



(Sold Separately, included with the PRO 3000W)

## Professional Grade Power Inverter

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## INTRODUCTION

Thank you for purchasing the **Cobra PRO Series Power Inverter**. Used properly, this Cobra product will give you reliable power to run your appliances and devices. Please read this manual thoroughly before you install and set up your new power inverter.

## HOW YOUR POWER INVERTER WORKS

The Cobra PRO Power Inverter is a power conversion device that is designed and built to operate from low Voltage DC (Direct Current) power from your vehicle battery and converts it to standard 115 Volt AC (Alternating Current) power like you have in your home. This conversion process allows you to use many of your household appliances and electronic products in automobiles, RVs, boats, trucks and virtually anywhere else with a 12 Volt battery.

## PRODUCT SERVICE AND SUPPORT

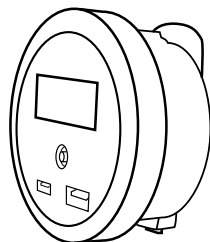
For any questions about operating or installing this new Cobra product, PLEASE CONTACT COBRA FIRST...do not return this product to the retail store. The contact information for Cobra will vary depending on the country in which you purchased and utilize the product. For the latest contact information, please go to [www.cobra.com/support](http://www.cobra.com/support) or call 1-800-543-1608. If your product should require factory service, please go to [www.cobra.com/support](http://www.cobra.com/support) and follow the instructions.

## WHAT'S IN THE BOX

- PRO Power Inverter (1500W, 2500W or 3000W)
- (2) 48-inch #4AWG Power Cables (PRO 1500W)
- (4) 48-inch #4AWG Power Cables (PRO 2500W)
- (4) 48-inch #2AWG Power Cables (PRO 3000W)
- Terminal Protector Boots
- Quick Start Guide
- Remote On/Off Controller with Fast Charge USB (PRO 3000W only)

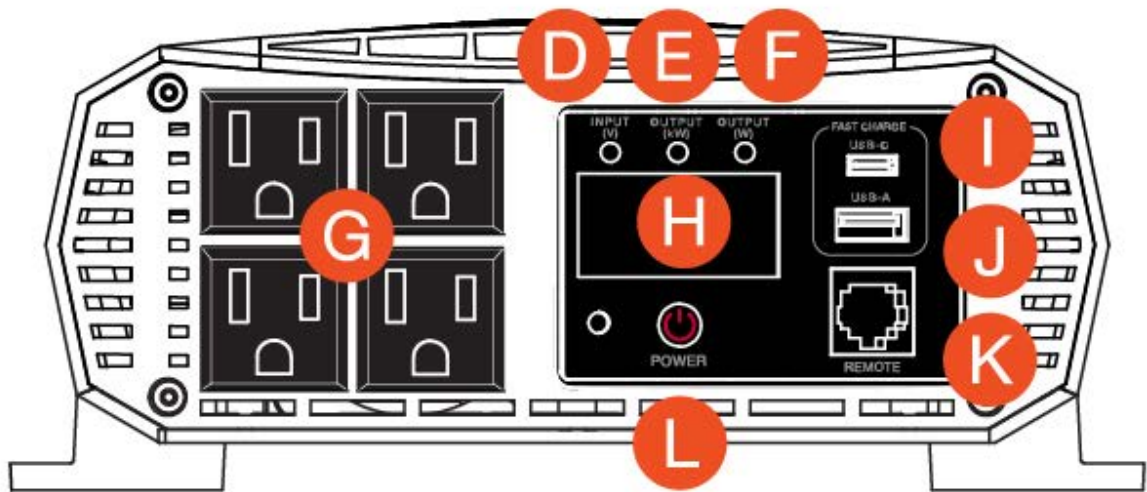
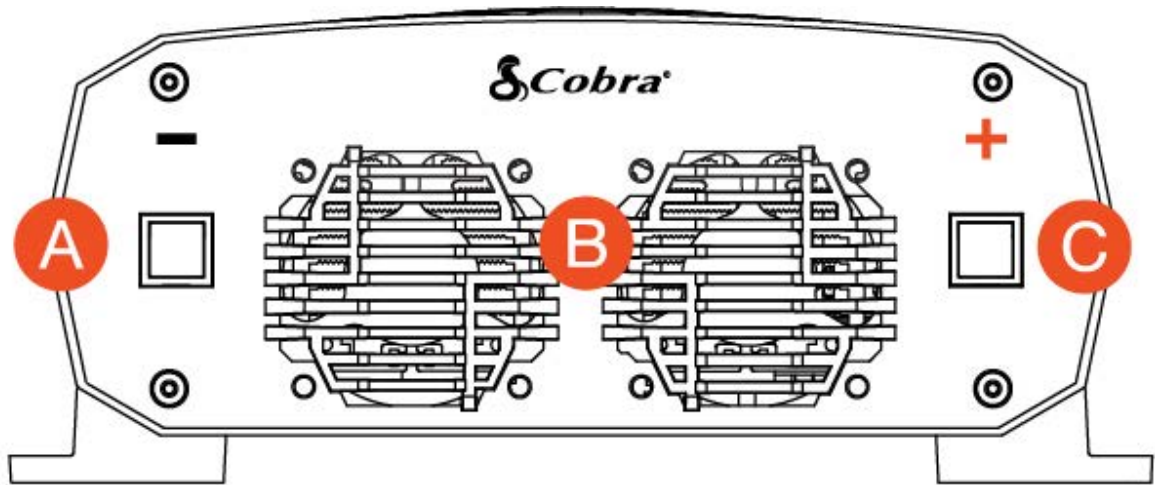
## OPTIONAL ACCESSORIES – available at [www.cobra.com](http://www.cobra.com)

- **CPIALCDG1** - Remote On/Off controller with Fast Charge USB



# CONTROLS AND CONNECTIONS

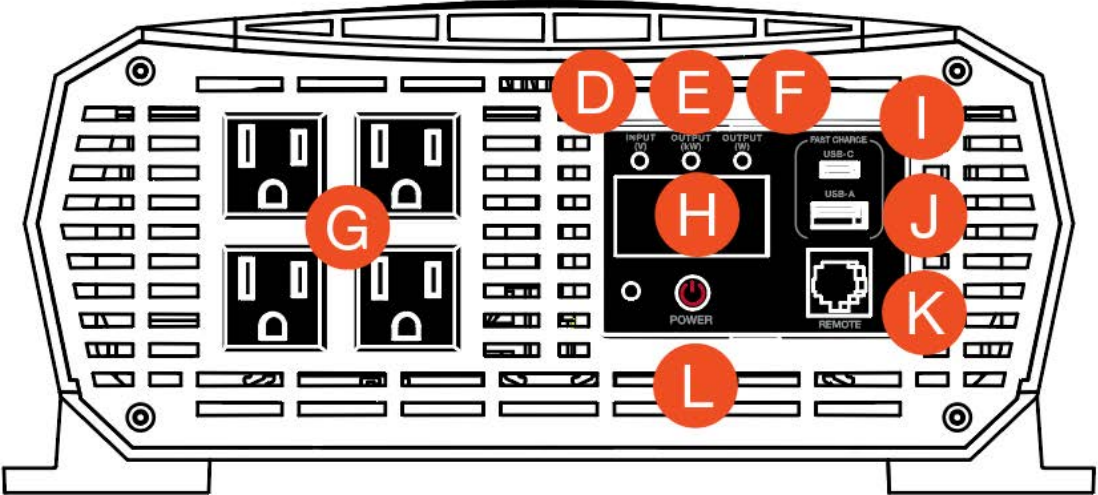
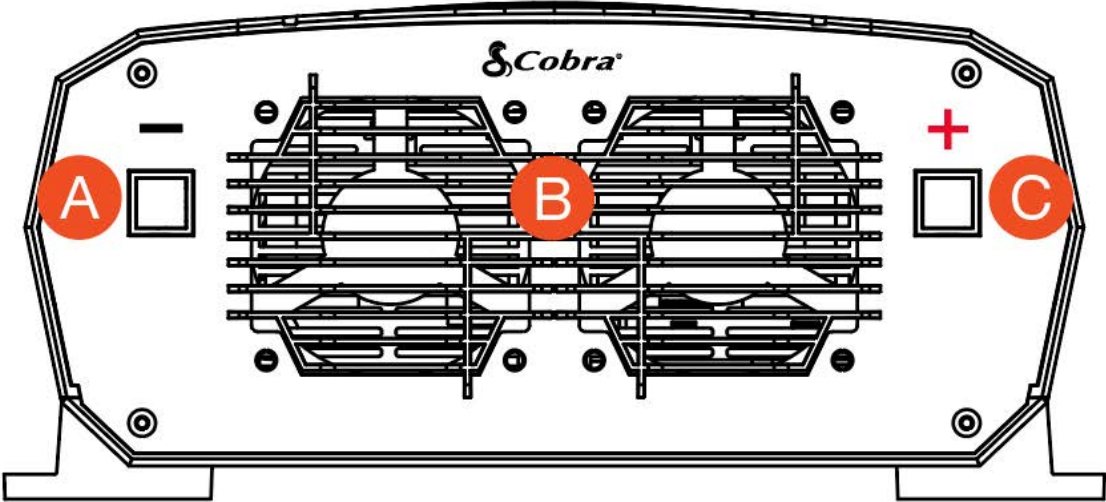
## PRO 1500W Features



- A.** Negative Power Input Terminal
- B.** Cooling Fans – regulate the temperature of the inverter, turning on when temperature exceeds the preset limit, and turning off when the temperature reduces
- C.** Positive Power Input Terminal
- D.** Green LED – Battery Voltage Indicator (V)
- E.** Yellow LED – Output Power Indicator. When active, output power in is kilowatts (kW)
- F.** Red LED – Output Power Indicator. When active, output power is in Watts (W)
- G.** (4) GFCI Protected AC Outlets
- H.** Digital Display showing Battery Voltage (V), Power in kilowatts (kW), Power in Watts (W) and Error Codes
- I.** USB-C Fast Charge port (5V/9V/15W)\*
- J.** USB-A Fast Charge port (5V/9V/15W)\*
- K.** Port for Cobra Remote On/Off Controller with Fast Charge USB (Sold Separately)\*
- L.** Power Button
- M.** Power Cables
- N.** Inverter Terminal Protector Boots
- O.** Cobra Remote On/Off Controller with Fast Charge USB (Sold Separately)

\* = Fast Charge works only on devices capable of supporting a charge up to 10W

# PRO 2500W and 3000W Features



\*Model CPIALCDG1

- A.** Negative Power Input Terminal
- B.** Cooling Fans – regulate the temperature of the inverter, turning on when temperature exceeds the preset limit, and turning off when the temperature reduces
- C.** Positive Power Input Terminal
- D.** Green LED – Battery Voltage Indicator (V)
- E.** Yellow LED – Output Power Indicator. When active, output power in is kilowatts (kW)
- F.** Red LED – Output Power Indicator. When active, output power is in Watts (W)
- G.** (4) GFCI Protected AC Outlets
- H.** Digital Display showing Battery Voltage (V), Power in kilowatts (kW), Power in Watts (W) and Error Codes
- I.** USB-C Fast Charge port (5V/9V/15W)\*\*
- J.** USB-A Fast Charge port (5V/9V/15W)\*\*
- K.** Port for Cobra Remote On/Off Controller with Fast Charge USB (Sold Separately)\*
- L.** Power Button
- M.** Power Cables
- N.** Inverter Terminal Protector Boots
- O.** Cobra Remote On/Off Controller with Fast Charge USB (Sold Separately)\*

\*Included with PRO 3000W/Sold Separately from PRO 2500W

\*\* = Fast Charge works only on devices capable of supporting a charge up to 10W

# IMPORTANT PRODUCT /SAFETY INFORMATION

Before installing and using your Cobra power inverter, please read these general precautions and warnings.

## Caution and Warning Statements

Special attention must be paid to the **CAUTION** and **WARNING** statements in the manual.

**CAUTION:** Statements specify conditions which could cause damage to the unit or other equipment.

**WARNING:** Statements identify conditions that could result in personal injury or loss of life.

## General Precautions

1. **Never install the inverter in a boat's engine compartment where gas and battery fumes are present.**
2. Do not operate the inverter if it has been dropped or damaged in any way.
3. Do not open the inverter; it contains no user-serviceable parts. Attempting to service unit could cause electrical shock.

**NOTE:** Internal components remain charged after all power is disconnected.

3. Do not expose the inverter to rain, snow, bilge water or spray.
4. Do not obstruct the ventilation openings.
5. Do not install the inverter in zero-clearance compartment.
6. Do not allow water or liquids in contact with the power inverter
7. Do not use appliances with damaged or wet cords.

**CAUTION:** This inverter should be used in **negative ground** applications only.

**CAUTION:** The inverter must only be connected to batteries with a nominal output voltage of 12 volts. Do not connect the power inverter to a 6 Volt battery and will be damaged if connected to a 24 Volt battery.

**WARNING:** Power inverters contain components that tend to produce arcs or sparks. To prevent fire or explosion, do not install the inverter in areas or compartments containing batteries or flammable materials or in locations that require ignition-protected equipment.

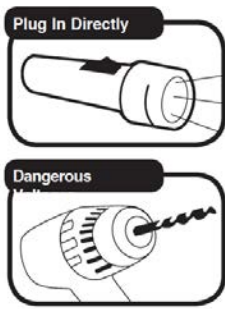
**WARNING:** To avoid fire, do not cover or obstruct the ventilation openings. Do not install the power inverter in a tight space or closed compartment where airflow may be restricted.

## Proposition 65: Warning: Wash Hands After Handling Power Cord

The power cord on this product contains lead, a chemical known in the state of California to cause birth defects or other reproductive harm.



## Caution: Rechargeable Appliances



Certain chargers for small nickel cadmium batteries can be damaged if connected to a Cobra PRO Power Inverter. Two particular types of equipment are prone to this problem:

1. Small battery-operated appliances such as flashlights, razors, and night lights that can be plugged directly into an AC receptacle to recharge.
2. Certain battery chargers for battery packs used in hand power tools. These chargers have a **WARNING** label stating that dangerous voltages are present at the battery terminals.

This problem does not occur with the vast majority of battery operated equipment. Most use a separate charger or transformer that is plugged into the AC receptacle and produces a low voltage output. If the label on the AC adapter or charger states that it produces a low voltage AC or DC output (less than 30 volts), the inverter will have no problem powering the adapter safely.

### Cobra PRO Output Waveform

Some very sensitive electronic equipment may not operate satisfactory on the output waveform referred to as "modified sine wave" which this inverter is designed. It is a stepped waveform designed to have characteristics similar to the sine wave shape of utility power. A waveform of this nature is suitable for most AC loads (including linear and switching power suppliers used in electronic equipment, transformers and motors).

## PENTAGON PROTECTION®

Cobra power inverters provide five levels of protection:

1. Over-Temperature: Auto-shut off will occur when the safe operating temperature has been exceeded.
2. Reverse Polarity: The inverter will not operate if connected incorrectly to the power source.
3. Over-Voltage: Auto-shutdown will occur if the DC input exceeds safe operating levels.
4. Low Voltage Alarm: The inverter will sound an alarm to indicate a low battery voltage condition.
5. Low Voltage Cutoff: The inverter will automatically shut off to prevent a dead battery condition.

For detailed specifications go to Specifications section of this manual, starting on page 25.

# GETTING STARTED

This section provides you with the basic information about the inverter and a few tips before installation.

To get started, you will need:

1. **A 12 Volt DC battery** (i.e. vehicle battery). In order to understand how much current your battery must deliver, divide the number of Watts from your AC appliance or device by 10.
2. **Cables to connect your inverter to the vehicle battery.** These come with your PRO Inverter and provide a length of 48".

## **DETERMINING THE POWER REQUIREMENTS FOR YOUR PRO INVERTER**

Before you turn on your power inverter and plug in an appliance or device, you will want to understand its power requirements.

To determine the requirements, you will need to know the Watts of your device. This can be calculated by multiplying the Amps by 110 Volts (See Below).

# POWER CONSUMPTION

For each piece of equipment you will be operating from the power inverter, you must determine the battery's reserve capacity (how long the battery can deliver a specific amount of current – in automotive batteries, usually 25 ampere) or ampere-hour capacity (a measure of how many amperes a battery can deliver for a specified length of time).

Example – Ampere-hour capacity: a battery with an ampere-hour capacity of 100 ampere-hours can deliver 5 ampere for 20 hours before it is completely discharged.

**To determine the battery ampere-hour capacity you require:**

1. Determine how many Watts each piece of equipment consumes. This can normally be found on the product label. If only the Amperage is provided, then multiply the Amps by 115 to determine the power in Watts.
2. Estimate how long you need your appliance to run.
3. Now calculate the Amp-hour rating for the battery. **You can do this by multiplying the total AC load (in Watts) by the length of time (in Hours) needed to run your appliance.** This will give you the Watt-Hours needed.



100 watts x 2 hours  
= 200 watt-hours



300 watts x 15 minutes  
= 75 watt-hours

4. Divide the watt-hours by 10 to determine how many battery (12 volt) ampere-hours will be consumed.

**Multiply: AC AMPS X 110 (AC Voltage) = WATTS.** This formula yields a close approximation of the continuous load of your appliance.

**Multiply: WATTS X 2 = Starting load for most appliances, tools and devices.** This formula yields a close approximation of the starting load for most appliances. Exceptions are motorized appliances such as pumps, freezers, and air conditioners. These appliances can have startup loads of up to eight times the rated Watts.

For electrically sensitive equipment, contact the manufacturer to determine if the device you are using is compatible with modified sine wave AC. If not, then a Pure Sine Wave Inverter is recommended.

### Determining the DC Power Requirements

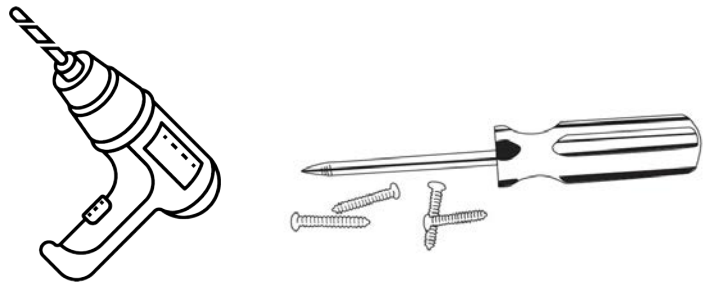
Your inverter requires the input of a 12-Volt battery. To calculate the approximate power in Amps a 12-Volt battery bank you need to know the current, or Amps required for powering the continuous AC load. A shortcut method is to divide the continuous AC load Wattage by 10. For example, the continuous load of the PRO 3000W Power Inverter is 3000 Watts. The current (Amps) is: 3000/10 or 300 Amps at 12 VDC. Add to the load any DC appliances that may be powered by the battery bank.

## MOUNTING THE INVERTER

Do not mount the power inverter under the hood of any vehicle. Choose a cool, dry, and well-ventilated area inside the vehicle as close to the battery as possible. Place the power inverter on a flat, secure surface. Make sure there are no wires, fuel lines or fluid tanks directly behind the wall or surface being drilled. When mounting, secure the power inverter in place using corrosion-resistant mounting hardware (not included).

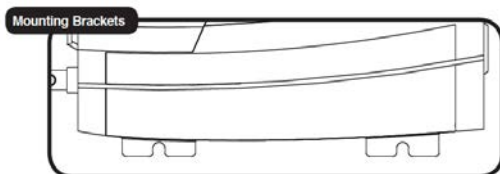
### What you will need:

- Assess your mounting needs depending on the inverter and type of surface you are mounting (i.e. wood or fiber glass)
- Gather the necessary tools depending on the surface (i.e. drill or screwdriver)
- Determine size of mounting hardware. Use only corrosive resistant screws (not included)



### Mounting Instructions:

1. Make sure the inverter is OFF.
2. Check for wires, fuel lines or fluid tanks behind the wall or surface you plan to drill.
3. Position the power inverter horizontally when choosing the mounting location. If mounted on a wall be sure the front of the inverter is facing out. Do not mount vertically to prevent debris or dust from falling into the power inverter.



4. Mark the locations of the mounting screws before drilling.
5. Remove the inverter and drill the (4) mounting holes.
6. Fasten the inverter to the mounting surface using corrosion-resistant screws (not included).

# INSTALLATION REQUIREMENTS

The inverter must be installed in an area that meets all of the following requirements:

1. **Dry** - Do not place in an area where water can drip or splash on the inverter.
2. **Cool** - Ambient air temperature should be between 30°F and 105°F (0°C and 40°C).  
The cooler the better.
3. **Ventilate** - Allow at least one inch (three cm) of clearance around the inverter for proper airflow. Make sure that ventilation openings on the ends of the unit are not obstructed.
4. **Safe** - Do not install the inverter in the same compartment as a battery or in any compartment that contains flammable liquids such as gasoline.
5. **Close to Battery** - Install unit as close to battery as possible (without being in the same compartment) to minimize the length of cable required to connect the inverter to the battery. It is better and cheaper to run longer AC wires than longer DC wires (cables).

**CAUTION:** To avoid fire, do not cover or obstruct ventilation openings. Do not install inverter in a zero-clearance compartment. Overheating may result.

**CAUTION:** The inverter must only be connected to batteries with a nominal output voltage of 12 volts. It will not work with a 6 volt battery, and will be damaged if it is connected to a 16 volt battery.

**WARNING:** This unit contains components which can produce arcs or sparks. To prevent fire or explosion, do not install in compartments containing a battery or flammable materials, or in a location which requires ignition protected equipment.

**WARNING:** This unit is suitable for installation in negative ground applications only. Do not attempt to install to a positive ground application.

# CONNECTING TO A VEHICLE BATTERY

Power wire and wiring are very important to the performance of the inverter. Because the inverter has a low voltage, high current input, low resistance wiring is essential between the battery and inverter. This is so it can deliver the maximum amount of energy to the load.

For safety reasons, it is recommended to install a properly rated ANL fuse (not included) on the **red** cable as close to the positive (**red**) battery terminal as possible. If you have a dual cable installation, install a properly rated ANL fuse on **each red cable**. Cut about 12 inches from ring terminal and install fuse. Use (1) 150 Amp ANL fuse or equivalent for the PRO 1500W, (2) 150 Amp ANL fuses or equivalent for the PRO 2500W, or (2) ANL 200 Amp ANL fuses or equivalent for the PRO 3000W power inverter.

Do not use aluminum wire. Aluminum has about one-third more resistance than copper wire of the same size, plus it is difficult to make good, low-resistance connections to aluminum wire. Your PRO Power Inverter comes with heavy duty copper cladded cable for connections between the battery and inverter.

Keep the cable length as short as possible. The recommendation is no more than six feet. This will keep the voltage drop to a minimum.

If the cable has too much voltage drop, the inverter may shut down when drawing higher currents because voltage at the inverter may drop below 10 volts. If you must use longer cables, make sure you choose a thicker or heavier gauge cable appropriate for your installation requirements.

# PRO 1500W INSTALLATION INSTRUCTIONS:

These instructions are specific for Negative Ground 12 Volt Systems. In a Negative Ground System, the negative terminal (Black) is connected to the chassis or engine housing.

**CAUTION:** If you are not familiar with 12 Volt high current wiring, please contact a professional installer for assistance.

## Items required for installation (not included with cable kit):

- 1 x 150 Amp ANL fuse for a 1500W inverter (on single red cable only)\*
- #2 Philips screwdriver - used on the end of the DC input terminal bolt assembly
- Adjustable wrench - used to hold the nut while securing the DC input terminal bolt assembly
- Crimping tool for #2 lug terminal

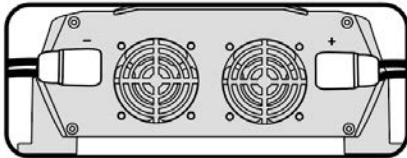
## \*A UL recognized fuse is recommended

1. Mount the inverter inside the vehicle in a well ventilated location as close to the battery as possible.
2. Disconnect negative battery terminal of the vehicle.
3. Route cables close to the battery. Choose the shortest path from the power inverter to the battery.

**If a longer cable is required to connect your inverter to your battery, use a wire gauge that is appropriate for your installation.**

4. For safety reasons install a properly rated fuse (not included) on the **red** cable as close to the positive (**red**) battery terminal as possible. Cut about 12 inches from ring terminal and install fuse. Use a 150 Amp ANL fuse or equivalent for the PRO 1500W inverter.
5. Disconnect the battery clamp connector at the negative (-) battery terminal.
6. Connect the **black** cable to the ring terminal connector to the negative (-) battery connector.

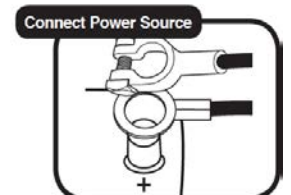
**NOTE:** Please install the supplied plastic protector boots on the input terminals to prevent a short circuit.



7. Connect the other end of the **black** cable to the inverter negative (-) input terminal.
8. Connect the **red** positive (+) cable to the inverter positive input terminal.
9. Connect the **red** positive (+) cable ring terminal connector to the fuse end of the positive (+) battery terminal.
10. Make a visual inspection to make sure the **red** wire or its connectors are not touching any metal parts of the vehicle or the black wire connectors.
11. Connect the battery negative (-) connector to the battery negative (-) terminal.

**CAUTION:** There is normally a spark at the point of contact at the negative terminal.

12. Go to the **GETTING STARTED** section to review the Battery Low Voltage Alarm setting based on the vehicle the inverter will be used with.



**WARNING:** You may observe a spark when making the connection because current can flow to charge the capacitors in the inverter. **Do not make this connection in the presence of flammable fumes.** Explosion or fire may result. Thoroughly ventilate the battery compartment before making this connection. All power connections to your Cobra inverter must be **Positive to Positive** and **Negative to Negative**.

**CAUTION:** Electrical installations must meet local and national wiring codes, and should be performed by a qualified electrician.

**CAUTION:** Do not connect the inverter and another AC source (such as a generator or utility power) to the AC wiring at the same time. The inverter will be damaged if its output is connected to AC voltage from another source. Damage can even occur if the inverter is switched **off**.

**CAUTION:** It is not recommended to operate loads at the maximum rated output for permanent or extended periods of time. For continuous operation (greater than 60 minutes), it is recommended to operate a load 20% less than the inverter maximum output rating. For example, for a 1500 Watt inverter, a maximum load of 1200 Watts is recommended.

**CAUTION:** Loose connectors result in excessive voltage drop and may cause over heated wires and melted insulation.

**CAUTION:** Reverse polarity connections (positive to negative) will blow internal fuses in the inverter and may permanently damage the unit. Such damage is not covered by the warranty.

**CAUTION:** We recommend a main fuse in the battery's positive cable to protect against DC wiring short circuits (external to the inverter). The fuse should be as close to the battery as possible. We recommend (1) 150 Amp ANL fuse or equivalent for the PRO 500W power inverter. The specific fuse ampere rating should be sized to allow operation of all your DC powered equipment.

**CAUTION:** Remove any jewelry (watch, ring, etc.). Be careful not to short circuit the battery with any metallic object (wrench, etc.).

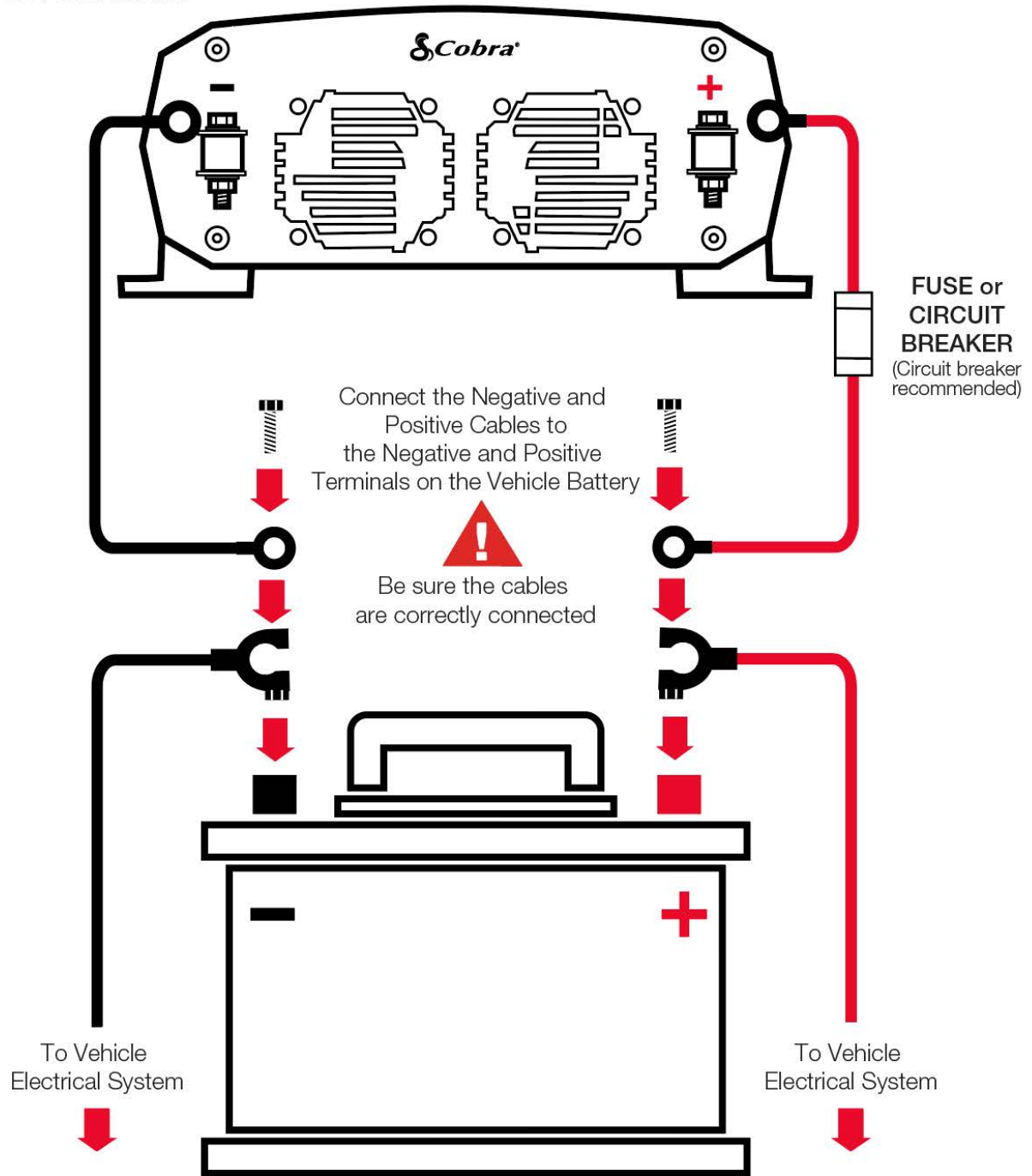
**WARNING:** If you are making a permanent AC connection to the inverter, make sure that the AC wiring steps are performed before any DC wiring is done. (DC hook-up energizes internal components, regardless of the position of the **On/Off Switch**). Working on AC connections in such a circumstance may result in an electric shock.

**WARNING:** 115 volt AC power is potentially lethal. Do not work on AC wiring when it is connected to the inverter (even if it is switched **off**) unless the DC power source is physically disconnected from the inverter. Also, do not work on AC wiring if it is connected to another AC power source such as a generator or the utility line.

# PRO 1500W INSTALLATION

Connect the **BLACK** Cable to the **Negative** Post on the Power Inverter

Connect the **RED** Cable to the **Positive** Post on the Power Inverter



# PRO 2500W & 3000W INSTALLATION INSTRUCTIONS

These instructions are specific for Negative Ground 12 Volt Systems. In a Negative Ground System, the negative terminal (Black) is connected to the chassis or engine housing.

**CAUTION:** If you are not familiar with 12 Volt high current wiring, please contact a professional installer for assistance.

## Items required for installation (not included with cable kit):

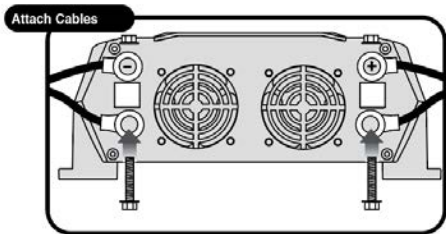
- 2 x 150 Amp ANL fuses for a 2500W inverter (two cables per inverter terminal)\*
- 2 x 200 Amp ANL fuses for a 3000W inverter (two cables per inverter terminal)\*
- #2 Philips screwdriver - used on the end of the DC input terminal bolt assembly
- Adjustable wrench - used to hold the nut while securing the DC input terminal bolt assembly
- Crimping tool for #2 lug terminal

## \*A UL recognized fuse is recommended

1. Mount the inverter inside the vehicle in a well ventilated location as close to the battery as possible.
2. Disconnect negative battery terminal of the vehicle.
3. Route cables close to the battery. Choose the shortest path from the power inverter to the battery.

**If a longer cable is required to connect your inverter to your battery, use a wire gauge that is appropriate for your installation.**

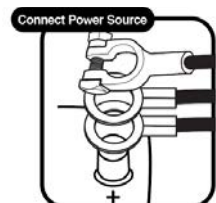
4. For safety reasons install a properly rated fuse (not included) on the **red** cable as close to the positive (**red**) battery terminal as possible. Cut about 12 inches from ring terminal and install fuse. Use (2) 150 Amp ANL fuses or equivalent for PRO 2500W or (2) 200 Amp ANL fuses or equivalent for the PRO 3000W power inverters.
5. Disconnect the battery clamp connector at the negative (-) battery terminal.
6. Connect the **black** cable(s) to the ring terminal connector to the negative (-) battery connector.
7. Connect the other end of the **black** cable(s) to the inverter negative (-) input terminal.
8. Connect the **red** positive (+) cable(s) to the inverter positive input terminal.
9. Connect the **red** positive (+) cable(s) ring terminal connector to the fuse end of the positive (+) battery terminal.



10. Make a visual inspection to make sure the **red** wire or its connectors are not touching any metal parts of the vehicle or the **black** wire connectors.
11. Connect the battery negative (-) connector to the battery negative (-) terminal.

**CAUTION:** There is normally a spark at the point of contact at the negative terminal.

12. Go to the **GETTING STARTED** section to review the Battery Low Voltage Alarm setting based on the vehicle the inverter will be used with.





**WARNING:** You may observe a spark when making the connection because current can flow to charge the capacitors in the inverter. **Do not make this connection in the presence of flammable fumes.** Explosion or fire may result. Thoroughly ventilate the battery compartment before making this connection. All power connections to your Cobra inverter must be **Positive to Positive** and **Negative to Negative**.

**CAUTION:** Electrical installations must meet local and national wiring codes and should be performed by a qualified electrician.

**CAUTION:** Do not connect the inverter and another AC source (such as a generator or utility power) to the AC wiring at the same time. The inverter will be damaged if its output is connected to AC voltage from another source. Damage can even occur if the inverter is switched **off**.

**CAUTION:** It is not recommended to operate loads at the maximum rated output for permanent or extended periods of time. For continuous operation (greater than 60 minutes), it is recommended to operate a load 20% less than the inverter maximum output rating. For example, for a 2500 Watt inverter, a maximum load of 2000 Watts is recommended.

**CAUTION:** Loose connectors result in excessive voltage drop and may cause over heated wires and melted insulation.

**CAUTION:** Reverse polarity connections (positive to negative) will blow internal fuses in the inverter and may permanently damage the unit. Such damage is not covered by the warranty.

**CAUTION:** We recommend a main fuse in the battery's positive cable to protect against DC wiring short circuits (external to the inverter). The fuse should be as close to the battery as possible. We recommend **(2) 150 Amp ANL fuses or equivalent for PRO 2500W or (2) 200 Amp ANL fuses or equivalent for the PRO 3000W** power inverter. The specific fuse ampere rating should be sized to allow operation of all your DC powered equipment.

**CAUTION:** Remove any jewelry (watch, ring, etc.). Be careful not to short circuit the battery with any metallic object (wrench, etc.).

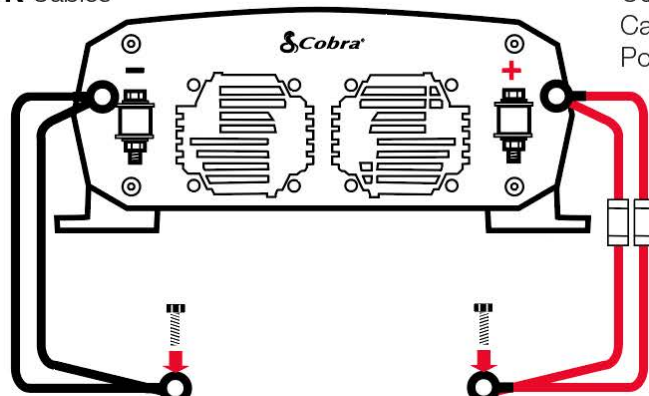
**WARNING:** If you are making a permanent AC connection to the inverter, make sure that the AC wiring steps are performed before any DC wiring is done. (DC hook-up energizes internal components, regardless of the position of the **On/Off Switch**). Working on AC connections in such a circumstance may result in shock.

**WARNING:** 115 volt AC power is potentially lethal. Do not work on AC wiring when it is connected to the inverter (even if it is switched **off**) unless the DC power source is physically disconnected from the inverter. Also, do not work on AC wiring if it is connected to another AC power source such as a generator or the utility line.

# PRO 2500W AND 3000W INSTALLATION

Connect the **(2) BLACK** Cables to the **Negative** Post on the Power Inverter

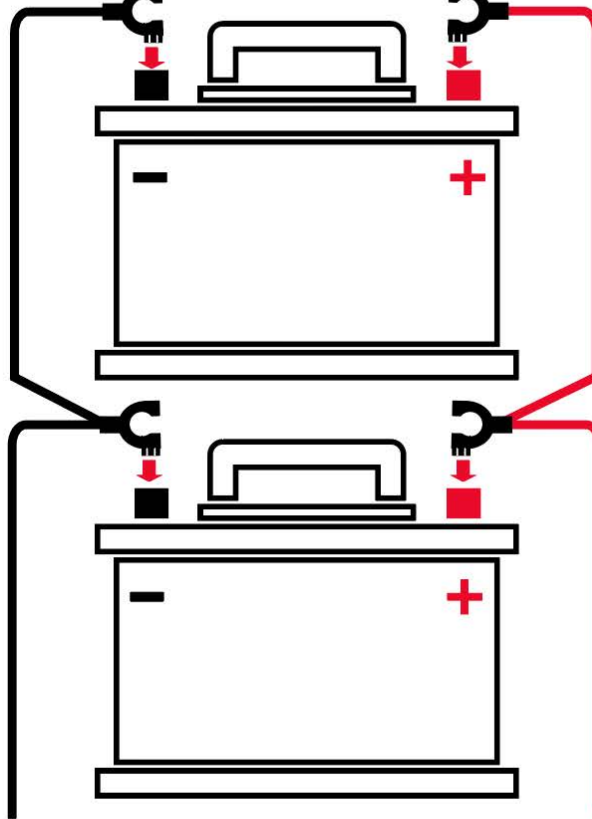
Connect the **(2) RED** Cables to the **Positive** Post on the Power Inverter



**FUSES or CIRCUIT BREAKERS**  
(Circuit breakers recommended)

Connect the **(2) BLACK** Cables to the **Negative** Terminals on the Batteries

Connect the **(2) RED** Cables to the **Positive** Terminals on the Batteries



↓ To Vehicle Electrical System

To Vehicle Electrical System ↓



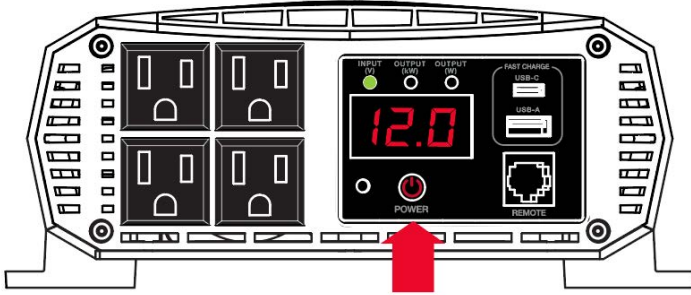
Connect the Negative and Positive Cables to the Negative and Positive Terminals on the Vehicle Battery  
Be Sure the Cables are not Incorrectly Connected

# SETTING UP YOUR INVERTER

Be sure to have your power inverter properly mounted and installed before attempting to turn it on (see page 11).

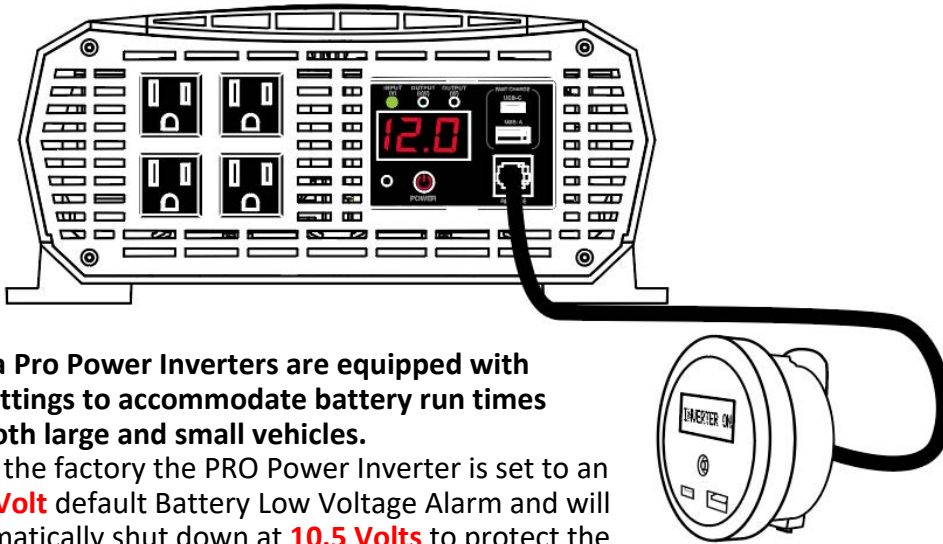
## PRO1500W/2500W POWER INVERTER BASIC OPERATION

1. Press the POWER button to turn on your inverter.
2. When powered on the Input Voltage LED is green.



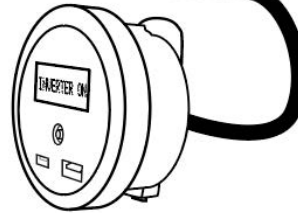
## PRO 3000W POWER INVERTER BASIC OPERATION

1. Connect the Remote On/Off Controller in the RJ-45 jack labeled "REMOTE" (optional).
2. Press the POWER button to turn on your inverter (or the POWER button on the remote controller).



Cobra Pro Power Inverters are equipped with (2) settings to accommodate battery run times for both large and small vehicles.

From the factory the PRO Power Inverter is set to an **11.5 Volt** default Battery Low Voltage Alarm and will automatically shut down at **10.5 Volts** to protect the battery from deep discharge (so you can start your vehicle). **This setting is ideal for Professional Trucks. If using a Cobra PRO Power Inverter with a car, van or RV, the Alternative Setting is recommended** since batteries in these vehicles can afford a slightly deeper drain and will avoid an “early” Battery Low Voltage Alarm signal and longer run time.

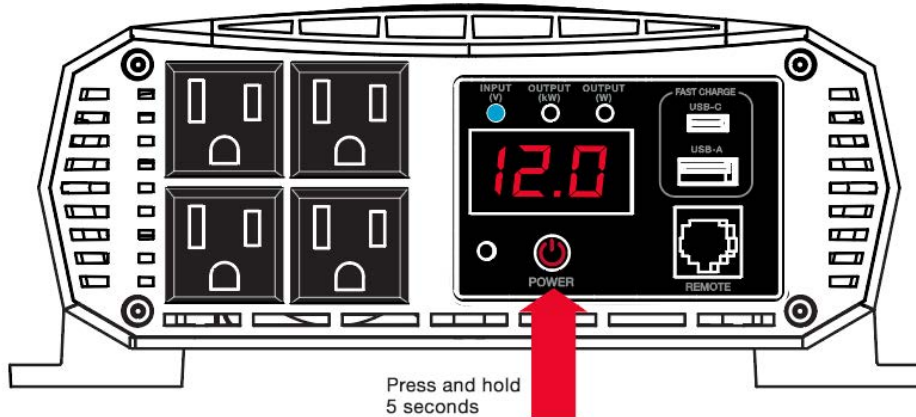


**CAUTION:** The Default Low Voltage Alarm Setting is designed for Professional Trucks and larger vehicle batteries. **If using this setting with a standard vehicle, van or RV, the alarm will sound earlier than necessary** and reduce the battery run time.

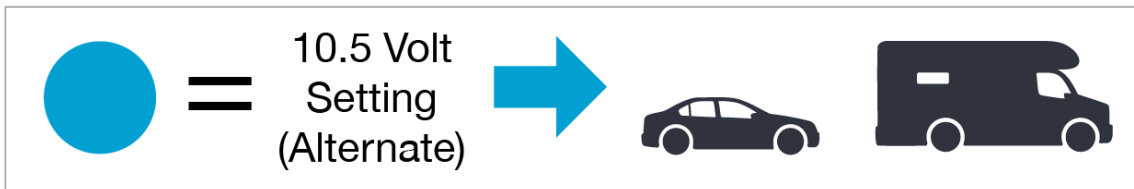
# CHANGING THE LOW VOLTAGE ALARM SETTING

## To Change the Low Voltage Alarm Seeing:

1. Connect the Remote On/Off Controller with Fast Charge USB (Optional on the 1500W and 2500W inverter models).
2. Press and hold the POWER button for 5 seconds or until Input Voltage LED turns blue.



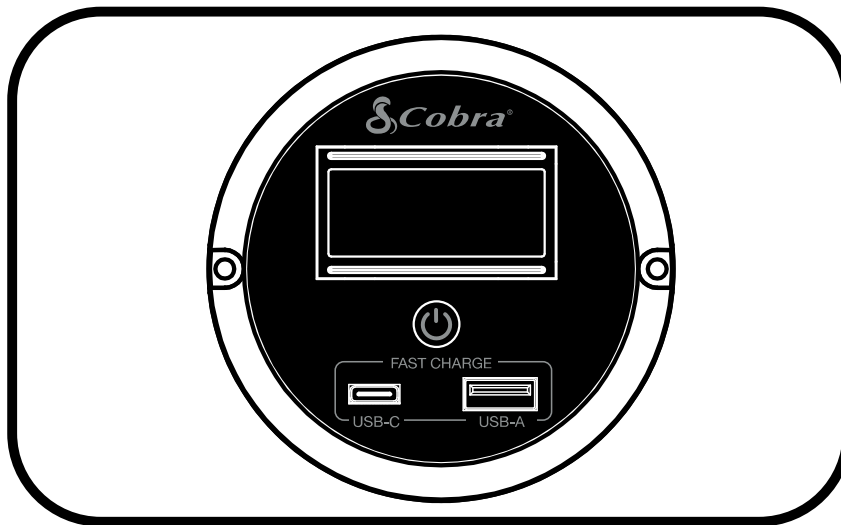
3. Once blue, the Battery Low Voltage Alarm will be set to sound when your battery Voltage reaches **10.5 Volts**. The power inverter will automatically shut down when battery voltage reaches **9.5 Volts** to protect the battery from deep discharge (so you can start your vehicle). **The setting will not change when the inverter is turned off or the battery is disconnected.** To set the inverter back to the Battery Low Voltage Alarm Default Setting at **11.5 Volts**, follow steps 1 and 2.



**CAUTION:** Your power inverter will automatically shut off at **9.5 Volts** when set to the Alternate Battery Low Alarm setting. **Do not** set the Battery Low Voltage Alarm Setting to the Alternate Setting when using your inverter with a Professional Truck or large vehicle.

## COBRA REMOTE ON/OFF CONTROLLER WITH FAST CHARGE USB

The **Cobra Remote On/Off Controller with Fast Charge USB** is included with the Cobra PRO 3000W Power Inverter. All PRO Inverters come equipped with an RJ-45 jack labeled "REMOTE" for compatibility with the **Cobra Remote On/Off Controller with Fast Charge USB** to allow you to conveniently turn the inverter ON and OFF from anywhere inside your vehicle as well fast charge your devices at the same time. Perfect for use while driving or when inside your RV, camper or Professional Truck when your inverter is out of reach.

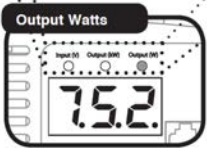
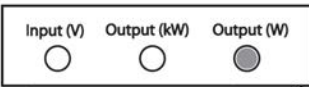


Operating instructions and details start on page 26.

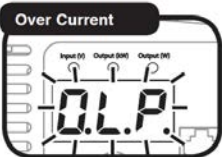
\*Sold Separately. Can be purchased on [www.Cobra.com](http://www.Cobra.com)

# OPERATING INDICATORS

Indicators on the power inverter show the unit's power status and alarms for conditions that could cause it to shut down.

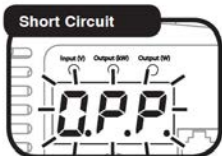


**Power on** – The Voltage Input and Power Output indicators automatically toggle between input and output values at three-second intervals. The three LEDs indicate the mode the meter is in and the three digits indicate the voltage or power value.

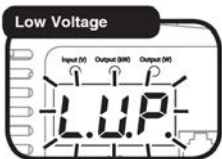


**Current Overload Protection** – If the inverter is overloaded, it will shut down to protect itself. The meter will flash as shown to indicate Overload Protect.

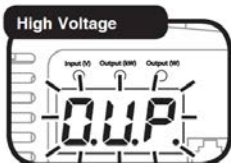
To restore normal operation, disconnect the excessive load and turn the unit **Off** and **On** again using the **Power Button**.



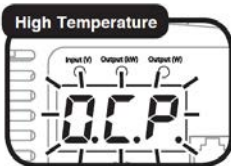
**Short Circuit Protection** – If the AC output of the inverter is short-circuited for one second or more, it will shut down to protect itself. The meter will flash as shown to indicate Short Circuit Protect and an alarm will sound. To restore normal operation, disconnect the short circuit and turn the unit **Off** and **On** again using the **Power Button**.



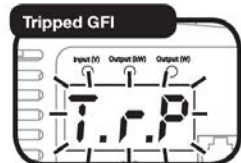
**Low Voltage Protection** - If the DC input voltage drops below the alarm threshold of 11.3V the meter will flash as shown to indicate Low Voltage Protection, but the unit will continue to operate. If the input voltage drops to 10.0V or less, the inverter will shut down to protect itself, the meter will continue to flash as shown, and an alarm will sound. To restore normal operation, return the DC input voltage to at least 12V. The inverter will automatically return to normal operation.



**High Voltage Protection** - If the DC input voltage rises above 15.0V, the inverter will shut down to protect itself, the meter will flash as shown to indicate Over Voltage Protection, and an alarm will sound. To restore normal operation, return the DC input voltage to less than 15V. The inverter will automatically return to normal operation.



**Over Temperature Protection** – If the internal inverter temperature rises above the alarm threshold, the meter will flash as shown, an alarm will sound to indicate Over Temperature Protect, and the unit will continue to operate. If the internal temperature rises to 40°C (104°F), the inverter will shut down to protect itself, the meter will flash as shown and the alarm will continue to sound.



**GFI Tripped Indicator** – if the power inverter detects a ground fault then the AC output is disabled, an alarm will sound then you will get the following display. To restore to normal inverter operation, first unplug faulty appliance. Then, manually reset the power inverter by turning it OFF then ON.

**NOTE:** Internal inverter temperature can rise due to being operated in a high heat environment or due to the fan or vents being blocked during operation (even in relatively cool outside air). To restore normal operation, turn the unit **Off** and allow it to cool. The inverter will automatically return to normal operation after it has cooled.

# OPERATING LIMITS

## **Power Output**

Your PRO Series power inverter can operate on its full rated output for about 60 minutes. The inverter must cool for 15 minutes before it can resume operation at maximum output.

The inverter will operate most AC loads within its power rating. Some induction motors used in freezers, pumps, and other motor-operated equipment require very high surge currents to start. If the motor surge current exceeds the inverter surge capability then the inverter may shut down.

## **Input Voltage**

The inverter will operate from input voltage ranging from 10 volts to 15 volts. Optimum performance will occur when the voltage is between 12 volts and 14 volts. If the voltage drops below 11.5V $\pm$ 0.3V, an audible low battery warning will sound. Your inverter comes equipped with (2) low voltage alarm or cutoff settings. The default setting is typically used for Professional Trucks. This setting will sound the low voltage alarm at 11.5V  $\pm$ 0.3V. The alternate setting is used for vehicles and RVs and will sound the alarm at 10.5V  $\pm$ 0.3V. To change the default setting to the alternate or vehicle setting go to page 20.

The inverter will also shut down if the input voltage exceeds 15.5V $\pm$ 0.5V. This protects the inverter against excessive input voltage. Although the inverter has protection against over-voltage, it may still be damaged if the input voltage were to exceed 16 volts.

# TROUBLESHOOTING GUIDE

Problem/Symptom	Possible Causes	Solution
Low output voltage	Overload	Reduce the load.
No output voltage	Low input voltage	Recharge battery. Check connections and cable.
No output voltage after prolonged use	Thermal shutdown	<p>Allow inverter to cool off.</p> <p>Reduce load, continuous operation input current required.</p> <p>Improve ventilation; make sure ventilation openings in the inverter are not obstructed.</p> <p>Reduce ambient temperature.</p>
No output voltage, "Protect" indicator lighted	High input voltage	<p>Make sure the inverter is connected to 12V battery.</p> <p>Check regulation or charging system.</p>
No output voltage	Short circuit	Check load for proper operation.
No output voltage	<p>Inverter switched <b>off</b></p> <p>No power to inverter</p> <p>Reverse DC polarity</p>	<p>Turn inverter <b>on</b>.</p> <p>Check wiring to inverter.</p> <p>Observe correct polarity.</p>
Low battery alarm on all the time	<p>Poor DC wiring</p> <p>Poor battery condition</p>	<p>Check connections.</p> <p>Make sure battery is fully charged.</p>



# SPECIFICATIONS

Specifications:	PRO 1500W	PRO 2500W	PRO 3000W
<b>Model</b>	CPI1500W	CPI2500W	CPI3000W
<b>Input</b>	13.0V DC	13.0V DC	13.0V DC
<b>Output</b>	115V AC, 60Hz, 13.0A, 1500W	115V AC, 60Hz, 21.7A, 2500W	115V AC, 60Hz, 26.1A, 3000W
<b>Output Waveform</b>	Modified Sine Wave (MSW)	Modified Sine Wave (MSW)	Modified Sine Wave (MSW)
<b>Continuous Power</b>	1500 Watt	2500 Watt	3000 Watt
<b>Peak Power</b>	3000 Watt	5000 Watt	6000 Watt
<b>Efficiency</b>	90%	90%	90%
<b>No Load Draw</b>	< .6A	< .6A	< .6A
<b>Low Battery Alarm</b>	11.5V DC Default, 10.5V Selectable Option	11.5V DC Default, 10.5V Selectable Option	11.5V DC Default, 10.5V Selectable Option
<b>Low Battery Shutdown</b>	10.5V DC Default, 9.5V DC Selectable Option	10.5V DC Default, 9.5V DC Selectable Option	10.5V DC Default, 9.5V DC Selectable Option
<b>USB-A Output Port</b>	5V/3.0A, 9V/1.67A Fast Charge	5V/3.0A, 9V/1.67A Fast Charge	5V/3.0A, 9V/1.67A Fast Charge
<b>USB-C Output Port</b>	5V/3.0A, 9V/1.67A Fast Charge	5V/3.0A, 9V/1.67A Fast Charge	5V/3.0A, 9V/1.67A Fast Charge
<b>AC Output Socket</b>	4 GFCI Protected AC Outputs	4 GFCI Protected AC Outputs	4 GFCI Protected AC Outputs
<b>Protection</b>	Overload, Over Temperature, Short Circuit, Reverse Polarity, Over/Under Voltage and GFCI	Overload, Over Temperature, Short Circuit, Reverse Polarity, Over/Under Voltage and GFCI	Overload, Over Temperature, Short Circuit, Reverse Polarity, Over/Under Voltage and GFCI
<b>Operating Temperature</b>	-10°C/14°F - 40°C/104°F	-10°C/14°F - 40°C/104°F	-10°C/14°F - 40°C/104°F
<b>Storage Temperature</b>	-40°C/-40°F - 65°C/149°F	-40°C/-40°F - 65°C/149°F	-40°C/-40°F - 65°C/149°F
<b>Power Cable Length:</b>	48" #4 AWG (1) Red, (1) Black	48" #4 AWG (2) Red, (2) Black	48" #2 AWG (2) Red, (2) Black
<b>Compatible with Cobra Remote LCD (SKU CPIALCDG1)</b>	Yes	Yes	Included
<b>Dimensions</b>	3.46"x8.35"x9.84"	3.74" x 8.94"x11.5"	4.72"x10.47"x13.07"
<b>Net Weight</b>	3.85 lbs	5.73 lbs	7.83 lbs

# MAINTENANCE & PRODUCT SERVICE

## Maintenance

Very little maintenance is required to keep the inverter operating properly. The exterior of the unit should be cleaned periodically with a damp cloth to prevent accumulation of dust and dirt. At the same time, tighten the screws on the DC input terminals. Be sure vents and fans are free of dust or debris.

## Product Service

For any questions about operating or installing this new Cobra product, please go to [www.cobra.com](http://www.cobra.com)

# Cobra Remote On/Off Controller with Fast Charge USB (Model CPIALCDG1)

When used with your Cobra Power Inverter, the Cobra Remote On/Off Controller with Fast Charge USB provides convenience to turn your power inverter on or off from anywhere inside your vehicle and simultaneously charge your Smartphone and other devices.

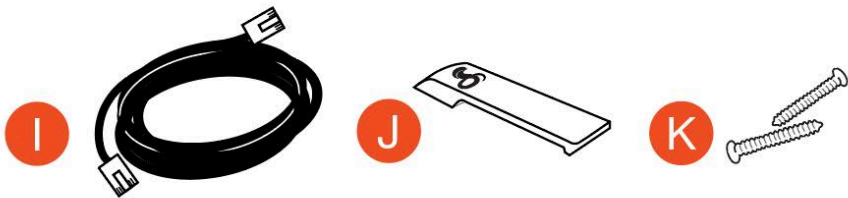
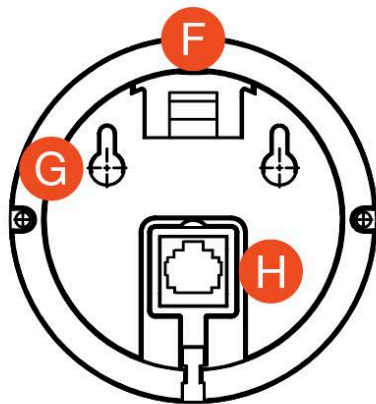
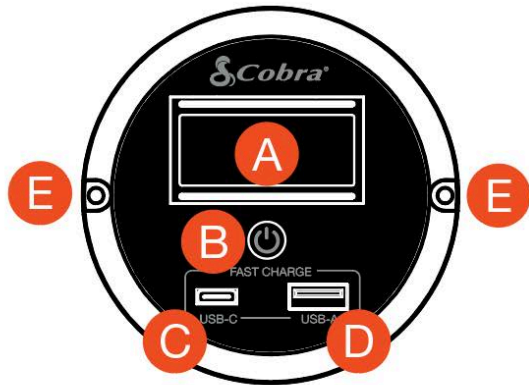
Count on Cobra for Power Where You Need It.

**Works with Cobra Power Inverters:  
CPI400PSW, CPI500W, CPI1500W, CPI2500W and CPI3000W.**

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Cobra Electronics Corporation™ is a trademark of Cobra Electronics Corporation, USA.  
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# Remote Controller Features

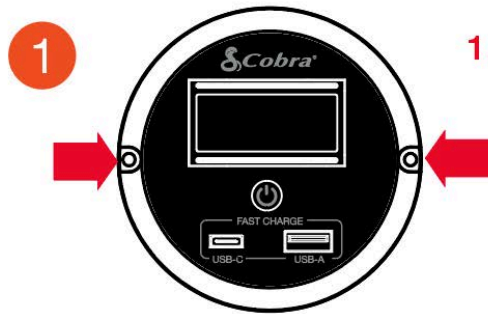


- A.** LCD Display
- B.** Power Button
- C.** Fast Charge USB-C\*
- D.** Fast Charge USB-A\*
- E.** Flush Mounts
- F.** Clip Mount for Clip Mounting Option
- G.** Keyhole Mount
- H.** RJ-45 Remote Control Cable Jack
- I.** RJ-45 Remote Control Cable
- J.** Clip Mont
- K.** M3.5 Screws

\* = Fast Charge works only on devices capable of supporting a charge up to 10W

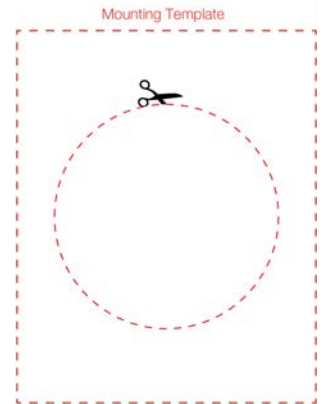
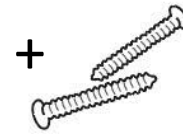
# 4-Point Mounting System

Whether you own a standard vehicle, RV, Professional Truck, or Camper, Cobra gives you (4) Mounting options to remotely turn your inverter on and off as well as charge your devices from anywhere in your vehicle:

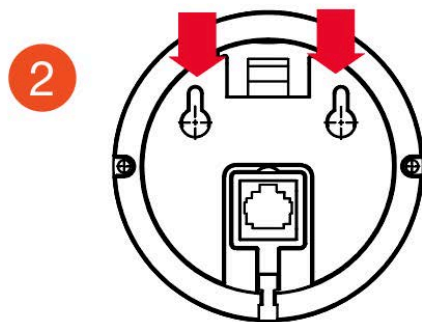


**1. Flush Mounting** for a permanent installation

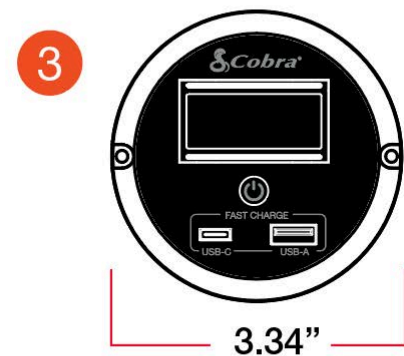
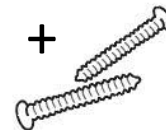
**Note:** for accurate installation, please use the template provided in this guide



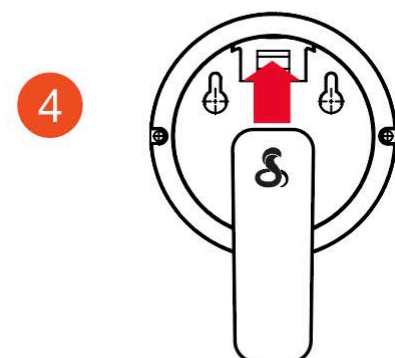
See Mounting Template on page 34



**2. Keyhole Mount** for On Wall Mounting



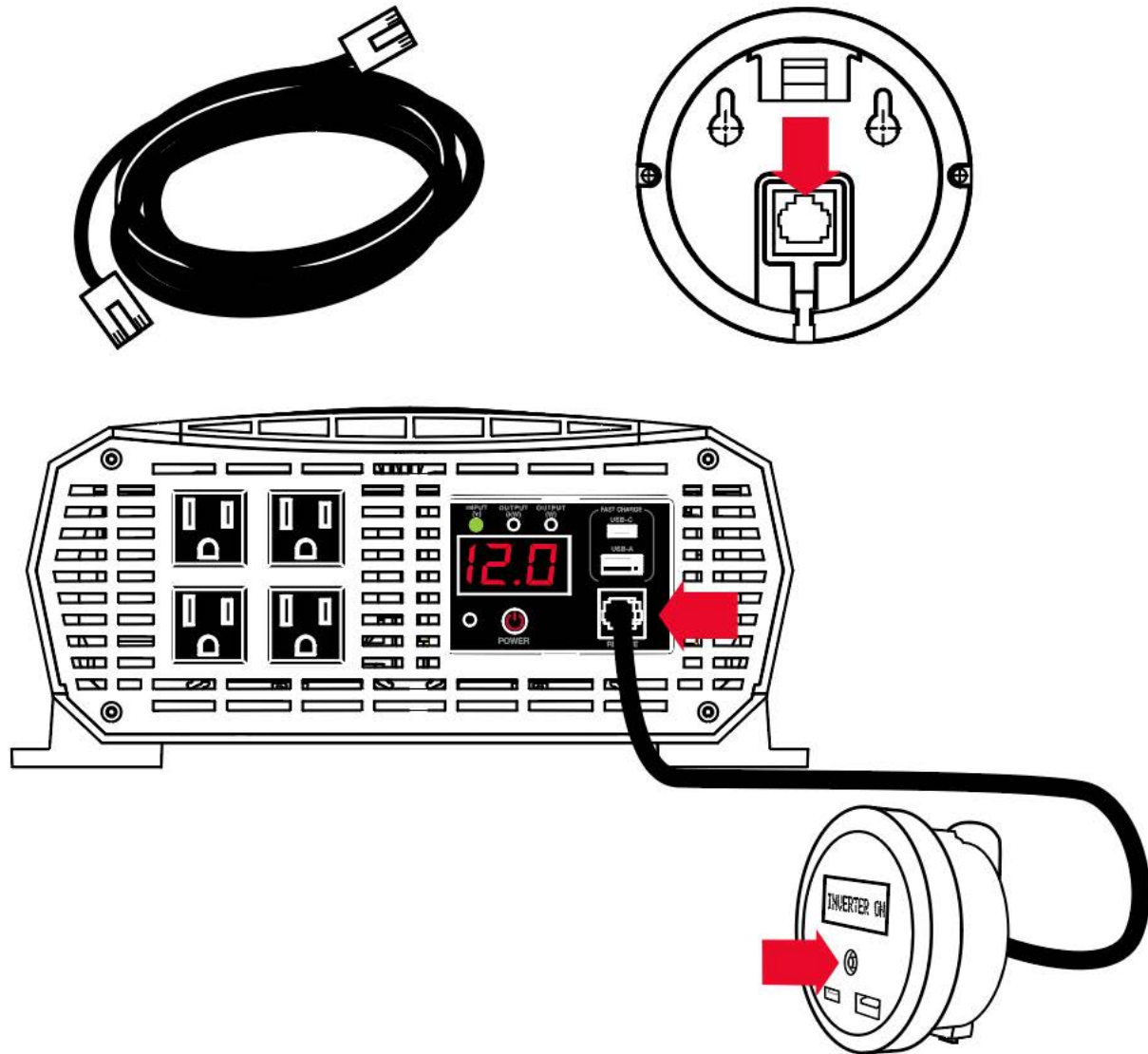
**3. Cup Holder Mounting** to conveniently charge your Smartphone while driving. This can also rest on a flat surface inside your RV, Truck Cab or camper



**4. Clip Mount** to the back seat or other areas of the vehicle for passengers to charge their Smartphone and other devices

## Connecting the Remote Controller to your Power Inverter

1. Using the RJ-45 Remote Control Cable, connect the Remote On/Off Controller to the RJ-45 cable jack (Labeled REMOTE) on the front of your power inverter
2. Press the POWER button to turn on your inverter (or the POWER button on the remote controller)
3. When the inverter is powered on the Input Voltage LED is green



# REMOTE DISPLAY MESSAGING

## Standby Mode

When you plug in the **Remote On/Off Controller with Fast Charge USB** and press the power button to ON, the display will show AC Output (Watts being used) and the DC Input (Battery Volts). The images below show the messaging on the LCD display when the remote is turned ON or OFF.



**Inverter ON**



**Inverter OFF**

**NOTE:** Backlight turns off after 5 seconds from pressing the POWER

## Fault Messaging

Your inverter and remote are equipped to sound an alarm to alert you when power requirements or battery voltage is not in range. This is considered a "fault". When this happens, both the inverter and remote alarms will sound, and if the fault is not addressed, the inverter will shut down and the remote will display a fault message. Below is a list of "faults" and the messaging that will appear on the LCD display when these faults occur.



### DC Input Low Voltage Alarm (Default Setting)

The alarm will sound when the battery is at 11.5V



### DC Input Low Voltage Cutoff (Default Setting)

The alarm will sound and the inverter will shut down when the battery is at 10.5V.



### DC Input Low Voltage Alarm (Alternate Setting)

The alarm will sound when the battery is at 10.5V.



### DC Input Low Voltage Cutoff (Alternate Setting)

The alarm will sound and the inverter will shut down when the battery is at 9.5V.



### DC Input High Voltage Alarm

The alarm will sound when the battery is at 15.0V.



### AC Output Short

The alarm will sound and the inverter will shut down when the AC output is shorted.



### AC Output Overload

The alarm will sound and the inverter will shut down AC output exceeds the inverter limits.



### Inverter Over Temperature

The alarm will sound and the inverter will shut down when the inverter overheats.



### GFCI Trip

The alarm will sound and the inverter will shut down when a Ground Fault is detected.

# TROUBLESHOOTING GUIDE

<b>Problem/Symptom</b>	<b>Possible Cause</b>	<b>Troubleshoot</b>
<b>Remote will not turn ON</b>	Remote cable connection, battery connection, or car battery needs recharging	1. Check cable connection at remote and inverter 2. If these are secure and the remote will still not turn on, check cable connection from the inverter to the battery or the CLA
<b>Remote will not turn OFF</b>	Power button not pushed hard enough or poor cable connection	1. Disconnect the remote from the inverter 2. Plug it back in again and Power ON
<b>Inverter turns ON and Remote LCD on remote stays dark</b>	Remote cable connection	1. Disconnect the remote from the inverter 2. Plug it back in again and Power ON
<b>The inverter is sounding an alarm but no Error messages are showing on the LCD</b>	Remote is being used with models that do not support this function	Display Error messages are only supported by PRO Series inverters. CPI500W and CPI400PSW Models do not support error messages
<b>USB port on remote is not charging my device</b>	Bad phone charging cable, loose connection or car battery charge is too low	1. Check cable connection from your device to the USB port 2. If still not working, check cable connection from the remote to the inverter 3. If 1. and 2. do not solve the problem, it is possible you need to recharge your car battery

If none of these solutions fix the problem you are having, please contact Product Service and Support online at [www.cobra.com/support](http://www.cobra.com/support) or call 1-800-543-1608

## SPECIFICATIONS

<b>Specifications:</b>	<b>COBRA REMOTE ON/OFF CONTROLLER</b>
Model	CPIALCDG1
USB-A Output Port	5V/2A/10W
USB-C Output Port	5V/2A/10W
Operating Temperature	-10°C/14°F - 40°C/104°F
Storage Temperature	-40°C/-40°F - 65°C/149°F
Power Cable Length:	15-feet #16 AWG
Dimensions	3.35" x 3.35" x 1.64"
Net Weight	.11 lbs



# WARRANTY & TRADEMARK ACKNOWLEDGEMENT

## **Limited Two-Year Warranty**

### **For Products Purchased in the U.S.A.**

Cobra Electronics Corporation warrants that its Cobra power inverter, and the component parts thereof, will be free of defects in workmanship and materials for a period of two years from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Cobra will, without charge, repair or replace, at its option, defective power inverters, products or component parts upon delivery to the Cobra Factory Service department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra's expense, if the product is repaired or replaced under warranty. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

**Exclusions:** This limited warranty does not apply:

1. To any product damaged by accident.
2. In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.
3. If the serial number has been altered, defaced, or removed.
4. If the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. Cobra shall not be liable for any incidental, consequential or other damages; including, without limitation, to damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

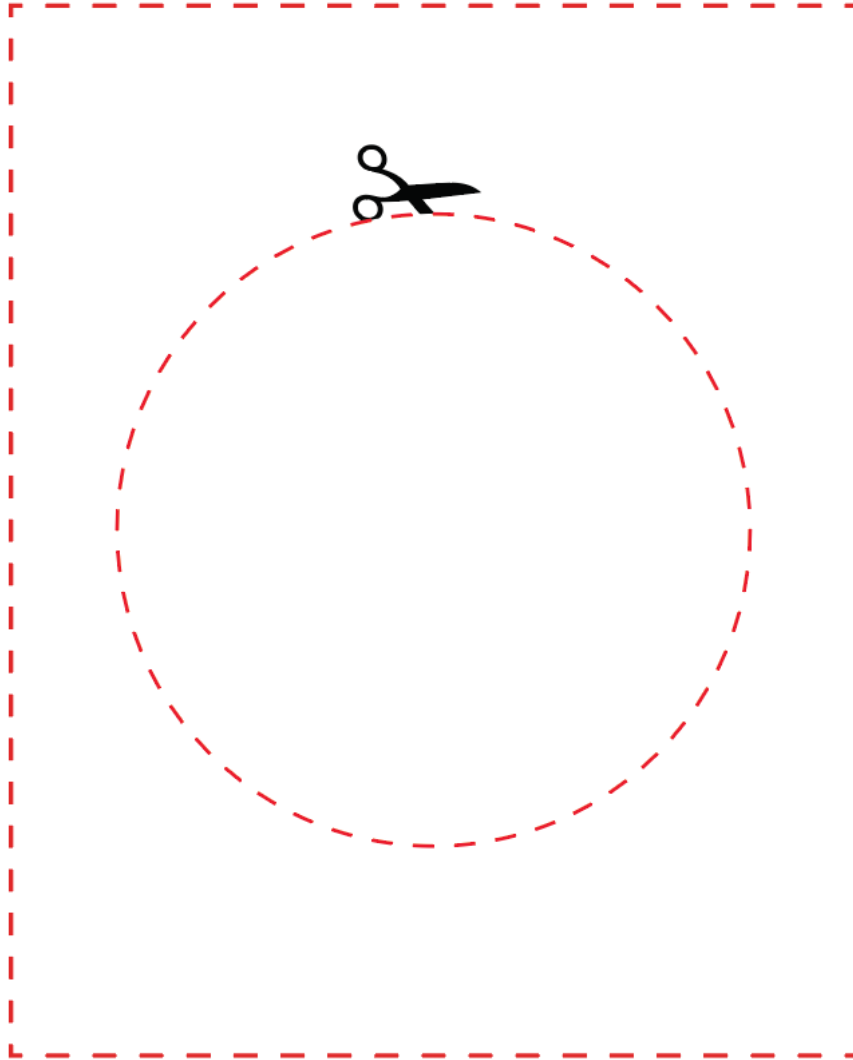
### **For Products Purchased outside the U.S.A.**

Please contact your local dealer for warranty information.

## **Trademark Acknowledgement**

Cobra®, Nothing Comes Close to a Cobra®, Pentagon Protection® and the snake design are registered trademarks of Cobra Electronics Corporation, USA. Cobra Electronics Corporation™ is a trademark of Cobra Electronics Corporation, USA.

## Mounting Template



***This template should measure 3.35". Please ensure that this measurement is checked on your print-out for accuracy before making your cuts and installing.***