



Deltran Battery Tender®
POWER INVERTERS
120Watt, 200Watt, 400Watt and 750Watt

IMPORTANT SAFETY INSTRUCTIONS

1. SAVE THESE INSTRUCTIONS – This manual contains important safety and operating instructions for Power Inverter models P/N 026-0002, 026-0003, 026-0004, 026-0005.
2. CAUTION – RISK OF FIRE.
 - a) **120Watt Inverter:** Do not replace any vehicle fuse with a rating higher than recommended by the vehicle manufacturer. This product is rated to draw 12 amperes from a 12V vehicle outlet. Ensure that the electrical system in your vehicle can supply this product without causing the vehicle fusing to open. This can be determined by making sure the fuse in the vehicle which protects the outlet is rated higher than 12 amperes. Information on the vehicle fuse ratings are typically found in the vehicle operator's manual. If a vehicle fuse opens repeatedly, do not keep on replacing it. The cause of the overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit or cause fire.
 - b) **200Watt Inverter:** Do not replace any vehicle fuse with a rating higher than recommended by the vehicle manufacturer. This product is rated to draw 18 amperes from a 12V vehicle outlet. Ensure that the electrical system in your vehicle can supply this product without causing the vehicle fusing to open. This can be determined by making sure the fuse in the vehicle which protects the outlet is rated higher than 18 amperes. Information on the vehicle fuse ratings are typically found in the vehicle operator's manual. If a vehicle fuse opens repeatedly, do not keep on replacing it. The cause of the overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit or cause fire.
 - c) **400Watt Inverter:** Do not replace any vehicle fuse with a rating higher than recommended by the vehicle manufacturer. This product is rated to draw 40 amperes from a 12V vehicle outlet. Ensure that the electrical system in your vehicle can supply this product without causing the vehicle fusing to open. This can be determined by making sure the fuse in the vehicle which protects the outlet is rated higher than 40 amperes. Information on the vehicle fuse ratings are typically found in the vehicle operator's manual. If a vehicle fuse opens repeatedly, do not keep on replacing it. The cause of the overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit or cause fire.
 - d) **750Watt Inverter:** Do not replace any vehicle fuse with a rating higher than recommended by the vehicle manufacturer. This product is rated to draw 70 amperes from a 12V vehicle outlet. Ensure that the electrical system in your vehicle can supply this product without causing the vehicle fusing to open. This can be determined by making sure the fuse in the vehicle which protects the outlet is rated higher than 70 amperes. Information on the vehicle fuse ratings are typically found in the vehicle operator's manual. If a vehicle fuse opens repeatedly, do not keep on replacing it. The cause of the overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit or cause fire.
 - e) Do not operate near flammable materials, fumes, or gases.
 - f) Do not expose to extreme heat or flames.

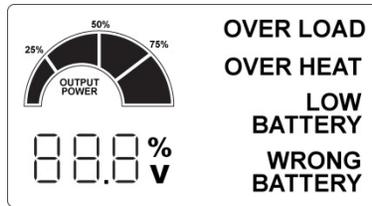
3. TO REDUCE THE RISK OF ELECTRICAL SHOCK:
 - a) Do not connect to AC distribution wiring.
 - b) Do not make any electrical connections or disconnections in areas designated as ignition protected. This includes 12V/DC adapter plug connection. This unit is NOT approved for ignition protected areas.
 - c) Never immerse the unit in water or any other liquids, or use when wet.
 - d) Do not insert foreign objects into the AC/110V outlet or the USB port.
4. TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE:
 - a) Failure to follow these safety guidelines could result in personal injury and/or the damage to the unit.
 - b) Follow the instructions from the manufacturer of your vehicle's battery and AC/110V appliance before connecting the inverter to a battery. Pay careful attention to the cautionary markings on your vehicle battery. Do not attempt to connect or set up the unit or its components while operating your vehicle. To avoid a serious accident, pay attention to the road.
 - c) Always use the inverter where there is adequate ventilation. Do not block ventilation areas.
 - d) Always turn the inverter off before disconnecting the inverter from the vehicle's battery.
 - e) Make sure the nominal input voltage is 12V DC.
 - f) Do not use with positive ground electrical systems. A reverse polarity connection will result in a blown fuse and may cause permanent damage to the inverter and will void the warranty. The majority of automobiles, RVs, and trucks are negatively grounded.
 - g) This inverter is unable to power appliances or equipment that produces heat, such as hair dryers, microwave ovens, and toasters.
 - h) Do not open the inverter. There are no user-serviceable parts inside.
 - i) Do not use this inverter with medical devices. It is not tested for medical applications.
 - j) Not for use by children.
 - k) Install and operate the unit only as described in this manual.
 - l) Do not connect the unit to any utility power distribution, systems, or branch circuits.
 - m) Do not use the inverter in temperatures below 32°F or above 104°F.
5. WARNING – SAFE OPERATING ENVIRONMENT
 - a) DRY – Do not allow water and /or others liquids to come into contact with the inverter.
 - b) COOL – Ambient air temperature should be between 32°F non-condensing and 104°F. Do not place the inverter on or near a heating vent or any piece or equipment that is generating heat above room temperature. Keep the inverter out of direct sunlight.
 - c) VENTILATION – Allow at least three (3) inches of clearance from other objects to ensure free air circulation around the inverter. Never place items on or over the inverter during operation.
 - d) Do not locate inverters in an area, room or compartment where explosives or flammable fumes might be present, such as engine rooms, engine compartments, or small unvented battery compartments.
6. WARNING – SAFE OPERATION OF A CIGARETTE ADAPTER/POWER OUTLET
 - a) The cigarette adapter is only designed to be used to supply power to equipment that uses low power or less than 120 watts such as phone chargers etc. A unit intended to be connected to the cigarette adapter or power outlet of a vehicle, while delivering its normal output load, shall not exceed 12Amps at the cigarette lighter output. Doing so will cause the fuse to blow.

USER INSTRUCTIONS

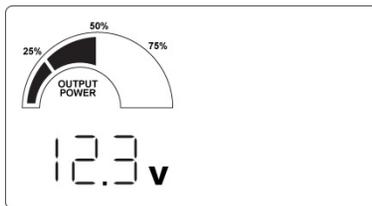
- The Battery Tender line of Inverters is a high-performance solution for using household power while on the road. Connected to the 12 volt output power source, the inverter efficiently and reliably supplies 115V/60Hz AC power for a wide variety of loads like laptops, cellular phones with power consumption under the rated watts. With proper care and appropriate use, the inverter will give you years of dependable service in your car, truck, or RV.
- The inverter has the protective functions of over-input voltage shut off, low-input voltage shut off, under-voltage turn-off resume, over heating self-lock, overload self-lock, and short circuit protection. The LED indicator will directly display input power and errors. The unit is not designed to be waterproof. It's appropriate for ambient temperatures of 32° F ~ 104° F (0° C ~ 40° C).
- PROTECTIVE FEATURES**
 - INPUT VOLTAGE TO LOW:** This condition is not harmful to the inverter, but could damage the power source, so the inverter will automatically shut down when the input voltage drops below 10.5± 0.3 volts DC.
 - INPUT VOLTAGE TO HIGH:** The inverter will automatically shut down when the DC input voltage exceeds 15.5± 0.5 volts DC.
 - THERMAL SHUTDOWN PROTECTION:** The inverter will automatically shut down when the unit becomes overheated.
 - OVERLOAD/SHORT CIRCUIT PROTECTION:** The inverter will automatically shut down when an overload or short circuit occurs.

OPERATING INSTRUCTIONS

- Connect the input leads to the inverter. Ensure the connections are tight.
- Then connect the inverter to the 12V DC source and turn the unit ON.
- The LCD screen will then illuminate showing the following information:



- After about five seconds and providing there are no errors the following screen will then appear:



- Start connecting the AC appliances one at a time with the highest load first. Each appliance should have a load in Watts listed on it. Watch the output power meter to see how much power is being used while connecting each appliance. The LCD screen will show the input voltage (example 12.3v) and the output power in percentage (%) being used. Also the cooling fan will automatically turn on.

- Note:** If connected to a vehicle battery, constant use of the inverter will greatly affect the life of the battery. Most vehicle batteries are not designed for constant, deep discharge. If you plan to use the inverter for frequent extended periods of time, consider using a separate battery for the inverter.
- Note:** Most devices require an initial surge of power to start. Most devices can be started up with two times their power rating. Be aware of the start-up power of the device(s) you intend to use for the inverter. This inverter has the start-up capacity two times of rated power. The combined loads must not exceed the rated power.
- When you are finished using the inverter turn the unit off then disconnect all appliances before removing the inverter from the 12V source.

TROUBLESHOOTING

Problem	Cause	Solution
No power and no indicator.	Battery is defective.	Replace battery.
	Blown fuse.	Check and replace fuse.
	Loose cable connections.	Check the connection to the battery. Tighten as required.
LCD screen displays a message.	LCD shows overload. The actual output is higher than the rated power of the inverter. Overload protection has occurred.	Reduce load so it has the actual output lower than rated power of the inverter.
	LCD shows an overload. The actual output is less than the rated power but the high starting surge has caused an overload shut-down.	Plug in an item with a starting surge power within the inverter's capability.
	LCD shows low battery power. The voltage input from the car battery is lower than 10.5V (too low).	Charge the battery.
	LCD shows the inverter is overheated due to poor ventilation and has shut-down.	Disconnect the inverter from the battery or DC socket and allow it to cool for 15 minutes. Be sure to remove objects covering the unit.
Inverter will only run a small load.	Low voltage battery.	Charge the battery.
Water entered the inverter.	Water entered the unit.	Disconnect the inverter and wipe immediately with a dry cloth, or permanent damage can occur from the liquid.
Battery run time is less than expected.	AC product power consumption is higher than rated.	Use a larger battery to make up for increased power requirement.
	Battery is old or defective.	Replace battery.
	Battery is not being properly charged at a high enough rate	Be sure to use a powerful charger.

TECHNICAL SPECIFICATIONS

120 Watt Inverter P/N 026-0002-DL-WH	Specification
AC Power Output	
AC Power Voltage	115V
Maximum AC Output Power	120W
Maximum AC Output Surge Power	240W
AC Output Frequency	58Hz - 62Hz
AC Output Waveform	Modified Sine Wave
USB Power Output	
DC Output Voltage	5V DC, 2 Ports Shared 2.4 Amps Output
DC Power Specification	
DC Input Voltage Range	11V to 15V DC
Battery Drain Without AC Load	≤ 0.4A (at a 12V input)
Low Battery Shut-Down point (Nominal)	10.5 ± 0.3V DC
High Battery Shut-Down point (Nominal)	15.5 ± 0.5V DC
Fuse	12 Amp (Glass tube type)
Efficiency (Maximum)	85%
Ambient Operating Temperature Range	32° F to 104° F

200 Watt Inverter P/N 026-0005-DL-WH	Specification
AC Power Output	
AC Power Voltage	115V
Maximum AC Output Power	200W
Maximum AC Output Surge Power	400W
AC Output Frequency	58Hz - 62Hz
AC Output Waveform	Modified Sine Wave
USB Power Output	
DC Output Voltage	5V DC, 2 Ports Shared 3.1 Amps Output
DC Power Specification	
DC Input Voltage Range	11V to 15V DC
Battery Drain without AC Load	≤ 0.4A (at a 12V input)
Low Battery Shut-Down Point (Nominal)	10.5 ± 0.3V DC
High Battery Shut-Down Point (Nominal)	15.5 ± 0.5V DC
Efficiency (Maximum)	85%
Ambient Operating Temperature Range	32°F to 104°F

400 Watt Inverter P/N 026-0003-DL-WH	Specification
AC Power Output	
AC Power Voltage	115V
Maximum AC Output Power	400W
Maximum AC Output Surge Power	800W
AC Output Frequency	58Hz - 62Hz
AC Output Waveform	Modified Sine Wave
USB Power Output	
DC Output Voltage	5V DC, 2 Ports Shared 3.1 Amps Output
DC Power Specification	
DC Input Voltage Range	11V to 15V DC
Battery Drain without AC Load	≤ 0.4A (at a 12V input)
Low Battery Shut-Down Point (Nominal)	10.5 ± 0.3V DC
High Battery Shut-Down Point (Nominal)	15.5 ± 0.5V DC
Efficiency (Maximum)	85%
Ambient Operating Temperature Range	32°F to 104°F

750 Watt Inverter P/N 026-0004-DL-WH	Specification
AC Power Output	
AC Power Voltage	115V
Maximum AC Output Power	750W
Maximum AC Output Surge Power	1500W
AC Output Frequency	58Hz - 62Hz
AC Output Waveform	Modified Sine Wave
USB Power Output	
DC Output Voltage	5V DC, 2 Ports Shared 3.1 Amps Output
DC Power Specification	
DC Input Voltage Range	11V to 15V DC
Battery Drain without AC Load	≤ 0.4A (at a 12V input)
Low Battery Shut-Down Point (Nominal)	10.5 ± 0.3V DC
High Battery Shut-Down Point (Nominal)	15.5 ± 0.5V DC
Efficiency (Maximum)	85%
Ambient Operating Temperature Range	32°F to 104°F

Warranty

This product is covered by a
1 Year general limited warranty

DISTRIBUTED BY:
DELTRAN USA LLC.
801 International Speedway Blvd.
Deland, Florida 32724
(386) 736-7900