UNION ELECOM CO., LTD.

TEST REPORT

MODEL NAME : UP120S12MH

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℃	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~305VAC O/P:full~min. load Ta:25℃	test ok	P
EFFICIENCY	85% typ.	I/P:230VAC O/P:full load Ta:25℃	86.4%	P
AC CURRENT	1.9A/115VAC typ. 1.0A/230VACtyp. 0.85A/277VAC typ.	I/P:115VAC I/P:230VAC I/P:277VAC O/P:full load Ta:25℃	1.85A/115VAC 1.0A/230VAC 0.84A/277VAC	P
INRUSH CURRENT	60A typ. cold start	I/P:230VAC O/P:full load Ta:25℃	35A	P
LEAKAGE CURRENT	1.5mA max.	I/P:277VAC O/P:min. load Ta:25℃	0.5mA	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℃	CH1,2 - 100mV	P
VOLTAGE ADJ. RANGE	12V± 5%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25℃	CH1,2- 10~13.9V/115VAC 10~13.9V/230VAC	P
VOLTAGE TOLERANCE	12V± 3%	I/P:90VAC/305VAC O/P:full/min. load Ta:25℃	CH1,2 - ± 0.8%	P
LINE REGULATION	12V± 1%	I/P:90~305VAC O/P:full load Ta:25℃	CH1,2 - 0.08%	P

LOAD REGULATION	12V± 2%	I/P:230VAC O/P:full~min. load Ta:25℃	CH1,2 - ± 0.97%	**P**
SETUP TIME	3000ms/115VAC typ. 3000ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25℃	CH1-650ms/115VAC 570ms/230VAC CH2-665ms/115VAC 575ms/230VAC	**P**
RISE TIME	100ms/115VAC typ. 100ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	CH1-39ms/115VAC 39ms/230VAC CH2-37ms/115VAC 38ms/230VAC	**P**
HOLD UP TIME	10ms/115VAC typ. 100ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	CH1-23ms/115VAC 76ms/230VAC CH2-25ms/115VAC 77ms/230VAC	**P**

1-3. PROTECTION FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
SHORT PROTECTION	short every output 1 hour no damage	I/P:305VAC O/P:full load Ta:25℃	no damge, recovers automatically after fault removed	**P**
OVER LOAD PROTECTION	110% min.	I/P:115VAC I/P:230VAC O/P:testing Ta:25℃	128%/115VAC 128%/230VAC recovers automatically after fault removed	**P**
OVER VOLTAGE PROTECTION	110~140%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25℃	120%/115VAC 120%/230VAC recovers automatically after fault removed	**P**
OVER TEMP. PROTECTION	temp. sensor:115±10℃ no damage	I/P:230VAC O/P:full load	O.T.P active, recovers automatically after fault removed	**P**

2. SAFETY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
WITHSTAND VOLTAGE	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:4.1mA I/P-F/G:3.1mA O/P-F/G:3.1mA 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.:-40~+80℃ 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:12min./sweep cycle 4.acceleration:5G 5.test time:72min. in each(X,Y,Z) 6.Ta:25℃	test ok	P