Tb Plus®

INVERTER PLUS

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-Plus is a high frequency pure sine wave inverter that can convert 12/24/48 VDC to 220/230 V AC (or 110 V/120 V AC) and power AC loads. It is designed in accordance with the international standard with higher quality, reliability and safety. With a range from 500W to 5000W, Ipower-Plus is perfectly compatible with the battery of lithium-ion and adapts to any DC to AC situation, such as recreational vehicles vessels, residential and places where high quality electrical energy is required.

Main properties

- Pure sine wave output.
- Electrical isolation from input to output.
- Dual closed-loop digital control of voltage and current.
- Input current spike suppression for lithium battery systems.
- Output power factor up to 1.
- Simple system wiring and 180 degree rotating LCD screen.
- Input protection: reverse polarity, under voltage, over voltage.
- Output protection: overload, short circuit, overheating.
- Remote control of phone and PC via RS485 port.
- Additional external switch port.
- Safety (EN/IEC62109) and EMC approved by international standards.

TECHNICAL VARIABLES

Parameters	IP500-11-Plus	IP500-21-Plus	IP1000-11-Plus	IP1000-21-Plus	IP1500-11-Plus	IP1500-21-Plus	IP1500-41-Plus
Continuous output power	500W	500W	1000W	1000W	1500W	1500W	1500W
Overvoltage	1000W@5S	1000W@5S	2000W@5S	2000W@5S	3000W@5S	3000W@5S	3000W@5S
Overvoltage when turn on	< 50A	< 50A	< 100A	< 100A	< 100A	< 100A	< 50A
Output voltage	110VAC(±3%); 120VAC(-7%~+3%)						
Output frequency	50/60Hz±0.2%						
Output wave	Pure sine wave						
THD Output Distortion	THD≤4% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)	THD≤3% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)
Load power factor	0.2-1(VA Load ≤ Continuous Output Power)						
Rated input voltage	12VDC	24VDC	12VDC	24VDC	12VDC	24VDC	48VDC
Input voltage range	10.8~16.0VDC	21.6~32VDC	10.8~16.0VDC	21.6~32.0VDC	10.8~16.0VDC	21.6~32.0VDC	43.2~64.0VDC
Rated output efficiency	> 87.5%	> 90%	> 87%	> 90%	> 88%	> 88%	> 90%
Max. output efficiency	> 90% (40% loads)	> 91% (40% loads)	> 92% (40% loads)	> 92.5% (30% loads)	> 93% (30% loads)	> 92.5% (30% loads)	> 92% (30% loads)
No-load current	< 0.8A	< 0.5A	< 0.8A	< 0.6A	< 1.0A	< 0.9A	< 0.5A
USB output	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	/
Com. port RS485	5VDC/200mA	5VDC/200mA	5VDC/200mA	5VDC/200mA	5VDC/200mA	5VDC/200mA	5VDC/200mA
Dimension (LxWxH)	286×163.5×78mm	286×163.5×78mm	371×231.5×123mm	371×231.5×123mm	387×231.5×123mm	387×231.5×123mm	387×231.5×123m
Mounting dimension	262×75mm	262×75mm	345×145mm	345×145mm	361×145mm	361×145mm	361×145mm
Net weight	2.2kg	2.2kg	5.8kg	5kg	6kg	6kg	6kg
Temperature range operation	`-20℃~+60℃ (See reduction curve)						
RH	< 95%(N.C.)						
For interiors	IP20						

TECHNICAL VARIABLES

Parameters	IP2000-11-Plus	IP2000-21-Plus	IP2000-41-Plus	IP3000-11-Plus	IP3000-21-Plus	IP3000-41-Plus	IP4000-41-Plus
Continuous output power	2000W	2000W	2000W	3000W	3000W	3000W	4000W
Overvoltage	4000W@5S	4000W@5S	4000W@5S	4800W@1S	6000W@5S	6000W@5S	8000W@5S
Overvoltage when turn on	< 100A	< 100A	< 50A	< 100A	< 100A	< 65A	< 65A
Output voltage	110VAC(±3%); 120VAC(-7%~+3%)						
Output frequency	50/60Hz±0.2%						
Output wave	Pure sine wave						
THD Output Distortion	THD≤5% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)	THD≤5% (Resistant load)	THD≤4% (Resistant load)	THD≤4% (Resistant load)
Load power factor	0.2-1(VA Load ≤ Continuous Output Power)						
Rated input voltage	12VDC	24VDC	48VDC	12VDC	24VDC	48VDC	48VDC
Input voltage range	10.8~16.0VDC	21.6~32.0VDC	43.2~64.0VDC	10.8~16.0VDC	21.6 ~ 32.0VDC	43.2~64.0VDC	43.2~64VDC
Rated output efficiency	> 85%	> 88%	> 88%	> 85%	> 87%	> 89.5%	> 88%
Max. output efficiency	> 92% (30% loads)	> 92% (30% loads)	> 93% (30% loads)	> 93% (30% loads)	> 91.5% (30% loads)	> 93.5% (30% loads)	> 93% (30% loads)
No-load current	< 1.2A	< 0.9A	< 0.5A	< 1.6A	< 1A	< 0.4A	< 0.6A
USB output	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	5VDC/Max.1A	/	/
Com. port RS485	5VDC/ 200mA	5VDC/200mA	5VDC/ 200mA	5VDC/ 200mA	5VDC/ 200mA	5VDC/ 200mA	5VDC/ 200mA
Dimension (LxWxH)	420×231.5×123mm	421×231.5×123mm	421×231.5×123mm	550×274×148mm	521×274×148mm	516×231.5x123mm	521×274×148mm
Mounting dimension	395×145mm	395×145mm	395×145mm	525×145mm	495×145mm	490x145mm	495×145mm
Net weight	8kg	6.5kg	6.5kg	13kg	8kg	8kg	12kg
Temperature range operation	`-20℃~+60℃ (See reduction curve)						
RH	< 95%(N.C.)						
For interiors	IP20						

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.

Tb Plus®

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