Tb Plus®

TUC INVERTER

www.tbplusenergy.com

LEGAL GUARANTEES

In accordance with Law 1480 of 2011 Consumer Statute and Decree 735 of 2013 Legal Guarantee:

- To request a guarantee, the customer is obliged to report the damage to the product, make it available to the company at the guarantee service point at AV CL 80 69-70 Unit 1C, and indicate the invoice number to determine your purchase date.
- The delivery of the repaired product will be delivered to the customer at the warranty service point, unless the customer requests to send it to a different destination, in which case the customer must assume the cost of freight.
- In any case, when a product repair guarantee is denied or approved, the respective written report must be issued supporting the evidence that justifies the decision.
- In no case will Tb Plus Energy proceed with the replacement of the product given under warranty since, if the repair does not proceed, a credit note will be issued which covers the acquisition of another new product or service or the return of the money paid.
- If the failure repeats once the product has been repaired, only the credit note applies which covers the acquisition of another new product or service or the return of the money paid.
- When the customer opts for a refund of the money, it will be for the amount of the sale price. For this purpose, they must send a communication signed by the legal representative, which indicates the bank details to make the return, the which will be effective within fifteen (15) business days after receipt of the return request.
- The repair of the product will be carried out within 30 business days following the claim, which is carried out by filling out the GP-F-018 Warranty Form, which is completed in the PQRF Guarantees tab on the WEB page www. tbplusenergy.com or at the following link:

  https://forms.office.com/Pages/ResponsePage.aspx?id=K987JK0Nuke_1n30RF9URwiKWAfZovhDrWEVYGmhK95UOVZYUFBWMUpaQVZBM0hIS0RKUjdLSkdIWS4u:

- Once the guarantee form has been completed, the client has 15 days to make it available at the guarantee service point.
- The product manuals in which proper use, installation instructions and periods covered by the warranty are reported are found in the PQRF Product Manuals tab on the website www.tbplusenergy.com.

TECHNICAL SPECIFICATIONS

Product description

IPower series is a kind of pure sine wave inverter that can convert. 12/24/48 VDC at 220/230 VAC (or 110/120 VAC). Industrial design, compared to design civil, has a wider operating temperature, easy installation and operation. He Wide input voltage range is ideal for solar system applications. The investor It can be applied in many fields, such as emergency lighting system household, vehicle-mounted system and small field power supply, etc.

Main properties

- Safe design with electrical isolation of input and output.
- Adoption of advanced SPWM technology, pure sine wave output.
- Optional output voltage 220/230VAC (or 110/120VAC), choosing by DIP switch.
- LED indicators for fault status and working status.
- Lower consumption without load.
- Input protection: overvoltage protection, low voltage protection.
- Output protection: overload protection, short circuit protection.
- Over-temperature protection: Fan-controlled ventilation temperature; The inverter automatically turns off when it overheats.
- Operational USB output 5VDC/1A.

TECHNICAL VARIABLES

Model	IP350-12	IP350-22	IP350-11	IP350-21	IP500-12	IP500-22	IP500-11	IP500-21
Technical specification								
Nominal Input Voltage	12VDC	24VDC	12VDC	24VDC	12VDC	24VDC	12VDC	24VDC
Input Voltage Range	10.8～16VDC	21.6～32VDC	10.8～16VDC	21.6～32VDC	10.8～16VDC	21.6～32VDC	10.8～16VDC	21.6～32VDC
Input Overvoltage	＜32VDC	＜44VDC	＜32VDC	＜44VDC	＜32VDC	＜44VDC	＜32VDC	＜44VDC
Output Voltage	220VAC (± 5%) 230VAC (-7% ~ + 5%)		110VAC (± 5%) 20VAC (-10% ~ + 5%)		220VAC (± 5%) 230VAC (-10% ~ + 5%)		110VAC (± 5%) 120VAC (-10% ~ + 5%)	
Output Frequency	50/60±0.1Hz							
Continuous Output Power	280W				400W			
Output Power 15 min.	350W				500W			
Overvoltage	750W				1000W			
Power Factor	0.2-1(VA lower than continuous power output)							
Output Wave	Pure sine wave							
THD Distortion	THD≤3%①		THD≤5%①		THD≤3%①		THD≤5%①	
Max. Efficiency	91%	92%	90%	91%	92%		91%	
No Load Current	<0.7A	<0.5A	<0.7A	<0.5A	<0.9A	<0.5A	<0.9A	<0.5A
USB Output Port ②	5VDC/Max.1A							
Binding Publication	Φ6mm				Φ6mm			
Global Dimension	214 × 105.5 × 57.7mm				232.2 × 132 × 74.5mm			
Mounting Dimension	185.5 × 76.7mm				205 × 102 mm			
Hole Size Mounting	Φ4.2mm				Φ5.2mm			
Net weight	1.0kg				1.7 kg			

Model	IP1000-12	IP1000-22	IP1000-11	IP1000-21	IP1500-12	IP1500-22	IP1500-11	IP1500-21
Technical specification								
Nominal Input Voltage	12VDC	24VDC	12VDC	24VDC	12VDC	24VDC	12VDC	24VDC
Voltage Range Entrance	10.8 ~ 16VDC	21.6 ~ 32VDC	10.8 ~ 16VDC	21.6 ~ 32VDC	10.8 ~ 16VDC	21.6 ~ 32VDC	10.8 ~ 16VDC	21.6 ~ 32VDC
Input Overvoltage	<20VDC	<40VDC	<20VDC	<44VDC	<20VDC	<40VDC	<20VDC	<40VDC
Output Voltage	220VAC / 230VAC (± 5%)		110VAC / 120VAC (± 3%)		220VAC (± 5%) 230VAC (-7% ~ + 5%)		110VAC (± 3%) 120VAC (-7% ~ + 3%)	
Output Frequency	50/60±0.1Hz							
Continuous Power Exit	800W				1200W			
Output Power 15 min.	1000W				1500W			
Overvoltage	1600W				2400W			
Power Factor	0.2-1(VA lower than continuous power output)							
Output Wave	Pure sine wave							
THD Distortion	THD≤3%①		THD≤5%①		THD≤3%①		THD≤5%①	
Max. Efficiency	94.5%		92.5%		93%	94%	93%	94%
No Load Current	<0.8A	<0.5A	<0.8A	<0.5A	<1.0A	<0.6A	<1.0A	<0.6A
USB output port②	5VDC/Max.1A							
RS485 communication. Port②	5VDC / 200mA							
Binding Publication	Φ10mm							
Overall Dimension(mm)	298.3 × 231.5 × 98.5	284.7 × 231.5 × 98.5	298.3 × 231.5 × 98.5	284.7 × 231.5 × 98.5	326,12×231.5 ×98.5	284.7×231.5 ×98.5	326,12×231.5 ×98.5	284.7×231.5 ×98.5
Mounting Dimension	183 × 220 mm	163 × 219.5mm	183 × 220 mm	163 × 219.5mm	208 × 220 mm	163 × 219.5mm	208 × 220 mm	163 × 219.5mm
Hole Size Mounting	Φ5.5mm							
Net weight	3.9 kg	3.6 kg	3.9 kg	3.6 kg	4.6 kg	3.9 kg	4.6 kg	3.9 kg

Environmental Parameters

Work temperature	-20 ºC ~ + 45 ºC
Temperature of Storage	-35 ºC ~ + 70 ºC
Humidity	<95% (NC)
Enclosure	IP20
Altitude	< 5000 m (Derating to operate according to IEC62040 at a height greater than 1000 m)

Model	IP2000-22	IP2000-42	IP2000-21	IP2000-41
Technical specification				
Rated input voltage	24VDC	48VDC	24VDC	48VDC
Input voltage range	21.6 ~ 32VDC	43.2 ~ 60 VDC	21.6 ~ 32VDC	43.2 ~ 60 VDC
Input overvoltage	<40VDC	<80VDC	<40VDC	<80VDC
Output voltage	220VAC (± 5%) 230VAC (-10% ~ + 5%)		110VAC (± 5%) 120VAC (-10% ~ + 5%)	
Output frequency	50/60±0.1Hz			
Continuous power output	1600W			
Output power 15 min.	2000W			
Overvoltage	3200W			
Power factor	0.2-1(VA lower than continuous power output)			
Output wave	Pure sine wave			
THD Distortion	THD≤3%①		THD≤5%①	
Max. efficiency	95%		94%	
No-load current	<0.6A	<0.4A	<0.6A	<0.4A
USB output port ②	5VDC/Max.1A			
RS485 Communication Port.②	5VDC / 200mA			
Binding post	Φ10mm			
Overall dimension	326.12 × 231.5 × 98.5mm			
Mounting dimension	208 × 219.5mm			
Mounting hole size	Φ5.5mm			
Net weight	4.6 kg			

①Test condition: rated input voltage, continuous output power, resistive load.
②Conventional products do not have this port; port is optional.

Others

Dielectric strength	Between the DC input terminals and the metal case: Test voltage AC500V, 1 minute Between the AC output terminals and the metal box: Test voltage AC1500V, 1 minute

WARRANTY CONDITIONS

Tb Plus Energy warrants that each product is free from defects in materials and workmanship manufacturing, and offers a guarantee for a period of **24 months** from the acquisition of the product.

RECOMMENDATIONS

- Check input voltage to connect.
- Check the connections.
- Install in a place where there are no environmental factors that can short out the equipment (Humidity, direct sun, fauna).
- Perform preventive maintenance.
- Avoid blows.
- Install under certified professional recommendation.

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