# 1500W True Sine Wave DC to AC Inverter with Solar Charger TN-1500 series



## Features:

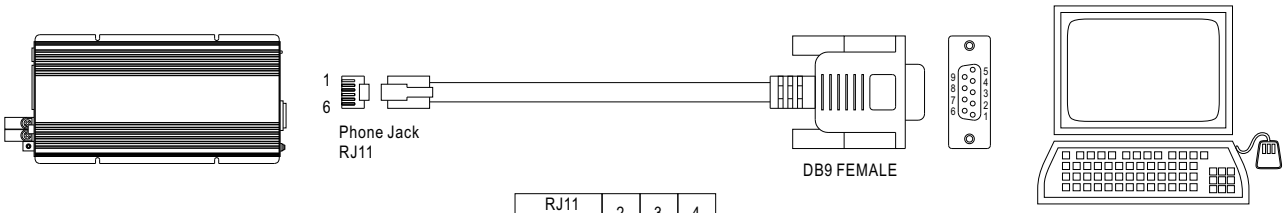
- True sine wave output (THD<3%)
- High surge power up to 3000W
- U.P.S. mode and energy saving mode (selectable)
- High efficiency up to 91%
- Power ON-OFF switch
- Standby saving mode can be selectable
- Front panel indicator for operation status
- Thermostatically controlled cooling fan
- Protections: Bat. low alarm / Bat. low shutdown / Over voltage / Over temp. / Output short / Input polarity reverse / Overload / AC circuit breaker
- Application : Home appliance, power tools, office and portable equipment, vehicle and yacht ...etc.
- Built-in solar / AC charger
- Optional monitoring software
- 2 years warranty

## SPECIFICATION

| MODEL | | TN-1500-112□ | TN-1500-124□ | TN-1500-148□ | TN-1500-212□ | TN-1500-224□ | TN-1500-248□ |
|---|---|---|---|---|---|---|---|
| OUTPUT | RATED POWER (Typ.) | 1500W | | | | | |
| | MAXIMUM OUTPUT POWER (Typ.) | 1725W for 180 sec. / 2250W for 10 sec. / surge power 3000W for 30 cycles | | | | | |
| | AC VOLTAGE | Factory setting set at 110VAC | | | Factory setting set at 230VAC | | |
| | | 100 / 110 / 115 / 120VAC selectable by setting button S.W | | | 200 / 220 / 230 / 240VAC selectable by setting button S.W | | |
| | FREQUENCY | 60±0.1Hz 50/60Hz selectable by setting button S.W | | | 50±0.1%Hz 50/60Hz selectable by setting button S.W | | |
| | WAVEFORM | True sine wave (THD<3%) at rated input voltage | | | | | |
| | AC REGULATION (Typ.) | ±3.0% | | | | | |
| | TRANSFER TIME | t<10ms inverter ⟷ by pass | | | | | |
| | SAVING MODE (Typ.) | Load≦5W will be changed to standby mode | | | | | |
| | FRONT PANEL INDICATOR | Battery voltage level, output load level, saving mode, fault and operation status | | | | | |
| INPUT | BAT. VOLTAGE | 12V | 24V | 48V | 12V | 24V | 48V |
| | VOLTAGE RANGE (Typ.) Note.1 | 10.5 ~ 15VDC | 21 ~ 30VDC | 42 ~ 60VDC | 10.5 ~ 15VDC | 21 ~ 30VDC | 42 ~ 60VDC |
| | DC CURRENT (Typ.) Note.5 | 150A | 75A | 37.5A | 150A | 75A | 37.5A |
| | NO LOAD DISSIPATION | ≦18W @ standby saving mode | | | | | |
| | OFF MODE CURRENT DRAW | ≦1mA | | | | | |
| | EFFICIENCY (Typ.) Note.2 | 87% | 89% | 90% | 88% | 90% | 91% |
| | BATTERY TYPES | Open & sealed Lead Acid | | | | | |
| BATTERY INPUT PROTECTION | FUSE | 40A*5 | 30A*3 | 30A*2 | 40A*5 | 30A*3 | 30A*2 |
| | BAT. LOW ALARM | 11.3±4% | 22.5±4% | 45±4% | 11.3±4% | 22.5±4% | 45±4% |
| | BAT. LOW SHUTDOWN | 10.5±4% | 21±4% | 42±4% | 10.5±4% | 21±4% | 42±4% |
| | REVERSE POLARITY | By internal fuse open | | | | | |
| OUTPUT PROTECTION | OVER TEMPERATURE | 82℃±5℃ | 82℃±5℃ | 96℃±5℃ | 68℃±5℃ | 68℃±5℃ | 68℃±5℃ |
| | | Protection type : Shut down o/p voltage, re-power on to recover ; by internal RTH3 detect on heatsink of power transistor | | | | | |
| | OUTPUT SHORT | Protection type : Shut down o/p voltage, re-power on to recover | | | | | |
| | OVER LOAD (Typ.) | 105 ~ 115% load for 180 sec., 115% ~ 150% load for 10 sec. | | | | | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | |
| | CIRCUIT BREAKER | 20A | | | 10A | | |
| | GFCI PROCTECTION | Optional (Only type F) | | | None | | |
| ENVIRONMENT | WORKING TEMP. Note.3 | 0 ~ +40℃ @ 100% load ; 60℃ @ 50% load | | | | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | |
| | STORAGE TEMP., HUMIDITY | -30 ~ +70℃ / -22 ~ +158°F, 10 ~ 95% RH | | | | | |
| | VIBRATION | 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | |
| SAFETY & EMC | SAFETY STANDARDS | UL458 (only for "GFCI" receptacle-Type F ) | | None | | | |
| | LVD | None | | | EN60950-1 | | |
| | WITHSTAND VOLTAGE | Bat I/P - AC I/P:3.0KVAC Bat I/P - AC O/P:3.0KVAC AC O/P - FG:1.5KVAC | | | | | |
| | EMI CONDUCTION&RADIATION | Compliance to FCC class A | | | Compliance to EN55022 class B, 72/ 245/ CEE, 95/ 54/ CE, E-Mark | | |
| | EMS IMMUNITY | None | | | Compliance to EN61000-4-2,3,4,5,6,8,11 ENV50204 | | |
| AC CHARGER | CHARGE CURRENT (Typ.) | 5.5A | 2.7A | 1.35A | 5.5A | 2.7A | 1.35A |
| | CHARGE VOLTAGE | 14.3V±4% | 28.5V±4% | 57V±4% | 14.3V±4% | 28.5V±4% | 57V±4% |
| SOLAR CHARGER | MAX OPEN CIRCUIT VOLTAGE | 25V | 45V | 75V | 25V | 45V | 75V |
| | CHARGE CURRENT (max.) | 30A | | | | | |
| | CHARGE VOLTAGE | 14.3V±4% | 28.5V±4% | 57V±4% | 14.3V±4% | 28.5V±4% | 57V±4% |
| OTHERS | CONTROL WIRING | RJ11 -RS232 (Option) | | | | | |
| | DIMENSION | 420*220*88mm (L*W*H) | | | | | |
| | PACKING | 6.85Kg; 2pcs/14.7Kg/1.61CUFT | | | | | |
| NOTE | 1.Output derating capacity referenced by curve 1.<br>2.Efficiency is tested by 1000W, linear load at 13V, 26V, 52V input voltage.<br>3.Output derating capacity referenced by curve 2.<br>4.All parameters not specified above are measured at rated load, 25℃ of ambient temperature.<br>5.DC current is tested by 1500W, linear load at 13V, 26V, 52V input voltage. | | | | | | |

## ■ Instructions for TN-1500 monitoring software

### 1. Installation of TN-1500 unit and PC




| RJ11 PIN NO. | 2 | 3 | 4 |
|---|---|---|---|
| DB9 PIN NO. | 3 | 5 | 2 |

Figure 1

### 2. Explanation of Monitoring Manu

2.1 Main Page

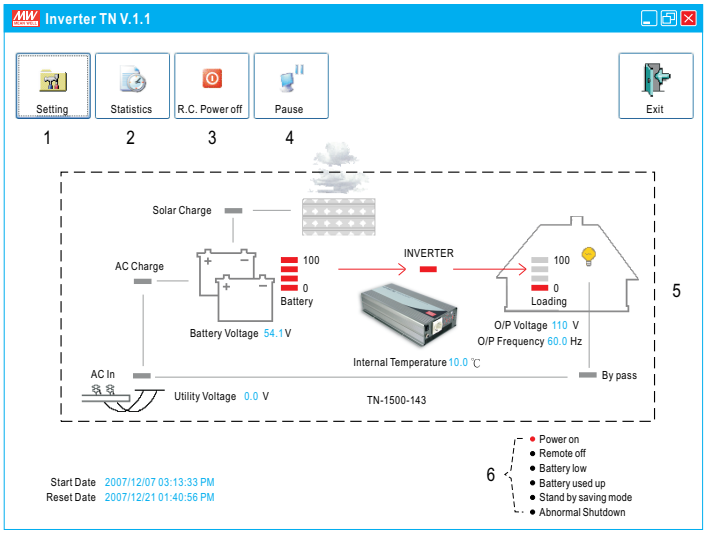



Figure 2

1. Setting: Adjustment for output voltage, charging related voltage, frequency, and operation mode. Please refer to Figure 3 for details.
2. Statistics: Calculate for the percentage of operating period for each operation mode. Please refer to Figure 4 for details.
3. R.C. Power off: Power can be turned ON or OFF at the remote location.
4. Pause: Stop refreshing the page of monitoring software.
5. Status of unit: Indicating current operating status of TN-1500.
6. Signals that display current condition of the unit.

2.2 Setting Page

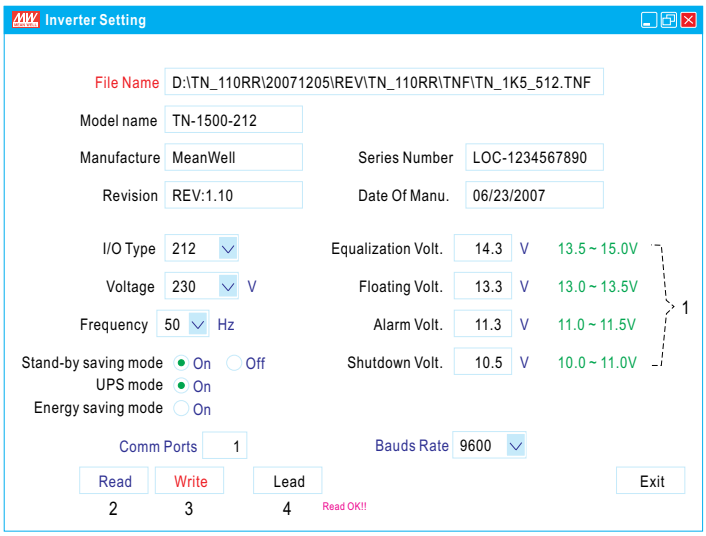



Figure 3

1. User can adjust the settings based on the characteristics of batteries been used: Equalization Voltage, Floating Voltage, Alarm Voltage, and Shut-down Voltage. UPS Mode / Energy Saving Mode selection and AC output voltage and frequency can also be set in this page.
2. Read: Read current settings of the unit.
3. Write: Write the revised setting into the unit.
4. Load: Load in factory default settings.

2.3 Statistic Page

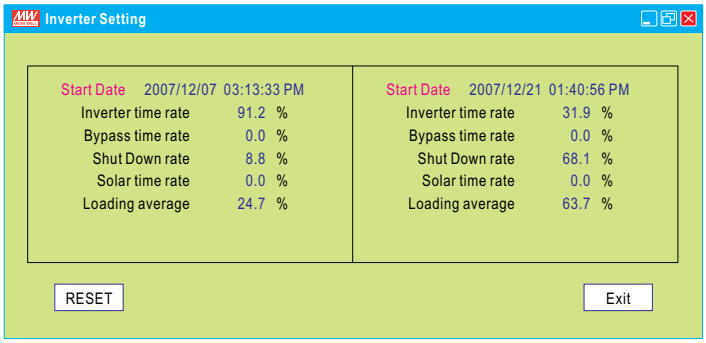



Figure 4

1. Start Date: Date that installing the monitoring software.
2. Reset Date: Date that resetting the statistics. The Start Date will not be influenced by resetting the statistics or turning off the unit.
3 .Inverter time rate: Operating period of "Inverter Mode" represents how many percent of the whole operating period.
4. Bypass time rate: Operating period of "Bypass Mode" (energy provides directly by the utility) represents how many percent of the whole operating period.
5. Shut down rate: Percentage of time period that the unit is under the condition of shut down.
   *** Inverter time rate + Bypass time rate + Shut down rate = 100%**
6. Solar time rate: Percentage of time period that the solar charger is functioning after turning on the TN-1500 unit.
7. Loading average: Average loading after turning on the TN-1500 unit.

**Jameco SKU Number: 2108306**

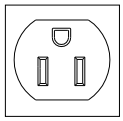
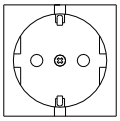
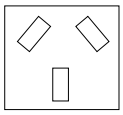
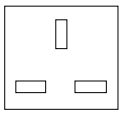
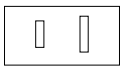
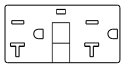
# TN-1500 series

1500W True Sine Wave DC-AC Inverter with Solar Charger

TN – 1500 – 112 A

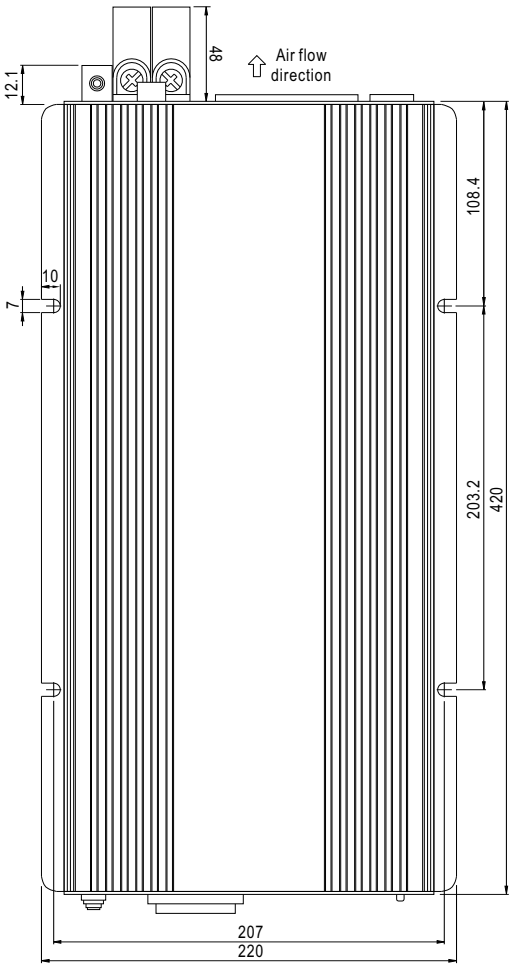
- TN: True sine wave inverter +AC charger and solar charger
- 1500: O/P Wattage:1500W
- 112: Bat. Voltage: 12:12VDC, 24:24VDC, 48:48VDC; Output: 1:110VAC, 2:230VAC
- A: A :TYPE A OUTLET, B :TYPE B OUTLET, C :TYPE C OUTLET, D :TYPE D OUTLET, E :TYPE E OUTLET, F :TYPE F OUTLET

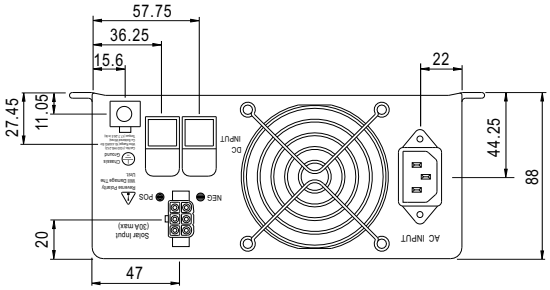
## ■ AC Output Receptacles (optional)

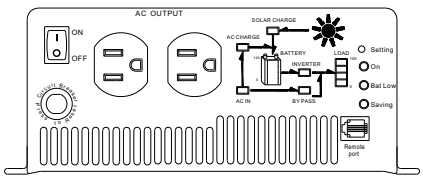
| Receptacle type |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| | TYPE-A | TYPE-B | TYPE-C | TYPE-D | TYPE-E | TYPE-F |
| Country | USA | EUROPE | AUSTRALIA | U.K | JAPAN | GFCI |
| Certificate | FC | E13 CE | E13 CE | E13 CE | FC | c UL us (Expect for 48V input) FC |

## ■ Mechanical Specification

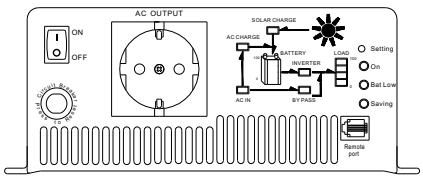
Unit:mm




Type-A




Type-B

**MODEL：TN1500-248**

**OUTPUT FUNCTION TEST**

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | RATED POWER (TYP) | 1500W | IP: 48DC<br>Ta:25℃ | 1436 W | P |
| 2 | WAVEFORM | True sine wave (THD<3%) | IP: 48VDC<br>OP: FULL LOAD/NO LOAD<br>Ta:25℃ | FULL LOAD: 1.03 %<br>NO LOAD: 0.76 % | P |
| 3 | FREQUENCY | 60HZ ± 1HZ | IP: 48VDC<br>OP: FULL LOAD/NO LOAD<br>Ta:25℃ | FULL LOAD: 60.01HZ<br>NO LOAD: 59.95 HZ | P |
| 6 | AC REGULATION (TYP) | 3%~-3% | IP: 48VDC<br>OP: FULL LOAD/NO LOAD<br>Ta:25℃ | 0.3% ~ -0.3% | P |
| 7 | TRANSFER TIME | ＜10 ms<br>(By pass to inverter, vice versa inverter By pass) | IP: 48VDC<br>OP: FULL LOAD<br>Ta:25℃ | By pass to Inverter: 2 ms<br>Inverter to By pass: 4 ms | P |
| 8 | SAVING MODE TO NORMAL | ≤3S (5W~25W) | IP: 48VDC<br>OP:NO LOAD<br>Ta:25℃ | OK | P |

**INPUT FUNCTION TEST**

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | DC CURRENT (TYP) | 40A | IP: 48VDC .<br>OP:NO LOAD<br>Ta:25℃ | 33.5A | P |
| 2 | NO LOAD DISSIPATION | ≤18W @ saving mode | I P: 48VDC<br>OP:NO LOAD<br>Ta:25℃ | 9W | P |
| 3 | OFF MODE DRAW CURRENT | <1mA | IP: SW OFF<br>OP:NO LOAD<br>Ta:25℃ | 0.15mA | P |
| 4 | VOLTAGE RANGE (TYP) | 42VDC~60VDC | IP: TESTING<br>OP:NO LOAD<br>Ta:25℃ | 40.7 VDC~ 59.6 VDC | P |
| 5 | EFFICIENCY(TYP) | 91% | IP: 48VDC<br>OP: FULL LOAD<br>Ta:25℃ | 91.2% | P |

## BATTERY INPUT PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | BAT LOW ALARM | 42VDC ± 2% | IP: TESTING<br>OP: NO LOAD<br>SW:ON<br>Ta:25℃ | 42.1 V | P |
| 2 | BAT LOW SHUT DOWN | 40VDC ± 2% | IP: TESTING<br>OP: NO LOAD<br>SW:ON<br>Ta:25℃ | 40.7 V<br>Shunt down Recovery | P |
| 3 | BAT POLARITY | BY INTERNAL FUSE | IP: 48VDC<br>OP: NO LOAD<br>SW:ON<br>Ta:25℃ | OK | P |

## OUTPUT PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | OVER TEMPERATURE | 40℃~45℃ at full load ,<br>Reset: re-power on | IP: 48VDC<br>OP: FULL LOAD<br>SW:ON<br>Ta:25℃ | O.T.P Active<br>Reset: re-power on | P |
| 2 | OUTPUT SHORT | Shut-off , Reset: re-power on | IP: 48VDC<br>OP: FULL LOAD<br>SW:ON<br>Ta:25℃ | Shut-off , Reset: re-power on | P |
| 3 | OVER LOAD (INVERTER) | 100%~117% ± 5% LOAD 180sec<br>117%~150%± 5% LOAD 10sec<br>Shunt down Re-power ON | IP: 48VDC<br>OP: TESTING<br>SW:ON<br>Ta:25℃ | 110 %/ 180 SEC<br>118 %/ 10 SEC<br>Shunt down Re-power ON | P |
| 4 | OVER LOAD (AC LINE) | CIRCUIT BREAKER PROTECTION | IP: 220VAC<br>OP: TESTING<br>SW:ON<br>Ta:25℃ | CIRCUIT BREAKER PROTECTION | P |

## AC CHARGER FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | CHARGE CURRENT | 1.35A ± 0.2A | IP: 220VAC<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | 1.48 A | P |
| 2 | BOOST CHARGE VOLTAGE | 58VDC± 4% | IP: 220VAC<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | 57.3 VDC | P |
| 3 | SHORT CIRCUIT PROTECTION | Constant current limiting | IP: 220VAC<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | NO DAMAGE<br>Constant current limiting | P |

## SOLAR CHARGER FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | MAX OPEN CIRCUIT VOLTAGE | 75V | IP: TESTING<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | 75V | P |
| 2 | CHARGE CURRENT (MAX) | 30A | IP: OPEN CIRCUIT VOLTAGE 75V<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | 30A | P |
| 3 | V max CHARGE VOLTAGE | 58VDC± 4% | IP: OPEN CIRCUIT VOLTAGE 75V<br>OP: BAT LOAD<br>SW:ON<br>Ta:25℃ | 57.3VDC | P |

## ENVIRONMENT TEST

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECIFICATION</th><th>TEST CONDITION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>1</td><td>TEMPERATURE RISE TEST</td><td colspan="3">MODEL：TN-1500-212<br>1. ROOM AMBIENT BURN-IN：2HRS<br>I/P: 12 VDC O/P: 95% LOAD Ta= 27.55 ℃<br>2. HIGH AMBIENT BURN-IN：1 HRS<br>I/P: 12 VDC O/P: 95% LOAD Ta= 41.6 ℃<br>
<table>
<tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 27.5℃</th><th>HIGH AMBIENT Ta= 41.6℃</th></tr>
<tr><td>1</td><td>C301</td><td>2200U/16Y 105℃ KY</td><td>118.8℃</td><td>128.6℃</td></tr>
<tr><td>2</td><td>C311</td><td>565/100V TAI YANG</td><td>71.8℃</td><td>81.3℃</td></tr>
<tr><td>3</td><td>PCB</td><td>BAT+/BAT-之間</td><td>77.5℃</td><td>86.2℃</td></tr>
<tr><td>4</td><td>L301</td><td>TF-1407</td><td>60.3℃</td><td>69.1℃</td></tr>
<tr><td>5</td><td>D413</td><td>HFA16TA60C 8A/600V</td><td>63.3℃</td><td>71.9℃</td></tr>
<tr><td>6</td><td>T302</td><td>TF-1374</td><td>82.3℃</td><td>91.6℃</td></tr>
<tr><td>7</td><td>C416</td><td>22U/450V 105℃ HU</td><td>60.2℃</td><td>69.5℃</td></tr>
<tr><td>8</td><td>L13</td><td>TR-640</td><td>64.7℃</td><td>75.2℃</td></tr>
<tr><td>9</td><td>C7</td><td>7U/250V</td><td>41.5℃</td><td>49.5℃</td></tr>
<tr><td>10</td><td>L1</td><td>TR-645</td><td>41.7℃</td><td>50.2℃</td></tr>
<tr><td>11</td><td>CT1</td><td>TF-1386</td><td>42.8℃</td><td>53.2℃</td></tr>
<tr><td>12</td><td>Q328</td><td>IRF1405Z 75A/55V</td><td>34.4℃</td><td>44.8℃</td></tr>
<tr><td>13</td><td>RTH3</td><td>NTC 10K 5%</td><td>85.5℃</td><td>96.0℃</td></tr>
<tr><td>14</td><td>Q11</td><td>HGTG12N60A4D 12A/600V</td><td>88.7℃</td><td>98.4℃</td></tr>
<tr><td>15</td><td>U301</td><td>UC3846</td><td>81.0℃</td><td>92.2℃</td></tr>
<tr><td>16</td><td>Q602</td><td>CEP50N06 50A/60V</td><td>77.8℃</td><td>88.4℃</td></tr>
<tr><td>17</td><td>D601</td><td>HER302 3A/100V</td><td>84.0℃</td><td>94.8℃</td></tr>
<tr><td>18</td><td>RG602</td><td>LC7805CV 1A/5V</td><td>74.2℃</td><td>85.5℃</td></tr>
<tr><td>19</td><td>RG601</td><td>LC7812CV 1A/12V</td><td>56.8℃</td><td>65.8℃</td></tr>
<tr><td>20</td><td>U509</td><td>PIC18F6520</td><td>83.2℃</td><td>94.8℃</td></tr>
<tr><td>21</td><td>Q702</td><td>K2651-01MR 6A/900V</td><td>54.9℃</td><td>64.1℃</td></tr>
<tr><td>22</td><td>D806</td><td>SB1040FCT 10A/40V</td><td>52.0℃</td><td>61.3℃</td></tr>
<tr><td>23</td><td>T701</td><td>TF-1473</td><td>54.0℃</td><td>63.9℃</td></tr>
<tr><td>24</td><td>Q802</td><td>IRF1010E 84A/60V</td><td>45.4℃</td><td>54.5℃</td></tr>
<tr><td>25</td><td>C811</td><td>1000U/25V 105℃ KY</td><td>48.0℃</td><td>57.3℃</td></tr>
<tr><td>26</td><td>內環溫</td><td>T302-D411 間</td><td>49.2℃</td><td>59.9℃</td></tr>
</table></td><td>P</td></tr>
<tr><td>3</td><td>LOW TEMPERATURE<br>TURN ON TEST</td><td>TURN ON AFTER 2 HOUR</td><td>IP: 12VDC<br>OP:FULL LOAD<br>Ta= -10℃</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>4</td><td>HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST</td><td>AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 40℃<br>NO DAMAGE</td><td>IP: 13.6VDC<br>OP:FULL LOAD<br>Ta:= 40℃<br>HUMIDITY= 95 %R.H</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>5</td><td>VIBRATION TEST</td><td colspan="2">1 Carton & 1 Set<br>(1) Waveform: Sine Wave (2) Frequency:10~500Hz<br>(3) Sweep Time:10min/sweep cycle (4) Acceleration:3G<br>(5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25℃</td><td>TEST：OK</td><td>P</td></tr>
</table>

## SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | WITHSTAND VOLTAGE | BAT I/P-AC I/P: 3 KVAC/min<br>BAT I/P-AC O/P: 3 KVAC/min<br>AC I/P-FG: 1.5 KVAC/min | BAT I/P-AC I/P: 3.3 KVAC/min<br>BAT I/P-AC O/P: 3.3 KVAC/min<br>AC I/P-FG: 1.8 KVAC/min<br>Ta:25℃ | BAT I/P-AC I/P: 9.55 mA<br>BAT I/P-AC O/P: 9.55 mA<br>AC I/P-FG: 9.22 mA<br>NO DAMAGE | P |
| 2 | GROUNDING CONTINUITY | FG(PE) TO CHASSIS<br>OR TRACE < 100 mΩ | 40 A / 2min<br>Ta:25℃ | 21 mΩ | P |
| 3 | APPROVAL | TUV: Certificate NO :<br>UL: File NO : | | | N/A |

## E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | HARMONIC | EN61000-3-2<br>CLASS A | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25℃ | PASS | P |
| 2 | CONDUCTION | EN55022<br>CLASS B | I/P: 230 VAC (50HZ)<br>O/P:FULL/50% LOAD<br>Ta:25℃ | PASS<br>Test by certified Lab | P |
| 3 | RADIATION | EN55022<br>CLASS B | I/P: 230 VAC (50HZ)<br>O/P:FULL LOAD<br>Ta:25℃ | PASS<br>Test by certified Lab | P |
| 4 | E.S.D | EN61000-4-2<br>LIGHT INDUSTRY<br>AIR:8KV / Contact:4KV | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25℃ | CRITERIA A | P |
| 5 | E.F.T | EN61000-4-4<br>LIGHT INDUSTRY<br>INPUT: 1KV | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25℃ | CRITERIA A | P |
| 6 | SURGE | IEC61000-4-5<br>LIGHT INDUSTRY<br>L-N :1KV<br>L,N-PE:2KV | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25℃ | CRITERIA B | P |
| 7 | Test by certified Lab & Test Report Prepare | | | | |

## M.T.B.F & LIFE CYCLE CALCULATION

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | CAPACITOR<br>LIFE CYCLE | TN-1500-112 : SUPPOSE C812 IS THE MOST CRITICAL COMPONENT<br>I/P: 12VDC O/P:FULL LOAD Ta= 25℃ LIFE TIME= 420711 HRS<br>I/P: 12VDC O/P:FULL LOAD Ta= 40℃ LIFE TIME= 136874 HRS | | | P |
| 2 | MTBF | MIL-HDBK-217F NOTICES2 PARTS COUNT<br>TOTAL FAILURE RATE: 8.5KHRS | | | P |

## COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|---|---|---|---|---|---|
| 1 | DC TO DC<br>Power Transistor<br>( D to S) or (C to E) **Peak Voltage** | Q324 Rated<br>STP40N20 : 200V 40A | I/P:51 VDC<br>O/P: (1)Full Load Turn on<br>(2) Full Load<br>(3)Output Short<br>Ta:25℃ | (1) 221 V<br>(2) 161 V<br>(3) 157 V | P |
| 2 | DCTO DC<br>Diode Peak **Voltage** | D414 Rated<br>HFA16TA60C : 8A 600V | I/P:51VDC<br>O/P: (1)Full Load Turn on<br>(2) Full Load<br>(3)Output Short<br>Ta:25℃ | (1) 392 V<br>(2) 392 V<br>(3) 392 V | P |
| 3 | **Input Capacitor Voltage** | C417 Rated<br>: 220u / 450V/ 105℃ | I/P:51VDC<br>O/P: (1)Full Load Turn on /Off<br>(2) Min load Turn on /Off<br>(3)Full Load /Min load Change<br>(4)Burn in 1hour<br>Ta:25℃ | (1) 360 V<br>(2) 370 V<br>(3) 360 V | P |
| 4 | INVERTER<br>Power Transistor<br>( D to S) or (C to E) **Peak Voltage** | Q12 Rated<br>HGTG12N60A4D : 12A/ 600V | I/P:51VDC<br>O/P: (1)Full Load Turn on<br>(2) Full Load<br>(3)Output Short<br>Ta:25℃ | (1) 502 V<br>(2) 466 V<br>(3) 498 V | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|---|---|---|---|---|
| 2006/4/18 | RD SAMPLE | PASS | VINCENT TSENG | MAX LIN |
| 2006/9/25 | PRODUCT SAMPLE W0605A45 | PASS | VINCENT TSENG | MAX LIN |
| 2007/5/15 | PRODUCT SAMPLE W0703A19 | PASS | VINCENT TSENG | MAX LIN |

2003/12/12 A50-F023