



# TEST REPORT

MODEL NAME : UP120S24R

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## 1. DESIGN VERIFY TEST

### 1-1. INPUT FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
VOLTAGE RANGE	90~264VAC	I/P: testing O/P:full load Ta:25 °C	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~264VAC O/P:full~min. load Ta:25 °C	test ok	P
EFFICIENCY	87% typ.	I/P:230VAC O/P:full load Ta:25 °C	87.5%	P
AC CURRENT	1.6A/115VAC typ. 0.92A/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	1.59A/115VAC 0.91A/230VAC	P
INRUSH CURRENT	30A typ. cold start	I/P:230VAC O/P:full load Ta:25 °C	26.4A	P
LEAKAGE CURRENT	2.5mA max.	I/P:230VAC O/P:min. load Ta:25 °C	0.6mA	P

### 1-2. OUTPUT FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
RIPPLE&NOISE	290mVp-p max.	I/P:230VAC O/P:full load Ta:25 °C	62.8mV	P
VOLTAGE ADJ. RANGE	24V± 5%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	22.5~25.5V/115VAC 22.5~25.5V/230VAC	P
VOLTAGE TOLERANCE	24V± 3%	I/P:100VAC/264VAC O/P:full/min. load Ta:25 °C	0.71%	P
LINE REGULATION	24V± 1%	I/P:100VAC~264VAC O/P:full load Ta:25 °C	0.04%	P

<b>LOAD REGULATION</b>	24V± 2%	I/P:230VAC O/P:full-min. load Ta:25 °C	0.71%	<b>P</b>
<b>SETUP TIME</b>	3000ms/115VAC max. 3000ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	1080ms/115VAC 1050ms/230VAC	<b>P</b>
<b>RISE TIME</b>	100ms/115VAC max. 100ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	98ms/115VAC 95ms/230VAC	<b>P</b>
<b>HOLD UP TIME</b>	15ms/115VAC typ. 70ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	15.2ms/115VAC 72ms/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:264VAC 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	120%/115VAC 140%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER VOLTAGE PROTECTION</b>	115~140%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	125%/115VAC 125%/230VAC recovers automatically after fault removed	<b>P</b>

## 2. SAFETY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
WITHSTAND VOLTAGE	I/P-O/P:3KVAC/1min<10mA I/P-F/G:1.5KVAC/1min<10mA O/P-F/G:0.5KVAC/1min<10mA	I/P-O/P:3KVAC/1min I/P-F/G:1.5KVAC/1min O/P-F/G:0.5KVAC/1min Ta:25℃	I/P-O/P:4.4mA I/P-F/G:3.4mA O/P-F/G:4.1mA no damage	P
ISOLATION RESISTANCE	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	P

## 3. RELIABILITY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
LOW TEMP. TURN ON TEST	turn on after 2hour	I/P:230VAC O/P:full load Ta:-20℃	test ok	P
STORAGE TEMP. TEST	no damage	1.thermal shock temp.: -30~+75℃ 2.test time low & high temp.:30min/each 3.total cycle:5cycle 4.input/output condition:static	test ok	P
THERMAL SHOCK TEST	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	P
VIBRATION TEST	no damage	1CATON&1SET 1.wave form:sine wave 2.frequency:10~500Hz 3.sweep time:10min./sweep cycle 4.acceleration:2G 5.test time:60min. in each(X,Y,Z) 6.Ta:25℃	test ok	P