



■ 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
- Computer-based monitoring software (Note.7)
- 3 years warranty



UL458 (for 112/124 type F only) TPTC004 IEC62368-1 (for 212/224/248 only)

SPECIFICATION

| MODEL NO.                | TN-1500-112□  | TN-1500-124□  | TN-1500-148□ | TN-1500-212□  | TN-1500-224□   | TN-1500-248□                          |            |
|--------------------------|---|---|--------------|---------------|--|---------------------------------------|------------|
|                          | □ = A, F  |   |              | □ = B, C, D   |  |                                       |            |
| OUTPUT                   | RATED POWER (Typ.)  | 1500W   |              |               |  |                                       |            |
|                          | MAXIMUM OUTPUT POWER (Typ.)   | 1725W for 180 sec. / 1875W for 10 sec. / surge power 3000W for 30 cycles  |              |               |  |                                       |            |
|                          | AC VOLTAGE  | Factory setting set at 110VAC<br>100 / 110 / 115 / 120VAC selectable by setting button S.W                                    |              |               | Factory setting set at 230VAC<br>200 / 220 / 230 / 240VAC selectable by setting button S.W |                                       |            |
|                          | FREQUENCY Note.10   | 60±0.1Hz 50/60Hz selectable by setting button S.W   |              |               | 50±0.1Hz 50/60Hz selectable by setting button S.W  |                                       |            |
|                          | WAVEFORM Note.2   | True sine wave (THD<3%)   |              |               |  |                                       |            |
|                          | AC REGULATION (Typ.)  | ±3.0%   |              |               |  |                                       |            |
|                          | TRANSFER TIME (Typ.)  | 10ms inverter → → by pass   |              |               |  |                                       |            |
|                          | SAVING MODE (Typ.)  | Default disabled. 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.3,6   | 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 (Typ.)  | ≤ 18W @ standby saving mode   |              |               |  |                                       |            |
|                          | OFF MODE CURRENT DRAW   | ≤ 1mA   |              |               |  |                                       |            |
|                          | EFFICIENCY (Typ.) Note.2  | 87%   | 89%          | 89%           | 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°C ±5°C   | 82°C ±5°C    | 96°C ±5°C     | 68°C ±5°C  | 68°C ±5°C                             | 68°C ±5°C  |
|                          | OUTPUT SHORT  | Protection type : Shut down o/p voltage, re-power on to recover ; by internal RTH3 detect on heatsink of power transistor     |              |               |  |                                       |            |
|                          | OVER LOAD (Typ.)  | 105 ~ 115% load for 180 sec., 115% ~ 125% load for 10 sec.<br>Protection type : Shut down o/p voltage, re-power on to recover |              |               |  |                                       |            |
|                          | CIRCUIT BREAKER   | 15A   |              |               | 10A  |                                       |            |
|                          | GFCI PROTECTION   | Optional (Only type F)  |              |               | None   |                                       |            |
| ENVIRONMENT              | WORKING TEMP. Note.1  | 0 ~ +40°C @ 100% load ; 60°C @ 50% load   |              |               |  |                                       |            |
|                          | WORKING HUMIDITY  | 20% ~ 90% RH non-condensing   |              |               |  |                                       |            |
|                          | STORAGE TEMP., HUMIDITY   | -30 ~ +70°C / -22 ~ +158°F, 10 ~ 95% RH non-condensing  |              |               |  |                                       |            |
|                          | VIBRATION   | 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes  |              |               |  |                                       |            |
| SAFETY & EMC             | SAFETY STANDARDS  | UL458 (only for "GFCI" receptacle-Type F), EAC TP TC 004  |              | EAC TP TC 004 |  | IEC62368-1 CB, EAC TP TC 004 approved |            |
|                          | WITHSTAND VOLTAGE   | Bat I/P - AC I/P:3.0KVAC Bat I/P - AC O/P:3.0KVAC AC O/P - FG:1.5KVAC   |              |               |  |                                       |            |
|                          | EMC EMISSION  | Compliance to FCC class A, EAC TP TC 020  |              |               | Compliance to EN55032 class B, 72/ 245/ CEE, 95/ 54/ CE, E-Mark, EAC TP TC 020             |                                       |            |
|                          | EMC IMMUNITY  | Compliance to EAC TP TC 020   |              |               | Compliance to EN61000-4-2,3,4,5,6,8,11, EAC TP TC 020                                      |                                       |            |
| 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%     |
|                          | MAX OPEN CIRCUIT VOLTAGE  | 25V   | 45V          | 75V           | 25V  | 45V                                   | 75V        |
| SOLAR CHARGER            | 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 Note.7   | RJ11 -RS232   |              |               |  |                                       |            |
|                          | DIMENSION   | 420*220*88mm (L*W*H)  |              |               |  |                                       |            |
|                          | PACKING   | 6.85Kg; 2pcs/15.7Kg/1.61CUFT  |              |               |  |                                       |            |
| NOTE                     | <p>1.Output derating capacity referenced by curve 1.<br/>                 2.TH D and Efficiency is tested by 1000W, linear load at 13V, 26V, 52V input voltage.<br/>                 3.Input derating capacity referenced by curve 2.<br/>                 4.All parameters not specified above are measured at rated load, 25°C of ambient temperature and set to factory setting.<br/>                 5.DC current is tested by 1500W, linear load at 13V, 26V, 52V input voltage.<br/>                 6.The tolerance of each voltage value by models is:112/212→±0.5V;124/224→±1V;148/248→±2V.<br/>                 7.The cable is enclosed for the connection between TN-1500 and computer for software monitoring.<br/>                 8.Please do not turn on the inverter before start the engine if inverter connect to vehicle's battery directly.<br/>                 9.The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).<br/>                 10.Type F for 60Hz only.</p> |   |              |               |  |                                       |            |

**■ Instructions for TN-1500 monitoring software**

1. The monitoring software can be downloaded from product section (with TN-1500 specification) on MEAN WELL's official website, <http://www.meanwell.com>
2. The monitoring software can run on Windows 7 English version, Windows 7 Chinese (Traditional, Taiwan) version, Windows 8 English version and Windows 8 Chinese (Traditional, Taiwan) version
3. Installation of TN-1500 unit and PC

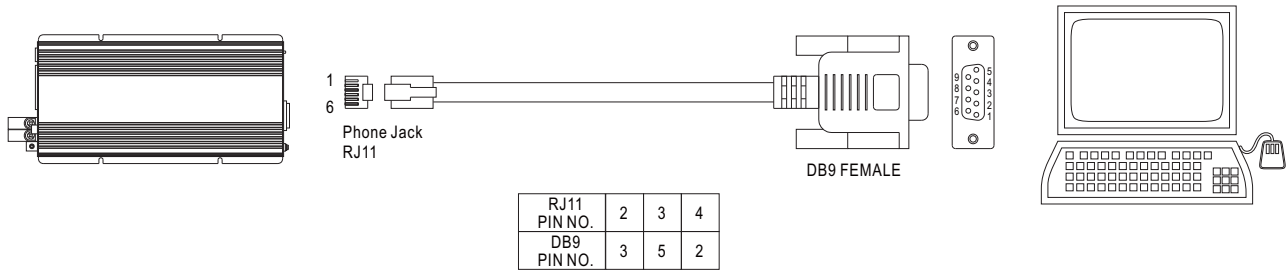


Figure 1

**4. Explanation of Monitoring Manu**

4.1 Main Page

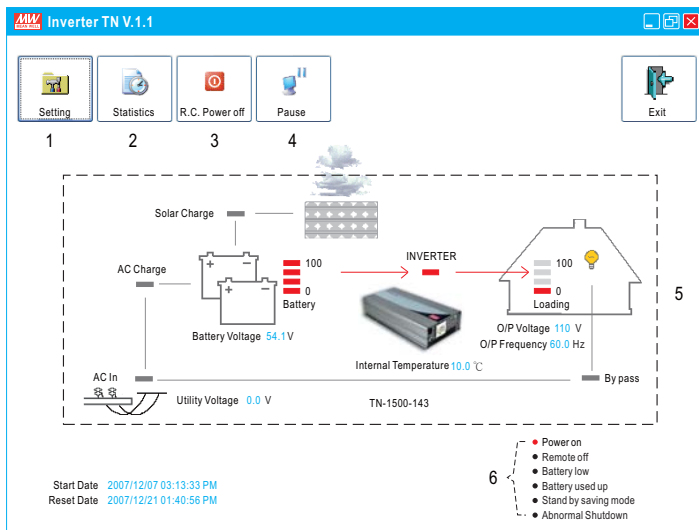


Figure 2

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.

4.2 Setting Page

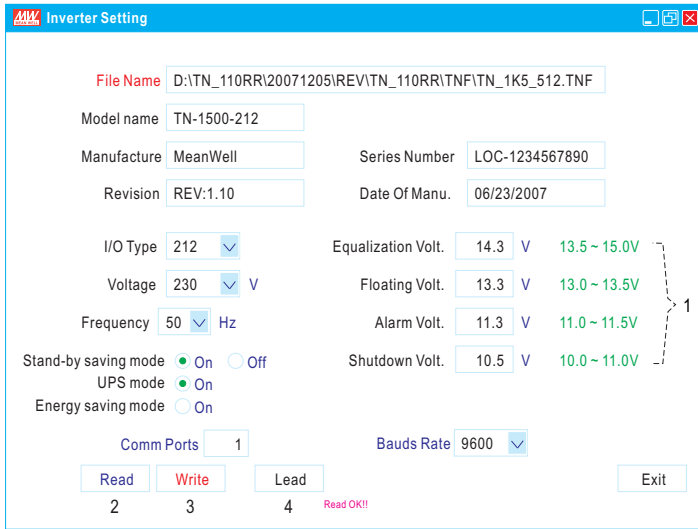


Figure 3

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.

4.3 Statistic Page

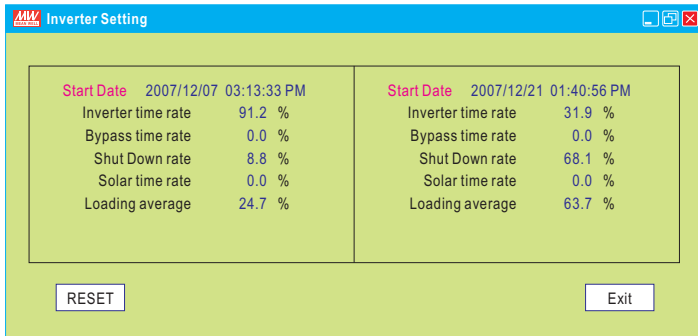
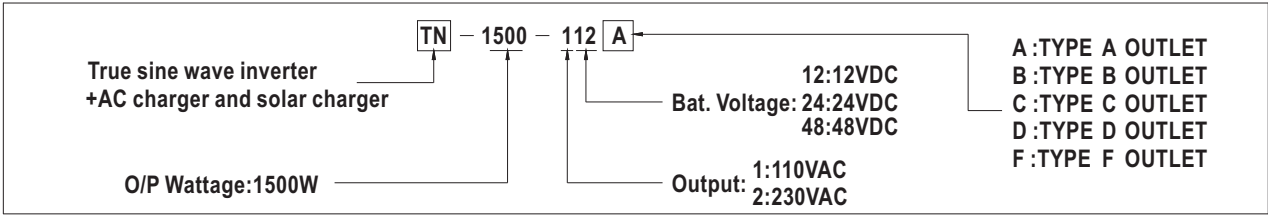


Figure 4

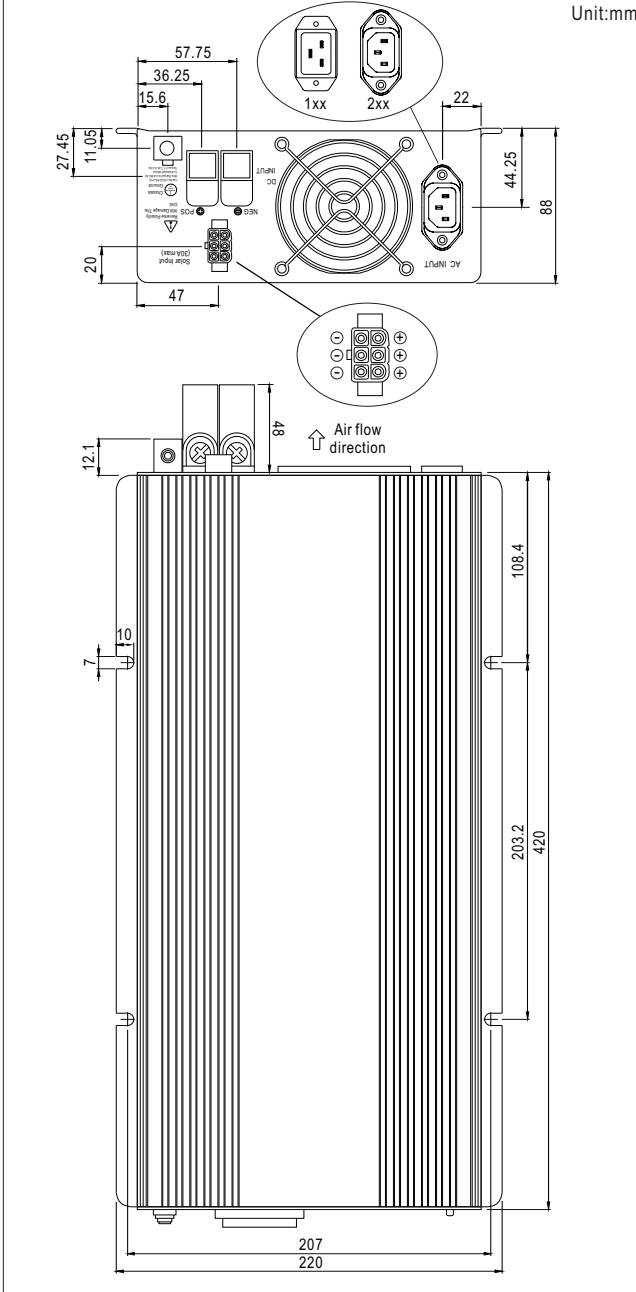
1. Start Date: Date that installing the monitoring software.
2. Reset Date: Date that resetting the statistics. The Start Date will not be influenced by resetting the statistics or turning off the unit.
3. Inverter time rate: Operating period of "Inverter Mode" represents how many percent of the whole 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.



■ AC Output Socket (optional)

| MODEL NO.   | TN-1500-112 <input type="checkbox"/> | TN-1500-124 <input type="checkbox"/> | TN-1500-148 <input type="checkbox"/> | TN-1500-212 <input type="checkbox"/> | TN-1500-224 <input type="checkbox"/> | TN-1500-248 <input type="checkbox"/> |
|-------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Socket type |                                      |                                      |                                      |                                      |                                      |                                      |
|             | TYPE-A                               |                                      | TYPE-F                               |                                      | TYPE-B                               |                                      |
|             | Standard                             |                                      | Optional                             |                                      | Optional                             |                                      |
| Country     | USA                                  |                                      | GFCI                                 |                                      | EUROPE                               |                                      |
| Certificate |                                      |                                      |                                      |                                      |                                      |                                      |

■ Mechanical Specification



■ Derating Curve

