



# TEST REPORT

**MODEL NAME : UP120S12WH**

1. DESIGN VERIFY TEST
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**1. DESIGN VERIFY TEST**

**1-1. INPUT FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
VOLTAGE RANGE	90~305VAC	I/P: testing O/P:full load Ta:25 °C	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~305VAC O/P:full~min. load Ta:25 °C	test ok	P
EFFICIENCY	84% typ.	I/P:230VAC O/P:full load Ta:25 °C	85.7%	P
AC CURRENT	1.3A/115VAC typ. 0.5A/230VACtyp. 0.65A/277VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	I/P:277VAC 1.95A/115VAC 1.1A/230VAC 0.84A/277VAC	P
INRUSH CURRENT	60A typ. cold start	I/P:230VAC O/P:full load Ta:25 °C	37.2A	P
LEAKAGE CURRENT	1.5mA max.	I/P:277VAC O/P:min. load Ta:25 °C	1.1mA	P

**1-2. OUTPUT FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
RIPPLE&NOISE	170mVp-p max.	I/P:230VAC O/P:full load Ta:25 °C	80mV	P
VOLTAGE ADJ. RANGE	12V ± 5%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	10~13.9V/115VAC 10~13.9V/230VAC	P
VOLTAGE TOLERANCE	12V ± 3%	I/P:90VAC/305VAC O/P:full/min. load Ta:25 °C	± 0.8%	P
LINE REGULATION	12V ± 1%	I/P:90~305VAC O/P:full load Ta:25 °C	0.08%	P

<b>LOAD REGULATION</b>	12V± 2%	I/P:230VAC O/P:full-min. load Ta:25 °C	± 1.2%	<b>P</b>
<b>SETUP TIME</b>	3000ms/115VAC typ. 3000ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	750ms/115VAC 620ms/230VAC	<b>P</b>
<b>RISE TIME</b>	100ms/115VAC typ. 100ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	78ms/115VAC 82ms/230VAC	<b>P</b>
<b>HOLD UP TIME</b>	10ms/115VAC typ. 100ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	13.6ms/115VAC 92ms/230VAC	<b>P</b>

**1-3. PROTECTION FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
<b>SHORT PROTECTION</b>	short every output 1 hour no damage	I/P:305VAC O/P:full load Ta:25 °C	no damage, recovers automatically after fault removed	<b>P</b>
<b>OVER LOAD PROTECTION</b>	110% min.	I/P:115VAC I/P:230VAC O/P:testing Ta:25 °C	122%/115VAC 142%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER VOLTAGE PROTECTION</b>	110~140%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	116%/115VAC 116%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER TEMP. PROTECTION</b>	temp. sensor:105±10 °C no damage	I/P:230VAC O/P:full load	O.T.P active, recovers automatically after fault removed	<b>P</b>

**2. SAFETY TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3.75KVAC/1min<10mA I/P-F/G:2KVAC/1min<10mA O/P-F/G:1.5KVAC/1min<10mA	I/P-O/P:3.75KVAC/1min I/P-F/G:2KVAC/1min O/P-F/G:1.5KVAC/1min Ta:25℃	I/P-O/P:5.1mA I/P-F/G:4.7mA O/P-F/G:3.2mA no damage	<b>P</b>
<b>ISOLATION RESISTANCE</b>	I/O-O/P:500VDC>100MΩ I/O-F/G:500VDC>100MΩ O/P-F/G:500VDC>100MΩ	I/P-O/P:500VDC I/P-F/G:500VDC O/P-F/G:500VDC Ta:25℃	I/P-O/P:∞ I/P-F/G:∞ O/P-F/G:∞ no damage	<b>P</b>

**3. RELIABILITY TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
<b>LOW TEMP. TURN ON TEST</b>	turn on after 2hour	I/P:230VAC O/P:full load Ta:-20℃	test ok	<b>P</b>
<b>STORAGE TEMP. TEST</b>	no damage	1.thermal shock temp.: -40~+80℃ 2.test time low & high temp.:30min/each 3.total cycle:5cycle 4.input/output condition:static	test ok	<b>P</b>
<b>THERMAL SHOCK TEST</b>	no damage	1.thermal shock temp.: -20~+50℃ 2.test time low & high temp.:30min/each 3.total cycle:10cycle 4.input/output condition: 230VAC full load, AC on/off test (turn on 58sec,turn off 2sec)	test ok	<b>P</b>
<b>VIBRATION TEST</b>	no damage	1.CATON&1SET 1.wave form:sine wave 2.frequency:10~500Hz 3.sweep time:12min./sweep cycle 4.acceleration:5G 5.test time:72min. in each(X,Y,Z) 6.Ta:25℃	test ok	<b>P</b>