

## 2 YEAR LIMITED WARRANTY PROGRAM

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Vector Manufacturing, Ltd., regarding this product. There is no other warranty, other than those described herein.

This Vector Manufacturing, Ltd. product is warranted, to the original purchaser only, to be free of defects in materials and workmanship for two years from the date of purchase without additional charge. The warranty does not extend to subsequent purchasers or users. Vector Manufacturing, Ltd. will not be responsible for any amount of damage in excess of the retail purchase price of the product under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty.

This product is not intended for commercial use. This warranty does not apply to accessories or damage to units from misuse or incorrect installation. Misuse includes wiring or connecting to improper polarity power sources.

**RETURN/REPAIR POLICY:** Defective products, other than accessories, may be returned postage prepaid to Vector Manufacturing. Any defective product, other than accessories, that is returned to Vector Manufacturing within 30 days of the date of purchase will be replaced free of charge. If such a product is returned more than 30 days but less than two years from the purchase date, Vector Manufacturing will repair the unit or, at its option, replace it free of charge.

If the unit is repaired, new or reconditioned replacement parts may be used, at Vector Manufacturing's option. A unit may be replaced with a new or reconditioned unit of the same or comparable design. The repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items after 30 days. During the warranty period, Vector Manufacturing, Ltd. will be responsible for the return shipping charges.

**LIMITATIONS:** This warranty does not cover accessories, bulbs, fuses and batteries, defects resulting from normal wear and tear (including chips, scratches, abrasions, discoloration or fading due to usage or exposure to sunlight), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance, fire, flood and Acts of God.

If your problem is not covered by this warranty, call our Technical Support Department at (954) 584-4446 or Toll Free at (866) 584-5504 for general repair information and charges if applicable. You may also contact us through our website at [www.vec-tormfg.com](http://www.vec-tormfg.com).

**STATE LAW RIGHTS:** This warranty gives you specific legal rights. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the exclusions or limitations stated herein may not apply. This warranty gives the purchaser specific legal rights; other rights, which vary from state to state, may apply.

**TO REQUEST WARRANTY SERVICE FOR THIS PRODUCT:** Contact Vector Manufacturing Technical Support by telephone, fax or mail. We suggest that you keep the original packaging in case you need to ship the unit. When returning a product, include your name, address, phone number, dated sales receipt (or copy) and a description of the reason for return and product serial number. After repairing or replacing the unit, we will make every effort to return it to you within four weeks.

**WARRANTY ACTIVATION:** Please complete Warranty Activation Card and mail to Vector Manufacturing. Enter "VEC012APM" as Model and "JUMP-START SYSTEM" as Product Type. All Vector Manufacturing, Ltd. products must be registered within 10 days of purchase to activate this warranty. Mail the completed registration form, along with a copy of the original sales receipt to:



ATTN.: CUSTOMER SERVICE / VECTOR MANUFACTURING, Ltd.

4140 SW 28th Way, Ft. Lauderdale, FL 33312

PH: 954-584-4446 • TOLL FREE: 866-584-5504 • Fax: 954-584-5556.

You may also contact us at our web site [www.vectormfg.com](http://www.vectormfg.com).

WARRANTY IS NON-TRANSFERABLE AND NON-REFUNDABLE.

REV101603

# JUMP-START SYSTEM

12 VOLT DC POWER SUPPLY



## OWNER'S MANUAL & WARRANTY INFORMATION

THIS MANUAL CONTAINS IMPORTANT INFORMATION REGARDING SAFETY, OPERATION, MAINTENANCE AND STORAGE OF THIS PRODUCT. BEFORE USING, READ AND UNDERSTAND ALL CAUTIONS, WARNINGS, INSTRUCTIONS AND PRODUCT LABELS, PLUS YOUR VEHICLE'S BATTERY MANUFACTURER GUIDELINES. FAILURE TO DO SO COULD RESULT IN INJURY AND/OR PROPERTY DAMAGE.

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## **Safety information**

### **WARNING:**

(Warning statements identify conditions or practices that may result in personal injury or loss of life)

- 1) When working with lead acid batteries, always make sure immediate assistance is available in case of accident or emergency.
- 2) Always use protective eyewear when using this product: contact with battery acid may cause blindness and/or severe burns, be aware of first aid procedures in case of accidental contact with battery acid.
- 3) There is a risk of explosive gases being released when lead acid batteries are being charged or discharged. Failure to follow instructions may cause property damage, explosive hazard, and/or personal injury.
- 4) When connecting the battery clamps to a discharged battery, and an alarm sounds - the polarity is reversed.
- 5) When charging unit from a 110/120 Volt AC electrical outlet in any wet or damp area, make sure that the outlet used is protected by a ground fault interrupt (GFI) Switch.
- 6) When charging the unit near water, do not allow the electrical cords and outlets to get wet or come near water—electrical shock could result.
- 7) Jump-start procedures should only be performed in a safe, dry, well-ventilated area.
- 8) Always store battery clamps in built-in holsters when not in use. Never touch battery clamps together, this can cause dangerous sparks, power arcing and/or explosion.
- 9) When using this unit in proximity to the vehicle's battery and engine, stand the unit on a flat, stable surface, and be sure to keep all clamps, cords, clothing and body parts away from moving vehicle components.
- 10) Do not wear vinyl clothing when jump-starting a vehicle, friction can cause dangerous static-electricity sparks. Remove all jewelry or metal objects that could cause short circuits or react with battery acid.
- 11) Always disconnect the negative (Black) jumper cable first: followed by the positive (Red) jumper cable, except for positive ground systems.
- 12) Never allow red and black clamps to touch each other or another common metal conductor—this could cause damage to the unit and/or create sparking/explosion hazard. Always store battery clamps in built-in holsters when not in use.
- 13) Do not expose battery to fire or intense heat as it may explode. Before disposing of the battery, protect exposed terminals with heavy-duty electrical tape to prevent shorting (shorting can result in injury or fire).
- 14) Do not smoke or use inflammable items (matches, cigarette lighters, etc.) while working on a vehicle's battery system.
- 15) Keep unit out of reach of children (whether stored, or in use)!

### **FIRST AID**

**SKIN:** If battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.

**EYES:** If battery acid comes in contact with eyes, flush eyes immediately, for a minimum of 15 minutes and seek immediate medical attention.

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**CAUTION:**

Caution statements advise against certain conditions and practices that may result in damage to vehicles, appliances and/or the jump-starter.

**IMPORTANT:**

Although this unit is delivered in a partially charged state, you must fully charge it with the supplied 110/120 Volt AC charger for a full 24 hours before using it for the first time. You cannot overcharge the unit using the AC charger method.

- 1) Use only the supplied cords/adapters for recharging this unit. Do not recharge for more than 3-4 hours maximum using 12 Volt DC method. Recharge unit after each use.
- 2) All On/Off switches should be in the OFF position when the unit is charging or not in use. Make sure all switches are in the OFF position before connection to a power source or load.
- 3) Never insert anything other than the supplied power/recharging cords or recommended appliance power/recharging cords into the 12 Volt DC charging/power socket on this unit. Do not use any accessory that is not recommended or provided by the manufacturer.
- 4) Do not use this unit to operate appliances that draw more than 20 amps.
- 5) This system is designed to be used only on vehicles with 12 Volt DC battery systems. Do not connect to a 6 Volt or 24 Volt battery system.
- 6) 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.
- 7) Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting, read the vehicle's owners manual to confirm that external-starting assistance is advised.
- 8) Excessive engine cranking can damage a vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedures and look for other problems that may need to be corrected.
- 9) Although this unit contains a non-spillable battery, it is recommended that unit be kept upright during storage, use and recharging. To avoid possible damage that may shorten the unit's working life, protect it from direct sunlight, direct heat and/or moisture.
- 10) Check unit periodically for wear and tear. Replace worn or defective parts immediately. Contact Vector Customer Service department toll-free 866-584-5504.
- 11) Do not attempt to jump-start a frozen battery.
- 12) Never submerge this unit in water.

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## **INTRODUCTION**

Congratulations on selecting the VECTOR® JUMP-STARTER and 12 VOLT DC POWER SUPPLY. This compact jump-starter is unique in the amount of energy it can supply for its size. The internal battery is a high density sealed, lead-acid battery that stores and delivers energy comparable to full sized ordinary jump-starters. Please read this guide carefully before use to ensure optimum performance and avoid damage to the unit or items that you are using it with.

The VECTOR® JUMP-STARTER & 12 VOLT DC POWER SUPPLY is a compact, durable and portable jump-start system for vehicles and boats that have a standard 12 Volt battery system. This self-contained, rechargeable system will start most vehicles and boats without the need for a host vehicle or 110/120 Volt AC power supply. It can also be used as a safe, portable source of 12 Volt DC electric power in remote locations and/or emergency situations. It is ideal for use with Vector 12 Volt DC cordless, portable, rechargeable products and MAXXSST DC/AC Power Inverters.

### **Use the VECTOR JUMP-START SYSTEM to:**

- **Jump-start any engine system with a standard 12 Volt DC battery:** boat; truck; car; air-plane; RV; personal watercraft; snowmobile; garden tractor; gasoline engine generator, etc.
- **Operate:** 12 Volt DC fans, inflators, fluorescent worklights, cellular phones (can quick-charge a cellular phone by using the phone's 12 Volt DC adapter cord), spotlights, TVs, portable radios, cassette or CD players, and more.
- **Operate:** Certain 110/120 Volt AC Accessories (requires a Vector 12 volt power inverter, sold separately).

The JUMP-START SYSTEM has an easy-to-read series of LED (Light Emitting Diode) charge indicators that show when the unit is fully charged, or the level of charge in the battery. Charge level can be viewed when the charge status push button is pressed. A 12 Volt DC power accessory socket is provided for use with appliances that can operate from a vehicle 12 Volt DC accessory outlet. This allows maximum portability and utility when the Jump-Start System is used in remote locations.

The Jump-Start System can be recharged from any standard 110/120 Volt AC power source using the supplied AC Recharge Adapter. The adapter barrel connector attaches to the Recharge Port on the top panel of the jump-starter. A built-in 12 Volt appliance socket and the appropriate DC/DC charging/adapter cord is used to recharge the battery from another 12 Volt DC source. When pressed, the CHARGE STATUS button will show the battery power level status (from Low to Full). The green LED full indicator illuminates when the unit is fully recharged and charging can be discontinued. An ON/OFF switch operates the built-in work/emergency light.



**FIGURE 1A** (Front View)



**FIGURE 1B** (Rear View)

1. Reverse connection indicator
2. Good connection indicator
3. 12 Volt DC Accessory Socket with 20 amp overload protection
4. Battery Level Push Button
5. LED Charging/Battery Level Indicators
6. Heavy-Duty Welding Quality Jumper Cables
7. Heavy-Duty 450 Amp Clamps
8. 110/120 Volt UL approved AC/DC Charging Adapter
9. 12 Volt DC/DC Charging Adapter
10. Light ON/OFF Switch
11. AC Recharge Adapter barrel connector receptacle
11. Area Worklight

## **ADDITIONAL FEATURES**

- Includes non-spillable, maintenance-free, heavy-duty, new high energy density 19 Amp hour, sealed battery
- Sturdy and unique compact design provides up to 35 hours of completely portable 12 Volt DC power
- Safe to use, transport, and store. Includes an audible polarity alarm
- Requires no maintenance (other than recharging) for optimum operation
- Automatic taper charge for AC recharge
- Audible alarm for reverse polarity
- Molded high-impact case is tough and durable
- Built-in emergency/worklight with long lasting LED's for roadside repairs and use in remote locations without utility power

**CAUTION:** Use only adapters supplied with this unit. Never insert any other adapters into the charging or power receptacles on this unit.

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## **USE AS A JUMP-START SYSTEM**

### **WARNING:**

1. Before using this system to jump-start any vehicle or boat, read and understand all instructions, safety tips, warnings, cautions and first aid information provided in this manual and on the product labeling. Additional important information may also be provided by the vehicle's battery system manufacturer.
2. Be aware of first aid procedures before attempting jump-start procedure.
3. Always wear protective eyewear when working with a lead acid-type battery.
4. Do not smoke or use inflammable items (matches, cigarette lighters, etc.) while working on a vehicle's battery system.
5. When using this jump-starter in proximity to the vehicle's battery and engine, stand the unit on a flat, stable surface, and be sure to keep all cords and cables away from any moving parts.
6. Check unit periodically for wear and tear. Replace worn or defective parts immediately; contact Vector Customer Service Department toll-free: (866) 584-5504 or through our Internet address [www.vectormfg.com](http://www.vectormfg.com).
7. Do not attempt to jump-start a frozen battery.
8. NEVER submerge this unit in water.
9. Do not wear vinyl clothing when jump-starting a vehicle, friction can cause dangerous static electricity sparks. Remove all jewelry or metal objects-they can cause short circuits or react with battery acid to cause severe burns. Remove or secure any loose clothing, and restrain long hair, before attempting jump-start procedure.
10. Lead-acid batteries generate hydrogen gas during normal operation. More gas is generated when the battery is charging. Hydrogen gas is explosive, poisonous to breathe and highly flammable.

Recommendations for optimum performance of the VECTOR® jump-starter:

### **CAUTION:**

1. To avoid possible damage that may shorten the unit's working life, protect this unit from direct sunlight, direct heat and moisture.
2. This system is to be used ONLY on vehicles, boats, garden tractors and gasoline powered generators with 12 Volt DC battery systems.
3. This system is NOT designed to be installed as a replacement for a vehicle battery.
4. Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting this type of vehicle, read the vehicle owner's manual to confirm that external-starting assistance is advised.
5. Excessive engine cranking can damage the vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedure and look for other problems that may need to be corrected.
6. This VECTOR® jump-starter is equipped with an internal, automatic safety switch. This switch only activates when connections to the battery are correctly made positive (+) to positive (+) and negative (-) to negative (-). An incorrect connection will sound an audible alarm indicating an incorrect connection. Should this alarm sound, remove the clamps and reconnect ensuring proper polarity. Once the connections are properly made, the internal switch turns on and you are ready to jump-start the vehicle. This automatic internal safety switch is fully automatic and requires no action by the user.

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## **2.1 EASY, STEP-BY-STEP JUMP-STARTING INSTRUCTIONS**

This jump-starter is equipped with an automatic ON / OFF that only allows jump-start energy to flow when proper connections are made to battery and frame. The automatic ON / OFF works in conjunction with an audible reverse polarity alarm and a large red LED. If inadvertent reverse polarity occurs, the alarm will sound and the red LED will light. Disconnect the black clamp (negative clamp) first, then the red clamp. Reconnect properly and a green LED will light. Wait one minute and then turn the key. To recap:

CONNECT – Red clamp first, then black clamp.

DISCONNECT – Black clamp first, then red clamp.

NOTE: Automatic On/ Off only works when the vehicle battery has on at least 2.5 volts

1. Turn OFF vehicle ignition and all accessories (radio, A/C, lights, cell phone, etc.). Place vehicle in park and set the emergency brake.
2. Remove booster clamps from clamp holster.
3. Procedure for jump-starting a **NEGATIVE GROUNDED SYSTEM (NEGATIVE BATTERY TERMINAL IS CONNECTED TO CHASSIS)**.
  - 3a. Connect positive (+) red clamp to vehicle battery's positive terminal.
  - 3b. Connect negative (-) black clamp to chassis or a solid, non-moving, metal vehicle component or body part. Never clamp directly to negative battery terminal or moving part. If the audible alarm sounds, the polarity is not correct. Reverse the connections.
4. Procedure for jump-starting **POSITIVE GROUND SYSTEMS** (NOTE: In the rare event that the vehicle to be started has a Positive Grounded System (positive battery terminal is connected to chassis) replace steps 3a and 3b above with steps 4a and 4b, then proceed to steps 5 through 7 below.
  - 4a. Connect negative (-) black clamp to vehicle battery's negative terminal
  - 4b. Connect positive (+) red clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part. **DO NOT CLAMP DIRECTLY TO POSITIVE BATTERY TERMINAL OR MOVING PART**
5. A five (5) second delay is built into this jump-starter unit after the clamp connections are made. This delay is designed to reduce the possibility of sparking upon connection. We recommend waiting one (1) minute after making the clamp connections prior to attempting to start vehicle.
6. Start vehicle (do not turn key for longer than 3-5 seconds).
7. After vehicle starts, remove clamps (disconnect the frame or engine clamp first, followed by the battery cable) and replace them in the built-in storage holsters. Squeeze the handles and slide the clamp into position and release your grip.

### **CAUTION:**

1. If engine fails to start, leave ignition key turned off and disconnect the negative (-) clamp first, then the positive (+) clamp. Try again later – the engine may be flooded.
2. Recharge jump-start system after each use.

### **WARNING:**

- Always disconnect the engine or frame jumper clamp first; followed by the battery jumper clamp
- There is a risk of explosive gases being released when batteries are charged or discharged, failure to follow instructions may cause property damage, explosive hazard, and/or personal injury.

- 
- Always use protective eyewear when using this product: contact with battery acid may cause blindness and/or severe burns
  - Keep out of children's reach.
  - ALWAYS store battery clamps in holsters when not in use.

## **FIRST AID**

- **SKIN:** If battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention
- **EYES:** If battery acid comes in contact with eyes, flush eyes immediately for a minimum of 15 minutes and SEEK IMMEDIATE MEDICAL ATTENTION

## **3. CHARGING/RECHARGING**

For maximum battery life, we recommend the VECTOR® system be kept fully charged at all times. If the battery is allowed to remain in a discharged state, battery life will be shortened.

**NOTE:** Recharging battery after each use will prolong battery life; frequent discharges between recharges will reduce battery life

### **IMPORTANT:**

- MAKE SURE ALL SWITCHES ARE TURNED OFF DURING RECHARGING
- Charge unit for full 24 hours using AC method, prior to first use
- Recharge unit fully after each use
- Recharge unit every two months, when it has not been used

### **3.1 110/120 Volt AC Charging**

1. Simply plug the AC plug of the AC/DC adapter/charger into any standard 110/ 120 volt AC wall outlet.
2. Plug the barrel connector attached to the AC/DC adapter into the small barrel receptacle on the jump-starter that is marked recharge port.
3. After initial 24 hour charge, charge this device for at least 14-16 hours or until the green FULL indicator lights. Charge at least once a month when not in use.
4. When charging is completed and the FULL light lights, remove the AC/DC charger plug and store in a safe place.

**NOTE:** The unit cannot be overcharged using the AC method. The VECTOR® system also comes with a DC/DC charging adapter for recharging the unit from a 12 volt DC accessory socket in a vehicle or boat .

This recharging method will NOT recharge the unit as effectively as recharging from a 110/120 volt AC outlet. The 12 Volt DC recharging procedure is recommended only when it is necessary, as continued use of the 12 Volt DC recharging procedure may shorten the battery system's life .

If unit is fully discharged, it is recommended that the vehicle being used for recharging be left running while the unit is being charged via the 12 Volt DC method.

**WARNING:**

Do not recharge for more than 3-4 hours maximum using 12 Volt DC method

**3.2    12 Volt DC Charging**

- 1. Insert one end of the DC/DC charging adapter into the 12 Volt DC accessory receptacle on the vehicle or boat.
- 2. Insert the plug at the other end of this charging adapter into recharging port on the front panel of the unit.
- 3. Charge the unit until the green FULL indicator lights when Charge Switch Indicator Button is pressed. DO NOT EXCEED 3-4 HOURS MAXIMUM.
- 4. When charging is completed, remove the power cord and store in a safe place.

**3.3    Estimated Battery Life**

Table I shows the relationship of the frequency of use between recharging and the expected number of discharge/recharge cycles.

Table I - Estimated Battery Life between recharges (lifetime of unit's battery)

| Use | Recharges |
|-----|-----------|
| 1   | 1000+     |
| 5   | 700+      |
| 10  | 500+      |

**4.        OPERATION AS A 12 VOLT PORTABLE POWER SUPPLY**

- 1. Lift up the cover of the unit's 12 Volt DC accessory receptacle (See Figure 1).
- 2. Insert the 12 volt DC plug from the appliance into the receptacle on the unit.
- 3. Switch on the appliance, and operate as usual.

**CAUTION:**

**DO NOT USE THIS UNIT TO OPERATE APPLIANCES THAT DRAW MORE THAN 20 AMPS DC**

Table II shows the estimated 12 volt DC operation time when using a fully charged system.

Table II - VECTOR® as a 12 Volt DC Power Supply

| Appliance                 | Estimated Power Usage<br>(Watts) | Operating Time<br>(hours) |
|---------------------------|----------------------------------|---------------------------|
| Cell phone                | 1                                | 120 (talk time)           |
| Fluorescent light         | 4                                | 40                        |
| Radio, fan, depth finder  | 9                                | 24                        |
| Camcorder, VCR, spotlight | 15                               | 14                        |
| Power tools, bilge pump   | 24                               | 10                        |
| Car vacuum                | 80                               | 2                         |

**NOTE:** ALL TIMES ARE APPROXIMATE AND BASED UPON A FULLY CHARGED UNIT.

## 5. EMERGENCY WORKLIGHT

The Worklight is controlled by an On/Off switch. Make sure the lamp is turned OFF when the unit is being recharged or stored.

## 6. REPLACEMENT PARTS

For replacement parts (bulbs, batteries, fuses, etc.), contact Vector Customer Service: (954) 584-4446 or toll-free (866) 584-5504.

### 6.1 Battery replacement

It is recommended that the unit be returned to Vector Customer Service for battery replacement: Contact (954) 584-4446 or toll-free (866) 584-5504.

### WARNING

- Do not dispose of the battery in fire as this may result in an explosion
- Before disposing of the battery, protect exposed terminals with heavy-duty electrical tape to prevent shorting (shorting can result in injury or fire)
- Do not expose battery to fire or intense heat as it may explode

### 6.2 Battery disposal:

This unit contains a maintenance-free, non-spillable, sealed lead-acid battery. This battery is fully recyclable and should be accepted at any location that accepts common automotive starter batteries. Examples of places that accept these batteries are: County or municipal recycling drop-off centers, scrap metal dealers and retailers who sell automotive replacement lead acid starter batteries. For more information on recycling this battery, call toll-free (877) 288-7722.

## 7. SPECIFICATIONS

|                            |                                                                            |
|----------------------------|----------------------------------------------------------------------------|
| Model No                   | VEC012APM                                                                  |
| Peak Ampere                | 1200 Amps                                                                  |
| Boost Ampere               | 450 Instantaneous Cranking Amps                                            |
| HEIGHT                     | 12.75 in. (32.39 cm)                                                       |
| WIDTH                      | 11 in (27.94 cm)                                                           |
| DEPTH                      | 5.5 in (13.97 cm)                                                          |
| WEIGHT                     | 16 lbs. (7.26 Kg)                                                          |
| Battery Type               | 12Volt, 19AH/20HR Sealed, Rechargeable<br>Non-Spillable, Maintenance-free, |
| Jumper Cables              | Heavy Duty, Welding Cable                                                  |
| Cables Clamps              | 450 Amp, Heavy Duty Clamps                                                 |
| Area Light                 | Three high Intensity White LEDs                                            |
| Accessory Socket           | Self-Resetting Breaker 20 Amps                                             |
| DC Charging Adapter        | 12 Volt DC                                                                 |
| AC Charging Adapter        | 110/120 Volt AC (700mA, 12 Volt DC Output)                                 |
| Reverse Polarity Detection | 2.5 Volts (min)                                                            |