ENGLISH

KTB1000

INSTRUCTION MANUAL

Portable Power Station

- 983Wh, 91Ah (10.8V) BATTERY CAPACITY
- FLEXIBLE POWER WITH 6 USB PORTS (3 USB-C PD CAPABLE), 4 AC OUTLETS, AND A 12V AUTO PORT

GENERAL SPECIFICATIONS

The Klein Tools KTB1000 is a portable power station with the ability to supply 1500W of pure sine wave AC power via the four on-board AC outlets. Additionally, the power station supports multiple DC powered devices from the 6 USB ports, including 3 USB-C 60W Power Delivery (PD) capable outputs, and a 12V car port. Use the supplied AC adapter, or DC input using the Powerpole* connection to charge the KTB1000. Overall, nominal storage capacity is 982.8Wh of energy.

- **Capacity (Nominal):** 982.8Wh (91Ah / 10.8V)
- **Cell Type:** 18650
- **Cell Chemistry:** Li-Ion
- **8mm Input:** 13-30V DC, 10A, 200W maximum
- **Dual Input:** 8mm Port, 150W maximum; APP® Port, 400W maximum
- **APP* Port Input:** 13-30V DC, 30A maximum, 400W maximum
- **AC Output:** 120V each outlet, 1500W shared / 3000W peak
- **DC Output:** 12V, 10A maximum
- **USB Output:** (total output 210W) **USB-A:** 3 × 12W (5V/2.4A), **USB-C PD:** 3 × 60W (20V/3A, 15V/3A, 12V/3A, 9V/3A, 5V/3A)
- **Operating / Storage Maximum Altitude:** 6562' (2000 m)
- **Operating / Storage Maximum Humidity:** 75% non-condensing
- **Operating Temp:** 14° to 104°F (-10° to 40°C)
- **Charging Temp:** 32° to 104°F (0° to 40°C)
- **Storage Temp:** -4° to 113°F (-20° to 45°C)
- **Dimensions:** 15.8" × 10.8" × 10.4" (40.1 × 27.4 × 26.4 cm)
- **Weight:** 43.7lbs (19.8kg)
- **Life Expectancy:** 500 cycles to 80% capacity typical (depending on use and care)
- **Standards:** FCC, UN38.3, DOE/CEC, NRCAN
- **Charge Time**
  - **Fast Charger (288W):** 3 hrs to 80%
  - **Mobile Charger (120W):** 7.5 hrs to 80%
  - **Fast Charger + Mobile Charger (408W):** 2.5 hrs to 80%
  - **2x Klein Tools 60W Solar Panels (Cat. No. 29250):** 7.5 hrs to 80%*
  - **Car Charger Adapter:** Full charge 12 hours
- **Storage:** Charge every 3 months (fully charge before storage)
- **Transportation:** This lithium-ion battery is regulated as a hazardous material (dangerous goods) by the U.S. Department of Transportation (DOT) and other transport authorities and has been tested in accordance with the UN38.3 lithium battery testing requirements. The Watt-hour rating is 983 Wh. If shipped international by air, the battery must be packaged and transported in accordance with the IATA Dangerous Goods Regulations. Packing Instruction 965, Section IA. All package labeling requirements must be met and relevant shipping documents must be completed. Shipments by vessel (ocean) and motor vehicle must comply with the applicable dangerous goods regulations for those modes of transport. Keep ALL original packaging and shipping materials for future use. Call customer service for replacement packaging if original packaging is lost or damaged.

**With optimal sunlight. Charge times are approximate and may vary by ambient environmental conditions. Specifications subject to change.*

⚠ WARNINGS

To ensure safe operation and service of the power station, follow these instructions. Failure to observe these warnings can result in severe injury or death.

- Do **NOT** use portable power station in excess of its output rating. Overloading outputs above rating may result in a risk of fire or injury to persons.
- Use of a power supply, charger, or cable not recommended or sold by portable power station manufacturer may result in a risk of fire or injury to persons.
- Do **NOT** use portable power station or AC wall charger if it is damaged or has been modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion, or risk of injury.
- Do **NOT** subject to vibration, impacts, or drops. Secure the unit during transport. The housing may not show signs of damage, but internal components may have been compromised. It is advisable to replace the unit if any such severe events occur.
- Do **NOT** expose portable power station to moisture, rain, or snow.
- Keep away from high voltage electrical fields.
- Do **NOT** attempt to repair portable battery or AC wall charger. There are no user-serviceable components inside.
- Risk of fire and burns, do not open, crush, heat above 140ºF (60ºC) or incinerate. Follow all instructions.
- NOT intended for use with plug types or adapters not listed on the product label.
- Do **NOT** handle unit with wet hands.
- Do **NOT** place the unit on its side or upside down while in use or in storage.
- If rust, odor, overheating, or other abnormal circumstance are observed, stop using and contact Klein Tools customer service.

COMPLIANCE

FCC & IC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

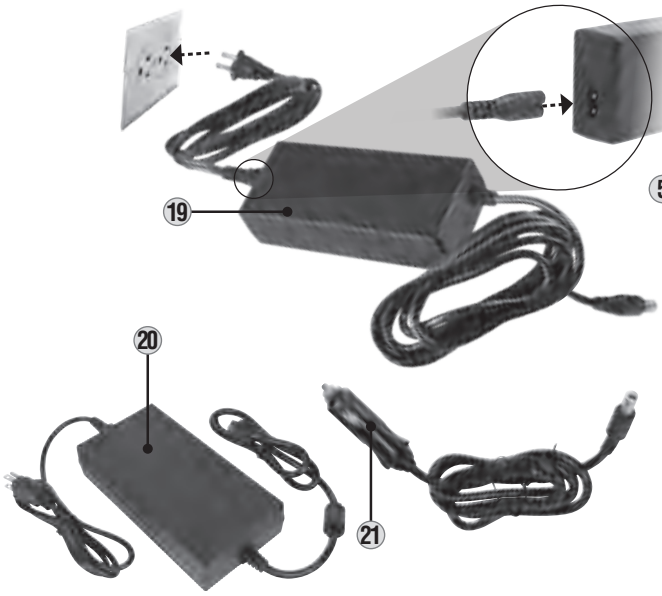
NOTE: *The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.*

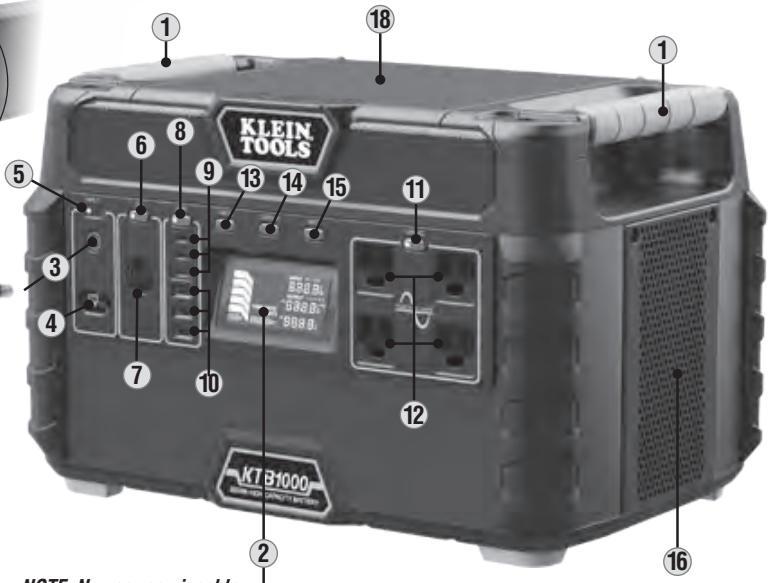
IC NOTICE TO CANADIAN USERS

This device complies with industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation of the device.

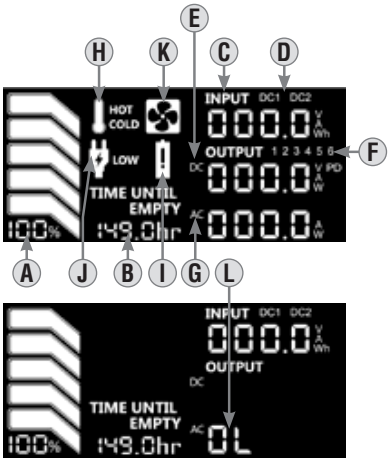
This device complies with RSS-247 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference. This Class B digital apparatus complies with Canadian ICES-003.

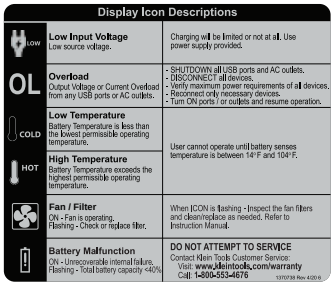
FEATURE DETAILS

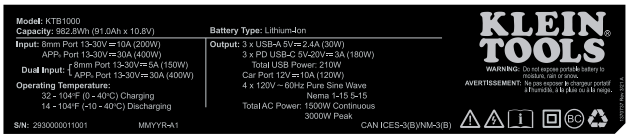


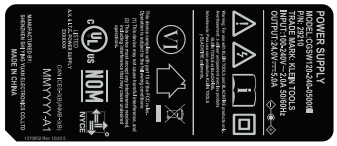


NOTE: No user-serviceable parts inside.









POWER STATION FEATURES

1. Handles
2. LCD Screen
3. AC Charging Input (8mm)
4. DC Charging Input (APP®)
5. Charging Indicator
6. Car Port Output On/Off Button
7. Car Port Output 12V/10A
8. USB Output On/Off Button
9. USB-C Ports (5V/3A to 60W PD)
10. USB-A Ports (5V/2.4A)
11. AC Output On/Off Button
12. AC Outlets (120V/1500W)
13. Units Button
14. Display Button
15. Info Button
16. Air Intake Vent
17. Air Exhaust Vent
18. Storage Compartment
19. Mobile Charger (120W)
20. Fast Charger (288W)
21. Car Charger Adapter

SYMBOLS ON POWER STATION

- Warning or Caution
- Read Instructions
- Risk of Electrical Shock
- Do Not Step or Stand
- Do Not Sit
- Conforms with BCS regulations of California Energy Commission
- Recyclable
- Double Insulated

LCD FEATURES

A. Battery Level Indicator
B. Time Until Full / Empty
C. Input Stats
D. Input Port
E. Output Stats DC
G. Output Stats AC
H. Hot / Cold Indicator
I. Battery Malfunction Indicator
J. Low Input Voltage Indicator
K. Fan Operating Indicator

SYMBOLS ON LCD

Low Voltage Input: Voltage input is below rating. The KTB1000 will only allow inputs that meet the specifications of those specific inputs. If this icon is illuminated, the input is not charging the unit.

Low Temperature: KTB1000 senses that the unit's temperature is below permissible operating temperature. The unit is not operational and must return to the lowest acceptable operating temperature to function.

High Temperature: KTB1000 senses that the unit's temperature is above rating. This can occur due to high loads, in a high ambient environment. The unit is not operational, until it is able to cool to the permissible operating temperature range.

Fan/Filter: The fan icon illuminates when the fan is operating. This occurs during high load situations for increased cooling. The fan icon may flash during overload conditions. Please refer to MAINTENANCE Section on filter maintenance requirements.

Battery Malfunction: The battery malfunction icon will flash when the power station is no longer able to charge beyond 40% of its original capacity. If the icon remains illuminated without flashing, the

SYMBOLS ON WALL CHARGERS

- Warning or Caution
- Risk of Electrical Shock
- Read Instructions
- Indoor Use Only
- May Get Hot
- Double Insulated
- Efficiency Rating
- This product meets applicable UL standards
- This product meets applicable NOM standards
- This product has been independently tested by Intertek and meets applicable published standards
- **WEEE** – Electronic

FUNCTION BUTTONS

INPUT AND OUTPUT DISPLAY DETAILS
KTB1000 display is intended to provide real-time input and output performance data on all ports combined, individually, and if specific output protocols are being utilized.

UNITS BUTTON – Press to obtain input and output parameters in Watts (W), Watt-hour (Wh), Volts (V), and Current (A), as applicable. Press the button and the unit icon on the screen will change with updated performance results.

INFO BUTTON – Press to cycle input and output from all ports, or individual ports (as applicable).

DISPLAY BUTTON - Press the DISPLAY button to illuminate the LCD for 60 seconds. Press and hold the DISPLAY button longer than 3 seconds, to keep LCD illuminated indefinitely. The display will flash on/off to alert the user that it will remain on, pressing the DISPLAY button will turn the display off.

DETAILS DISPLAYED ON LCD

BATTERY LEVEL: The battery state of charge correlates to the number of bars and percentage displayed in increments of 0-20%, 21-40%, 41-60%, 61-80%, and all five are lit when charge level is above 81%.

TIME UNTIL EMPTY/FULL: Provides the user live telemetry data on estimated time to completely charge, or deplete the battery based upon the current usage and charging of the battery. Please be aware that the data can adjust multiple times as the energy draw changes from the connected devices. This is evident during initial activation of ports.

INPUT: The KTB1000 is capable of displaying input energy in watts, watt-hr, volts or amps. The input data is combined value for all input ports, or by individual port with the corresponding input number provided. DC1 corresponds to the 8mm round port, DC2 corresponds to the APP® port.

OUTPUT: The display will provide output characteristics of all ports, including 12V car port, AC ports, and USB ports. The details on this function are provided below in the OPERATING INSTRUCTIONS section. The output wattage displayed by the power station will be accurate to within 10%.

COOLING FAN: KTB1000 utilizes an internal cooling fan to ensure the product is operating within the appropriate temperature range. The unit will automatically turn the fan on when it experiences a higher output load. During discharge, and possibly charging, the fan may operate intermittently to control internal temperature within operating range. The cooling fan icon will activate when the fan is operating. If the KTB1000 has elevated temperatures during operation, the fan icon may be displayed to alert the user to the higher temperatures

NOTE - The fan will likely start when the AC port activates to ensure proper operation.

COOLING FAN FILTER: KTB1000 has filters on the intake and exhaust of the fan. During normal use, these filters will reduce the amount of particulates that enter the unit. After a period of time, the filters will require maintenance outline below in MAINTENANCE section.

OPERATING INSTRUCTIONS

CHARGING THE KTB1000

NOTE – Before using or storing, fully charge the KTB1000 prior to operation. It is acceptable to continue charging the unit at all times when not in use.

NOTE - Only charge the unit indoors, with provided Mobile Charger, Klein Cat. No. 29210, Fast Charger, Klein Cat. No. 29035, 12V car port charger, Klein Cat. No. 29209, or using Klein Tools Solar Panel, Klein Cat. No. 29250.

Connect either one or both of the provided AC wall chargers to a 120V power source and to the 8mm input (if using the 120W mobile charger) or APP input port (if using the 288W fast charger), and allow KTB1000 to fully charge prior to first use. During charging, the AC port LED indicator will illuminate, and the LCD display will indicate charge level and estimated time to fully charge the power station. The fan may come on during the charging process to help maintain internal temperatures.

NOTE - Fully charge the KTB1000 every 3 months to maintain the health of the power station's battery pack.

SOLAR CHARGING USING APP® PORT

A Klein Tools solar panel (29250) can be used to charge the KTB1000 using the APP® port (DC2 on display). The input will allow voltage ranges from 13-30V and maximum input power of 400W. If the input falls within these parameters, the LED light will be illuminated and the input details provided in the display. Refer to SOLAR INPUT for additional details.

POWERING / CHARGING DEVICES WITH KTB1000

Press the corresponding output ON/OFF button to utilize the 12V (Button 6), USB (Button 8), or 120V (Button 11) outlets on the KTB1000. The outlet port will NOT function until pressing the appropriate button to activate the port. When activated, the indicator on the button will illuminate green, indicating that the output(s) are active, and the LCD display will turn on and provide details on the charging output. Press the ON/OFF button(s) to shut down the output(s) when not in use. When no outputs are active, the LCD display will turn off.

KTB1000 will enter sleep mode after 90 seconds of inactivity (no output load detected) and will "wake up" when inputting a charging cord or when any button is pressed.

PASS-THROUGH CHARGING

The advanced battery management system of the KTB1000 allows it to charge a connected device while charging using the 8mm or APP® inputs. The KTB1000 is capable of supporting more output energy than the maximum input energy. Therefore, the KTB1000 may still be depleting battery capacity while charging, depending upon the load required by the connected device, or output energy requirements.

HOW TO FIND INPUT CHARACTERISTICS OF THE DC1 AND DC2 INPUT PORTS (8MM, APP®)

The **UNITS Button** is used to cycle between Watts (W), Watt-Hour (Wh), Volts (V), and current (A).

The **INFO Button** will cycle between DC1, DC2, and then DC total. The button will only cycle between ports in use, therefore if only DC1 is in use, it will cycle DC1 > DC total output.

HOW TO FIND OUTPUT CHARACTERISTICS OF THE OUTPUT DC PORTS (USB, 12V)

The **DC Output** is able to display Volts (V), current (A), or Watts (W) using the **UNITS button.**

Individual **USB outputs** details correspond to the output number on display (1 through 6).
Example, if the **USB-A port** is active, the "1" will illuminate. No other numbers will illuminate if this is the only active USB port.

When the **USB-C ports** sense a Power Delivery protocol request, the "PD" will illuminate.

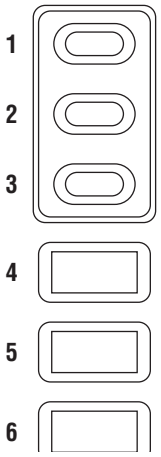
NOTE – when using the INFO button to cycle between USB and 12V outputs, the button will cycle through the USB output correlated with the specific port. The 12V details are display when no USB numbers are present.

The **DC output** is able to display Volts, Amps or Watts using the **UNITS button**

HOW TO FIND OUTPUT CHARACTERISTICS OF THE AC PORTS

The output of the **AC ports** is always shared data. When in use, the output is in Current (A) or Watts (W), using the **UNITS button** to cycle between the two parameters

USB Output Ports



OPERATING INSTRUCTIONS - CONTINUED

SOLAR PANEL INPUT

⚠ Incorrect polarity on the APP® Input may cause serious damage to the KTB1000.

⚠ **DO NOT** connect multiple solar panels in series to the KTB1000 . It will not accept a voltage higher than 30V.

The KTB1000 APP® input is capable of a variable input from 13V to 30V DC. The KTB1000 will limit the incoming current to the charging circuit to 30A and 400 Watts.

NOTE: The KTB1000 will not register the input if the voltage input does not fall within the parameters noted above, and the Charging Indicator LED will not illuminate. To ensure that the solar panel is providing power, the panel must be in direct sunlight and is recommended to have more than 20 watts of output.

SOLAR PANEL OUTPUT VOLTAGE	MAXIMUM CURRENT ALLOWED	MAXIMUM TOTAL POWER INPUT
18V	22.2A	400W
25V	16A	400W

Examples of Solar Panel output and maximum power input into KTB1000

OVERLOAD CONDITION

If the LCD displays the overload condition symbol ("OL"); do the following:

NOTE – The green indicator on the overloaded ports will flash for 10 seconds to alert of the overload condition.

- Turn off all ports. The green indicator light will no longer illuminate when the ports / outlets are shutdown.
- Disconnect all devices, including the KTB1000's charging cord.
- Verify the maximum power requirements for all devices, and confirm that the device power requirements do not exceed KTB1000's capacity (see GENERAL SPECIFICATIONS).
- Reconnect only necessary devices.
- Turn on USB ports, 12V, and/or AC outlets and resume operation.

If an overload condition occurs on the input port, the portable power station will automatically shut off the input port. The port will be reactivated when the input source meets the specification outlined in the GENERAL SPECIFICATIONS section. Only charge the unit with provided AC wall charger or APP® port.

TROUBLESHOOTING

WILL NOT CHARGE VIA APP® PORT:

Confirm that the output from the solar panel, or other device, using the APP® port is capable of providing a 13V-30V input signal. If the voltage is not within this range, the input port will shut off.

TROUBLE WITH OUTPUT:

Confirm that the port is active; the Green LED in the port's ON/OFF button will be illuminated. If the LED is not illuminated, press the button to activate and then connect the devices that require charging.

NOTE – If KTB1000 falls below 5% battery level, it may no longer provide output power through the ports.

WILL NOT CHARGE VIA APP® PORT:

Ensure your device (ex. Solar Panel) providing power through the APP port meets the input requirements provided in the "General Specifications" section. The display will provide details when the input is active, will provide details on the input characteristics.

WILL NOT RESET FROM OVERLOAD MODE:

If KTB1000 is in overload protection mode, disconnect all devices, including input and outputs. Wait 2 minutes. Activate the ports required for use and then connect the devices.

CLEANING

Disconnect all input power sources and output devices prior to cleaning the KTB1000. Use a clean, dry, soft-lint-free cloth to wipe down the unit. Remove any debris, dirt, or other blockages on both side vents. When cleaning debris from the side vents, do not allow the debris, dirt, or other blockages to enter the body of KTB1000. It is recommended to inspect the side vents when cleaning them.

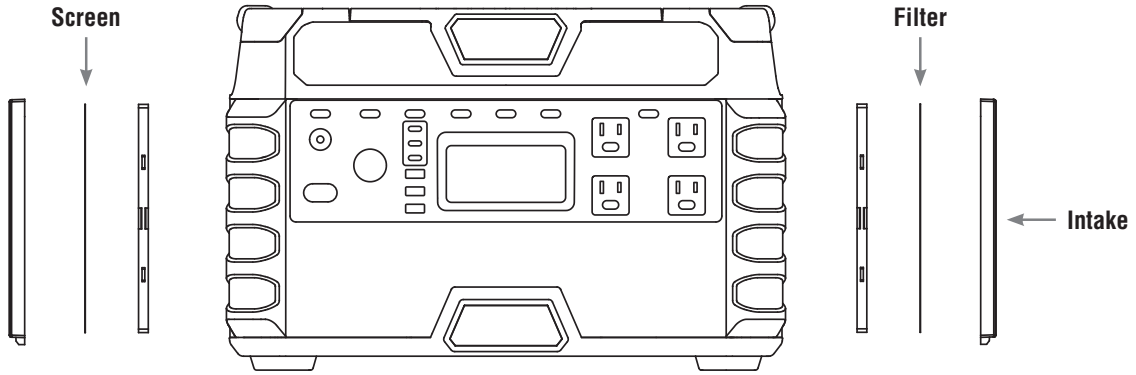
Do not use abrasive cleaners or solvents.

Do not use compressed air to clean side cooling vents, as this will force foreign particles into the internal circuitry.

⚠ ***To avoid the risk of electrical shock, DO NOT use metal objects to clean ports.***

MAINTENANCE

FAN FILTER REPLACEMENT – P/N 29207



KTB1000 has an intake foam filter and an exhaust screen. Both filters require cleaning or replacing as a maintenance program. It is recommended to remove one filter or screen at a time during replacement.

PROCEDURE:

- Cleaning of filter and screen should be completed periodically, specifically when using in a high dust or dirt environment. It is recommended to check the filters every 6 months of normal usage, or if the fans are running more often than previously experienced.

MAINTENANCE - CONTINUED

- Remove filter and inspect for dirt, dust, or general clogging of the filter. Captive screws hold the filter cover in place. The inner frame will lock the filter in place. The inner frame is pressed into the filter cover.
- A mild dish soap and water can be used to clean the foam filter, or by using low pressure compressed air to blow out the dust. Allow the filter to dry after clearing.
- Clean the screen using the same method as with the foam filter.
- If the foam filter has heavy deposits of dirt/particulars, it is recommended to replace with P/N 29207

NOTE – if you notice dust build-up on the inside of the battery, do not try to remove the dust by direct contact. Use low pressure air to remove particular build-up within the unit.

POWER STATION MAINTENANCE:

Recharge as needed. Avoid discharging completed on a regular basis, as this can impact overall life.

Regularly inspect all ports and wall charger for any debris, dirt, damage and corrosion. **DO NOT** attempt to fix.

STORAGE

If storing for more than 1 month, charge completely before storage and recharge approximately every 3 months to avoid full discharge and possible damage.

Store indoors, in cool temperatures, mild humidity, and away from direct sunlight (See GENERAL SPECIFICATIONS section). Leaving in a vehicle or other confined spaces in extreme hot temperatures can lead to decreased service life, overheating, and fire. Extreme cold conditions below specific storage range can also harm performance and service life.

Keep away from corrosion chemicals and gases.

After taking out of storage, visually inspect to make sure KTB1000 and all accessories look satisfactory. Inspect the intake and exhaust side vents to ensure they are clear of debris. Allow unit to return to ambient conditions before recharging or charging other devices.

DISPOSAL /RECYCLE

Do not place equipment and its accessories in the trash or in curbside recycle bin. Items must be properly recycled of in accordance with local regulations. Please see **www.epa.gov/recycle** for additional information.

**APP is a registered trademark of Anderson Power Products, Inc.*

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