



■ Features :

- True sine wave output (THD<3%)
- High surge power up to 6000W
- U.P.S. mode and energy saving mode (selectable)
- High efficiency up to 92%
- 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
- 3 years warranty



**SPECIFICATION**

MODEL	TN-3000-112□	TN-3000-124□	TN-3000-148□	TN-3000-212□	TN-3000-224□	TN-3000-248□	
OUTPUT	<b>RATED POWER (Typ.)</b>	3000W	3000W	3000W	3000W	3000W	
	<b>MAXIMUM OUTPUT POWER</b>	3450W for 180 sec. / 4500W for 10 sec. / surge power 6000W for 30 cycles					
	<b>AC VOLTAGE</b>	Factory setting set at 110VAC 100 / 110 / 115 / 120VAC selectable by setting button S.W			Factory setting set at 230VAC 200 / 220 / 230 / 240VAC selectable by setting button S.W		
	<b>FREQUENCY</b>	60±0.1Hz 50/60Hz selectable by setting button S.W			50±0.1Hz 50/60Hz selectable by setting button S.W		
	<b>WAVEFORM</b>	True sine wave (THD<3%) at rated input voltage					
	<b>AC REGULATION (Typ.)</b>	±3%					
	<b>TRANSFER TIME (Typ.)</b>	t<10ms inverter ↔ by pass					
	<b>SAVING MODE (Typ.)</b>	Load ≤5W will be changed to standby mode					
<b>FRONT PANEL INDICATOR</b>	Battery voltage level, output load level, saving mode, fault and operation status						
INPUT	<b>BAT. VOLTAGE</b>	12V	24V	48V	12V	24V	48V
	<b>VOLTAGE RANGE</b> Note.5	10.5 ~ 15VDC	21 ~ 30VDC	42 ~ 60VDC	10.5 ~ 15VDC	21 ~ 30VDC	42 ~ 60VDC
	<b>DC CURRENT (Typ.)</b> Note.3	300A	150A	75A	300A	150A	75A
	<b>NO LOAD DISSIPATION (Typ.)</b>	≤10W @ standby saving mode					
	<b>OFF MODE CURRENT DRAW</b>	≤1mA					
	<b>EFFICIENCY (Typ.)</b> Note.1	88%	90%	91%	89%	91%	92%
<b>BATTERY TYPES</b>	Open & sealed Lead Acid						
BATTERY INPUT PROTECTION	<b>FUSE</b>	40A*12	40A*6	20A*6	40A*12	40A*6	20A*6
	<b>BAT. LOW ALARM</b> Note.5	11.3V	22.5V	45V	11.3V	22.5V	45V
	<b>BAT. LOW SHUTDOWN</b> Note.5	10.5V	21V	42V	10.5V	21V	42V
	<b>REVERSE POLARITY</b>	By internal fuse open					
OUTPUT PROTECTION	<b>OVER TEMPERATURE</b>	105°C±5°C	95°C±5°C	95°C±5°C	90°C±5°C	85°C±5°C	85°C±5°C
	<b>OUTPUT SHORT</b>	Protection type : Shut down o/p voltage, re-power on to recover					
	<b>OVER LOAD (Typ.)</b>	105 ~ 115% load for 180 sec., 115% ~ 150% load for 10 sec. Protection type : Shut down o/p voltage, re-power on to recover					
	<b>CIRCUIT BREAKER</b>	AC input: 40A, AC output receptacle:15A			AC input: 20A, AC output receptacle: 15A		
	<b>GFCI PROTECTION</b>	Optional (Only type F)			None		
ENVIRONMENT	<b>WORKING TEMP.</b> Note.2	0 ~ +40°C @ 100% load ; 60°C @ 50% load					
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing					
	<b>STORAGE TEMP., HUMIDITY</b>	-30 ~ +70°C / -22 ~ +158°F, 10 ~ 95% RH					
	<b>VIBRATION</b>	10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC	<b>SAFETY STANDARDS</b>	UL458 (only for "GFCI" receptacle-Type F)   None					
	<b>LVD</b>	None			EN60950-1		
	<b>WITHSTAND VOLTAGE</b>	Bat I/P - AC I/P:3.0KVAC Bat I/P - AC O/P:3.0KVAC AC O/P - FG:1.5KVAC					
	<b>EMI CONDUCTION&amp;RADIATION</b>	Compliance to FCC class A			Compliance to EN55022 class A, 72/ 245/ CEE, 95/ 54/ CE, E-Mark		
	<b>EMS IMMUNITY</b>	None			Compliance to EN61000-4-2,3,4,5,6,8,11 ENV50204		
AC CHARGER	<b>CHARGE CURRENT (Typ.)</b>	25A	12A	6A	25A	12A	6A
	<b>CHARGE VOLTAGE</b> Note.5	14.3V	28.5V	57V	14.3V	28.5V	57V
SOLAR CHARGER	<b>MAX OPEN CIRCUIT VOLTAGE</b>	25V	45V	75V	25V	45V	75V
	<b>CHARGE CURRENT (max.)</b>	30A					
OTHERS	<b>CHARGE VOLTAGE</b> Note.5	14.3V	28.5V	57V	14.3V	28.5V	57V
	<b>CONTROL WIRING</b>	RJ11 -RS232 (Option)					
OTHERS	<b>DIMENSION</b>	466.8*283.5*100mm (L*W*H)					
	<b>PACKING</b>	12.9Kg; 1pcs/14Kg/1.98CUFT					
NOTE	<p>1.Efficiency is tested by 2100W, linear load at 13V, 26V, 52V input voltage.</p> <p>2.Output derating capacity referenced by curve 1.</p> <p>3.DC current is tested by 3000W, linear load at 12V, 24V, 48V input voltage.</p> <p>4.All parameters not specified above are measured at rated load, 25°C of ambient temperature.</p> <p>5.The tolerance of each voltage value by models is:112/212→±0.5V;124/224→±1V;148/248→±2V</p>						

■ Instructions for TN-3000 monitoring software

1. Installation of TN-3000 unit and PC

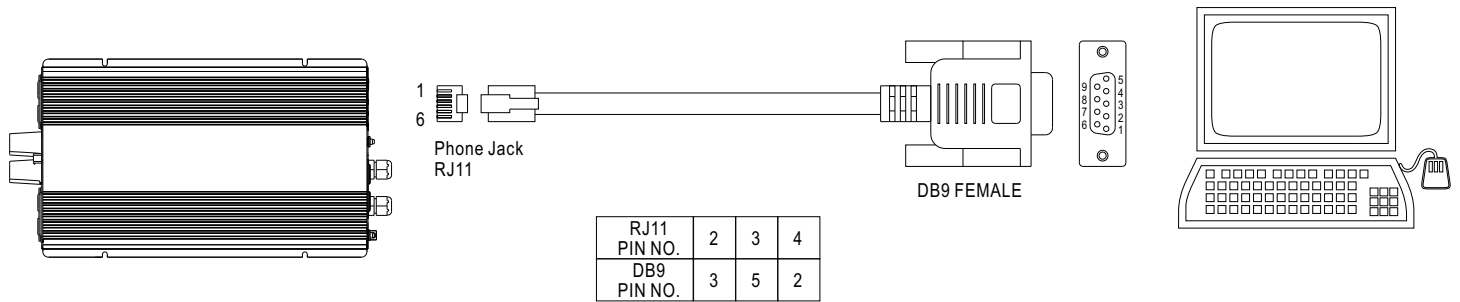


Figure 1

2. Explanation of Monitoring Manu

2.1 Main Page

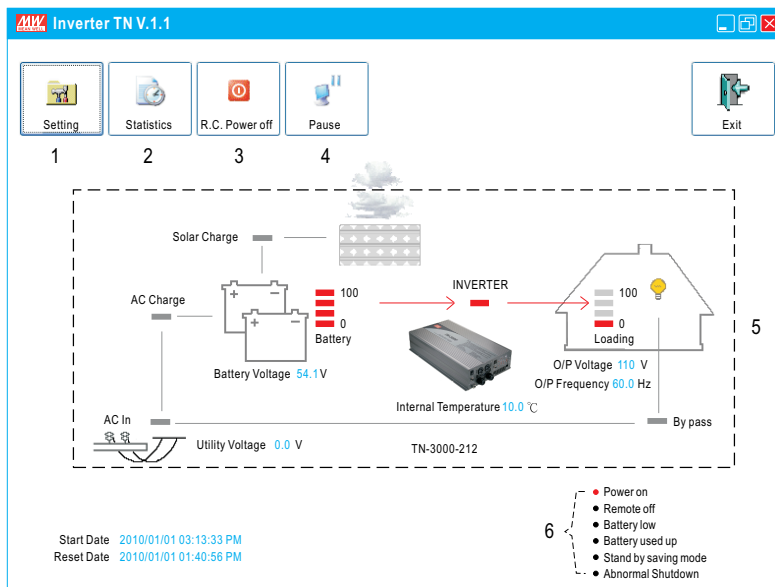


Figure 2

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-3000.
6. Signals that display current condition of the unit.

2.2 Setting Page

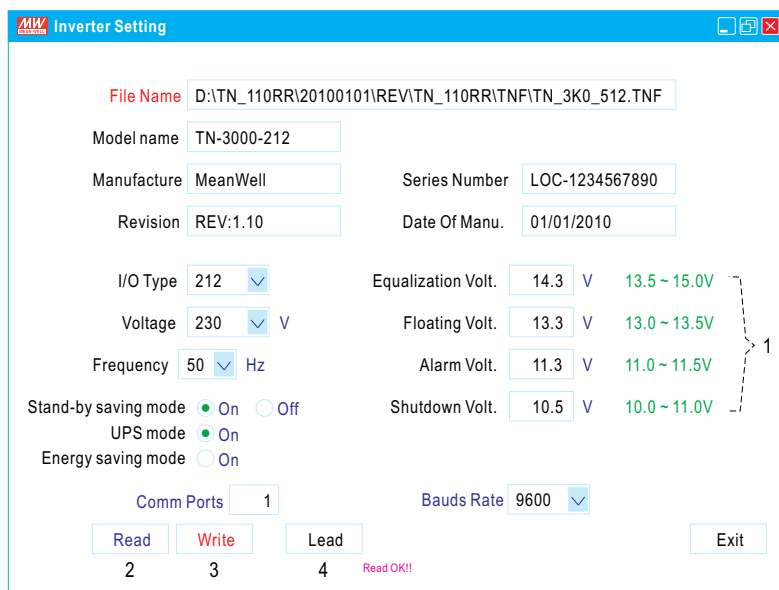


Figure 3

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

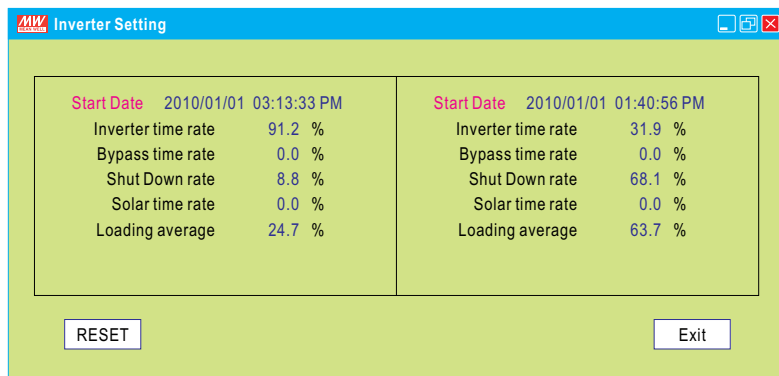


Figure 4

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-3000 unit.
7. Loading average: Average loading after turning on the TN-3000 unit.

True sine wave inverter + AC charger and solar charger

O/P Wattage: 3000W

TN - 3000 - 112 A

Bat. Voltage: 12:12VDC  
24:24VDC  
48:48VDC

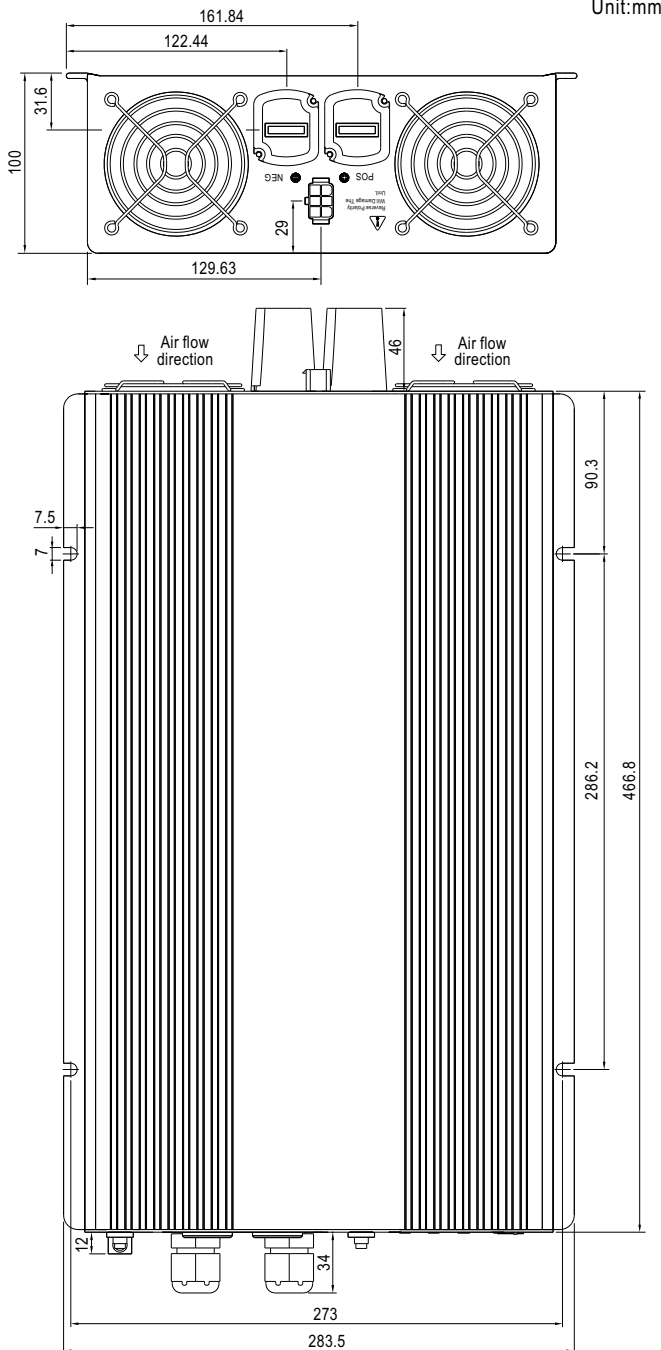
Output: 1:110VAC  
2:230VAC

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 Receptacle (optional)

Receptacle type						
	TYPE-A	TYPE-B	TYPE-C	TYPE-D	TYPE-E	TYPE-F
Country	USA	EUROPE	AUSTRALIA	U.K	JAPAN	GFCI
Certificate						

### Mechanical Specification



### Derating Curve

