



Test Report: RHP-8K1U -48

1600~8000W 1U Distributed Power/Charger System

■ DESIGN VERIFY TEST

Output Function Test
Input Function Test
Control Function Test

■ SAFETY & E.M.C. TEST

Safety Test
E.M.C. Test

■ RELIABILITY TEST

ENVIRONMENT TEST

■ DESIGN VERIFY TEST


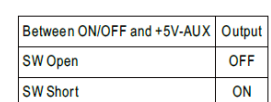
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	MAX. OUTPUT CURRENT	167.5A	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	167.5A
2	MAX. OUTPUT POWER	8040W	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	8040W

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	150 V~264V
			I/P: (1)LOW-LINE-3V=87 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (2)230Vac ON: 0.5 Sec OFF: 0.5 Sec 20MIN (3)230Vac ON:3Sec OFF:3Sec 12HOURS (POWER ON/OFF NO DAMAGE)	TEST:OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:100 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	AC CURRENT (Typ.) per RECTIFIER	230V/ 8.5 A 115V/ 15 A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD (PLEASE CHECK DERATING CURVE) Ta : 25°C	I =7.72A/ 230VAC I =12.7A/ 115VAC
4	LEAKAGE CURRENT per RECTIFIER	<1.5mA / 230 VAC	I/P : 230 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.84 mA N-FG : 0.84 mA

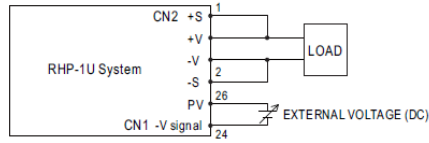
CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	AUXILIARY POWER (AUX)	1. 5V±10%@0.3A ripple:150mVp-p 2. 12V±10%@0.8A ripple:250mVp-p	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	4.78 V 0.3A ; ripple: 15.9mVp-p 11.16V 0.8 A ; ripple: 100 mVp-p
2	REMOTE ON/OFF CONTROL	The PSU can be turned ON/OFF together or separately by using the "Remote ON/OFF" function. 		

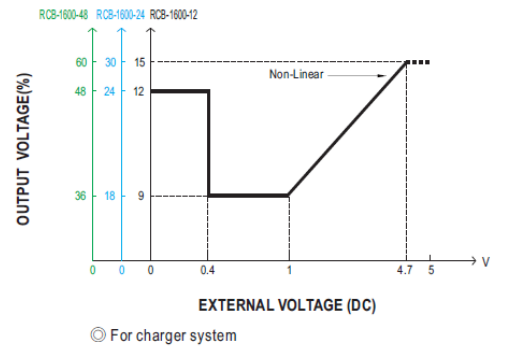
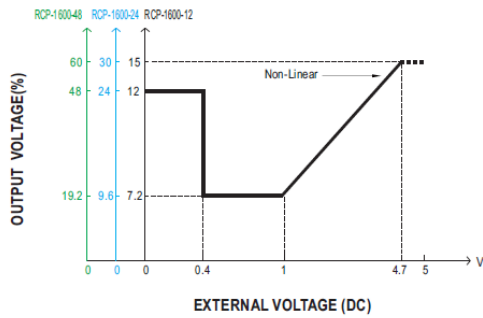
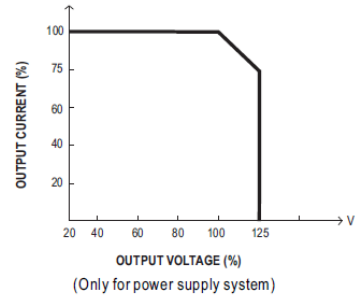
		I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result :										
		Between Remote ON-OFF and +5V-AUX	OUTPUT									
		SW SHORT	ON									
		SW OPEN	OFF									
3	REMOTE SENSE	S+ / S- >0.5V Compensate voltage drop on the load wiring up to 0.5V.	I/P: 230 VAC O/P:FULL LOAD Ta:25°C > 0.5 V									
4	ALARM SIGNAL	1. DC OK SIGNAL High (4.5 ~ 5.5V) : When the $V_{out} \leq 80\% \pm 5\%$. Low (-0.1 ~ 0.5V) : When $V_{out} \geq 80\% \pm 5\%$. The maximum sourcing current is 10mA and only for output. I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result :										
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5 OUTPUT VOLTAGE PROGRAMMABLE(PV)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed by applying EXTERNAL VOLTAGE.

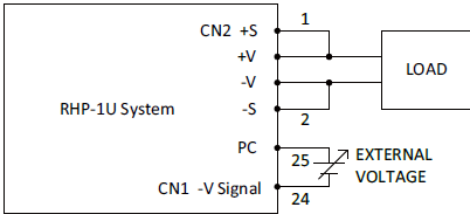
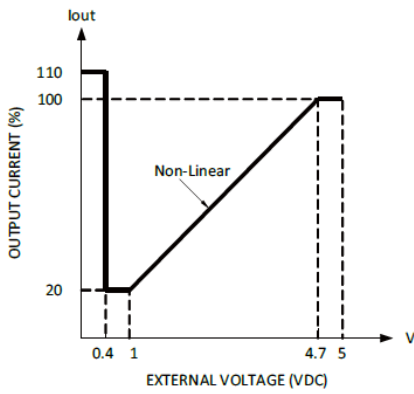
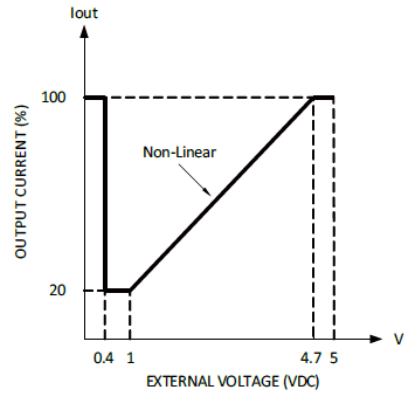


+S & +V, -S & -V also need to be connected on CN1. (Only for power supply system)



I/P: 230 VAC
 O/P: FULL LOAD
 Ta: 25°C
 TEST RESULT :

MODEL \ PV	<0.4V	1V	4.7V	5V
SPEC	48V±5%	19.2V±5%	60V±5%	60V±5%
Vout	48.1V	19.21V	59.7V	61.01V

<p>6</p>	<p>OUTPUT CURRENT PROGRAMMABLE (PC)</p>	<p>※ The output current can be trimmed to 20~100% of the rated current by applying EXTERNAL VOLTAGE.</p>  <p>+S & +V, -S & -V also need to be connected on CN1. (Only for power supply system)</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="494 649 909 1041">  <p>© For power supply system</p> </div> <div data-bbox="1085 649 1500 1041">  <p>© For charger system</p> </div> </div> <p>I/P: 230 VAC O/P: TESTING Ta: 25°C TEST RESULT :</p> <table border="1" data-bbox="470 1232 1492 1332"> <thead> <tr> <th>ADJ V</th> <th><math>< 0.4V</math></th> <th>1V</th> <th>4.7V</th> <th>5V</th> </tr> </thead> <tbody> <tr> <td>SPEC</td> <td>110%±10%</td> <td>20%±10%</td> <td>100%±10%</td> <td>100%±10%</td> </tr> <tr> <td>lout</td> <td>107.6%</td> <td>15.8%</td> <td>100%</td> <td>100.59%</td> </tr> </tbody> </table>			ADJ V	<math>< 0.4V</math>	1V	4.7V	5V	SPEC	110%±10%	20%±10%	100%±10%	100%±10%	lout	107.6%	15.8%	100%	100.59%
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<p>7</p>	<p>CURRENT SHARING</p>	<p><math>< \pm 5\%</math></p>	<p>I/P : 230 VAC O/P : FULL/50% LOAD Ta : 25°C</p>	<p>O/P : 100% PSU1 : 34.07 A PSU2 : 34.72 A PSU3 : 33.46 A PSU4 : 34.07 A PSU5 : 33.04 A O/P : 50% PSU1 : 17.48 A PSU2 : 17.76 A PSU3 : 17.06 A PSU4 : 17.06 A PSU5 : 16.55 A</p>															

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P-FG :2KVAC/min O/P-FG:1.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:1.8 KVAC/min Ta:25°C	I/P-O/P:6.9mA I/P-FG:8.04mA O/P-FG:6.28m A NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: 8.16GΩ I/P-FG: 9.35GΩ O/P-FG: 9.4GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	17 mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:100% LOAD Ta:25°C	PASS
2	CONDUCTION	EN55022 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	EN55022 CLASS A	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR : 8KV / Contact : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT : 1KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N : 1KV L,N-PE : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
7	Test by certified Lab & Test Report Prepare			

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																																																																																																								
1	TEMPERATURE RISE TEST	MODEL : RHP-8K1U-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 37.5 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P : 230VAC O/P : FULL LOAD Ta= 51.7 °C																																																																																																										
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 107% LOAD Ta : 25°C	TEST : OK																																																																																																								
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 230VAC/180VAC O/P : 100 % LOAD Ta= -35°C / -30°C	TEST : OK																																																																																																								
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE	I/P : 272 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK																																																																																																								
5	TEMPERATURE COEFFICIENT	± 0.03 %/°C (0-50°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.002 %/°C (0-50°C)																																																																																																								



6	STORAGE TEMPERATURE TEST	<ol style="list-style-type: none"> 1. Thermal shock Temperature : -45°C~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 5 CYCLE 5. Input/Output condition : STATIC 	OK
7	THERMAL SHOCK TEST	<ol style="list-style-type: none"> 1. Thermal shock Temperature : -35°C~ +55°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : <p>15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST(13500 TIMES)</p> <p>1cycle:230V/ FULL LOAD Burn In Test</p>	OK
8	VIBRATION TEST	<p>1 Carton & 1 Set</p> <ol style="list-style-type: none"> (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 2G (5) Test Time : 60min in each axis (X.Y.Z) (6) Ta : 25°C 	TEST : OK
9	CAPACITOR LIFE CYCLE	<p>SUPPOSE C101 IS THE MOST CRITICAL COMPONENT</p> <ol style="list-style-type: none"> (1) I/P : 230VAC O/P : FULL LOAD Ta= 25°C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta= 50°C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50°C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50°C LIFE TIME 	<ol style="list-style-type: none"> (1) 522532HRS (2) 104695HRS (3) 131576HRS (4) 209272HRS
10	DMTBF/Accelerated Life Test	<p>Demonstration Mean Time Between Failure (Expected Life): Above 50,000 hours @ TA 50°C</p>	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	DANIEL GAO	SANFORD SU	VINCENT TSENG

12.10.30 A50-F031

