



Test Certificate No.: 9912311773

In accordance with Clause 12 of the Standards Law – 1953

Details of order:

Name of customer	: Bureau Veritas Consumer Product Services GmbH
Address	: Businesspark A96, 86842 Türkheim, Germany
Date of order	: 24/04/2018

Description of sample:

Solar Inverter	
Models	: STP8.0-3AV-40, STP10.0-3AV-40
Manufacturer	: SMA Solar Technology AG, Germany
(see additional product information on pages 2-13)	

Sampling details:

No sample required

Nature of test:

Review of test reports:
 Ref. No.: 64.290.18.05348.01 dated 13/09/18, issued by TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch,
 Ref. No.: 18TH0325-SI4777_0 dated 07/03/19, issued by Bureau Veritas Consumer Products Services, Germany GmbH
 for the above-specified solar inverter models according to the following standards:

IEC/EN 62109-1: 2010 – Safety of power converters for use in photovoltaic power system – Part 1: General requirements
 IEC/EN 62109-2: 2011 – Safety of power converters for use in photovoltaic power system – Part 2: Particular requirements for inverters

SI 4777.2: 2005 - Grid connection of energy systems via inverters: Inverter requirements;
 SI 4777.3: 2005 - Grid connection of energy systems via inverters: Grid protection requirements, with Deviations for Israel according to the Guidelines for Importers, Installers and Owners of Electricity Generating Systems Using Photo-Voltaic Technology, regarding Adjustment of Photo-Voltaic Inverters: 2013

This document contains 13 pages and may be used only in full.

The test results in this report refer only to the item tested.

This document alone is not sufficient for the release of goods from customs.


Test Conclusions:

Based on the information provided in the above mentioned test reports, the above-specified solar inverter models **comply** with the Israeli requirements for grid-tied photovoltaic inverters.

The models referred in this document employ an integrative residual current monitor (RCMU) for protection of the DC and AC lines.

When installed in Israel, the inverter shall be adjusted according to Israeli requirements for grid-tied photovoltaic inverters regarding overvoltage/undervoltage, overfrequency/underfrequency protection.

Anatoly Oimatov 
 Product Safety Engineer
 Electrical Safety Branch
 Electronics and Telematics Laboratory
 The Standards Institution of Israel
 Date: 07/05/2019

Vladimir Chernikh 
 Senior Product Safety Engineer
 Electrical Safety Branch
 Electronics and Telematics Laboratory
 The Standards Institution of Israel
 Date: 07/05/2019


This document does not permit marking the product with SII Mark

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ADDITIONAL PRODUCT INFORMATION

Electrical Ratings

Test item description	: Grid-tied photovoltaic inverter
Trademark	: 
Model / Type	: STP8.0-3AV-40, STP10.0-3AV-40

Ratings..... :	STP8.0-3AV-40	STP10.0-3AV-40
MPP DC voltage range [V]	260 - 800	320-800
Input DC voltage range [V]	175 - 1000	
Input DC current [A]	20 / 12 max	
Output AC voltage [V]	380/400/415 (3P,N,PE)	
Output AC current [A]	12,1	14,5
Output power [VA]	8000	10000

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APPENDIX
List of Critical Components
(10 pages attached)

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14	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Enclosure	SMA New Energy Technology (Jiangsu) Co., Ltd.	-	metal plate, 385mmx419,5mmx170mm, thickness: 2mm, material: aluminium	IEC 62109-1	test in appliance	
Cover	SMA New Energy Technology (Jiangsu) Co., Ltd.	-	metal die casting part, 460mmx497mm x80mm, thickness: 3mm, material: aluminium	IEC 62109-1	test in appliance	
DC connector	PHOENIX CONTACT GmbH & Co. KG	PV-CF-S 2,5-6 Female	Female 1100V, 40A, IP68, -40°C ... 85°C	EN 50521	VDE(40031807)	
	PHOENIX CONTACT GmbH & Co. KG	PV-CM-S 2,5-6 male	Male 1100V, 40A, IP68, -40°C ... 85°C	EN 50521	VDE(40031807)	
AC output coupler	PHOENIX CONTACT GmbH & Co. KG	PRC 5-FC-FS6 8-21	600V, 30A, 105°C	UL 2238 2 PfG 1915/03.2015	UL(E221474) TUV(R 60117908)	
DC Fan	Minebea Motor Manufacturing Corporation	06025SA-12Q-BT-D1	12V, 2.4W, speed: 5300, -10...75°C	UL 507	UL(E89936)	
DC Connecting wire	3Q WIRE & CABLE CO LTD	UL10271	105°C, 1000V, AWG12	UL 758	UL(E341104)	
-	3Q WIRE & CABLE CO LTD	UL10269	105°C, 1000V, AWG 10	UL 758	UL(E341104)	
AC Connecting wire	3Q WIRE & CABLE CO LTD	UL10269	105°C, 1000V, AWG12	UL 758	UL(E341104)	
-	JIANGYIN WEICHENG SPECIAL CABLE CO LTD	UL3640	1100V, 180°C, AWG12	UL 758	UL(E325197)	
DC switch	Santon	XBHP3319-AAB/2	1100V, 45A, DC-21B, IP65, -40°C ... 85°C	UL 508	UL(E304888)	
LED light guide	SABIC INNOVATIVE PLASTICS	PBT-IQ4860HR(f1)	PBT, 2mm thickness, UL94V-0, -40°C...105°C	UL 94 UL 746C	UL(E207780)	
Display labels	COVESTRO DEUTSCHLAND AG [SPECIALITY FILMS	Makrofol DE 6-2 060023	0.25mm, material UL approved	UL 94 UL 746C	UL(E168120)	
Insulation sheet under IGBT	BERGQUIST	SIL-PAD K10#	VTM-0, 250°C, CTI:0	UL 94 UL 746C	UL(E59150)	
Insulation sheet under BUS Cap	FORMEX, DIV OF ILLINOIS TOOL WORKS INC, FORMERLY	Formex GK-17	0.43mm, 120°C, UL94, V-0	UL 94 UL 746C	UL(E121855)	
All PCB	Various	All accepted	V-0, 130°C, CTI≥175	UL 94	UL	
Heat-shrinkable tube	Shenzhen Woer Heat-Shrinkable	WOER RSFR(H)	600V, VW-1, -55°C...125°C	UL 224	UL(E203950)	

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14 TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
	Material Co., Ltd				
PCB coatings	Lackwerke Peters GmbH + Co KG	ELPEGUARD ® SL 1307 FLZ/2	Conformal coating approved by UL used for to prevent deterioration or damage due to such causes as moisture and atmospheric contaminants, 125 °C	UL 94 UL 746E	UL(E80315)
-Alt.	Lackwerke Peters GmbH + Co KG	ELPEGUARD ® SL 1307 FLZ/4	Conformal coating approved by UL used for to prevent deterioration or damage due to such causes as moisture and atmospheric contaminants, 125 °C	UL 94 UL 746E	UL(E80315)
Components on AC output PCB					
Power relay (RY703-RY708)	XIAMEN HONGFA ELECTROACOU STIC CO LTD	HF161F-W/12- HT	277Vac, 26A, contact gap > 2.26mm, -40°C...85°C	IEC 61810	UL(E134517) VDE(40031410)
GFCI inductor(CT702)	CORMEX	E-27207A	1:1:1:10:73, 2.4mm, Amorphous CAH 15/19-5 Class B	IEC 62109-1	test in appliance
AC Current sensor (HCT101- HCT103)	Tamura Corp	F02P015S05L	I _r =15A, -40°C...105°C	UL 508	UL(E243511)
X1 capacitor (C376)	Faratronic	C45S1684M9 1C350	0.68uf, 440Vac, -40°C ...110°C	IEC 60384- 14 EN 60384-14	VDE(40021925) UL(E186600)
X2 capacitor (C818-820, C829-C831)	Faratronic	C4BR2225KB WC450	2.2uF 350V, -40°C ...110°C	IEC 60384- 14 EN 60384-14	SEMKO(SE/0366- 6) UL(E186600)
X2 capacitor (C832, C833, C834)	Faratronic	C4BR2475MF WC350	4.7uf 350Vac, -40°C ...110°C	UL 60384-14	SEMKO(SE/0366- 6) UL(E186600)
Y2 capacitor (C101-C103, C358, C403, C804-C809, C821, C823, C825, C827)	Vishay	BFC23386010 3	0.022uF, 300Vac, -40°C ...105°C	UL60384-14	UL(E354331)
Y2 capacitor (C377, C378, C822, C824, C826, C828)	Vishay	BFC23386047 3	0.047µF 300Vac, -40°C ...105°C	UL60384-14	UL(E354331)
Y2 capacitor	Vishay	BFC23386022	0.022uF/300Vac	UL60384-14	UL(E354331)

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(C390, C401, C402, C406)		3	-40 ...105°C		
Y1 capacitor (C148, C149, C167)	EPCOS	B81123C1472 M	0.0047uF/500Vac -40 ...110°C	UL60384-14	UL(E97863)
AC filter inductor (CT703)	CORMEX	E-27453	3P COM- CHOKE 305uH@10KHz 2.6mm R5K H47*27*15 Class B	IEC 62109-1	test in appliance
-Core (Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	H47x27x15-C- R5K	-	IEC 62109-1	test in appliance
-Magnet Wire (PEW)	Pacific Electric Wire & Cable Co Ltd	MW 5-C(SS-F)	155°C	UL1446	UL(E84081)
-alt.	Ningbo Jintian New Material Co.,Ltd	MW30#	180°C	UL1446	UL(E227047)
-Insulating Tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.CT 280B	130°C, Flame Retardant	UL510A	UL(E165111)
-Margin Tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF	130°C, Flame Retardant	UL510A	UL(E165111)
-PET Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB –TT- S	200°C	UL94 UL746	UL(E180908)
-Base Case	Kingboard Laminates Holdings Ltd	KB-6150 (FR- 4)	130°C, V-0	UL736E	UL(E123995)
-Epoxy	Dongguan Eatto Electronic Material Co Ltd	3300A- 1/3300B-1	130°C	UL94 UL746	UL(E218090)
-Varnish	Suzhou Taihu Electric Advanced Material Co.,Ltd	ET-90(a) MW28-C	130°C	UL1446	UL(E228349)
AC filter inductor(CT702)	CORMEX	E-27952	3P COM- CHOKE 480uH@10KHz 2.6mm R5K H51*31*13 Class B	IEC 62109-1	test in appliance
-Core (Mn-Zn)	Dong yang Dmegc Magnetics Co., Ltd	H51*31*13- R5K	-	IEC 62109-1	test in appliance
-Magnet Wire (PEW)	Pacific Electric Wire & Cable Co Ltd	MW 5-C(SS-F)	155°C	UL1446	UL(E84081)
-alt.	Ningbo Jintian New Material	MW30#	180°C	UL1446	UL(E227047)

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	Co.,Ltd				
-Insulating Tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT*(c)(g)	130°C, Flame Retardant	UL510A	UL(E165111)
-PET Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB –TT- S	200°C	UL94 UL746	UL(E180908)
-Base Case	Kingboard Laminates Holdings Ltd	KB-6150 (FR- 4) V-0 Thk=1.6/2.0m mHWI=0 HAI=2	130°C	UL736E	UL(E123995)
-Epoxy	Dongguan Eatto Electronic Material Co Ltd	3300A- 1/3300B-1	130°C	UL94 UL746	UL(E218090)
-Varnish	Suzhou Taihu Electric Advanced Material Co.,Ltd	ET-90(a) MW28-C	130°C	UL1446	UL(E228349)
Components on main power PCB					
ISO relay (RY101)	Omron	G2RG-2A4	250Vac,8A, contact gap > 1.5mm*2, -40...70°C	IEC 61810	VDE(40015012) UL(E41643)
Electrolytic capacitor(C140- C145)	NIPPON CHEMI- CON	ELXS501VSN 391MA50S	390uF/500V, -25...105°C	IEC 60384-4	test in appliance
Film capacitor (C111, C112)	Faratronic	C323A104K90 C450	0.1uF/1000Vdc, -55...105°C	IEC 62109-1	test in appliance
Film capacitor (C107, C108)	Faratronic	C3D3L225KB1 0C00	2.2uF/1200Vdc, -40...105°C	IEC/EN61071	UL(E256238) TUV(R50266108)
Film capacitor (C146, C147, C339)	Faratronic	C3D3L105KB1 0C00	1uF/1200Vdc, -40...105°C	IEC/EN61071	UL(E256238) TUV(R50266108)
Film capacitor (C109, C110)	Faratronic	C3D1M146KF 1BC00	14uF/1100Vdc; -40...105°C	IEC/EN61071	UL(E256238) TUV(R50266108)
IGBT (Q101, Q102, Q103)	FAIRCHILD	FGH40T120S MD	1200V, 40A, Junction -40...175°C	IEC 62109-1	test in appliance
IGBT(Q108)	FAIRCHILD	FQB1P50	75A, 650V, -40...175°C	IEC 62109-1	test in appliance
IGBT(Q107)	FAIRCHILD	IRFBF20S	50A, 650V, -40...175°C	IEC 62109-1	test in appliance
Diode (D101)	CREE	C4D20120D	1200V, 32A, Junction -55... 175°C	IEC 62109-1	test in appliance
Diode (D102)	CREE	C4D10120D	1200V, 18A, Junction -55... 175°C	IEC 62109-1	test in appliance
Diode (D103, D145)	VISHAY	BYG23T-M3	1300V, 1A, Junction -55... 175°C	IEC 62109-1	test in appliance
DC SPS Mosfet	IXYS	IXTP3N120	1200V, 3A,	IEC 62109-1	test in appliance

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(Q105, Q106)			Junction -55... 150°C		
AC SPS Mosfet (Q127)	FAIRCHILD	FQB5N90	5.4A, 900V, -55...150°C	IEC 62109-1	test in appliance
AC SPS rectifier bridge (D181)	FAIRCHILD	DF10S	1000V, 1.5A, Junction -55... 175°C	IEC 62109-1	test in appliance
DC current sensor(HCT104- HCT105)	LEM	HLSR 10-P	10A, -40°C...105°C	UL 508	UL(E189713)
DC filter inductor (CT201)	CORMEX	E-28055C	3P COM- CHOKE 402uH@10KHz 3.2mm R5K H56*26*20 Class B	IEC 62109-1	test in appliance
-Core (Mn-Zn)	Dong yang Dmegc Magnetics Co., Ltd	H51*31*13- R5K	-	IEC 62109-1	test in appliance
-Magnet Wire (PEW)	Pacific Electric Wire & Cable Co Ltd	MW 5-C(SS-F)	155°C	UL1446	UL(E84081)
-alt.	Ningbo Jintian New Material Co.,Ltd	MW30#	180°C	UL1446	UL(E227047)
-Insulating Tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT*(c)(g)	130°C, Flame Retardant	UL510A	UL(E165111)
-Margin Tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF	130°C, Flame Retardant	UL510A	UL(E165111)
-Base	Kingboard Laminates Holdings Ltd	KB-6150 (FR- 4) V-0 Thk=2.0mm HWI=0 HAI=2	130°C	UL736E	UL(E123995)
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL94 UL746	UL(E180908)
-Epoxy	Dongguan Eatto Electronic Material Co Ltd	3300A- 1/3300B-1	130°C	UL94 UL746	UL(E218090)
-Varnish	Suzhou Taihu Electric Advanced Material Co.,Ltd	ET-90(a) MW28-C	130°C	UL1446	UL(E228349)
Transformer (TX105, TX106)	CORMEX	E-27850	Class B	IEC 62109-1	test in appliance
-Core(Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	EE-13-DMR40	-	IEC 62109-1	test in appliance
-Magnet Wire	Tai-I Electric Wire & Cable Co	MW- 79C(UEWF)	155°C	UL1446	UL(E234896)

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	Ltd					
-alt.	Feng Ching Metal Corp	MW79(FSW)	155°C	UL1446	UL(E172395)	
-Bobbin	Sumitomo Bakelite Co Ltd	PM9630	150°C, V-0	UL94 UL746	UL(E41429)	
-Insulating Tape	3m Company Electrical Markets Div (Emd)	NO.1350F-1	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT280B	130°C, Flame Retardant	UL510A	UL(E165111)	
-Margin Tape	3m Company Electrical Markets Div (Emd)	NO.44	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF*(c)(h)	130°C, Flame Retardant	UL510A	UL(E165111)	
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL224	UL(E180908)	
-Epoxy	Elantas Electrical Insulation Elantas Pdg Inc	EPOXY RESIN 471- 5LL V-0 EPOXY RESIN 471- 5LL-HV	130°C, V-0	UL94 UL746	UL(E100866)	
-Varnish	John C Dolph Co	BC-359	130°C, V-0	UL1446	UL(E317427)	
Transformer (TX102, TX103)	CORMEX	E-27671	Class B	IEC 62109-1	test in appliance	
-Core(Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	EE-13-DMR40	-	IEC 62109-1	test in appliance	
-Magnet Wire	Tai-I Electric Wire & Cable Co Ltd	MW- 79C(UEWF)	155°C	UL1446	UL(E234896)	
-alt.	Feng Ching Metal Corp	MW79(FSW)	155°C	UL1446	UL(E172395)	
-Bobbin	Sumitomo Bakelite Co Ltd	PM9630	150°C, V-0	UL94 UL746	UL(E41429)	
-Insulating Tape	3m Company Electrical Markets Div (Emd)	NO.1350F-1	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT280B	130°C, Flame Retardant	UL510A	UL(E165111)	
-Margin Tape	3m Company Electrical Markets Div	NO.44	130°C, Flame Retardant	UL510A	UL(E17385)	

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	(Emd)				
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF*(c)(h)	130°C, Flame Retardant	UL510A	UL(E165111)
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL224	UL(E180908)
-Varnish	John C Dolph Co	BC-359	130°C, V-0	UL1446	UL(E317427)
Transformer (TX101)	CORMEX	E-27674	Class B	IEC 62109-1	test in appliance
-Core(Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	EE-13-DMR40	-	IEC 62109-1	test in appliance
-Magnet Wire	Tai-I Electric Wire & Cable Co Ltd	MW- 79C(UEWF)	155°C	UL1446	UL(E234896)
-alt.	Feng Ching Metal Corp	MW79(FSW)	155°C	UL1446	UL(E172395)
-Bobbin	Sumitomo Bakelite Co Ltd	PM9630	150°C, V-0	UL94 UL746	UL(E41429)
-Insulating Tape	3m Company Electrical Markets Div (Emd)	NO.1350F-1	130°C, Flame Retardant	UL510A	UL(E17385)
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT280B	130°C, Flame Retardant	UL510A	UL(E165111)
-Margin Tape	3m Company Electrical Markets Div (Emd)	NO.44	130°C, Flame Retardant	UL510A	UL(E17385)
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF*(c)(h)	130°C, Flame Retardant	UL510A	UL(E165111)
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL224	UL(E180908)
-Varnish	John C Dolph Co	BC-359	130°C, V-0	UL1446	UL(E317427)
Transformer (TX104)	CORMEX	E-27179A	Class B	IEC 62109-1	test in appliance
-Core(Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	EI28-DMR40	-	IEC 62109-1	test in appliance
-Magnet Wire	Tai-I Electric Wire & Cable Co Ltd	MW- 79C(UEWF)	155°C	UL1446	UL(E234896)
-alt.	Feng Ching Metal Corp	MW79(FSW)	155°C	UL1446	UL(E172395)
-Bobbin	Sumitomo Bakelite Co Ltd	PM9630	150°C, V-0	UL94 UL746	UL(E41429)

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-Insulating Tape	3m Company Electrical Markets Div (Emd)	NO.1350F-1	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT280B	130°C, Flame Retardant	UL510A	UL(E165111)	
-Margin Tape	3m Company Electrical Markets Div (Emd)	NO.44	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF*(c)(h)	130°C, Flame Retardant	UL510A	UL(E165111)	
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL224	UL(E180908)	
-Epoxy	Dongguan Eatto Electronic Material Co Ltd	3300A- 2/3300B-2	130°C, V-0	UL94 UL746	UL(E317427)	
-Varnish	John C Dolph Co	BC-359	130°C, V-0	UL1446	UL(E317427)	
Transformer (TX108)	CORMEX	E-27372	Class B	IEC 62109-1	test in appliance	
-Core(Mn-Zn)	Dong Yang Dmegc Magnetics Co.,Ltd.	EF20-DMR40	-	IEC 62109-1	test in appliance	
-Magnet Wire	Tai-I Electric Wire & Cable Co Ltd	MW-75C(DD)	130°C	UL1446	UL(E234896)	
-alt.	Feng Ching Metal Corp	MW75(UEW)	130°C	UL1446	UL(E172395)	
-Bobbin	Sumitomo Bakelite Co Ltd	PM9630	150°C, V-0	UL94 UL746	UL(E41429)	
-Insulating Tape	3m Company Electrical Markets Div (Emd)	NO.1350F-1	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO. CT280B	130°C, Flame Retardant	UL510A	UL(E165111)	
-Margin Tape	3m Company Electrical Markets Div (Emd)	NO.44	130°C, Flame Retardant	UL510A	UL(E17385)	
-alt.	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	NO.WF*(c)(h)	130°C, Flame Retardant	UL510A	UL(E165111)	
-Tube	Changyuan Electronics Group Co.,Ltd	PTFE CB – TT-S	200°C	UL224	UL(E180908)	

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14 TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
-Varnish	John C Dolph Co	BC-359	130°C, V-0	UL1446	UL(E317427)
Boost inductor	Qingdao Yunlu Energy Technology Co., LTD	-	2mH, Class B	IEC 62109-1	test in appliance
-Core	POCO	NPS226060	-	IEC 62109-1	test in appliance
-Wire	Tongling Jingda Special Magnet Wire CO.,LTD	Q(ZY/XY)-2/200	200°C	UL1446	UL(E174580)
-alt.	Liaoning donggang	Q(ZY/XY)-2/200	200°C	UL1446	UL(E229247)
-Lead wire	Haerkn	UL10269 12AWG	105°C,1000V	UL758	UL(E488183)
-alt.	LTK Electric wire	UL10269 12AWG	105°C,1000V	UL758	UL(E148000)
-alt.	3Q wire & cable	UL10269 12AWG	105°C,1000V	UL758	UL(E341104)
-Tube	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	125°C	UL224	UL(E203950)
-Tape	Jingyi	JY25-A	130°C, Flame Retardant	UL510A	UL(E246950)
INV inductor	Qingdao Yunlu Energy Technology Co., LTD	-	1.096mH Class B	IEC 62109-1	test in appliance
-Core	POCO	NPS226075	-	IEC 62109-1	test in appliance
-Wire	Tongling Jingda Special Magnet Wire CO.,LTD	Q(ZY/XY)-2/200	200°C	UL1446	UL(E174580)
-alt.	Liaoning donggang	Q(ZY/XY)-2/200	200°C	UL1446	UL(E229247)
-Lead wire	Haerkn	UL10269 12AWG	105°C,1000V	UL758	UL(E488183)
-alt.	LTK Electric wire	UL10269 12AWG	105°C,1000V	UL758	UL(E148000)
-alt.	3Q wire & cable	UL10269 12AWG	105°C,1000V	UL758	UL(E341104)
-Tube	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	125°C	UL224	UL(E203950)
-Tape	Jingyi	JY25-A	130°C, Flame Retardant	UL510A	UL(E246950)
CPU, U501(main)	TI	TMS320F283 79DPTPT	-40...105°C	IEC 62109-1	test in appliance
CPU, U502(slave)	Freescale	MC9S08PA4A VTGR	-40...105°C	IEC 62109-1	test in appliance
Components on communication PCB					
Optocoupler	Avago Technologies	HCNW139	operating temperature: -40...85°C;	ANSI/UL 1577 IEC/EN/DIN	UL(E55361) CSA(CA88324)

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14	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
			external clearance: 9.6mm; external creepage:10.0mm	EN 60747-5- 5		
-alt.	FAIRCHILD	FOD8160	operating temperature: -40...100°C; external clearance:10mm; external creepage:10.0mm	ANSI/UL 1577 IEC//DIN EN 60747-5-5	UL(E90700A)	
Isolating transformer N200 on KP	KASCHKE COMPONENTS GMBH	04-030225	Class B, operating temperature: -25...85°C; external clearance:7.5mm; external creepage:10.0mm	UL 1446	UL(E242005)	
Isolating transformer N1900 on KP	XFMR5 INC	XFATM9ULR1	Class F, Isolation insulation: 6000 Vrms(CHIP to LINE); flammability:UL94 V-0; operating temperature range:-55...85°C;	UL 60950	UL(E165866)	
1) an asterisk indicates a mark which assures the agreed level of surveillance						

--- End of test report---