



# TEST REPORT

MODEL NAME : UP150S24W2SC

1. DESIGN VERIFY TEST
  - 1-1. INPUT FUNCTION TEST
  - 1-2. OUTPUT FUNCTION TEST
  - 1-3. PROTECTION FUNCTION TEST
2. SAFETY TEST
3. RELIABILITY TEST

**1. DESIGN VERIFY TEST**

**1-1. INPUT FUNCTION TEST**

| TEST ITEM       | SPECIFICATION            | TEST CONDITION                                   | RESULT      | VERDICT |
|-----------------|--------------------------|--|-------------|---------|
| VOLTAGE RANGE   | 160~277VAC               | I/P: testing<br>O/P:full load<br>Ta:25 °C        | test ok     | P       |
| FREQUENCY RANGE | 47~63Hz<br>no damage osc | I/P:160~277VAC<br>O/P:full~min. load<br>Ta:25 °C | test ok     | P       |
| EFFICIENCY      | 86% typ.                 | I/P:220VAC<br>O/P:full load<br>Ta:25 °C          | 86.9%       | P       |
| AC CURRENT      | 1.1A/220VAC typ.         | I/P:220VAC<br>O/P:full load<br>Ta:25 °C          | 1.1A/220VAC | P       |
| INRUSH CURRENT  | 45A typ.<br>cold start   | I/P:220VAC<br>O/P:full load<br>Ta:25 °C          | 25A         | P       |
| LEAKAGE CURRENT | 2mA max.                 | I/P:230VAC<br>O/P:min. load<br>Ta:25 °C          | 0.6mA       | P       |

**1-2. OUTPUT FUNCTION TEST**

| TEST ITEM         | SPECIFICATION      | TEST CONDITION                                      | RESULT        | VERDICT |
|-------------------|--------------------|---|---------------|---------|
| RIPPLE&NOISE      | 220mVp-p max.      | I/P:220VAC<br>O/P:full load<br>Ta:25 °C             | 140mVp-p max. | P       |
| VOLTAGE TOLERANCE | 24V± 3%            | I/P:160VAC/277VAC<br>O/P:full/min. load<br>Ta:25 °C | test ok       | P       |
| LINE REGULATION   | 24V± 1%            | I/P:160~277VAC<br>O/P:full load<br>Ta:25 °C         | test ok       | P       |
| LOAD REGULATION   | 24V± 2%            | I/P:220VAC<br>O/P:full~min. load<br>Ta:25 °C        | test ok       | P       |
| SETUP TIME        | 3000ms/220VAC max. | I/P:220VAC<br>O/P:full load<br>Ta:25 °C             | 664ms/220VAC  | P       |

|                     |                   |                                      |                |          |
|---------------------|-------------------|--------------------------------------|----------------|----------|
| <b>RISE TIME</b>    | 200ms/220VAC max. | I/P:220VAC<br>O/P:full load<br>Ta:25 | 190.3ms/220VAC | <b>P</b> |
| <b>HOLD UP TIME</b> | 15ms/220VAC typ.  | I/P:220VAC<br>O/P:full load<br>Ta:25 | 16ms/220VAC    | <b>P</b> |

**1-3. PROTECTION FUNCTION TEST**

| TEST ITEM                      | SPECIFICATION                          | TEST CONDITION                          | RESULT   | VERDICT  |
|--------------------------------|--|---|--|----------|
| <b>SHORT PROTECTION</b>        | short every output 1 hour<br>no damage | I/P:240VAC<br>O/P:full load<br>Ta:25 °C | no damage,<br>recovers<br>automatically after<br>fault removed | <b>P</b> |
| <b>OVER LOAD PROTECTION</b>    | 110% min.                              | I/P:220VAC<br>O/P:testing<br>Ta:25 °C   | 125%<br>recovers<br>automatically after<br>fault removed       | <b>P</b> |
| <b>OVER VOLTAGE PROTECTION</b> | 115~140%                               | I/P:220VAC<br>O/P:min. load<br>Ta:25 °C | 116%<br>recovers<br>automatically after<br>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<br>I/P-F/G:1.5KAC/1min<10mA<br>O/P-F/G:0.5KAC/1min<10mA | I/P-O/P:3KVAC/1min<br>I/P-F/G:1.5KAC/1min<br>O/P-F/G:0.5KAC/1min<br>Ta:25 °C | I/P-O/P:3.9mA<br>I/P-F/G:3.4mA<br>O/P-F/G:1.5mA<br>no damage | <b>P</b> |
| <b>ISOLATION RESISTANCE</b> | I/P-O/P:500VDC>100MΩ<br>I/P-F/G:500VDC>100MΩ<br>O/P-F/G:500VDC>100MΩ            | I/P-O/P:500VDC<br>I/P-F/G:500VDC<br>O/P-F/G:500VDC<br>Ta:25 °C               | I/P-O/P:∞<br>I/P-F/G:∞<br>O/P-F/G:∞<br>no damage             | <b>P</b> |

**3. RELIABILITY TEST**

| TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|-----------|---------------|----------------|--------|---------|
|-----------|---------------|----------------|--------|---------|

# Test Report : UP150S24W2SC



|                                   |                     |   |         |          |
|-----------------------------------|---------------------|---|---------|----------|
| <b>LOW TEMP.<br/>TURN ON TEST</b> | turn on after 2hour | I/P:220VAC<br>O/P:full load<br>Ta:-40°C   | test ok | <b>P</b> |
| <b>STORAGE<br/>TEMP. TEST</b>     | no damage           | 1.thermal shock temp.: -40~+75°C<br>2.test time<br>low & high temp.:30min/each<br>3.total cycle:5cycle<br>4.input/output condition:static   | test ok | <b>P</b> |
| <b>THERMAL<br/>SHOCK TEST</b>     | no damage           | 1.thermal shock temp.: -40~+70°C<br>2.test time<br>low & high temp.:30min/each<br>3.total cycle:10cycle<br>4.input/output condition:<br>220VAC 75% load,<br>AC on/off test<br>(turn on 58sec,turn off 2sec) | test ok | <b>P</b> |
| <b>VIBRATION<br/>TEST</b>         | no damage           | 1.CATON&1SET<br>1.wave form:sine wave<br>2.frequency:10~500Hz<br>3.sweep time:10min./sweep cycle<br>4.acceleration:2G<br>5.test time:60min. in each(X,Y,Z)<br>6.Ta:25°C                                     | test ok | <b>P</b> |