

Certificate No. S 50441494 Report No. 50254357 001 Appendix No. 1

Constructional Data Form (CDF) for Electrical Appliances

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License holder : American Power Conversion Holding Inc. Taiwan Branch
 3F, No. 205, Sec. 3, Beixin Rd., Xindian Dist, New Taipei City, 231 Taiwan

Factory : Danam Philippines Inc
 Lot 1-A, Block 15, Phase III, PEZA Rosario, Cavite, 4106 Philippines.

Type of Appliance : Uninterruptible Power Supply

Type Designation : BR1200SIYYYYYYYYY, BR1600SIYYYYYYYYY
 (Y= any alphanumeric, +, *, #, -, or blank)

Rating : See table A

Protection Class : Class I

Supply connection : AC Inlet

Additional information :

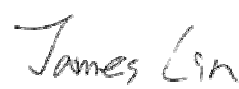
Specified maximum ambient temperature is 0-40°C

Specified the equipment to be operated up to 2000m above sea level.

Approx. 10.7kg

Table A:

Model	Rating
1. BR1200SIYYYYYYYYY (Y= any alphanumeric, +, *, #, -, or blank)	1. i/p: 220-240V~, 10A, 50/60Hz, 1Ø. o/p: Surge Only Outlets: 220-240Vac~, 50/60Hz. Battery Backup Outlets: 220-240Vac~, 5.46A; 50/60Hz, 1200VA, 720W. Total Outlet Current: 10A MAX.
2. BR1600SIYYYYYYYYY (Y= any alphanumeric, +, *, #, -, or blank)	2. i/p: 220-240V~, 10A, 50/60Hz, 1Ø. o/p: Surge Only Outlets: 220-240Vac~, 50/60Hz. Battery Backup Outlets: 220-240Vac~; 7.28A, 50/60Hz, 1600VA, 960W. Total Outlet Current: 10A MAX.

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Table B:					
Critical Components					
Object/part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
Unit	--	--	--	--	--
Inlet	Rich Bay	R-301 SN	10A, 250V	IEC/EN 60320-1	VDE
	Elcom	EMI-14-T5	10 A, 250V	IEC/EN 60320-1	VDE
	Rong Feng	701W-series	10A, 250V	IEC/EN 60320-1,	VDE
All enclosure	Lotte	VH-0815(+)	V-1, min. 2.0mm thick, 85°C	UL 94	UL, cUL
	LG	AF312, AF312T, AF312A	V-0, min. 2.0mm thick, 75°C	UL 94	UL, cUL
Battery cover	Lotte	VH-0815(+)	V-1, min. 1.5mm thick, 60°C	UL 94	UL, cUL
	LG	AF312, AF312T, AF312A	V-0, min. 1.5mm thick, 75°C	UL 94	UL, cUL
Tape (for battery cover fixed on batteries)	3M	4945	Max. 90 degree C for surface ABS.	UL 746C	UL
Outlet (total 8 outlets)	Richbay	R-302SN series	10A, 250Vac	IEC/EN 60320-1 IEC/EN 60320-2-2	VDE, UL
	ELCOM	EMO-14 series	10A, 250Vac	IEC/EN 60320-1 IEC/EN 60320-2-2	VDE
	Rong Feng	742W-4P series	10A, 250Vac	IEC/EN 60320-1 IEC/EN 60320-2-2	TUV
Circuit Breaker	Rong Feng	RFMB series	10A, 250Vac	IEC/EN 60934	UL, VDE
	Kuoyuh	88 series	10A, 250Vac	IEC/EN 60934	UL, VDE
AVR/Inverter Transformer (For model BR1200SIYYY YYY only)	SJE	NERB82 (430- 1031xxxxxxx, x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
	CSE	CSC-B4 (430-	Class B	Applicable parts in IEC 62040-1 and	Accepted by

TÜV Rheinland Group

03 Jul, 2019 Jimmy Lu

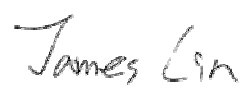
Date Printed Name



Signature

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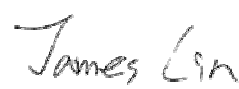
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		1031xxxxxxx, x=0-9, A-Z, "-" or blank) ¹⁾		evaluated acc to IEC 60085	TÜV Rheinland
AVR/Inverter Transformer (For model BR1600SIYYY YYY only)	SJE	NER-B82 (430- 1032xxxxxxx, x=0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
	CSE	CSC-B4 (430- 1032xxxxxxx, x=0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
Battery (2 provided in internal battery pack) (For BR1200SI only) (Battery pack no. APCRBC161)	Panasonic (GS YUASA)	UP-PW1245P1	12Vdc, 7.8Ah, enclosure material HB minimum	UL 1989	UL
	GS YUASA international LTD	PXL12090	12Vdc, 9Ah, enclosure material HB minimum	UL 1989	UL
	PANASONIC CORPORATION (GS YUASA)	UP-RW1245	12V, 7.8Ah, Enclosure Material HB minimum	UL 1989	UL
	Hitachi Chemical Energy Technology Co Ltd (CSB Battery Co Ltd)	HR 1234W F2	12V, 8.5Ah, Enclosure Material HB minimum	UL 1989	UL
	B&B BATTERY	HR9-12	12V, 9Ah, Enclosure Material HB minimum	UL 1989	UL
	EXIDE INDUSTRIES LTD	EP1234WFR	12V, 9Ah, Enclosure Material HB minimum	UL 1989	UL
	Shenzhen Center Power	CP1290	12V, 9Ah, Enclosure Material HB minimum	UL 1989	UL
	Kung Long Batteries	WP9-12SHR	12Vdc, 9Ah, enclosure material HB minimum	UL 1989	UL
Battery (2 provided in	Hitachi Chemical Energy	UPS12580F2	12V, 9.4Ah, Enclosure Material HB minimum	UL 1989	UL (MH14533)

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internal battery pack) (For BR1600SIYYY YYYYY only) (Battery pack no. APCRBC163)	Technology Co Ltd (CSB Battery Co Ltd)				
	Leoch Battery	LP12-10S	12Vdc, 9.4Ah, enclosure material HB minimum	UL 1989	UL (MH26866)
Fan (One applied)	Kaimei	JF0815 series	24Vdc, 0.07A, Air flow: 25.79 CFM	EN 60950-1:2006+A11+A1+A12+A2	TUV
	NMB	08015SS-24L	24Vdc, 0.07A, Air flow: 26.8 CFM	EN 60950-1:2006+A11+A1+A12+A2	VDE
On Main PCB	--	--	--	--	--
Relay (RY2, RY3, RY4)	Hasco	PRF1C20DC24K1 SN	Contact: 20A, 277V~, Coil: 24Vdc, 0.53W, Class F.	IEC/EN 61810-1 IEC/EN 61810-5	TUV
	Xiamen Hongfa Electroacoustic	HF14FW024-ZT	Contact: 16A, 250V~, Coil: 24Vdc, 22mA, Class B	IEC/EN 61810-1 IEC/EN 61810-5	VDE
	Song Chuan	793-P-1-F	Contact: 16A, 250V~, Coil: 24Vdc, 22mA, Class B	IEC/EN 61810-1 IEC/EN 61810-5	TUV
Backfeed Relays (RY1)	Song Chuan	894H-2AH1-F series	Contact: 14A, 277V~, Coil: 24Vdc, 33.3mA, air gap is 1.5 mm min., class F	IEC/EN 61810-1 IEC/EN 61810-5	TUV
	Hasco	PRF2A15DC24K-1.5 series	Contact: 15A, 277V~, Coil: 24Vdc, 33.3mA, air gap is 1.5 mm min., class F	IEC/EN 61810-1 IEC/EN 61810-5	VDE
Load sense Transformer (CT1)	Chuan Shun	CSC-B6 (460-7237xxxxxxx; x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
	Leader	CIS.04 (460-7237xxxxxxx;	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC	Accepted by TÜV Rheinland

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		x =0-9, A-Z, "-" or blank) ¹⁾		60085	
Transformer (T2)	CSE	(430-0850xxxxxxx; x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
	Shenzhen Jing Quan Hua (Jingquanhua)	(430-0850xxxxxxx; x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
- Triple insulation wire in T2	Furukawa	TEX-E	130°C	UL 2353 IEC/EN 62368-1	UL, VDE
Battery fuses (F2, F3)	Littelfuse	257	F40A, 32Vdc	UL 275 CSA C22.2 No. 248.1	UL, cUL
Y1 bridging Capacitor (C62) (min. 100 °C)	Jya Nay	JN series	Max. 4700pF, 250V~ min.	IEC/EN 60384-14:2013	TUV
	Kemet	AH series	Max. 4700pF, 250V~ min.	IEC/EN 60384-14:2013	VDE
X capacitor (C27) (min. 85 °C)	Illinois	MKP	Max. 0.22µF, 250V~ min.	IEC/EN 60384-14:2013	VDE
X capacitor (C117) (min. 85 °C)	Illinois	MKP	Max. 0.68µF, 250V~ min.	IEC/EN 60384-14:2013	VDE
Y Capacitor (C68, C69, C70, C71) (min. 85 °C)	Vishay	VY2	Max. 4700pF, 250V~ min.	IEC/EN 60384-14:2013	VDE
Varistors (MV1)	Ceramate Techn. Co., Ltd.	GNR20D471K	300Vac, 385Vdc (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 60950-1 Annex Q	VDE
	Maida	D6511ZOV301R A150	300Vac, 390Vdc (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 60950-1 Annex Q	VDE
	TDK	S14K300	300Vac, 385Vdc	IEC/EN 61051-1 IEC/EN 61051-2	VDE, UL

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				IEC/EN 60950-1 Annex Q	
Varistors (MV5, MV6, MV7)	Ceramate Techn. Co., Ltd.	GNR20D621K	385Vac, 505Vdc (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 60950-1 Annex Q	VDE
	Thinking Electronic Industrial Co., Ltd.	TVR20621	395Vac, 510Vdc (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 60950-1 Annex Q	VDE
	Ceramate Techn. Co., Ltd.	GNR20D561K	350Vac, 460Vdc (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 60950-1 Annex Q	VDE, UL
	TDK	S20K385E2	385Vac, 505Vdc	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 60950-1 Annex Q	VDE
Gas tube (GDT1)	CITEL	BHS2500	2500V	UL 1449	UL
	Littelfuse	CG3 2.5	2500V	UL 1449	UL
	Ceramate	C80A2500	2500V	UL 1449	UL
AC fuse (F4)	Hollyland Electronics	5RT	250V, 5A	IEC/EN 60127-1 IEC/EN 60127-3	VDE, UL
	CONQUER ELECTRONICS	MET series	250V, 5A	IEC/EN 60127-1 IEC/EN 60127-3	VDE, UL
Choke (L1)	Bipolar	420- 0363xxxxxxxx (x =0-9, A-Z, "- " or blank) 1)	105°C	--	--
	Shenzhen Jing Quan Hua (Jingquanhua)	420- 0363xxxxxxxx (x =0-9, A-Z, "- " or blank) 1)	105°C	--	--
	SYRMA	420- 0363xxxxxxxx (x =0-9, A-Z, "- " or blank) 1)	105°C	--	--
	Huaihua yaxin	420-	105°C	--	--

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		0363xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)			
	NERE	420-0363xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)	105°C	--	--
Chock (L5)	Shenzhen Jingquanhua Electronic Co., Ltd. (SJE)	420-0821xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)	130°C	--	--
	JTK	420-0821xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)	130°C	--	--
Chock (L4)	Shenzhen Jingquanhua Electronic Co., Ltd. (SJE)	420-0812xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)	130°C	--	--
	JTK	420-0812xxxxxxxx (x =0-9, A-Z, “-“ or blank) 1)	130°C	--	--
Photo Couplers (IC13)	On Semiconductor	H11A817B series	Dti=1mm Ext. dcr=7.7mm 100°C. Thermal cycling test	IEC/EN 60747-5-5 IEC 60950-1	VDE, UL, cUL
	Vishay	SFH6156 series	Dti=0.5mm Ext. dcr=8.2mm 100°C Thermal cycling test	IEC/EN 60747-5-5 IEC 60950-1	VDE, FI, UL, cUL
	Liteon	LTV-817 series	Dti=0.8mm Int. dcr=5.2mm Ext. dcr=7.8mm 100°C	IEC/EN 60747-5-5 IEC 60950-1	VDE, FI, UL, cUL
	Everlight	EL816S	Dti=0.5mm Int. dcr=6.0mm Ext. dcr=7.7mm 100°C	IEC/EN 60747-5-5 IEC 60950-1	VDE, FI, UL, cUL

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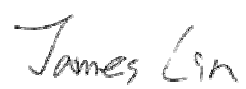
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	Avago Technologies	HCPL-817	d _{ti} =0.4mm Internal d _{cr} =5.4mm Ext. d _{cr} =9.0mm 100°C	IEC/EN 60747-5-5 IEC 60950-1	VDE, UL, cUL
On USB Charger board	--	--	--	--	--
Line Choke (L401)	Bipolar	420-2205xxxxxxx (x =0-9, A-Z, "-" or blank) ¹⁾	130°C	--	--
	Cormex	420-2205xxxxxxx (x =0-9, A-Z, "-" or blank) ¹⁾	130°C	--	--
NTC (TH401)	Wujin Thinking	SCK10502L	25°C, 50 ohm	EN60730-1 EN60539-1	TUV
Charger Transformer (T401)	CSE	(430-0849xxxxxxx; x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
	Shenzhen Jingquanhua Electronic Co., Ltd. (SJE)	(430-0849xxxxxxx; x =0-9, A-Z, "-" or blank) ¹⁾	Class B	Applicable parts in IEC 62040-1 and evaluated acc to IEC 60085	Accepted by TÜV Rheinland
Triple insulation wire in T401	Furukawa	TEX-E	130°C	UL 2353 IEC/EN 62368-1	UL, VDE
Photo Couplers (IC404)	Vishay	SFH615A series	D _{ti} =0.5mm Ext. d _{cr} =8.2mm 100°C, thermal cycling test	IEC/EN 60747-5-5 IEC 60950-1 UL 1557 CSA Component Acceptance Service Notice No. 5	VDE, FI, UL, cUL
NTC (TH401)	Thinking Electronic Industrial Co Ltd	SCK-502	50ohm, 2.4W, 25°C	EN60730-1 EN60539-1	TUV
On TNV board	--	--	--	--	--
PTC	Thinking	KRT2500018-R	60V, 0.18A	IEC/EN 60730-1	TUV, UL

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(TH801, TH802)	Electronic Industrial Co., Ltd.				
	Tyco	PSR-25105	60V, 0.17A	IEC/EN 60730-1	TUV, UL
	Littelfuse	250R170 series	60V, 0.17A	IEC/EN 60738-1	TUV

Supplementary information:

1. Provided evidence ensures the agreed level of compliance. See OD-CB2039.
2. For photocoupler, Dti = inside distance through insulation, Int. dcr = internal creepage distance, Ext. dcr = external creepage distance.

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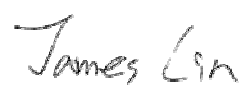
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Table C:

Functional Components

Object/part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
On Main PCB	--	--	--	--	--
Bridging Resistors (R188, R189, R190, R191, R196, R197, R198, R199, R192, R193, R194, R195, R200, R201, R202, R203)	Interchangeable	Interchangeable	SMD type, 2M ohm, 1/4W, distance between terminals is 1.7mm	--	--
PCB	Interchangeable	Interchangeable	V-1 min., 130°C	UL 746C	UL, cUL
Transistors (Q1, Q2, Q3, Q4)	Interchangeable	Interchangeable	55V, 75A	--	--
	Interchangeable	Interchangeable	40V, 80A	--	--
Bleeder resistors (R117, R118, R119)	Interchangeable	Interchangeable	1/4W, 200kohm	--	--
Capacitor (C11A)	Interchangeable	Interchangeable	Max. 4.7µF, 450V~ min., 105°C	--	--
On TNV board	--	--	--	--	--
Varistors (MV801)	Interchangeable	Interchangeable	49 Joules, 225Vdc	IEC/EN 61051-1 IEC/EN 61051-2	VDE, UL
Varistors (MV802, MV803)	Interchangeable	Interchangeable	70 Joules, 450Vdc	IEC/EN 61051-1 IEC/EN 61051-2	VDE, UL

Supplementary information:

1. Provided evidence ensures the agreed level of compliance. See OD-CB2039.