

Promate[®] 120⁺

Powerstation

Owner's Manual



QR code for linktr.ee/PromatePH

DOWNLOAD THIS MANUAL FROM www.promate.com.ph.

To ensure proper use, please read this manual and follow its instructions. Save this manual for future use.

INTRODUCTION

This Promate120+ has been carefully engineered and manufactured to give you dependable operation. Please read this manual thoroughly before operating your new Promate120+. Familiarize yourself with its features and optimize the performance that will bring you continued enjoyment for many years.

TABLE OF CONTENTS

I.	Important Safety Instructions.....	1
II.	Specifications.....	2
III.	Charging the Powerstation.....	3
IV.	Battery.....	5
V.	Operating as a Power Supply.....	6
	1.1 Introduction.....	6
	1.2 Operating Instructions	7
VI.	Maintenance Instructions.....	9
VII.	Moving and Storage Instructions	9
VIII.	Troubleshooting Guide.....	10
IX.	Service Information.....	12
	Powerstation Exploded View	13

I. IMPORTANT SAFETY INSTRUCTIONS

1. To reduce the risk of injury, charge your Promate120+ with the provided AC adaptor and charging cord. Other chargers may cause the battery to rupture, resulting in personal injury and property damage.
2. Promate chargers should NOT be exposed to rain or moisture.
3. The use of accessories not approved or sold by the manufacturer may result in fire, electric shock, or personal injury.
4. When removing the charger, tug on the cigarette lighter connector rather than the cord to prevent damage.
5. Make sure the cord is safe from being stepped on, tripped over, or otherwise subjected to damage or stress.
6. DO NOT use a charger with damaged cord or cigarette lighter connector - replace it immediately.
7. A service or repair technician authorized by Promate should be consulted before disassembling the Powerstation or its charger. A fire or electric shock could occur from improper handling.
8. Before doing any maintenance or cleaning, unplug the charger to prevent electric shock.
9. The Promate120+ should always be oriented upright.
10. Keep it away from dust and dirt.
11. Warning –The Powerstation and its battery SHOULD NOT be exposed to fire or extreme heat since they have the potential to explode (read section II, #5 for operating temperature).
12. This unit meets the relevant safety requirements for the transport of dangerous goods.
13. When disposing of this unit, give careful consideration to both your safety and the environment.
14. Warning – Risk of explosive gases.
 - a. Working in vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that each time you use your Powerstation, you read this manual and follow the instructions exactly.
 - b. Do not expose the Powerstation or its battery to fire or intense heat as it may explode.
15. Personal Precautions
 - a. Never smoke or allow a spark or open flames near the battery or engine.
 - b. Use the Powerstation on a 12-volt LEAD-ACID battery only. Do not connect to a 6-volt or 24-volt battery system. Use the DC outlet socket to operate 12-volt appliances equipped with a cigarette lighter plug.
 - c. If battery acid comes in contact with skin, rinse immediately with running water, then wash thoroughly with soap and water. If redness, pain or irritation occurs, seek immediate medical attention.
 - d. If battery acid gets into your eyes, rinse them thoroughly for at least 10 minutes and seek medical attention immediately.
 - e. This system is not designed to be used as a replacement for a vehicular battery. Do not attempt to operate a vehicle that does not have a battery installed.

II. SPECIFICATIONS

GENERAL SPECIFICATIONS:

Dimension(cm): 24.7 x 16.3 x 25

Gross Weight: 5.4 kgs

Output:

12V DC Socket (max. 11 Amp)

5V 2.1A USB Port x 3 (Low voltage shut down $10V \pm 0.3V$)

QC 3 A USB Port x 1 (Low voltage shut down $10V \pm 0.3V$)

Type C Port x 1 (Low voltage shut down $10V \pm 0.3V$)

220V AC Power Inverter 200Watt (Low voltage shutdown $10V \pm 0.3V$)

External battery connection for jumpstarting

Work light:

3 X LEDs Work-light (Low voltage shut down $10V \pm 0.3V$)

Charging:

Car – AC/DC Charging Port

AC – AC/DC Charging Port

Solar Charging Port

Type C DC Charging Port

Built-in Battery: 1 x 12Ah-12V Valve Regulated Lead Acid – AGM Type Battery

INVERTER SPECIFICATIONS:

Output Power Continuous: 200W Operating

Voltage: DC 11-14.5V

AC Output Voltage (RMS Meter): $220V \pm 10\%$

Output Wave Form: Filtered Modified Sine Wave Low

Battery Alarm: DC $10.3V \pm 0.3V$

Low Battery Shut Down: DC $10 \pm 0.3V$

Frequency: $60 \text{ Hz} \pm 3$

Efficiency: 85%

No Load Current Draw: $< 0.65A$

Over Temperature Protection: $100^{\circ}\text{C} \pm 10\%$

CONTROL PANEL FEATURES

- | | |
|------------------------------|--------------------------|
| 1. Rubberized handle | 8. USB Port |
| 2. Digital display | 9. Solar Charging Port |
| 3. AC Power ON / OFF Switch | 10. 2 x AC Power Outlet |
| 4. USB Power ON / OFF Switch | 11. LED Light |
| 5. AC Charging Port | 12. LED Light Switch |
| 6. Type C Port IN / OUT | 13. 2 x 12V Power Outlet |
| 7. QC 3 USB Port | |



III. CHARGING THE POWERSTATION

NOTE: Powerstation must be fully charged for **24 hours** before first use. Failure to do so may permanently damage the battery.

TO READ THE POWERSTATION'S BATTERY VOLTAGE / INVERTER STATUS

- 1) Short press the Power (On/off) button to show the battery level

< 10.1V----L0

10.1-11.0V----20%

11.1-11.6V----40%

11.7-12.0V----60%

12.1-12.5V----80%

12.6V----100%



The LCD screen will only display the battery level. If you do not turn on any function, the screen will automatically turn off after a few seconds.

2. Charge the unit using one of the 4 ways

- a. Connect the AC Charger Adapter to the AC/DC Charging Port.
- b. Connect the Car Charger to the AC/DC Charging Port.
- c. Connect the Type C DC charger to the Type C Port.
- d. Connect the Solar Panel to the Solar Port.

While the product is charging, the battery level display will flash. The unit is fully charged when the battery level reaches 100% and remains steady without fluctuating.

CAUTION: This unit has a maintenance free, built-in sealed lead acid battery. Although the Powerstation

arrives partially charged from the factory, it must be fully charged for **24 hours** before first use, even if the digital meter indicates “100%”, the battery is full. This initial charge pre-conditions of the battery are necessary. Failure to follow this procedure may permanently damage the battery.

CHARGING WITH AC ADAPTOR

1. Keep the AC and DC/USB power switches in OFF position while charging.
2. Completely charge your Powerstation before using it for the first time.
3. Quick press the Power On/Off switch to activate the battery display.
4. Use only the chargers provided with the unit.
5. Plug the AC Charging Cord into any standard wall outlet and the other end into the AC/DC Charging Input Socket.
6. While the product is charging, the battery level display will flash. The unit is fully charged when the battery level reaches 100% and remains steady without fluctuating.

CHARGING WITH Type C ADAPTOR

1. Keep the AC and DC/USB power switches in OFF position while charging.
2. Quick press on the Power On/Off Switch to activate the battery display.
3. Connect your gadget's Type C charger to the unit's Type C In/Out Port.
4. While the product is charging, the battery level display will flash. The unit is fully charged when the battery level reaches 100% and remains steady without fluctuating.

CHARGING WITH CAR DC ADAPTOR

Due to safety circuits built into the input-charging jack, DC charging through this port will not fully charge the battery.

1. Keep the AC and DC/USB power switches in OFF position while charging.
2. Quick press the Power On/Off Switch to activate the battery display.
3. Insert the DC Adapter Plug into the charging port of the unit and the other end into the cigarette lighter socket of your vehicle.
4. The battery level will begin fluctuating, indicating that the unit is charging. Ensure your vehicle is running during charging to prevent draining the car's battery.

NOTE: This method allows the battery to be topped up during a journey but may not fully charge the unit. Disconnect the charging cord before turning off your engine. NEVER leave your vehicle running in an enclosed or poorly ventilated space.

CHARGING WITH SOLAR PANEL

1. Keep the AC and DC/USB power switches in OFF position while charging.
2. Quick press on the Power On/Off Switch to activate the battery display.

3. Only use Promate Solar panel with a maximum output of 100W.
4. Plug the solar panel in the solar port.
5. While the product is charging, the battery level display will flash. The unit is fully charged when the battery level reaches 100% and remains steady without fluctuating.

CHARGING TIPS AND WARNINGS

- Keep the battery charged and ready for emergencies. Unlike some rechargeable batteries, frequent charging will not harm and in fact, will improve the performance of the internal battery.
- Recharge the battery as soon as possible after each use to prolong battery life.
- Frequent heavy discharges between recharging will reduce the battery life.
- Avoid leaving the Powerstation completely discharged for an extended period, as this may lead to battery failure.
- All lead-acid batteries gradually self-discharge over time, particularly in extreme temperatures, so it is important to store them in a cool, dry place.
- RECHARGE EVERY 3 MONTH WHEN NOT IN USE.
- Do not continuously charge the Powerstation for more than 20 hours.
- Use only the charging adaptors provided with this unit.
- DO NOT OPERATE THE UNIT WHILE CHARGING.

IV. BATTERY

CHECKING THE BATTERY STATUS

1. > Short press the Power (On/off) button to show the battery level.

< 10.1V----L0

10.1-11.0V----20%

11.1-11.6V----40%

11.7-12.0V----60%

12.1-12.5V----80%

12.6V-----100%



The LCD screen will only display the battery level. If you do not turn on any function, the screen will automatically

turn off after a few seconds

2. At 20%, the battery should be recharged as soon as possible. It can still power AC appliances, LED lights, phone accessories, and most 12-volt accessories for a limited time, but it will not be sufficient for the boosting function. Avoid letting the battery fully discharge, as this could cause damage.

BATTERY SPECIFICATION

This unit is equipped with a 12 VDC 12 Amp-hour maintenance free, sealed lead acid rechargeable battery, which has a normal life expectancy of up to 500 charging cycles and will give many years of dependable service if properly cared for following the directions above. In the event that the battery needs replacement in the future, the unit will need to be opened up; this service should only be performed by a Promate Service technician. Replacement batteries may be purchased from an electrical supply store. Old batteries should be disposed of properly and safely. Please contact your local solid waste authority for recycling information.

V. OPERATING AS A POWER SUPPLY

The Promate120+ is capable of supplying power for 220V AC household devices and 12V DC devices up to the rated capacity of the unit. The length of time the product will operate depends on the condition of the battery and the current draw of the appliance. Low wattage appliances can be operated for several hours while higher wattage products will operate for less time.

220V AC SOCKET

1.1 Introduction

The Powerstation is equipped with a 200-Watt power inverter that converts the power from the internal battery to standard 220 Volt AC household power. The Power Inverter supplies 200 watts of continuous power. When you turn on an appliance or a tool that operates using a motor or tubes, it requires an initial surge of power to start up. This surge of power is referred to as the “starting load” or “peak load”. Once started, the tool or appliance requires less power to continue to operate. This is referred to as the “continuous load” in terms of power requirements.

You will need to determine how much power your tool or appliance requires to start up and how much power it requires for continuous running. Power consumption is rated either in wattages (watts) or in amperes (amps).

Multiply: AMPS X 220 (AC voltage) = WATTS

This formula yields a close approximation of the continuous load of your appliances.

Multiply: WATTS x 2 = Starting Load

This formula yields a close approximation of the starting load of your appliances.

Most often the start-up load of the appliance or power tool determines whether the inverter has the capability to power it.

CAUTION:

Know the wattage requirement of your appliances. Use only those appliances that do not exceed the capacity of this unit.

The output waveform of this inverter is a MODIFIED SINE WAVE. It has a total harmonic distortion of 28% and maximum single harmonic of 18%. If you choose to measure the AC output voltage, you must use a TRUE RMS VOLTMETER such as a Fluke 8060A, Fluke 87, Triplet 4200, Beckman 4410 or any "True RMS" multimeter. Using any other type of voltage measuring device will result in an AC voltage reading of 20 to 30 volts lower than the rated value.

CAUTION:

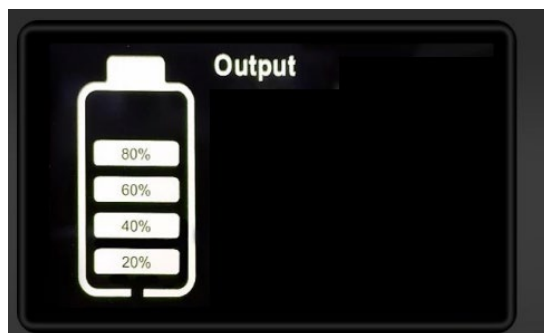
Do not use this Powerstation with devices that may be harmed by the inverter's modified sine wave output (non-sinusoidal), including, but not limited to, appliances with speed controllers (like power tools). Metal halide arc (MHI) lights can also be damaged.

NOTE: If you're unsure about using the inverter to power a device, contact the equipment manufacturer to confirm if the appliance is compatible with the modified sine wave (non-sinusoidal) AC waveform.

1.2 Operating Instructions

Make sure the Powerstation is fully charged before use.

Long press the Power (ON/OFF) button to turn on the power station. (Long press again to turn off the power station)



Short press the AC button to activate the AC output function when the power station is on. The LCD screen will then display the voltage, power, frequency, and AC status.



Plug product into the AC outlet and proceed to use according to the directions on the product. The Powerstation will operate most devices rated up to 200 watts.

The AC Power supply is equipped with a low battery alarm and an automatic shutdown feature to protect the unit if the battery power drops below the safe recharging level.

If the low battery alarm sounds while you are operating an AC product, unplug the device immediately and discontinue use until the Powerstation battery can be recharged.

Short press the AC button to switch inverter “OFF” and disconnect the AC product. Recharge battery as soon as possible and before further use.

If you ignore the warning alarm, the power supply will automatically shut down and your AC product will instantly lose power.

The AC power supply function is also protected against overloads and overheating. If either of these conditions should occur, the power inverter will shut down automatically and all AC display info will turn to 0.

In case of overloading, unplug the AC load, short press the AC button to turn off and reset the unit.

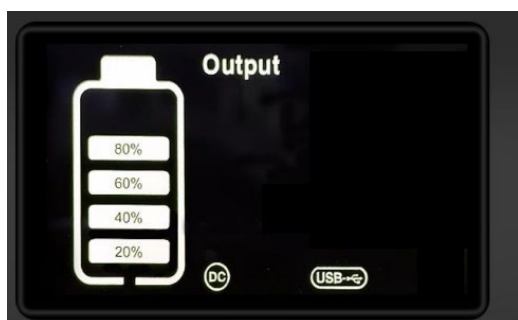
a. Operating with an extension cord

We recommend that you use an extension cord no longer than 100 ft. between the AC Output and AC appliance. A longer cord may result in reduced output.

USB PORT

Short press the USB button to activate the USB and DC output.

Press it again to turn off the USB and DC output.



1. Connect the USB or Type C cable (included with the accessory) to both the accessory and the USB or Type C port on the portable Powerstation.
2. Short press the USB button to turn OFF the USB output.

12V DC PORT

The Powerstation features two socket outlets, enabling it to power most 12-Volt auto accessories and appliances (up to 11 AMPs) that use a cigarette lighter plug. To activate the USB and DC output, simply short-press the USB button, then connect your appliance to the socket.

Note: The 12V DC socket is also controlled by the USB button to help reduce self-discharge. The operating time depends on the battery condition and the appliance's current draw. Regularly monitor the battery voltage status ("VDC") during use and stop immediately if the voltage drops to 11V.

Recharge the unit as soon as possible before further use.

The 12V DC port is protected by an internal circuit breaker to prevent damage in the event of a short circuit or if the appliance exceeds 11 AMPs. If the circuit breaker trips, disconnect the appliance and inspect it. The breaker will automatically reset after cooling down (approximately 15-20 minutes).

DO NOT PLUG A CIGARETTE LIGHTER INTO THE POWERSTATION'S OUTLET.

LED WORKLIGHT

Short press the LED switch to turn on the LED lighting.



Press once to turn the light on at 100%, press again for 50% brightness, press a third time for S.O.S mode, and press once more to turn off the light.

VI. MAINTENANCE INSTRUCTIONS

All batteries lose charge with time. AC recharge is recommended after every use or every three months when not in frequent use. Use the AC charger and charge for the recommended time.

If the unit gets dirty, gently clean the outer surfaces with a soft cloth moistened with a mild solution of water and detergent. Do not use solvents or other chemical cleaners. Periodically check the condition of the charging adapters, connectors, and wires. Replace any components that may have become worn or broken. These parts are not serviceable. Do not open or disassemble. Service for Powerstation units is confined to replaceable parts only. All other servicing should be performed by a qualified service technician only.

VII. MOVING AND STORAGE INSTRUCTIONS

Switch off all the Powerstation's power switches when not in use, and store it in a cool, dry place.

Fuse Replacement – 12Volt adapter plug

This 12-volt plug contains a 2A fuse in the tip. If the fuse needs replacement, unscrew the end cap and insert a new 2A fuse.

CAUTION: For continued protection against risk of fire, replace only with same type and rating of fuse.

WARNING! EXPLOSION HAZARD

Do not expose the battery to fire or extreme heat, as it could explode. The battery contains acid; if the casing becomes cracked, dispose of it immediately while taking proper safety precautions to avoid injury or damage to people or property.

VIII. TROUBLESHOOTING GUIDE

AC Power Supply Problems

Problem	Possible Cause	Solution
The AC unit is not functioning.	<ol style="list-style-type: none"> 1. The AC product is consuming more than 200W. 2. The AC product is rated below 200W, but a high starting surge has triggered the safety overload. 3. The battery has discharged to $9V \pm 0.3V$. 	<ol style="list-style-type: none"> 1. Use an AC product with a power rating below 200W. 2. Use an AC product with a starting surge that does not exceed the 400W surge capacity of the powerstation. 3. Turn off the AC outlet and recharge the powerstation.
Overload shutdown	The appliance's power requirements exceed the capacity of the power station.	Unplug the appliance and verify that its power requirement is 200W or less before attempting to restart it.
Over temperature shutdown	The inverter has overheated due to insufficient ventilation or excessively high ambient temperatures.	Turn off the AC Outlet On/Off switch and allow the power station to cool for at least 15 minutes. Ensure the fan opening is clear of any obstructions and remove any items covering the unit. If needed, move the power station to a cooler location.
Alarm sounds	<ol style="list-style-type: none"> 4. The internal battery is nearly discharged, with a voltage of $10.3V \pm 0.3V$. 5. If this warning is ignored, the power station will automatically shut down when the battery voltage drops to $9V \pm 0.3V$. 	Recharge the Powerstation

<p>The run time is shorter than expected.</p>	<p>The internal battery may not have been fully charged.</p> <p>The AC device's power consumption is higher than anticipated</p> <p>The battery has been damaged.</p>	<p>Recharge using the AC charger until the battery status read 100%.</p> <p>Check the AC product power or the wattage rating (or current draw for 12V DC appliances).</p> <p>Note: Start up load will affect the running time of the unit.</p>
--	---	---

Charging Problems

Problem	Possible Cause	Solution
<p>Charging status light is off when AC charger is connected</p>	<p>NO AC power at the AC wall outlet Faulty AC charger.</p>	<p>Ensure that power is available at the AC wall outlet. Replace the AC charger.</p>

WARNING! ELECTRIC SHOCK HAZARD

Do not open the housing or disassemble the Powerstation, except when replacing the internal battery. The unit contains no user-serviceable parts, and attempting to repair it yourself could lead to electric shock or burns. Electrical shock or burn.

IX. SERVICE INFORMATION

HOW TO ORDER REPLACEMENT PARTS

Even quality-built equipment such as the Powerstation you have purchased will need occasional replacement parts to maintain its good condition over the years.

To order replacement parts and consumable parts, please contact Promate Service (details below) and be ready with the following information:

1. Model No., Serial No. and all specifications that are shown on the Model No./Serial No. plate.
2. Part number or numbers as shown in the Parts List section.
3. A brief description of the trouble with the Powerstation.

LIMITED WARRANTY

Warranty Coverage: Powertech Asia Pacific Inc., (the Company) warrants to the original retail customer that it will repair or replace, free of charge, any parts found by the Company or its authorized service representative to be defective in material or workmanship. This warranty covers the cost of replacement parts and labor for defects in material or workmanship.

Not Covered:

- Shipping/Handling charges for sending the product to the Company or its authorized service representative for warranty service. Shipping/Handling repaired or replaced products back to the customer; these charges must be borne by the customer.
- If a separate operator's manual and engine warranty from the engine manufacturer is included with this product, only that warranty will apply to the engine.
- Damage caused by abuse, accident, the effects of corrosion, erosion and normal wear and tear.

- Warranty is void if the customer fails to install, maintain and operate the product in accordance with the instructions and recommendations of the Company set forth in the owner's manual, or if the product is used as rental equipment.
- The Company will not pay for repairs or adjustments to the product, or for any costs of labor performed without the Company's prior authorization.
- Consumable parts such as battery, spark plugs, and air cleaner.

Warranty Period: One (1) year from the date of purchase on products used solely for consumer applications; if a product is used for business or commercial applications, the warranty period will be limited to ninety (90) days from the date of purchase.

For warranty service, the customer must provide dated proof of purchase and must notify the Company within the warranty period.

EXCLUSIONS AND LIMITATIONS: THE COMPANY MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. THE WARRANTY SERVICE DESCRIBED ABOVE IS THE EXCLUSIVE REMEDY UNDER THIS WARRANTY; LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES IS EXCLUDED TO THE EXTENT PERMITTED BY LAW.

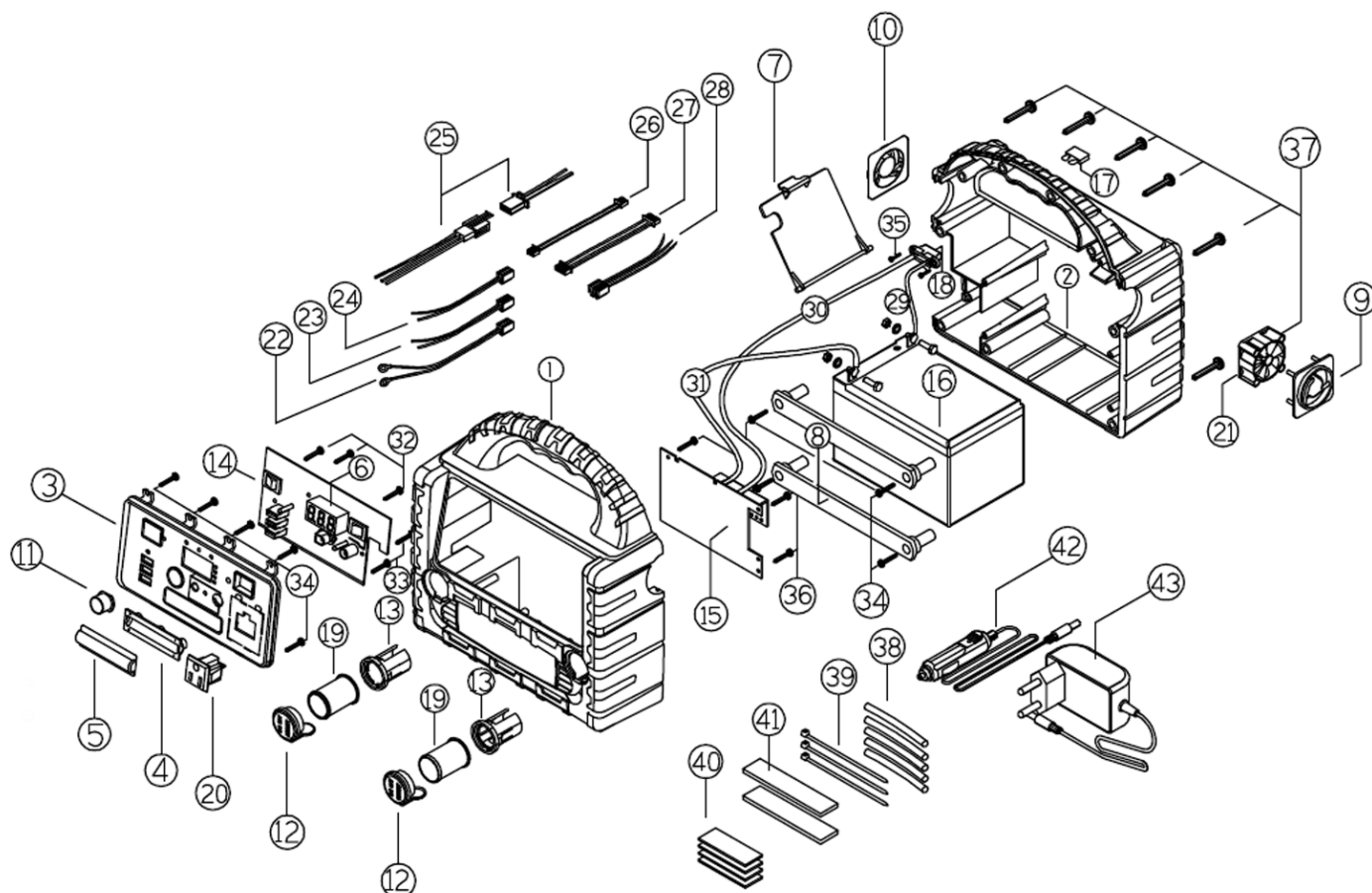
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow a disclaimer of implied warranties or the exclusion or limitation of incidental and consequential damages, so the above disclaimers and exclusions may not apply to you.



CONTACT THE POWERTECH Asia Pacific Inc.,
PRODUCT SERVICE DEPARTMENT AT (02) 8 638 1569 | (+63) 9338373922
service@powertechasiapacific.com www.facebook.com/PromateServicePH/

Powerstation Exploded View Mode:

Promate120⁺



NO.	DESCRIPTION	NO.	DESCRIPTION
1	Front outer plastic housing	23	No. 1 Cigarette lighter connecting wire
2	Rear outer plastic housing	24	No. 2 cigarette lighter connecting wire
3	Outer control panel	25	2P / 3P pair wiring
4	Reflective cup	26	3P pair wiring
5	LED lens	27	5P pair wiring
6	Nixie tube bracket	28	AC Socket connection wire
7	Side door	29	Fuse connection wire
8	Battery pressing plate	30	Inverter positive line
9	Cooling fan bracket	31	Inverter negative wire
10	Cooling bracket	32	Fixing screw of FCB BA2*8
11	Display button	33	Fixing screw of FCB BA2.3*8
12	Cigarette lighter stopper	34	Fixing screw of panel PWA3*10 D7.5
13	Cigarette lighter fixing cylinder	35	Fixing screw of fuse BA3*10
14	PCB control panel	36	Fixing screw of inverter BA3*12
15	Inverter board	37	Fixing screw of plastic shell BA3*15
16	12VDC Lead Acid Battery 12Ah	38	Heat shrinkable tube D5*15
17	Fuse 25 Amps	39	Cable ties 3*120
18	Fuse base	40	Single sided adhesive 100*25*4
19	Cigarette lighter / 12V DC outlets	41	Double faced adhesive tape 75*40*1
20	AC socket	42	DC charger
21	Cooling Fan	43	AC charger adapter
22	Power cord		