



Test Report: XLG-100-H-DA2

100W Constant Power Mode with DALI-2 LED Driver

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress 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	CURRENT TOLERANCE	±5%	I/P:230VAC O/P:LEDmax CP: 1.75A & 2.78A Ta:25°C	CP1.75A: 1.756A/230VAC@CV MAX-1V 1.758A/230VAC@CV MIN 0.46% CP 2.78A: 2.782A/230VAC@CV MAX-1V 2.784A/230VAC@CV MIN 0.14%
2	FULL POWER CURRENT RANGE	1750~2780mA	I/P: 230VAC O/P:LEDmax CP: 1.75A & 2.78A Ta:25°C	56V/1.75A/230VAC 36V/2.78A/230VAC
3	OPEN CIRCUIT VOLTAGE (max)	60V	I/P: 230VAC O/P:NO LOAD CP: OPEN Ta:25°C	59.56V
4	CONSTANT CURRENT REGION	CP 1.75A: CH1:27V~ 56V CP 2.78A: CH1:27V~ 36V	I/P: 230VAC O/P:LEDmax CP: 1.75A & 2.78A Ta:25°C	CP 1.75A: 21.47V~59.28 V/230VAC CP 2.78A: 21.47V~ 39.07V/230VAC
5	CURRENT ADJ. RANGE	CH1:875mA~2780mA	I/P: 230VAC O/P:CVmin& CVmax-1V CP: 1.75A & 2.78A Ta:25°C	724mA~2180mA/230VAC@CV MAX-1V 729mA~2917mA/230VAC@CV MIN
6	CURRENT RIPPLE	4.0% max.	I/P: 230VAC O/P:LEDmax CP: 1.75A & 2.78A Ta:25°C	CP 1.75A: 1.42% CP 2.78A: 1.09%

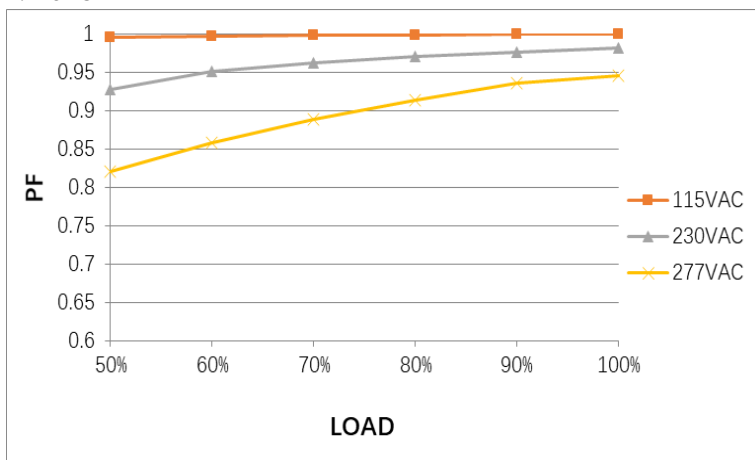
7	SET UP TIME	230VAC/ 500 ms (Max) 115VAC/ 1200 ms (Max)	I/P: 230VAC I/P: 115VAC O/P:LEDmax CP 1.75A Ta:25°C	230VAC/252ms 115VAC/432ms
INPUT=230VAC/50HZ @ LEDMAX@ CP 1.75A CH1 : Output Voltage CH2 : AC Input Voltage		INPUT=230VAC/60HZ @ LEDMAX@ CP 1.75A CH1 : Output Voltage CH2 : AC Input Voltage		

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	100VAC ~ 305VAC 142VDC ~ 431VDC	(1) I/P:TESTING O/P:LEDmax (2) I/P:DC TESTING(L:+ N:-) O/P:LEDmax (3) I/P:DC TESTING(L:- N:+) O/P:LEDmax (4) I/P: LOW-LINE=142VDC HIGH-LINE=431VDC O/P: Dimming on/off 【for Dimming type,】 Ta:25°C	(1) 100 Vac~305Vac (2) 142 Vdc~431Vdc (3) 142 Vdc~431Vdc (4) OK
			I/P: LOW-LINE-3V=97V HIGH-LINE+10V=308 V O/P: LEDmax / LEDmin CP 1.75A (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1).TEST: OK (2).TEST :OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P: 100VAC ~305VAC O/P: LEDmax ~ LEDmin CP 1.75A Ta:25°C	TEST:OK

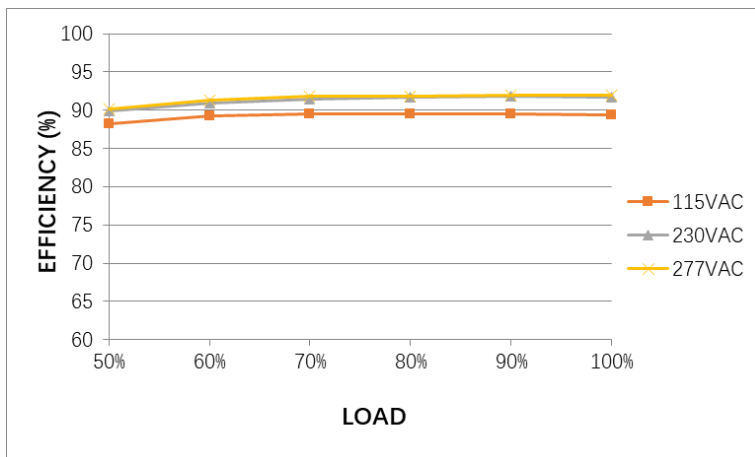
3	INPUT CURRENT (TYP)	230VAC/ 0.5A 115VAC/ 1.1A 277VAC/0.42A	I/P: 230VAC/115VAC/277VAC O/P:LEDmax CP 1.75A Ta:25°C	I =0.468A/ 230VAC I =0.942A/115VAC I =0.402A/277VAC
4	POWER FACTOR(TYP)	0.92/277VAC LEDMAX 0.95/230VAC LEDMAX 0.97/115VAC LEDMAX	I/P: 277VAC/230VAC/115VAC O/P:LEDmax CP 1.75A Ta:25°C	PF=0.945 /277V/100%LOAD PF=0.981/230V/100%LOAD PF=0.999/115V/100%LOAD

P.F vs LOAD

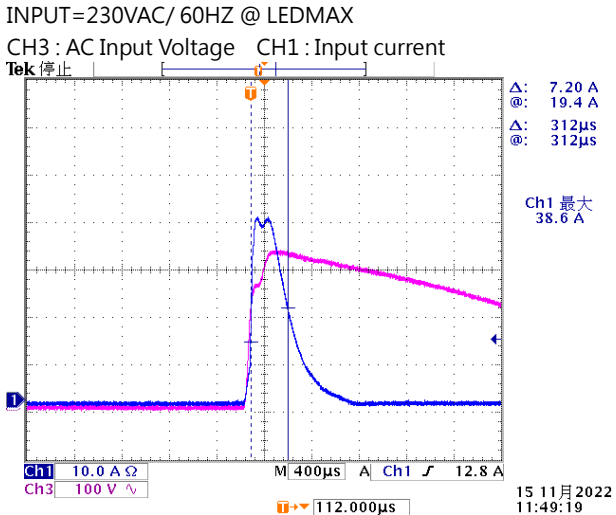


5	EFFICIENCY (TYP)	91%	I/P: 230VAC O/P:LEDmax CP 1.75A Ta:25°C	91.76%
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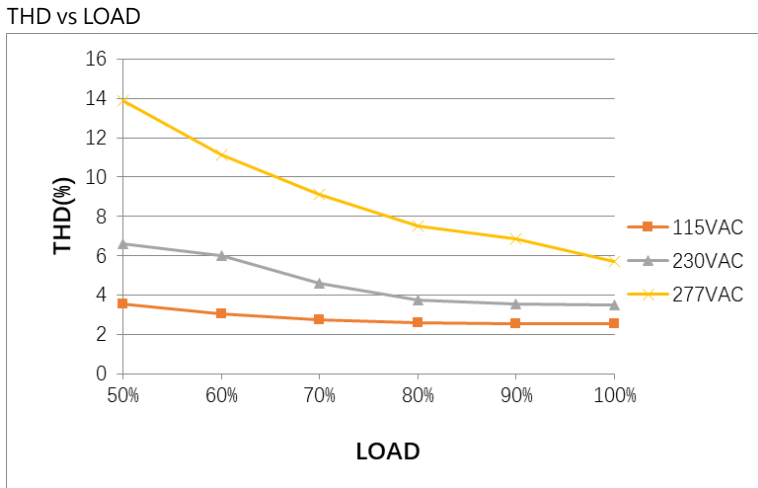
EFFICIENCY vs LOAD



6	INRUSH CURRENT (TYP)	230V/ 45A COLD START (twidth=330 usmeasured at 50% Ipeak) COLD START	I/P: 230VAC O/P:LEDmax CP 1.75A Ta:25°C	I =38.6A /230VAC T50= 312us
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7	TOTAL HARMONIC DISTORTION	THD < 10% (@ load ≥ 50% at 115VAC/230VAC, @load ≥ 75% at 277VAC	I/P : 230VAC/115VAC/277VAC O/P : 50% LOAD 75%LOAD CP 1.75A Ta : 25°C	THD : 6.60%230V /50% THD : 2.63%115V /50% THD : 8.35%277V /75%
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8	STANDBY POWER CONSUMPTION	Standby power consumption <0.5W (Dimming OFF) (For standard version)	I/P : 230VAC O/P : NO LOAD Ta : 25°C	0.4268W
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9	LEAKAGE CURRENT	EN61347-1 < 0.75mA / 277VAC	I/P: 277 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.134mA N-FG: 0.081mA
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PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P:305VAC I/P: 90 VAC O/P:LEDmax CP 1.75A Ta:25°C	O.T.P. Active PROTECTION TYPE : 1: Derating to 75% loading; stage 2: Derating to 50% loading. recovers automatically after fault condition is removed
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 305VAC I/P: 100 VAC O/P: LEDMAX CP: 1.75A & 2.78A Ta:25°C	CP: 1.75A NO DAMAGE PROTECTION TYPE : Hiccup mode or constant current limiting, recovers automatically after fault condition is removed CP: 2.78A NO DAMAGE PROTECTION TYPE : Hiccup mode or constant current limiting, recovers automatically after fault condition is removed
3	INPUT OVER VOLTAGE (for XLG-100I only)	320 ~ 390VAC (Shut down output voltage when the input voltage exceeds protection voltage,recovers automatically after fault condition is removed) Can survive input voltage stress of 440Vac for 48 hours	I/P: TESTING O/P: LEDMAX	pass

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q6 Rated: 7.5A /600V	I/P:High-Line +3V =308V AC ON/OFF CP: 1.75A&2.78A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short I/P:Low-Line -3V = 97V VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short Ta:25°C	308V CP: 1.75A Q6 VDS: (1) 453V (2) 441V (3) 449V (4) 433V (5) 505V CP: 2.78A VDS: (1) 457V (2) 441V (3) 453V (4) 441V (5) 509V 97V CP: 1.75A Q6 VDS: (1) 461V (2) 445V (3) 461V (4) 437V (5) 505V 97V CP: 2.78A Q6 VDS: (1) 461V (2) 445V (3) 461V (4) 441V (5) 521V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated: 12.5A /700V	I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A&2.78A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short	308V CP: 1.75A Q1 VDS: (1) 489V (2) 457V (3) 473V (4) 450V (5) 489V 97V CP: 2.78A

			<p>I/P:Low-Line -3V = 97V VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short</p> <p>Ta:25°C</p>	<p>Q1 VDS: (1) 537V (2) 505V (3) 537V (4) 489V (5) 533V</p>
3	P.F.C DIODE	<p>D5 Rated: 9A/600V</p>	<p>I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short</p> <p>I/P:Low-Line -3V = 97V O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue (5) Output Short</p> <p>Ta:25°C</p>	<p>308V (1) 461V (2) 441V (3) 449V (4)445V (5)457V</p> <p>97V (1) 457V (2) 445V (3) 457V (4)441V (5)457V</p>
4	Diode Peak Voltage	<p>D100 Rated: 10A/150V</p>	<p>I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A&2.78A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) Output Short</p> <p>Ta:25°C</p>	<p>CP: 1.75A Q100 VDS: (1) 121.9V (2) 120.3V (3) 20.7V CP: 2.78A Q100 VDS: (1) 85.9V (2) 85.0V (3) 21.6V</p>
5	Input Capacitor Voltage	<p>C5 Rated: 47μ /450 V Surge voltage: 580V</p>	<p>I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue</p> <p>Ta:25°C</p>	<p>(1)453V (2) 441V (3) 453V (4)437 V</p>

6	Control IC Voltage Test	<p>PFC IC U1 Rated 10.5V~27V(MIN.)</p> <p>PWM IC U2 Rated 16.3V~ 20V(MIN.)</p> <p>O/P IC U107 Rated 3V~32V</p>	<p>I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A VDS: O/P: (1)LEDmax (2) LEDmin (3) Output Short (4) NO LOAD VRmin.LOW LINE (5)DIM OFF</p> <p>Ta:25°C</p>	<p>U1/ U2 (1) 17.3V (2) 17.3V (3) 17.3V (4) 17.3V (5) 1.4V</p> <p>U107 (1) 17.5V (2) 17.5V (3) 17.5V (4) 17.5V (5) 16.9V</p>
7	TOP SWITCHING STAND BY POWER	<p>U300 Rated 1.5A/ 750 V</p>	<p>AC ON/OFF CP: 1.75A I/P:High-Line +3V =308V O/P: (1)LEDmax (2) LEDmin I/P:Low-Line -3V =97V O/P: (1)LEDmax (2) LEDmin</p> <p>Ta:25°C</p>	<p>308VAC (1) 673V (2) 665V 97VAC (1) 576V (2) 601V</p>
8	VCC Diode Peak Voltage	<p>D304 Rated: 2A/400V Surge CURRENT: 50A</p> <p>D450 Rated: 2A/400V Surge CURRENT: 50A</p>	<p>I/P:High-Line +3V =308v AC ON/OFF CP: 1.75A VDS: O/P: (1)LEDmax (2) LEDmax continue (3) LEDmin (4) LEDmin continue</p>	<p>D304 D450 (1)2.43A (1)1.79A (2)0.47A (2) 0.36A (3)2.43A (3)1.93A (4)0.47A (4) 0.36A</p>

SAFETY & EMC TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	EN61347-1 I/P-O/P: 3.75KVAC/min I/P-FG: 2 KVAC/min O/P-FG:1.5KVAC/min	I/P-O/P: 4.125 KVAC/min I/P-FG: 2.4KVAC/min O/P-FG: 1.8 KVAC/min Ta:25°C	I/P-O/P: 1.48mA I/P-FG: 1.08mA O/P-FG: 2.39mA 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: >9999 MΩ I/P-FG: >9999MΩ O/P-FG:>9999 M Ω NO DAMAGE
3	GROUNDING CONTINUITY	EN61347-1 FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	13mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS C	I/P: 230VAC/50HZ O/P: LEDmax Ta:25°C	PASS
2	CONDUCTION	EN55015	I/P:230VAC (50HZ) O/P: LEDmax /50% LOAD Ta:25°C	PASS Test by certified Lab
3	RADIATION	EN55015	I/P: 230VAC (50HZ) O/P:LEDmax Ta:25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR : 8KV / Contact : 4KV	I/P: 230VAC (50HZ) O/P:LEDmax Ta:25°C	CRITERIA A
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 2KV	I/P: 230VAC (50HZ) O/P:LEDmax Ta:25°C	CRITERIA A
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :4KV L,N-PE:6KV	I/P: 230VAC (50HZ) O/P:LEDmax Ta:25°C	CRITERIA B
7	Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report			

■ **RELIABILITY TEST**

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																																																								
1	TEMPERATURE RISE TEST	MODEL : XLG-100-H-DA2 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 27.5°C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta=62°C																																																										
				<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta= 27.5 °C</th> <th>HIGH AMBIENT Ta=62 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>Q1</td><td>55.6°C</td><td>90.0°C</td></tr> <tr><td>2</td><td>R7</td><td>53.4°C</td><td>89.1°C</td></tr> <tr><td>3</td><td>Q5</td><td>57.1°C</td><td>94.3°C</td></tr> <tr><td>4</td><td>Q6</td><td>56.9°C</td><td>93.6°C</td></tr> <tr><td>5</td><td>C5</td><td>56.6°C</td><td>90.2°C</td></tr> <tr><td>6</td><td>T1</td><td>64.1°C</td><td>98.4°C</td></tr> <tr><td>7</td><td>D100</td><td>60.2°C</td><td>93.8°C</td></tr> <tr><td>8</td><td>D101</td><td>64.5°C</td><td>101.7°C</td></tr> <tr><td>9</td><td>C105</td><td>59.1°C</td><td>92.5°C</td></tr> <tr><td>10</td><td>RT22</td><td>52.6°C</td><td>87.2°C</td></tr> <tr><td>11</td><td>U300</td><td>51.2°C</td><td>85.3°C</td></tr> <tr><td>12</td><td>T2</td><td>52.8°C</td><td>86.1°C</td></tr> <tr><td>13</td><td>TC</td><td>50.2°C</td><td>83.2°C</td></tr> </tbody> </table>	NO	Position	ROOM AMBIENT Ta= 27.5 °C	HIGH AMBIENT Ta=62 °C	1	Q1	55.6°C	90.0°C	2	R7	53.4°C	89.1°C	3	Q5	57.1°C	94.3°C	4	Q6	56.9°C	93.6°C	5	C5	56.6°C	90.2°C	6	T1	64.1°C	98.4°C	7	D100	60.2°C	93.8°C	8	D101	64.5°C	101.7°C	9	C105	59.1°C	92.5°C	10	RT22	52.6°C	87.2°C	11	U300	51.2°C	85.3°C	12	T2	52.8°C	86.1°C	13	TC	50.2°C	83.2°C
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2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 305VAC/100VAC O/P : FULL LOAD Ta= -45°C/-35°C	TEST : OK																																																								
3	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60 °C NO DAMAGE	I/P : 315VAC O/P : FULL LOAD Ta=60 °C HUMIDITY= 95% R.H	TEST : OK																																																								
4	TEMPERATURE COEFFICIENT	±0.06%/°C (0~60°C)	I/P : 230 VAC O/P : FULL LOAD	±0.0008%/°C (0~60°C)																																																								
5	STORAGE TEMPERATURE TEST	-40~+80°C	1. Thermal shock Temperature : -45°C ~ +85°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10CYCLE 5. Input/Output condition : AC OFF STATIC TEST : OK																																																									
6	THERMAL SHOCK TEST	-40~+60°C	1. Thermal shock Temperature : -45°C ~ +65°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16CYCLE 5. Input/Output condition : 15cycle:230VAC/ FULL LOAD AC on 3 sec/AC off 1 sec TEST 1cycle:230VAC/ FULL LOAD Burn In Test TEST : OK																																																									

7	VIBRATION TEST	10~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 6G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25°C TEST : OK
8	CAPACITOR LIFE CYCLE	XLG-100-H-DA2 : SUPPOSE C105 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Tc= 75 °C LIFE TIME (2) I/P : 230VAC O/P : 75% LOAD Tc= 75 °C LIFE TIME (3) I/P : 230VAC O/P : 50% LOAD Tc= 75 °C LIFE TIME	(1) 51439 HRS (2) 55781 HRS (3) 75133 HRS
9	MTBF	Conducted by Parts Stress Analysis Prediction 2137.1K hrs min. Telcordia SR-332 (Bellcore) ; 186.7K hrs min. MIL-HDBK-217F (25°C)	
10	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 50,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	WUWQ/HUANGMK	WENF	LINKX