



# TEST REPORT

MODEL NAME : UP16S12WQ

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	90~277VAC	I/P: testing O/P:full load Ta:25 °C	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~277VAC O/P:full~min. load Ta:25 °C	test ok	P
EFFICIENCY	80% typ.	I/P:220VAC O/P:full load Ta:25 °C	80.7%	P
AC CURRENT	0.31A/115VAC typ. 0.21A/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	0.305A/115VAC 0.206A/230VAC	P
INRUSH CURRENT	70A typ. cold start	I/P:230VAC O/P:full load Ta:25 °C	35.5A	P

**1-2. OUTPUT FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
RIPPLE&NOISE	170mVp-p max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	160mVp-p/115VAC 210mVp-p/230VAC	P
VOLTAGE TOLERANCE	12V± 3%	I/P:200VAC/240VAC O/P:full/min. load Ta:25 °C	±0.04%	P
LINE REGULATION	12V± 1%	I/P:200~240VAC O/P:full load Ta:25 °C	± 0%	P
LOAD REGULATION	12V± 2%	I/P:220VAC O/P:full~min. load Ta:25 °C	± 0.04%	P

<b>SETUP TIME</b>	3000ms/115VAC max. 3000ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	1120ms/115VAC 490ms/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	42.1ms/115VAC 42.2ms/230VAC	<b>P</b>
<b>HOLD UP TIME</b>	10ms/115VAC typ. 50ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	9.7ms/115VAC 47ms/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:277VAC 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	116%/115VAC 126%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER VOLTAGE PROTECTION</b>	115% min	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	132%/115VAC 132%/230VAC 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:3KVAC/1min<10mA	I/P-O/P:3KVAC/1min Ta:25 °C	I/P-O/P:1.7mA no damage	<b>P</b>
<b>ISOLATION RESISTANCE</b>	I/O-O/P:500VDC>100MΩ	I/P-O/P:500VDC Ta:25 °C	I/P-O/P:∞ no damage	<b>P</b>

### 3. RELIABILITY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
LOW TEMP. TURN ON TEST	turn on after 2hour	I/P:220VAC O/P:full load Ta:-40°C	test ok	P
STORAGE TEMP. TEST	no damage	1.thermal shock temp.: -40~+75°C 2.test time low & high temp.:30min/each 3.total cycle:5cycle 4.input/output condition:static	test ok	P