	DSP (U4)	TI	TMS320F28377 SPTP	-40~+105ºC, HLQFP-176, softwareID: Master, Checksum:0x6323CD9B, release date: 2025-05-06	NR
17	45	Slave CPU (U19)	ST	STM32F070CB	LQFP-48, -40~+85°C, softwareID: Slave, Checksum: 0xE2BB0430, release date:2025-05-06	NR
14	46	Communication CPU (U7)	GigaDevice Semiconductor Inc.	GD32F407ZET 6	-40~+85°C, LQFP-144	NR
			ST	STM32F407ZE T6	-40~+105ºC, LQFP-144	NR
15	47	IGBT for boost (Q1, Q2)	NCE POWER	NCE60TD65BT	60A, 650V, Tj Max 175ºC	NR
			INFINEON	IKW40N65ES5	40A, 650V, Tj Max 175ºC	NR
15	48	MOSFET for BAT (QA9, QA10)	INFINEON	NCEP023N10T	200A, 100V, Tj Max 175ºC	NR
15	49	IGBT for inverter (QA5~7, QB1~3	NCE POWER	NCE60TD65BT	60A, 650V, Tj Max 175ºC	NR
			INFINEON	IKW40N65ES5	40A, 650V, Tj Max 175ºC	NR
12	50	Insulation sheet for IGBT	Zhejiang Xinna New Ceramic Materials Co., Ltd.	NC-TC3501	1600°C, 35*22*1mm (Thermal ceramic)	NR
19	51	MCU for AFCI	Shanghai Fudan Microelectronics Group Company Limited	FM2208	-40~+85°C, 32 Bit. MCU	NR
			Shanghai Fudan Microelectronics Group Company Limited	FM2205	-40~+85°C, 32 Bit. MCU	NR
19	52	Sensor for AFCI	ELECMAT TECHNOLOGY CO., LTD.	EI1002M-PL01	Imax 10A, -40~+70°C,	NR
14	53	Transformer	Endela Electronics (Shenzhen) Co., Ltd.	E-35-0634	Class A, 105 °C, 2.1mH	NR
			Shanghai damask satin electric tech nology Co., Ltd.	ETD3435-2.1mH-BA1	Class A, 105 °C, 2.1mH	NR
20	53a	Bobbin of Transformer	CHANGCHUN PLASTICS CO., LTD (UL E59481)	T375HF	PMC, 150°C, V-0	cURus
21	53b	Core of Transformer	Wuxi Ferrite Magnetics Co., Ltd	ETD34 FP40	FP40	NR
21	53c	Wire of Transformer	DONG GUAN YIDA INDUSTRIAL CO., LTD (UL E344055)	xUEW/155	MW79-C, Polyurethane, 155°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]
21	53d	Tape of Transformer	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD (UL E165111)	CT* (c)(g)	Polyimide (PI), T0.025, 130°C	cURus
21	53e	Margin tape of Transformer	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD (UL E165111)	WF* (c)(h)	130°C	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

No Unlisted CEC components are used in this report.

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 Shortest distance is 12.7 mm.
   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- 6.4 mm minimum spacing are maintained through air and 9.5 mm minimum spacing at field wiring termials.
   Spacing - between uninsulated live parts and low voltage isolated circuits, uninsulated grounded parts other than the enclosure not on PCB is 3.0 mm minimum spacing are maintained through air, 3.0 mm minimum spacing 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 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 1250V, 105°C.
7. Schematics - Refer to Illustration No.3 to 3a for schematics requiring verification during Field Representative Inspection Audits.
8. Markings - The product is marked on a labeling system as described in item no. 4 of Section 4.0 as follows:
   Applicant's name or brand names;
   Product name;
   model number;
   electrical ratings;
   date of manufacturer;
   (the manufacturing date be included in series number, for example S2260LP002532010. From tenth to thirteenth bit, the 25 denotes the year, 32 denotes the week.
   Note: The contents within brackets are the explanation only and need not be marked on the product.
9. Transformer - Supplier records must be provided that indicate the received shipment of transformer (section 4.0, item no.53) was constructed as indicated in Illustration No.4 to 4a. These records must be available at the factory for inspection on every received shipment.
10. Cautionary Markings - The following are required: refer to Illustration No.1 to No.1a for details.

6.0 Critical Features
11. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No.5 to 5a for details.
12. Software in Programmable Components - The software was evalauted and complies with the standard UL1998 Software in Programmable Components. Firmware information as below: main CPU: TI TMS320F28377SPTPT, softwareID: Master, Checksum:0x6323CD9B, release date: 2025-05-06. Secondary CPU: ST STM32F070CB, softwareID: Slave, Checksum: 0xE2BB0430, release date:2025-05-06.

7.0 Illustrations

Illustration 1 - Cautionary Marking of English

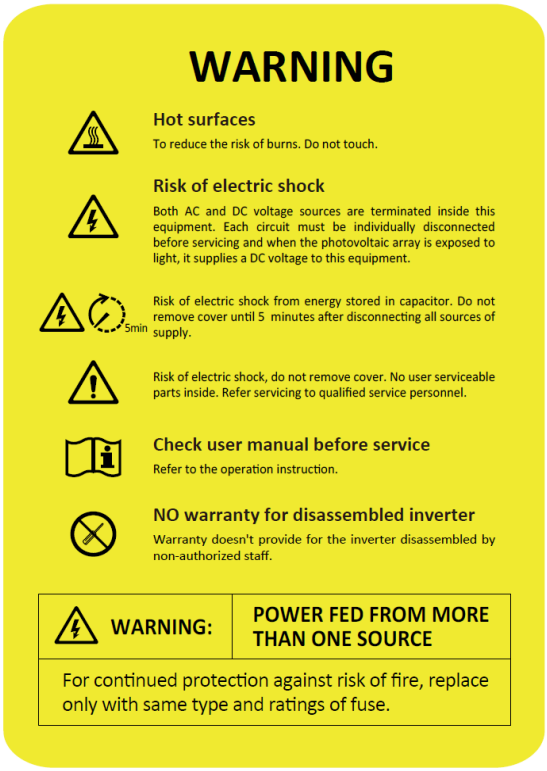


Illustration 1a - Cautionary Marking of French

7.0 Illustrations

Illustration 2 - Rating

Specifications table					
Model	AF1K-SL-1	AF1.5K-SL-1	AF2K-SL-1	AF2.5K-SL-1	AF3K-SL-1
PV input					
P pv Max(W)	2000	3000	4000	5000	6000
Vmax PV (Vdc) (absolute Max.)	550	550	550	550	550
Isc PV (absolute Max.) (A)	26	26	26	26	26
Number MPP trackers	1	1	1	1	1
Number input strings	1	1	1	1	1
Max. PV input current / strings (A)	18.5	18.5	18.5	18.5	18.5
MPPT voltage range (Vdc)	80-500	80-500	80-500	80-500	80-500
Vdc range @ full power (Vdc)	80-500	90-500	120-500	150-500	170-500
Battery (charge/discharge)					
Battery type	Li-ion/Lead-acid etc.				
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)				
Max charge/discharge Current(A)	25	40	50	63	80
Max charge/discharge Power(W)	1000	1500	2000	2500	3000
AC Grid (input and output)					
Normal AC Voltage (VAC)	L/N/PE, 220Vac				
Frequency (Hz)	60				
Normal AC Current (A)	4.4	6.6	8.7	10.9	13.1
Max. cont. input/output current (A)	5	7	10	12	14
Rated Power(W)	1000	1500	2000	2500	3000
Rated Apparent Power (VA)	1000	1500	2000	2500	3000
Max. cont. Power (W)	1000	1500	2000	2500	3000
Max. cont. Apparent Power (VA)	1000	1500	2000	2500	3000
Power factor (adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand alone)					
Normal Voltage (VAC)	L/N/PE, 220Vac				
Frequency (Hz)	60				
Nominal Current(A)	4.4	6.6	8.7	10.9	13.1
Max. cont. current (A)	5	7	10	12	14
Max. cont. Power (W)	1000	1500	2000	2500	3000
Max. cont. Apparent Power (VA)	1000	1500	2000	2500	3000
Power factor	1.0				
Others					
Ingress protection (IP)	NEMA4X				
Protective class	Class I				
Temperature (°C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV - AC - BAT)				
Overvoltage category	OVC III (AC Main), OVC II (DC)				

7.0 Illustrations

Illustration 2a - Rating

Specifications table				
Model	AF3.6K-SL-1	AF3K-SL	AF3.6K-SL	AF4K-SL
PV input				
P pv Max(W)	7200	6000	7200	8000
Vmax PV (Vdc) (absolute Max.)	550	550	550	550
Isc PV (absolute Max.) (A)	26	26 x 2	26 x 2	26 x 2
Number MPP trackers	1	2	2	2
Number input strings	1	1/1	1/1	1/1
Max. PV input current / strings (A)	18.5	18.5 x 2	18.5 x 2	18.5 x 2
MPPT voltage range (Vdc)	80-500	80-500	80-500	80-500
Vdc range @ full power (Vdc)	210-500	90-500	110-500	120-500
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	80	80	80	80
Max charge/discharge Power(W)	3600	3000	3600	4000
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Normal AC Current (A)	15.7	13.1	15.7	17.4
Max. cont. input/output current (A)	17	14	17	19
Rated Power(W)	3600	3000	3600	4000
Rated Apparent Power (VA)	3600	3000	3600	4000
Max. cont. Power (W)	3600	3000	3600	4000
Max. cont. Apparent Power (VA)	3600	3000	3600	4000
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Nominal Current(A)	15.7	13.1	15.7	17.4
Max. cont. current (A)	17	14	17	19
Max. cont. Power (W)	3600	3000	3600	4000
Max. cont. Apparent Power (VA)	3600	3000	3600	4000
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2b - Rating

Specifications table				
Model	AF4.6K-SL	AF5K-SL	AF5.5K-SL	AF6K-SL
PV input				
P pv Max(W)	9200	10000	11000	12000
Vmax PV (Vdc) (absolute Max.)	550	550	550	550
Isc PV (absolute Max.) (A)	26 x 2	26 x 2	26 x 2	26 x 2
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1
Max. PV input current / strings (A)	18.5 x 2	18.5 x 2	18.5 x 2	18.5 x 2
MPPT voltage range (Vdc)	80-500	80-500	80-500	80-500
Vdc range @ full power (Vdc)	130-500	150-500	160-500	170-500
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	80	80	80	80
Max charge/discharge Power(W)	4600	4800	4800	4800
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Normal AC Current (A)	20	21.8	24	26.1
Max. cont. input/output current (A)	22	23	26	28
Rated Power(W)	4600	5000	5500	6000
Rated Apparent Power (VA)	4600	5000	5500	6000
Max. cont. Power (W)	4600	5000	5500	6000
Max. cont. Apparent Power (VA)	4600	5000	5500	6000
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Nominal Current(A)	20	21.8	24	26.1
Max. cont. current (A)	22	23	26	28
Max. cont. Power (W)	4600	5000	5500	6000
Max. cont. Apparent Power (VA)	4600	5000	5500	6000
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2c - Rating

Specifications table					
Model	AF4K-SLP	AF4.6K-SLP	AF5K-SLP	AF5.5K-SLP	AF6K-SLP
PV input					
P pv Max(W)	8000	9200	10000	11000	12000
Vmax PV (Vdc) (absolute Max.)	550	550	550	550	550
Isc PV (absolute Max.) (A)	26 x 2	26 x 2	26 x 2	26 x 2	26 x 2
Number MPP trackers	2	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1	1/1
Max. PV input current / strings (A)	18.5 x 2	18.5 x 2	18.5 x 2	18.5 x 2	18.5 x 2
MPPT voltage range (Vdc)	80-500	80-500	80-500	80-500	80-500
Vdc range @ full power (Vdc)	120-500	130-500	150-500	160-500	170-500
Battery (charge/discharge)					
Battery type	Li-ion/Lead-acid etc.				
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)				
Max charge/discharge Current(A)	120	120	120	120	120
Max charge/discharge Power(W)	4000	4600	5000	5500	6000
AC Grid (input and output)					
Normal AC Voltage (VAC)	L/N/PE, 220Vac				
Frequency (Hz)	60				
Normal AC Current (A)	17.4	20	21.8	24	26.1
Max. cont. input/output current (A)	19	22	23	26	28
Rated Power(W)	4000	4600	5000	5500	6000
Rated Apparent Power (VA)	4000	4600	5000	5500	6000
Max. cont. Power (W)	4000	4600	5000	5500	6000
Max. cont. Apparent Power (VA)	4000	4600	5000	5500	6000
Power factor (adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand alone)					
Normal Voltage (VAC)	L/N/PE, 220Vac				
Frequency (Hz)	60				
Nominal Current(A)	17.4	20	21.8	24	26.1
Max. cont. current (A)	19	22	23	26	28
Max. cont. Power (W)	4000	4600	5000	5500	6000
Max. cont. Apparent Power (VA)	4000	4600	5000	5500	6000
Power factor	1.0				
Others					
Ingress protection (IP)	NEMA4X				
Protective class	Class I				
Temperature (°C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV - AC - BAT)				
Overvoltage category	OVC III (AC Main), OVC II (DC)				

7.0 Illustrations

Illustration 2d - Rating

Specifications table				
Model	AF1K-SL-0	AF1.5K-SL-0	AF2K-SL-0	AF2.5K-SL-0
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	25	40	50	63
Max charge/discharge Power(W)	1000	1500	2000	2500
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Normal AC Current (A)	4.4	6.6	8.7	10.9
Max. cont. input/output current (A)	5	7	10	12
Normal Power (W)	1000	1500	2000	2500
Rated Apparent Power (VA)	1000	1500	2000	2500
Max. cont. input/output Power (W)	1000	1500	2000	2500
Max. cont. Apparent Power (VA)	1000	1500	2000	2500
Power factor(adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Nominal Current (A)	4.4	6.6	8.7	10.9
Max. cont. current (A)	5	7	10	12
Max. cont. Power (W)	1000	1500	2000	2500
Max. cont. Apparent Power (VA)	1000	1500	2000	2500
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (℃)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (AC-BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2e - Rating

Specifications table				
Model	AF3K-SL-0	AF3.6K-SL-0	AF4K-SL-0	AF4.6K-SL-0
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	80	80	120	120
Max charge/discharge Power(W)	3000	3600	4000	4600
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Normal AC Current (A)	13.1	15.7	17.4	20
Max. cont. input/output current (A)	14	17	19	22
Normal Power (W)	3000	3600	4000	4600
Rated Apparent Power (VA)	3000	3600	4000	4600
Max. cont. input/output Power (W)	3000	3600	4000	4600
Max. cont. Apparent Power (VA)	3000	3600	4000	4600
Power factor(adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Nominal Current (A)	13.1	15.7	17.4	20
Max. cont. current (A)	14	17	19	22
Max. cont. Power (W)	3000	3600	4000	4600
Max. cont. Apparent Power (VA)	3000	3600	4000	4600
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (℃)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (AC-BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2f - Rating

Specifications table				
Model	AF5K-SL-0	AF5.5K-SL-0	AF6K-SL-0	
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	120	120	120	
Max charge/discharge Power(W)	5000	5500	6000	
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Normal AC Current (A)	21.8	24	26.1	
Max. cont. input/output current (A)	23	26	28	
Normal Power (W)	5000	5500	6000	
Rated Apparent Power (VA)	5000	5500	6000	
Max. cont. input/output Power (W)	5000	5500	6000	
Max. cont. Apparent Power (VA)	5000	5500	6000	
Power factor(adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 220Vac			
Frequency (Hz)	60			
Nominal Current (A)	21.8	24	26.1	
Max. cont. current (A)	23	26	28	
Max. cont. Power (W)	5000	5500	6000	
Max. cont. Apparent Power (VA)	5000	5500	6000	
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (℃)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (AC-BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2G - Rating

Specifications table				
Model	AF1K-SLA-1	AF1.5K-SLA-1	AF1K-SLA	AF1.5K-SLA
PV input				
P pv Max(W)	2000	3000	2000	3000
Vmax PV (Vdc) (absolute Max.)	360	360	360	360
Isc PV (absolute Max.) (A)	26	26	26 x 2	26 x 2
Number MPP trackers	1	1	2	2
Number input strings	1	1	1/1	1/1
Max. PV input current / strings (A)	18.5	18.5	18.5 x 2	18.5 x 2
MPPT voltage range (Vdc)	80-300	80-300	80-300	80-300
Vdc range @ full power (Vdc)	80-300	90-300	80-300	80-300
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	60	60	60	60
Max charge/discharge Power(W)	1000	1500	1000	1500
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Normal AC Current (A)	8.4	12.5	8.4	12.5
Max. cont. input current (A)	10	14	10	14
Rated Power(W)	1000	1500	1000	1500
Rated Apparent Power (VA)	1000	1500	1000	1500
Max. cont. Power (W)	1000	1500	1000	1500
Max. cont. Apparent Power (VA)	1000	1500	1000	1500
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Nominal Current(A)	8.4	12.5	8.4	12.5
Max. cont. current (A)	10	14	10	14
Max. cont. Power (W)	1000	1500	1000	1500
Max. cont. Apparent Power (VA)	1000	1500	1000	1500
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating45°C)			
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2H - Rating

Specifications table				
Model	AF2K-SLA	AF2.5K-SLA	AF3K-SLA	AF3.6K-SLA
PV input				
P pv Max(W)	4000	5000	6000	7200
Vmax PV (Vdc) (absolute Max.)	360	360	360	360
Isc PV (absolute Max.) (A)	26 x 2	26 x 2	26 x 2	26 x 2
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1
Max. PV input current / strings (A)	18.5 x 2	18.5 x 2	18.5 x 2	18.5 x 2
MPPT voltage range (Vdc)	80-300	80-300	80-300	80-300
Vdc range @ full power (Vdc)	80-300	90-300	90-300	110-300
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	60	80	90	90
Max charge/discharge Power(W)	2000	2500	3000	3600
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Normal AC Current (A)	16.7	20.9	25	30
Max. cont. input current (A)	19	23	28	33
Rated Power(W)	2000	2500	3000	3600
Rated Apparent Power (VA)	2000	2500	3000	3600
Max. cont. Power (W)	2000	2500	3000	3600
Max. cont. Apparent Power (VA)	2000	2500	3000	3600
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Nominal Current(A)	16.7	20.9	25	30
Max. cont. current (A)	19	23	28	33
Max. cont. Power (W)	2000	2500	3000	3600
Max. cont. Apparent Power (VA)	2000	2500	3000	3600
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating45°C)			
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2I - Rating

Specifications table				
Model	AF1K-SLA-0	AF1.5K-SLA-0	AF2K-SLA-0	AF2.5K-SLA-0
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	60	60	60	80
Max charge/discharge Power(W)	1000	1500	2000	2500
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Normal AC Current (A)	8.4	12.5	16.7	20.9
Max. cont. input current (A)	10	14	19	23
Rated Power(W)	1000	1500	2000	2500
Rated Apparent Power (VA)	1000	1500	2000	2500
Max. cont. Power (W)	1000	1500	2000	2500
Max. cont. Apparent Power (VA)	1000	1500	2000	2500
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Nominal Current(A)	8.4	12.5	16.7	20.9
Max. cont. current (A)	10	14	19	23
Max. cont. Power (W)	1000	1500	2000	2500
Max. cont. Apparent Power (VA)	1000	1500	2000	2500
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating45°C)			
Inverter Isolation	Non-isolated (AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 2J - Rating

Specifications table				
Model	AF3K-SLA-0	AF3.6K-SLA-0		
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid etc.			
Battery Normal Voltage (Range) (Vdc)	51.2V (40-60V)			
Max charge/discharge Current(A)	90	90		
Max charge/discharge Power(W)	3000	3600		
AC Grid (input and output)				
Normal AC Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Normal AC Current (A)	25	30		
Max. cont. input current (A)	28	33		
Rated Power(W)	3000	3600		
Rated Apparent Power (VA)	3000	3600		
Max. cont. Power (W)	3000	3600		
Max. cont. Apparent Power (VA)	3000	3600		
Power factor (adjustable)	1.0(-0.8~ +0.8)			
AC Load output (stand alone)				
Normal Voltage (VAC)	L/N/PE, 110Vac, 120Vac			
Frequency (Hz)	60			
Nominal Current(A)	25	30		
Max. cont. current (A)	28	33		
Max. cont. Power (W)	3000	3600		
Max. cont. Apparent Power (VA)	3000	3600		
Power factor	1.0			
Others				
Ingress protection (IP)	NEMA4X			
Protective class	Class I			
Temperature (°C)	-25°C to +60°C (Derating45°C)			
Inverter Isolation	Non-isolated (AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (DC)			

7.0 Illustrations

Illustration 3 - Schematics and PCB layout version

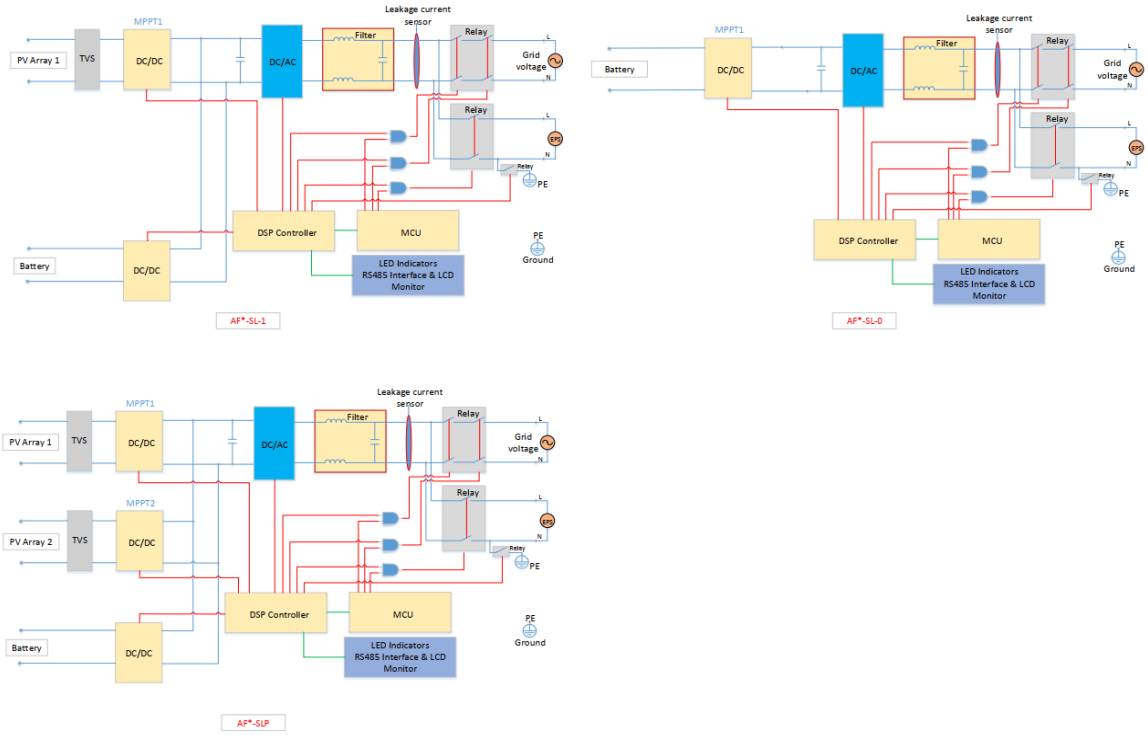


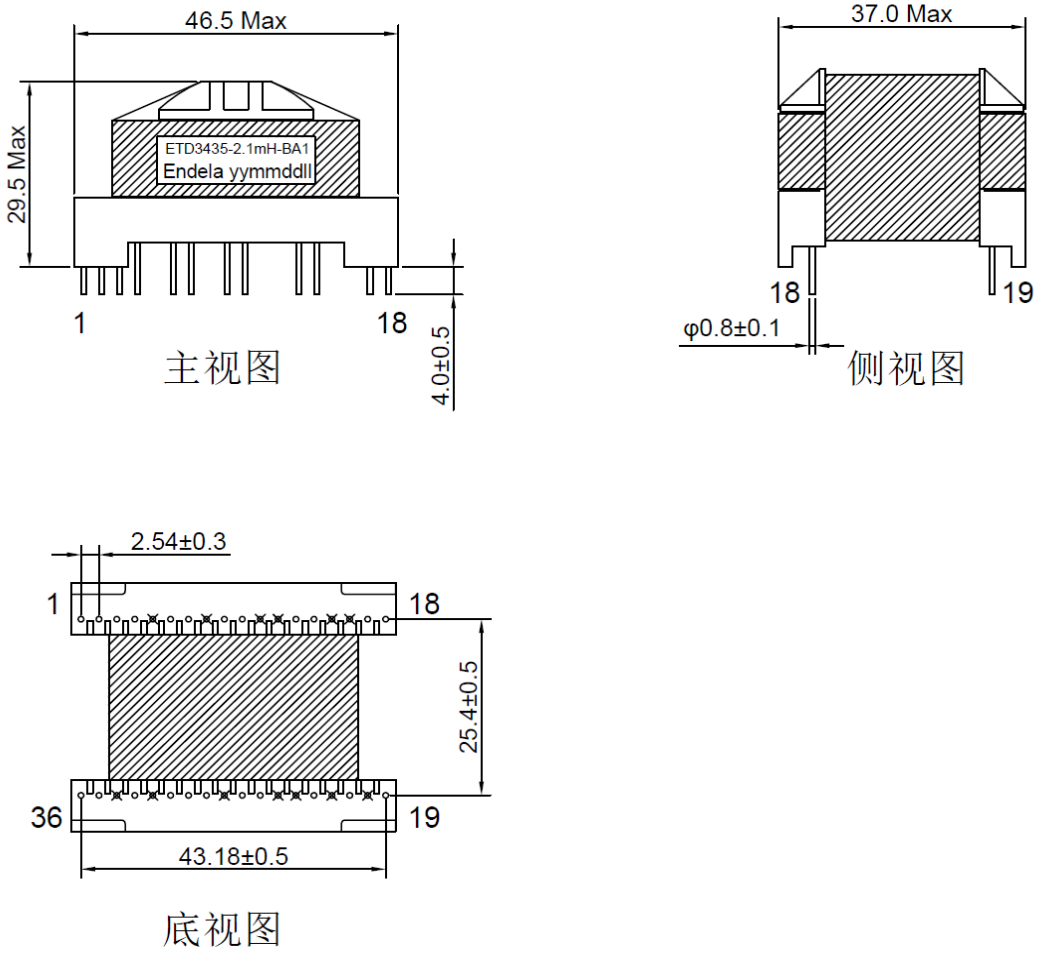
Illustration 3a - Schematics and PCB layout version

Schematic and PCB layout version		
Board	**Schematic Version**	**PCB layout Version**
Power board	V07	S050PB210107
Filter board	V05	S050FB210205
Control board	V04	S080CB201004
Display board	V08	S010HMI2003V08
AFCI board	V02	S000AFCI2409V02

7.0 Illustrations

Illustration 4 - Transformer

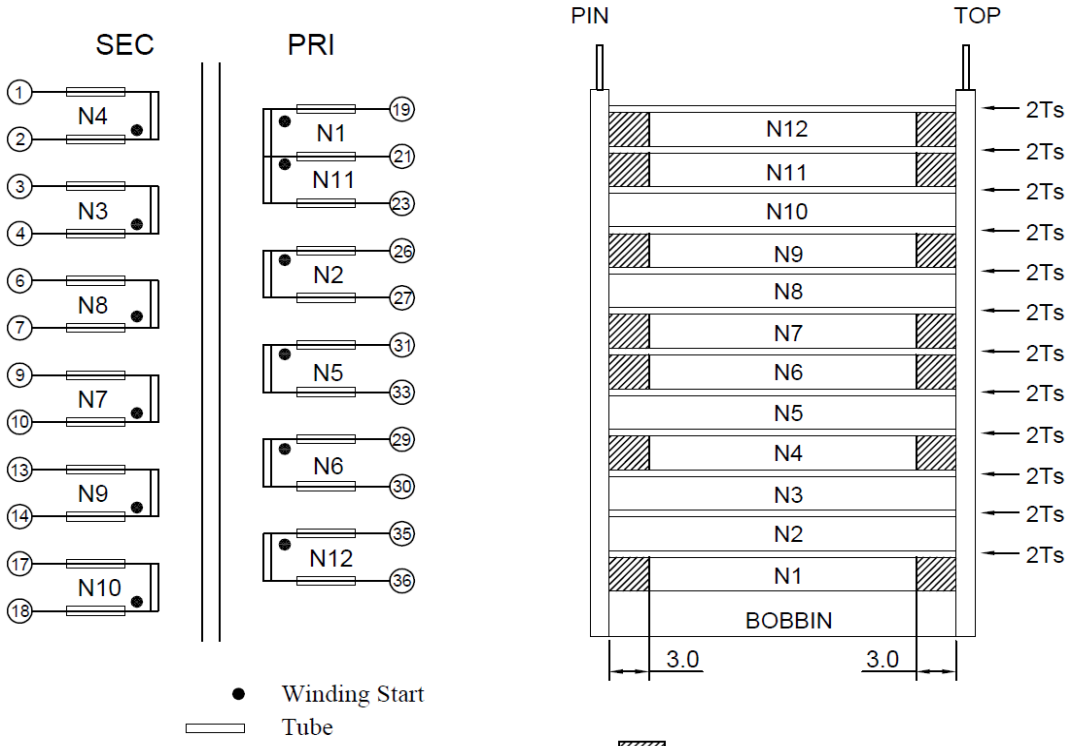
1.0 Dimensions (Unit: mm)



7.0 Illustrations

Illustration 4a - Transformer

2.0 Schematic & Winding construction



3.0 Winding Specification

NO	COIL	TERMINAL	WIRE	TURNS	WINDING TAPE	REMARK
1	N1	19 - 21	2UEW-F Ø0.30mm*1P	35Ts	2Ts	密绕
2	N2	26 - 27	2UEW-F Ø0.30mm*1P	11Ts	2Ts	均绕
3	N3	4 - 3	2UEW-F Ø0.40mm*3P	6Ts	2Ts	居中密绕
4	N4	2 - 1	2UEW-F Ø0.30mm*3P	3Ts	2Ts	均绕
5	N5	31 - 33	2UEW-F Ø0.30mm*3P	4Ts	2Ts	均绕
6	N6	29 - 30	2UEW-F Ø0.30mm*1P	7Ts	2Ts	均绕
7	N7	10 - 9	2UEW-F Ø0.30mm*1P	15Ts	2Ts	居中密绕
8	N8	7 - 6	2UEW-F Ø0.30mm*1P	15Ts	2Ts	居中密绕
9	N9	14 - 13	2UEW-F Ø0.30mm*1P	15Ts	2Ts	居中密绕
10	N10	18 - 17	2UEW-F Ø0.30mm*1P	15Ts	2Ts	居中密绕
11	N11	21 - 23	2UEW-F Ø0.30mm*1P	35Ts	2Ts	密绕
12	N12	35 - 36	2UEW-F Ø0.30mm*3P	9Ts	2Ts	均绕

7.0 Illustrations

Illustration 5 - English manual

Illustration 5a - French manual

8.0 Test Summary					
Evaluation Period	2025-07-17 to 2025-08-27			Project No.	2501B1495SHA
Sample Rec. Date	15-Jul-2025	Condition	Prototype	Sample ID.	A250715-66
Test Location	Intertek Testing Services (Shanghai FTZ)Co., Ltd				
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:22Apr2025 Clause	CSA C22.2#107.1:2016 Ed.4 Clause	UL 50E:2020 Ed.3 Clause
Limited-energy (LVLE) circuit	31	--	--
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	--
Output Power Characteristics – Harmonic Distortion	48.4	6.2	--
Utility Compatibility	49	--	--
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 - Loss of Control Circuit	50.8	6.6	--
Grounding Impedance Tests	51	4.23	--
Static Load	62	--	--
Compression test	63	6.9	--
Securement of components	--	6.16	--
Anti-islanding test	--	14.4.3	--
Maximum backfeed current into the PCE input circuit	--	14.4.4	--
Testing of automatic disconnecting means for non-isolated inverters	--	14.4.5	--
AC output short circuit current contribution tests	--	14.4.6	--
Hose down	--	--	8.6
Test Description	Certification Requirement Decision UL1741, dated April 01, 2023 Clause	--	--
Continuous Isolation Monitor Interrupter Fault Current Limit Test	34H	--	--
Sudden Change Isolation Monitor Interrupter Fault Current Test	34i	--	--
Isolation Monitor Interrupter Component Short / Open Circuit Test	34J	--	--
Ungrounded PV Arrays	34K.1	--	--
Automatic Disconnecting System Component Short/Open Test	34L	--	--
Test Description	UL 1699B:2018 Ed.1+R:09Jul2024 Clause	--	--
Humidity	25	--	--
Voltage Surge Test	27	--	--
Environmental Test Sequence	28	--	--
Arc Fault Detection Tests	29	--	--
Unwanted Tripping Tests	30	--	--
Dielectric Voltage-Withstand Test	35	--	--

8.0 Test Summary			
Corrosion Test	38	--	--
Surge Current Test	39	--	--
Supplemental Voltage Surge Immunity Test	41	--	--
Resistance to Environmental Noise Test	42	--	--
Voltage Surge Test	55	--	--
Test Description	IEEE 1547:2003 IEEE Std. 1547A-2014; IEEE Std. 1547.1, 2005 Clause	-	-
Operation Temperature Test	5.1.2.1	--	--
Storage Temperate Test	5.1.2.2	--	--
Test for response to abnormal voltage conditions	5.2	--	--
Response to abnormal frequence conditions	5.3	--	--
Start Current Measurement (Method 2)	5.4.4	--	--
Protection from EMI Test	5.5.1	--	--
Surge Withstand Test	5.5.2	--	--
Dielectric Voltage-Withstand Test	5.5.3	--	--
DC Injection for inverters without interconnection transformers	5.6	--	--
Unintentional Islanding Test	5.7.1	--	--
Open Phase	5.9	--	--
Reconnect Test Following Abnormal Condition Disconnect	5.10	--	--
Harmonics Test for Inverter	5.11	--	--
Test Description	Functional Safety		
Functional Safety Clause:15A Interlocking of Medium Voltage Equipment	N/A	-	-
Functional Safety Clause: 97 PVRSS and PVRSE Functional Safety	N/A	-	-
Functional Safety Clause: 99 Functional Safety Evaluation and Environmental Stress Testing For PVRSS/PVRSE	N/A	-	-
Functional Safety Clause:1699B Functional Safety Evaluation for programmable circuit components	Sleif Sui	-	-
Functional Safety Clause:34B.2 (Certification Requirement Decision UL1741, dated April 01, 2023)	Sleif Sui	-	-

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.

Completed by:	Parker Wang	Reviewed by:	Sleif Sui
Title:	Engineer	Title:	Reviewer
Signature:		Signature:	

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	Afore New Energy Technology (Shanghai) Co., Ltd.
Address	Building 7, No.333 Wanfang Road, Minhang District, Shanghai 201112
Country	China
Product	Utility Interactive Inverter(Non-Isolated 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

Dielectric Voltage Withstand Test
Utility Voltage and Frequency Variation 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. Between PV& AC part to communication part, PV& AC part to metal enclosure	1840Vac 2600Vdc	60 s
Product- One sample from each shipment of Section 4.0 item 53: Between primary circuit and secondary output Between primary circuit and core	or 2220Vac 3140Vdc	1 s

11.2 Utility Voltage and Frequency Variation Test.Grounding Continuity Test

Method

Each Utility-Interactive inverter initially exporting power withing its normal operating range shall cease to export power to the simulated utility source after the output voltage and frequency of the simulated utility source are adjusted to each specifie.

the products shall be tested at convenient load.

Specification for Interconnection system response to abnormal

Voltage range (%)	**Clearing time(s)**
V < 45	0.16
45≤ V < 60	1
60≤ V < 88	2
110 ≤ V < 120	1
V ≥ 120	0.16

Specification for Interconnection system response to abnormal
Tests must be preformed at 60Hz +/- 0.01Hz

Frequency range (Hz)	**Clearing time(s)**
< 57	0.16
< 59.5	2
> 60.5	2
> 62	0.16

Products Requiring Grounding Continuity Test:

All products covered by this Report.

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
				None