AURAGEN® INDUCTION POWER SOURCE

OWNER'S MANUAL

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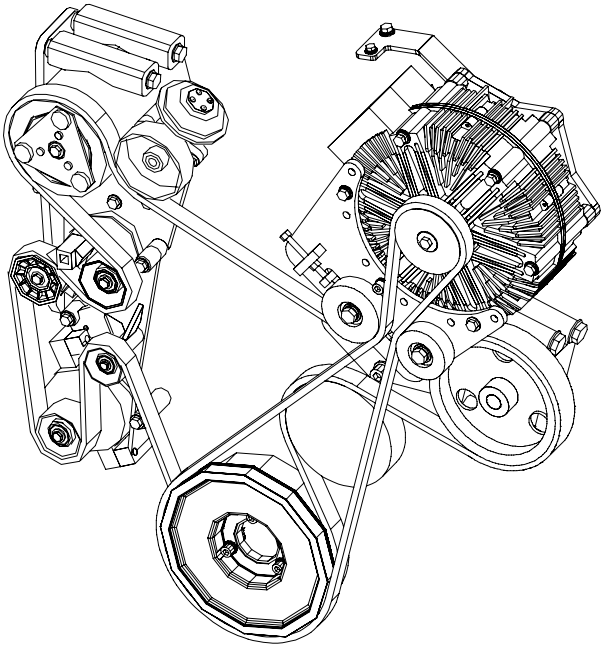
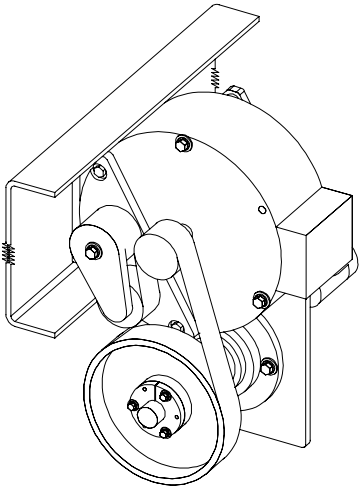
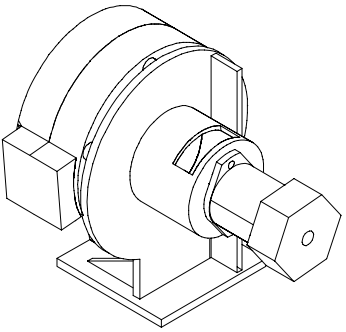


Typical Under-Hood Installation



Power Take Off (PTO) Driven



Hydraulically Driven

“The AuraGen”

The AuraGen® Induction Power Source provides several distinct advantages over portable generator systems. These include:

Mobile Power:

With the AuraGen system you have electrical power with you wherever you go with your vehicle. There is also no output power penalty for changes in altitude or ambient temperature.

Load-Following:

Unlike typical portable generator sets which run at a constant engine speed (usually 3,600 RPM), the AuraGen systems produces clean, pure sine wave, 60 or 50 Hz electrical power at any engine RPM. The output voltage and frequency will not fluctuate due to momentary or sustained changes in engine speed.

Use of Automotive Engine:

Automobile engines are more efficient than small utility engines used in portable generators. Modern electronic fuel injection systems continually optimize the engine performance and fuel efficiency. The vehicle emission control system and muffler greatly reduce the amount of pollution and noise produced. The result is more automotive engine produced power, reduced noise, and less pollution.

Maintenance Free:

Once installed, the AuraGen system is virtually maintenance free. Forget about the daily small engine maintenance of the carburetor, spark plugs, fuel system and other routine problems associated with traditional generators. Just have the AuraGen serpentine drive belt inspected periodically (refer to supplied Service Manual).

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THANK YOU FOR CHOOSING OUR PRODUCT

Congratulations on the purchase of your new AuraGen® system. Whether you purchased the AuraGen for work, recreation, or emergency power needs, we're very confident you'll be impressed. The AuraGen family of products have been built for durability, with careful attention to detail.

SAFETY

Do not attempt to operate or use your AuraGen system until after you have thoroughly read and understand all safety precautions outlined in this manual.

ABOUT THIS MANUAL

This manual provides information about the AuraGen Induction Power Source models. Study it carefully and comply with all warnings and cautions. Correct operation of this system and adherence to a simple general inspection schedule will result in longer unit life, better performance and safer usage.

CUSTOMER RECORD

On your AuraGen system components, you will find the model number and serial number on the labels adhered to the AuraGen cover plate and side of the ECU. We recommend you record these numbers in the space provided below. Refer to them should you need to contact your authorized AuraGen Distributor/dealer regarding this product.

	Part Number	Serial Number
Induction Power Source 	_____	_____
Electronic Control Unit (ECU) 	_____	_____

Distributor/Dealer Name: _____

Phone Number: _____

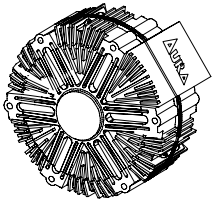
Installation Date: _____

THE AURAGEN SYSTEMS

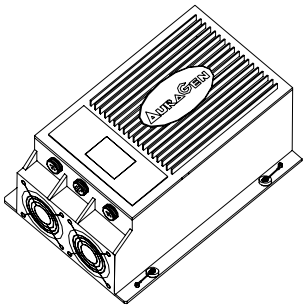
(U.S. Patents No. 5,734,217 and 6,157,175)

The AuraGen System includes:
(Also see diagrams on pages 3-5)

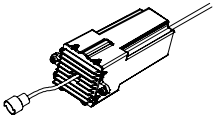
- Induction Power Source
- Electronic Control Unit (ECU)
- Control Panel
- Idle Control Unit (some vehicles)
- Mounting hardware and cables (not shown)



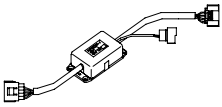
Induction Power Source



Electronic Control Unit

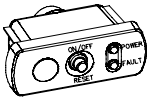


Mechanical

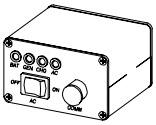


Electronic

Idle Control

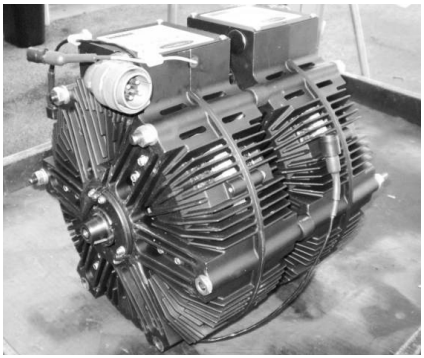


Standard



Inverter/Charger

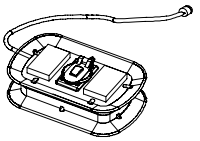
Control Panel



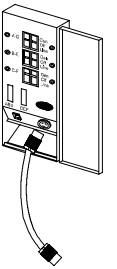
Induction Power Source
Dual-Tandem Generator
16000 Watts

Optional Equipment Available:

- Remote Power Strip
- Manual Transfer Switch

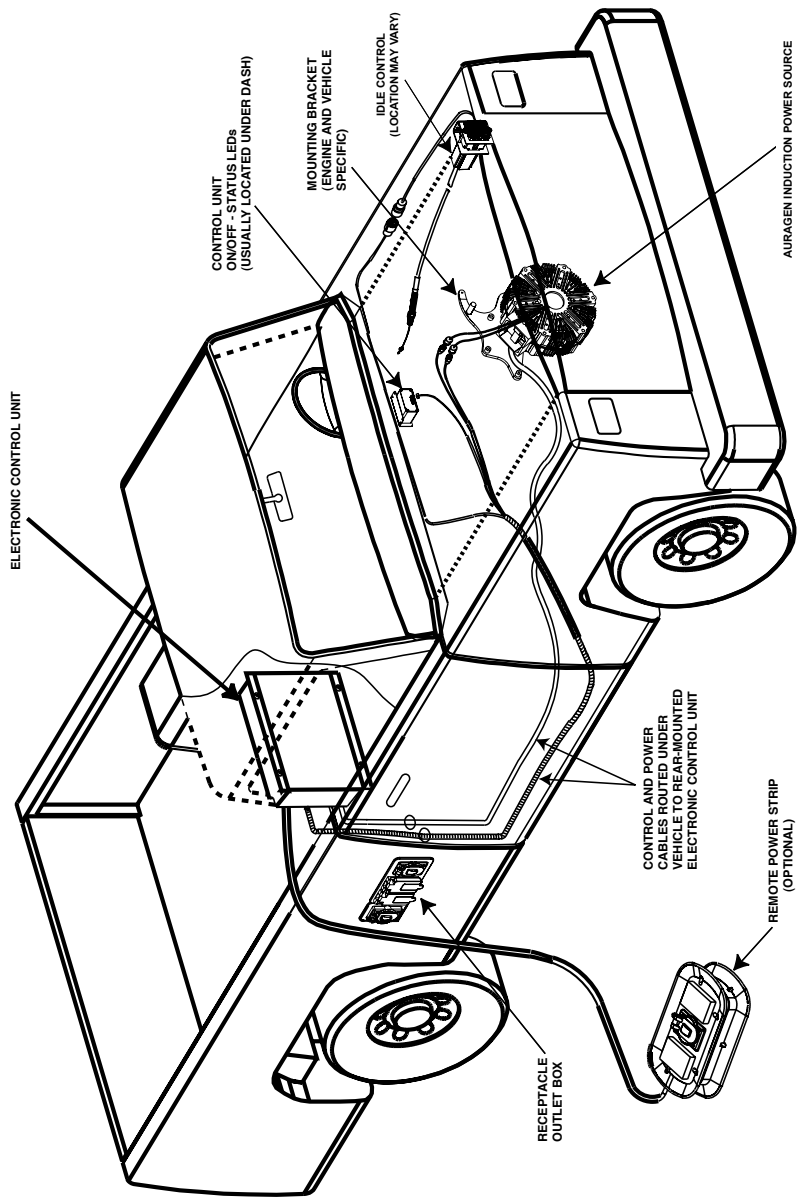


Remote Power Strip



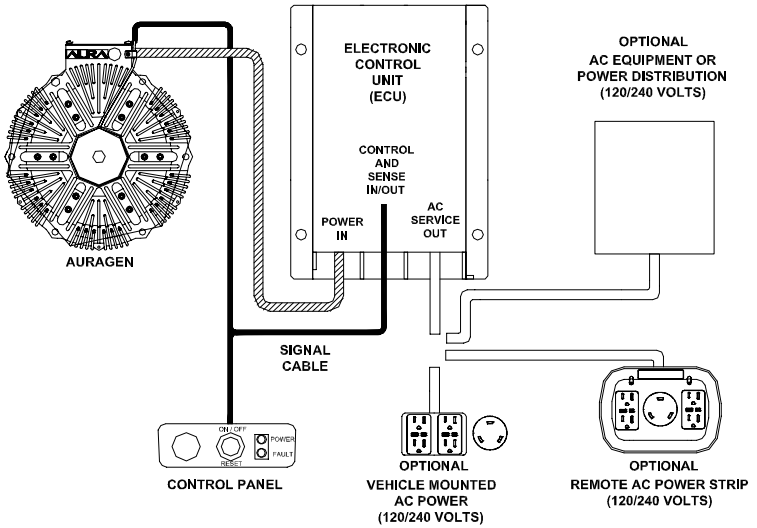
Manual Transfer Switch

Ask your authorized AuraGen Distributor/dealer about the optional equipment.

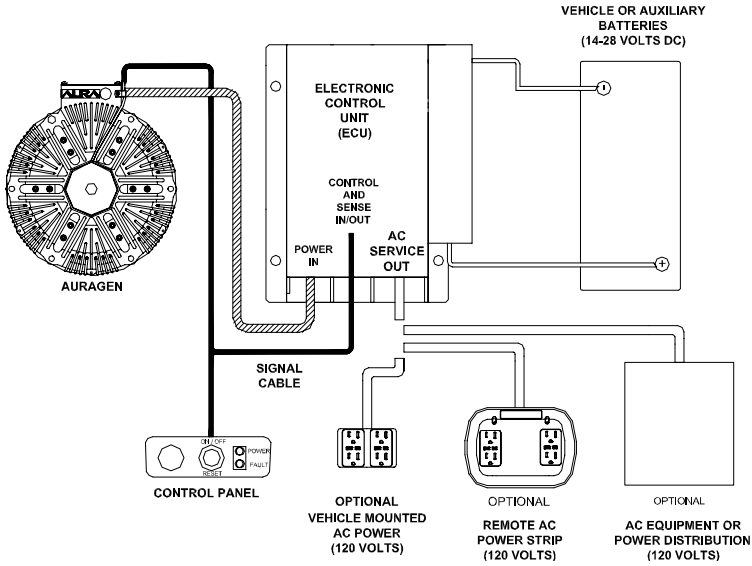


Typical Engine Mounted AuraGen System

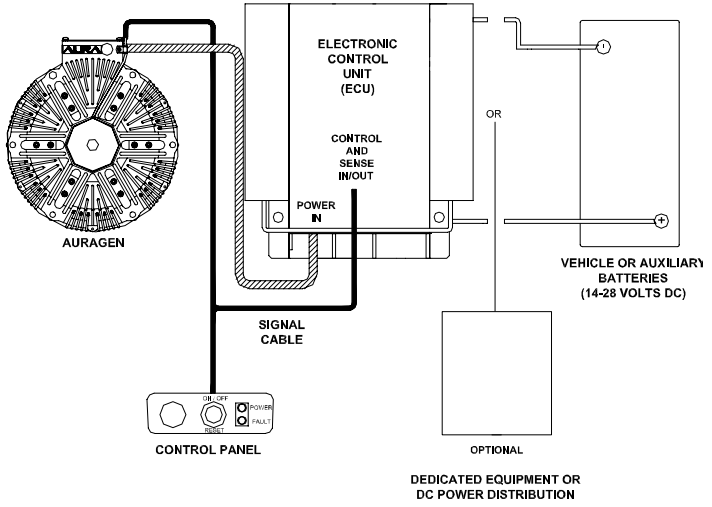
All-AC: Provides 120 VAC power to GFI outlets and/or 240 volt outlets. An optional remote power strip with 120 VAC and/or 120/240 VAC service is also offered.



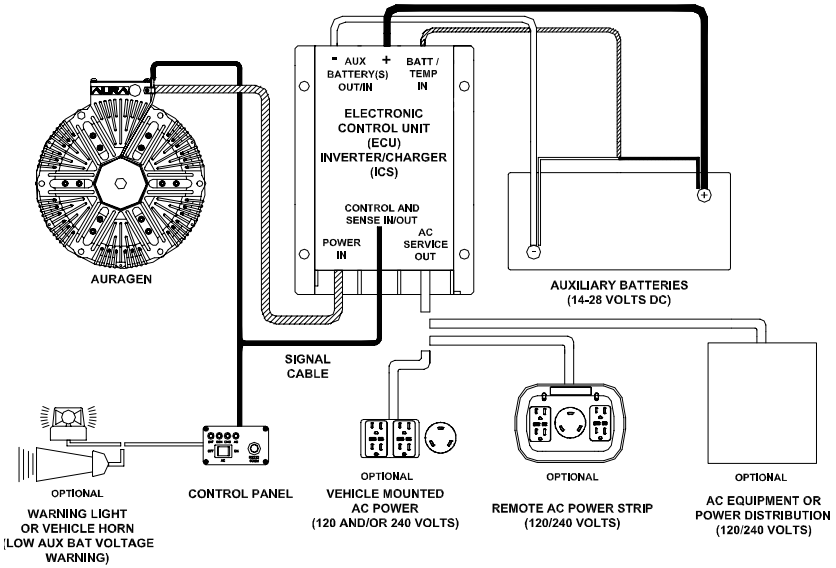
AC/DC: Provides 120 VAC power to GFI outlets and 14 or 28 VDC connected to the vehicle batteries. An optional remote power strip with 120 VAC service is also offered.



All-DC: Provides 14 or 28 VDC to auxiliary batteries. No AC service is available.



Inverter Charger System (ICS): Provides 120 or 240 VAC and 14 or 28 VDC power with or without engine running. An optional remote power strip with 120 or 240 VAC service is also offered.



SAFETY PRECAUTIONS ! WARNINGS

Before operating the AuraGen®, read this Owner's Manual and become thoroughly familiar with the equipment and its features. Operation of the equipment can be achieved safely and efficiently when the unit is properly operated. Most equipment related accidents can be prevented by following fundamental rules and precautions.

General Safety Precautions

- The AuraGen System must be installed and serviced only by AuraGen certified installers. Consult your authorized AuraGen Distributor or Dealer or AuraGen Customer Service at (800) 909-AURA.
- **DO NOT** change pulley types or sizes as the Induction Power Source could exceed its 12,000 RPM limit resulting in possible component and/or system failure.
- **DO NOT** open or dismantle the AuraGen Induction Power Source, the Electronic Control Unit (ECU), or any other components of the AuraGen system.
- **DO NOT** adjust anything on your AuraGen; see the local authorized AuraGen Distributor or Dealer for this purpose.
- The ECU and Induction Power Source are not waterproof, and therefore each must be mounted in an area where they will not be subjected to water splash and/or submersion. Please refer to the AuraGen Main Installation Manual and the applicable vehicle application installation manual for specific instructions on the mounting and installation of these components.
- Make sure the brakes on your vehicle are in good operating condition and that your vehicle is properly and regularly maintained.
- **DO NOT** use this or any equipment when you are mentally or physically fatigued, or after consuming alcohol or any mind altering substance that may affect your alertness or judgement, making the operation of equipment unsafe.
- Keep a fire extinguisher nearby. Properly maintain the extinguisher and become familiar with its use. Extinguishers rated ABC by the NFPA are appropriate for all applications. Consult the local fire department for the correct type of extinguisher for different applications.
- Keep outlet covers down while not in use to prevent any debris from becoming lodged within the contacts.
- **DO NOT** lay any output power cable on caustic chemicals or materials.
- Disconnect the vehicle battery(s), and the OEM Electronic Control Module (ECM) from the vehicle wiring harness prior to performing welding repairs on a vehicle. The AuraGen input fuse, input ground wire as well as the temperature sensor and RPM sensor leads need to be disconnected if welding repairs on a vehicle are necessary.

! WARNINGS

Exhaust Gases Are Deadly

- Provide proper ventilation of the vehicle's exhaust. Inspect the exhaust system regularly for leaks and to ensure that the exhaust manifold(s) is (are) secure and not warped. Do not use exhaust gases to heat the passenger compartment.
- If the vehicle is parked in an enclosed area, you should provide proper exhaust ventilation to the exterior of the building or facility.
- Never sleep in any vehicle with the engine running.

Moving Parts Can Cause Severe Personal Injury Or Death

- Keep hands, clothing and all other articles away from all moving parts.

Electrical Shock Can Cause Severe Personal Injury Or Death

- Use extreme caution when working with live electrical components. High voltage can cause injury or death.
- **DO NOT** connect the AuraGen Electronic Control Unit (ECU) directly to any building electrical system. Differing voltages between the AuraGen and the utility line create a potential for electrocution or property damage. Connect only using a Manual Transfer Switch, supplied optionally by Aura. Consult a licensed electrician regarding emergency power use. Aura Systems, Inc. recommends use of the AuraGen Manual Transfer Switch.
- Connect only UL approved devices and be sure that the equipment is in good working order.

Special Operational Precautions

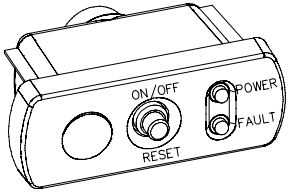
- The vehicle parking brake must be engaged while using the AuraGen in a stationary mode. (See Operating While Stationary on page 6.)
- While driving, apply vehicle brakes firmly to slow or stop during AuraGen operation. (See details on page 10.)

GENERAL OPERATING INSTRUCTIONS

All-AC, AC/DC and All-DC:

The All-AC, AC/DC and All-DC systems all use the standard control panel shown below. The Inverter Charger System (ICS) uses a different control panel which is described on Page 9. Read through the applicable section to become familiar with proper and safe operation of the system installed in your vehicle.

The standard control panel allows you to turn the AuraGen system on or off, reset the system if required, and has red and green LED lights to indicate system and component status.



Standard Control Panel

Vehicles Without Auto Start Option

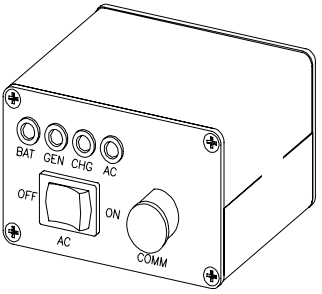
1. The standard control panel is typically located under the dashboard. To turn the system on after the engine is started, on the control panel, momentarily press the OFF-ON switch.
2. Verify that the green POWER LED illuminates. The POWER LED will flash at first as the system engages, then remain on continuously indicating proper operation. Any other sequence of LED illumination indicates a problem with the system. Refer to table on Pages 15 -16.
3. Plug in your electrical or electronic equipment, or power strip, and operate the device according to its operator's manual. Connect only UL approved devices or equipment and be sure that they are in good working order.
4. To turn the system off, momentarily press the **OFF-ON** switch on the control panel.

Vehicles With Auto Start Option

1. The AuraGen Control Panel is typically located under the dashboard.
2. When the engine is started the AuraGen system will automatically start.
3. Verify that the green POWER LED illuminates. The POWER LED will flash at first as the system engages, then remain on continuously indicating proper operation. Any other sequence of LED illumination indicates a problem with the system. Refer to table on Pages 15 -16.
4. Plug in your electrical or electronic equipment, or power strip, and operate the device according to its operator's manual. Connect only UL approved devices or equipment and be sure that they are in good working order.
5. To turn the Auto Start function off, depress and hold the **OFF-ON** button for 3-4 seconds; the green light will turn off.

Inverter Charger System:

The Inverter Charger control panel, typically located under the dashboard, has a two-position switch which allows you to turn the AC power **ON** and **OFF**. It has four LED lights labeled BAT for auxiliary battery(s), GEN for AuraGen, CHG for battery charger, and AC for AC output. All LEDs are system-active dependent and combine to indicate ICS and component operational status. For LED light indications other than those defined as normal, see the Problem Troubleshooting Guide on Pages 17-18.



Inverter Charger Control Panel

Vehicle Engine Running - AC Control Switch Off

The ICS will automatically provide DC power to charge the auxiliary batteries when the engine is started and the ICS has powered-up. The GEN and CHG LED lights will be GREEN, and the BAT light will be GREEN, YELLOW or RED depending on the level of charge in the auxiliary batteries. In this mode the AC output is not ON.

Vehicle Engine Running - AC Control Switch On

In this mode, the ICS will automatically charge the auxiliary batteries and the AC output is ON and supplying AC voltage. In addition to normal charging indications, the AC LED should be GREEN.

Vehicle Engine Off - AC Control Switch Off

All components in the ICS are off. With the vehicle ignition switch turned on, the control panel BAT LED will be GREEN, YELLOW or RED, depending on the charge level of the auxiliary batteries.

Vehicle Engine Off - AC Control Switch On

With the AC control switch ON and sufficient auxiliary battery charge available, the AC output is ON and supplying AC voltage. The AC LED light should be GREEN and the BAT light either GREEN or YELLOW. If the auxiliary batteries have an insufficient level of charge, the ICS will not power up, and the BAT and AC LEDs will be RED. If the battery charge is too low, the engine must be started to charge the auxiliary batteries.

Typical ICS Operation

A typical example of ICS use would be that of a motor home being driven with the AC control switch OFF. While driving, the auxiliary batteries are being charged. If AC appliances were needed, the operator would turn the AC control switch to the ON position, and after a few moments, the system will begin to supply AC power. In this mode the ICS will simultaneously provide power to charge the auxiliary batteries, and by priority, run the AC appliances. When the engine is stopped, the ICS will provide DC power from the auxiliary batteries to the inverter to seamlessly supply the appliances with AC power. When the AC switch is moved to off, the ICS system will power-down and remain in standby operation for 10 minutes.

OPERATION WHILE STATIONARY

1. Park your vehicle in the appropriate position for your application.
2. Place the transmission in park (automatic) or neutral (manual) and **engage the parking brake**. It is also a good idea to use wheel chocks to prevent accidental movement of the vehicle.
3. **When the parking brake is engaged**, the system will automatically default to "stationary" or Park mode. Depending upon the vehicle and engine type, the engine RPM will increase to a constant level similar to engagement of an air conditioning compressor . If the AuraGen is operated at very high power levels for extended periods of time, the engine RPM will increase by up to 200 RPM to compensate for the increase in system temperature. Depending upon the vehicle and engine type, to obtain the maximum power output, it is ***very important*** that the parking brake be engaged when operating in stationary mode.

OPERATION WHILE DRIVING

When the parking brake is not engaged, the system automatically defaults to the "drive" mode. Certain vehicles may have limited power or be disabled in drive mode. In drive mode certain vehicles will have a reduced engine idle from the Stationary Operation Mode while others may have little or no change to the engine idle. The vehicle can be driven normally with little or no impact on drivability.

WARNING: Depending upon the vehicle type, during high power demand, the "feel" of the vehicle may be slightly different when the vehicle is slowed or stopped (such as creeping slowly at a traffic light).

HOW TO OBTAIN SERVICE

Should your AuraGen system ever need service, visit your authorized AuraGen Distributor or Dealer from whom it was purchased. For information on a authorized repair facility near you, please contact AuraGen Customer Service/Product Support at 800-909-AURA. **NOTE: All installation, service and repairs must be performed by an authorized AuraGen installer.** Do not return products without prior authorization. Contact your authorized AuraGen Distributor or Dealer for complete return procedures.

AURAGEN OPTIONAL EQUIPMENT

ITEM NO.	PART NUMBER	OPTIONS	DESCRIPTION
1	900-020	Remote Power Strip	5 kW; 20' lightweight extension with 120 and 240 volt outlets with water resistant covers (AC only)
2	900-021	Remote Power Strip	5 kW; 20' lightweight extension with two 120 VAC, 42 amp outlets with water resistant covers (AC only)
3	900-022	Remote Power Strip	8.5 kW; 20' lightweight extension with 120 and 240 VAC outlets with water resistant covers (AC only)
4	900-040	Manual Transfer Switch	Manual Transfer Switch to allow power from AuraGen to power your home or business.
Please discuss these options and your present and future mobile power needs with your local AuraGen Distributor or Dealer.			

Options 1- 3 - Remote Power Strip:

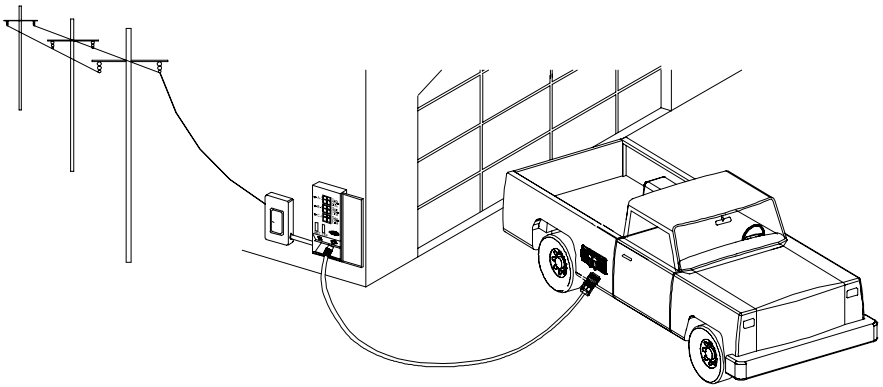
The Remote Power Strip provides power outlets mounted at the end of 20-foot power cables. The extension power cable can be connected by plugging in and screwing the connector at the end of the cable into the ECU.

Option 4 - Manual Transfer Switch:

This includes the Manual Transfer Switch box. This option is very useful when you need to have an auxiliary power source on if commercial power to your home or business is not available. A transfer switch **MUST** be used to couple an auxiliary power source to a house or any building connected to the commercial power grid.

The Manual Transfer Switch eliminates safety concerns by offering an indoor/outdoor, rain tight surface mount box. The double-throw switch action of each transfer switch circuit keeps the AuraGen system isolated from the utility line at all times. This eliminates the danger of backfeeding the utility lines and potentially causing injury to repair crews, as well as preventing utility power from feeding into the AuraGen system, causing property damage or personal injury.

This transfer switch must only be installed by a qualified/licensed electrician who has a thorough knowledge of all applicable electrical and building codes.



PUTTING YOUR AURAGEN SYSTEM TO USE

Your AuraGen System is a useful mobile source of 120/240 volt AC and 14/28 volt DC power, as specified from your AuraGen model. This means, within the limitations of its generating capacity, you can use it to power most electrical appliances, machines, or equipment. Furthermore, the AuraGen is a reliable and clean power source, even better than commercial power. Any type of electrical equipment, digital, diagnostic, as well as power tools can be operated simultaneously. Review the system specifications on pages 19 through 22 to determine your AuraGen system's power output and capabilities.

This means you can use it in a variety of different ways. You can even use the system while driving, making it ideal for emergency or recreational vehicle use. The AuraGen system is also an ideal source of power to run tools at locations that don't yet have commercial power available. The system is a perfect way to bring the convenience of high quality power to remote locations.

Most importantly, your AuraGen system can also serve as a reliable source of emergency power for your home or business in the event of a commercial power failure. For this application, your home or business should be outfitted with the optional AuraGen Manual Transfer Switch (See Optional Equipment on page 10 and 11).

TYPICAL AURAGEN APPLICATIONS

APPLIANCE/TOOL	COMMERCIAL	CONSTRUCTION	HOME	LEISURE
Fresh Air Blower	X	X		
Plastic Pipe Fusion	X	X		
Signboards	X	X		
Water Pump	X	X		
Pipe Threader	X	X		
Large Light Banks	X	X		
AC Welder	X	X	X	
Air Compressor	X	X	X	
Circular Saw	X	X	X	
Electric Drill	X	X	X	
Electric Chain Saw	X	X	X	
Pressure Washer	X	X	X	
Winches	X	X	X	
Paint Sprayer	X	X	X	
Personal Computer	X	X	X	X
Outdoor Trimmer	X		X	
Electric Leaf Blower	X		X	
Air Conditioner	X		X	X
Color TV / Monitors	X		X	X
Freezer	X		X	
Refrigerator	X		X	X
Space Heater	X		X	X
Traffic Signals	X			
Fire/Rescue Equipment	X			
Broadcast Equipment	X			
Laser Measuring Equipment	X		X	X

POWER CAPACITY

While your AuraGen system can serve as a reliable substitute for commercial power, it can only do so within the limitations of its maximum output capacity. For example, the G5000 system provides standby power of up to 6,000 watts with surge capacity of 7,200 watts for 2 seconds. This output is available from 120 volt AC and 240 volt AC circuits. Each 120 volt circuit has a maximum current capacity and is electronically current limited to 21 amps. This means the maximum power load on either 120 volt circuit cannot exceed 2,520 watts. The 240 volt circuit also has a 21 amp current limited maximum current capacity, which means its maximum power load cannot exceed 5,000 watts. Just as a circuit breaker in your house will trip if you connect too

many appliances to any one circuit, the internal electronics in the AuraGen ECU will do the same. Please use caution when connecting appliances/tools that have high start-up amperage. Verify with the manufacturer to make sure the peak current surge will not exceed your specific AuraGen's capabilities.

POWER = VOLTAGE X CURRENT

THUS

CURRENT CAPACITY = POWER / VOLTAGE

Each of the three output circuits can individually supply up to 21 amps of output current, ***but you cannot draw the maximum current from all three output circuits at the same time.*** The total output power from all three circuits cannot exceed the rated output of the G5000 which is 6,000 watts for up to 20 minutes (standby). If your AuraGen model is a G8500, you can produce up to 8,000 watts of AC power continuous or 8,500 watts for up to 20 minutes (standby). When using the AuraGen system, be careful not to overload any of the output circuits individually, or the system as a whole. To determine your AuraGen model's power capabilities, see the AuraGen System Specifications on pages 20 through 28.

If in the event that the ECU automatically shuts down the system because of a prolonged overload, the system can be reset from the AuraGen Control Panel.

WATTAGE REQUIREMENTS FOR TYPICAL APPLIANCES AND TOOLS

APPLIANCE	TYPE	WATTS (RUNNING)	WATTS (STARTING)	APPLIANCE	TYPE	WATTS (RUNNING)	WATTS (STARTING)
Coffee maker	(Typical)	1750	same	Furnace blower	1/8 hp	300	500
Elec. Range	6" element	1500	same	(Gas or fuel oil)	1/6 hp	500	750
	8" element	2100	same		1/4 hp	600	1000
	Oven	6000*	same		1/3 hp	700	1400
Microwave oven		1200	same		1/2 hp	875	2350
Television	B&W	100	same	Garage door opener	1/4 hp	550	1100
(Solid state)	Color	300	same		1/3 hp	875	2300
Radio		50-200	same	Electric blanket		400	same
Air conditioner		3000	varies	Computer		100-250	same
Refrigerator/freezer		800	2300	Portable dehumidifier		650	800
Shallow well pump	1/3 hp	750	1400	Vacuum cleaner		Up to	same
	1/2 hp	1000	2100			2200	
Sump pump	1/3 hp	800	1300	Lights		shown	same
	1/2 hp	1050	2150			on bulb	
Dishwasher	(cool dry)	700	1400	Toaster	(2 slice)	1050	same
	(hot dry)	1450	2900		(4 slice)	1650	same
Cloths dryer	(gas)	700	1800	Hair dryer (typical)		300-1200	same
	(electric)	5750*	7000*	Iron		1200	same
Automatic washer		1150	2300	Electric fan		200	600
Hedge Trimmer		450	900	Lawn edger		750	1500
Leaf blower		600	1200	String trimmer		500	1000
Chain saw		800-1500	3100	Electric drill	1/2"	350-1000	1500
Orbital sander		0	700	Paint sprayer		600	750
Soldering gun		0	same	Circular saw		500-1000	2000
Drain cleaner		300	600	Router		900-1100	2400
Compressor		3000	varies				

GENERAL INSPECTION

Periodically check the AuraGen serpentine belt for signs of wear, fraying, and proper tension. Contact your authorized distributor/dealer if belt shows signs of wear. Also, visually inspect the Electronic Control Unit (ECU) to ensure there is nothing obstructing the airflow around the unit.

PROBLEM TROUBLESHOOTING

Refer to the troubleshooting guides provided on the following pages. The solutions are numbered by the most likely to the least likely. As an example, a Gen Temp Sense Open is more likely to be an open connector before an open sensor.

See pages 16 and 17 for the All-AC, All-DC, and AC/DC systems, and pages 18 and 19 for the ICS.

PROBLEM TROUBLESHOOTING GUIDE - ALL-AC, AC/DC AND ALL-DC

(Continued on Page 17)

POWER LED (GREEN)	FAULT LED (RED)	STATUS INDICATED	CODE	POSSIBLE PROBLEMS AND/OR SOLUTIONS JAN 05
Off	Off	System OFF	0	1. N/A - normal. 2. 12V input cable wiring or in-line fuse problem.
Off	On	H/W, Power, IGBT Fail, or H/W Inverter Overload	177, 178, 179	1. Faulty wiring - R&R bad wiring. 2. Faulty ECU - R&R ECU.
Off	Slow Flash	Self-test Failure	97	1. Faulty ECU - R&R ECU.
Off	Fast Flash	Low RPM During Startup	81	1. Idle Control mechanical linkage not adjusted properly - adjust properly.
On	Off	AuraGen Running OK	224	N/A - normal.
On	On	Lamp Test/EEPROM Mode	208	N/A - normal.
On	Slow Flash	ECU Overtemperature	33	1. Insufficient ventilation - provide ventilation. 2. Cooling fan(s) failure - R&R ECU.
On	Fast Flash	Inverter AC Output Fail	161	1. Faulty ECU - R&R ECU.
Slow Flash	Off	AuraGen Starting-up	240	N/A - normal part of start-up routine.
Slow Flash	On	Over-voltage	66, 67, 69, 70	1. Faulty ECU - R&R replace ECU.
Slow Flash	Fast Flash	RPM Sensor Failure	17	1. RPM sensor not connected - connect sensor. 2. RPM sensor bad - R/R sensor.
Slow Flash	Fast Flash	Low RPM Shutdown	18	1. Loose serpentine belt - tighten belt. 2. Idle control faulty - R/R idle control.
Slow Flash (Alternating)	Slow Flash (Alternating)	AuraGen Overspeed	1	*1. Incorrect pulley ratio. *2. AuraGen rotor exceeded factory speed specifications.
Fast Flash	Off	AuraGen Temp Sense Open	145	1. Temp sense connector not connected - connect. 2. Temp sensor open - R&R AuraGen.
Fast Flash	On	Dump Circuit Fault	129	1. Faulty ECU - R&R ECU.
Fast Flash	Slow Flash	AuraGen Over Temperature	113, 115	1. AuraGen not getting sufficient ventilation - provide additional ventilation.

* Only applicable to All-DC systems.

PROBLEM TROUBLESHOOTING GUIDE - ALL-AC, AC/DC AND ALL-DC

(Continued from Page 16)

POWER LED (GREEN)	FAULT LED (RED)	STATUS INDICATED	CODE	POSSIBLE PROBLEMS AND/OR SOLUTIONS JAN 05
Fast Flash	Slow Flash	Wiring Failure	117, 118	1. Faulty temp sensor - R&R AuraGen. 2. Internal AuraGen wiring incorrect - R&R AuraGen.
Fast Flash	Fast Flash	Inverter 0 or 180 Overload	49, 50	1. Faulty ECU - R&R ECU. 2. External load higher than AuraGen specified.
Fast Flash	Fast Flash	GenB or GenC Over-current	51, 52	1. Service overload - reduce system load.
* Fast Flash	* Fast Flash	* Current Imbalance	53	1. Check all DC cables for proper connection and bolt tightness.

* Only applicable to All-DC systems.

PROBLEM TROUBLESHOOTING GUIDE - ICS (Continued on Page 19)

LED	CONDITION	STATUS INDICATED	CODE	POSSIBLE PROBLEMS AND/OR SOLUTIONS (JAN 05)
GEN [Run]	Green	Normal	None	N/A - normal.
	Yellow	RPM Sensor Failure	ECU=17, 18	1. RPM sensor not connected - connect sensor. 2. RPM sensor bad - R/R sensor. 3. RPM sensor circuit faulty - R/R ECU.
	Red	ECU Hardware Faults	ECU=176-191 ICS=508	1. Power wires wrong or shorted - correct wiring. 2. Faulty ICS - R&R ICS.
	Alternating Green and Yellow - Slow Flashing	Idle Control Failure	ECU=81	1. Idle control mechanical linkage not adjusted properly - properly adjust. 2. Idle control not connected - connect. 3. Idle control defective - R&R idle control.
	Alternating Green and Red - Slow Flashing	AuraGen Over-speed	ECU=01	*1. Incorrect pulley ratio. *2. AuraGen rotor exceeded factory speed specifications. * ECU must be reset at factory and AuraGen must be replaced for safety.
	Yellow Slow Flash	AuraGen Temp Sense Open	ECU=145	1. Temp sense connector not connected - connect. 2. Temp sensor open - R&R AuraGen.
	Yellow Fast Flash	AuraGen Over-temperature	ECU=113	1. AuraGen not getting sufficient ventilation - provide additional ventilation. 2. Faulty temp sensor - R&R AuraGen.
	Alternating Yellow and Red - Slow Flashing	AuraGen Wiring Failure	ECU=115, 117, 118	1. Power wires wrong - correct wiring. 2. Internal AuraGen wiring incorrect - R&R AuraGen.
	Red Slow Flash	AuraGen Over-current	ECU=51, 52	1. External load higher than AuraGen specifications. 2. Faulty ICS - R&R ICS.
BAT	Green	Battery Charge Full	None	N/A - normal.
	Yellow	Battery Charge Partial	None	1. Battery needs charging - turn on engine.
	Red	Battery Charge Low	None	1. Battery discharged - charge immediately by turning on engine.

PROBLEM TROUBLESHOOTING GUIDE - ICS (Continued from Page 18)

LED	CONDITION	STATUS INDICATED	CODE	POSSIBLE PROBLEMS AND/OR SOLUTIONS (JAN 05)
BAT CON'T	Red Slow Flash	Battery Under-voltage	ICS=502	1. Battery Cable not connected or Battery Bus or Battery Sense In-Line Fuse Blown - check and connect it. 2. Battery over discharge - turn on engine and check for proper charging. Otherwise, check voltage across battery and if below 10V, charge batteries from external source or replace battery.
	Red Fast Flash	Battery Over-current	ICS=501	1. AuraGen power cable wiring problem – correct wiring. 2. AC Load over-surge. 3. System internal problem - R&R ICS.
CHG	Green	Normal	None	N/A - normal.
	Yellow	Low or High Voltage Over-temp	ICS=564	1. ICS not properly ventilated - allow sufficient clearance around ICS. 2. Cooling fins clogged - Remove debris. 3. Cooling fan(s) failure - R&R ICS.
	Red	Low or High Voltage Driver Fault	ICS=504	1. Battery, AC or AuraGen wiring problem – check and correct wiring. 2. ICS internal problem - R&R ICS.
	Red Fast Flash	Bus Over-Voltage or Unbalance	ICS=532	1. AC wiring problem - check and correct wiring. 2. ICS internal problem - R&R ICS.
AC	Green	AC Out On	None	1. N/A Normal - AC output on.
	Yellow	ECU Over-temp	33	1. Insufficient ventilation - provide ventilation. 2. Cooling fan(s) failure - R&R ICS. 3. Cooling fins clogged - remove debris.
	Red	AC Out Over-load	ECU=49, 50	1. AC Overload - check load characteristics to be within ICS specs. 2. AC output shorted - check AC output wiring.
	Green Slow Flash	Normal	None	1. N/A Normal - AC output starting up.
	Yellow Slow Flash	ECU Serial Link Error	ICS=516	1. System internal problem - R&R ICS.
	Red Fast Flash	AC Out Fail	ECU=161	1. ICS Internal Problem - R&R ICS.

AURAGEN SYSTEM SPECIFICATIONS

The following specifications define the power output, capacities, and performance of the indicated AuraGen system.

AuraGen System Specification - All-AC

ALL-AC SYSTEMS - 5000 AND 8000 WATT						
			AURAGEN MODELS			
			G5000/G5000M (12 OR 24 VDC VEHICLE)		G8500/G8500M (12 OR 24 VDC VEHICLE)	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	6000 WATTS		8500 WATTS	
		CONTINUOUS POWER	5000 WATTS		8000 WATTS	
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	5000 WATTS		8000 WATTS	
		AC STANDBY (20 MINUTES)	6000 WATTS		8500 WATTS	
		AC SURGE (2 SECONDS)	7200 WATTS		9000 WATTS	
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	42 AMPS	21 AMPS	2 X 33 AMPS	33 AMPS
	AC OUTPUT IN BATTERY MODE / ENGINE OFF	AC POWER	NOT APPLICABLE		NOT APPLICABLE	
		AC SURGE (2 SECONDS)				
		AC VOLTAGE				
		AC CURRENT				
		ENGINE ON-TO-OFF-TO-ON TRANSITION				
		BATTERY DRAW/AC ON/NO LOAD				
		BATTERY DRAW/AC OFF				
		BATTERY DRAW				
	DC OUTPUT	DC POWER	NOT APPLICABLE		NOT APPLICABLE	
		DC VOLTAGE				
		DC CURRENT				
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		12 OR 24 VDC		12 OR 24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	19.27"LX13.5"WX8.52"H		19.27"LX13.5"WX8.52"H	
	WEIGHT	GENERATOR	62 LBS.		65 LBS.	
		ECU	50 LBS.		51 LBS.	
	OPERATIONAL AMBIENT TEMPERATURE RANGE	GENERATOR	-40 ºF TO 180 ºF		-40 ºF TO 180 ºF	
		ECU	-40 ºF TO 120 ºF		-40 ºF TO 120 ºF	
	TYPICAL OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	YES		YES	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		TRANSFER SWITCH	YES		YES	

AuraGen System Specification - AC/DC

AC/DC SYSTEMS - 6000 AND 7000 WATT					
			AURAGEN MODELS		
			G6000D/G6000DM (12 OR 24 VDC VEHICLE)		G7000D/G7000DM (12 OR 24 VDC VEHICLE)
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	5800 WATTS		7000 WATTS
		CONTINUOUS POWER	5300 WATTS		6800 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	2500 WATTS		4000 WATTS
		AC STANDBY (20 MINUTES)	3000 WATTS		4250 WATTS
		AC SURGE (2 SECONDS)	3600 WATTS		4500 WATTS
		AC VOLTAGE	120 VAC		120 VAC
		AC CURRENT (CONTINUOUS)	21 AMPS		33 AMPS
	AC OUTPUT IN BATTERY MODE / ENGINE OFF	AC POWER	NOT APPLICABLE		NOT APPLICABLE
		AC SURGE (2 SECONDS)			
		AC VOLTAGE			
		AC CURRENT			
		ENGINE ON-TO-OFF-TO-ON TRANSITION			
		BATTERY DRAW/AC ON/NO LOAD			
		BATTERY DRAW/AC OFF			
		BATTERY DRAW			
	DC OUTPUT	DC POWER	2800 WATTS		2800 WATTS
		DC VOLTAGE	14 VDC	28 VDC	28 VDC
		DC CURRENT	UP TO 200 AMPS	UP TO 100 AMPS	UP TO 100 AMPS
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ
		VOLTAGE REGULATION	1.5%		1.5%
	VEHICLE BATTERY		12 VDC	24 VDC	12 OR 24 VDC
	DRIVE OPTIONS	ENGINE BELT	YES		YES
		POWER-TAKE-OFF	YES		YES
		HYDRAULIC MOTOR	YES		YES
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W
		ECU	19.27"LX16.8"WX8.52"H		19.27"LX16.8"WX8.52"H
	WEIGHT	GENERATOR	62 LBS.		65 LBS.
		ECU	65 LBS.	58 LBS.	58 LBS.
	OPERATIONAL AMBIENT TEMPERATURE RANGE	GENERATOR	-40 ºF TO 180 ºF		-40 ºF TO 180 ºF
		ECU	-40 ºF TO 120 ºF		-40 ºF TO 120 ºF
	TYPICAL OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM
	OPTIONAL FEATURES	AUTO START	YES		YES
		INTERFERENCE FILTER MODULE	YES		YES
		POWER STRIP	YES		YES
		TRANSFER SWITCH	YES		YES

AuraGen System Specification - G6000D All-DC

ALL-DC SYSTEM - 6000 WATT			
			AURAGEN MODEL
			G6000D/G6000DM 24 VDC VEHICLE
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	-
		CONTINUOUS POWER	5600 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	NOT APPLICABLE
		AC STANDBY (20 MINUTES)	
		AC SURGE (2 SECONDS)	
		AC VOLTAGE	
		AC CURRENT (CONTINUOUS)	
	AC OUTPUT IN BATTERY MODE / ENGINE OFF	AC POWER	NOT APPLICABLE
		AC SURGE (2 SECONDS)	
		AC VOLTAGE	
		AC CURRENT	
		ENGINE ON-TO-OFF-TO-ON TRANSITION	
		BATTERY DRAW/AC ON/NO LOAD	
		BATTERY DRAW/AC OFF	
		BATTERY DRAW	
	DC OUTPUT	DC POWER	5600 WATTS
		DC VOLTAGE	28 VDC
		DC CURRENT	200 AMPS
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	NOT APPLICABLE
		FREQUENCY STABILITY	NOT APPLICABLE
		VOLTAGE REGULATION	NOT APPLICABLE
	VEHICLE BATTERY		24 VDC
	DRIVE OPTIONS	ENGINE BELT	YES
		POWER-TAKE-OFF	YES
		HYDRAULIC MOTOR	YES
	DIMENSIONS	GENERATOR	12.16"DX6.4"W
		ECU	19.27"LX16.8"WX8.52"H
	WEIGHT	GENERATOR	62 LBS.
		ECU	66 LBS.
	OPERATIONAL AMBIENT TEMPERATURE RANGE	GENERATOR	-40 °F TO 180 °F
		ECU	-40 °F TO 120 °F
	TYPICAL OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM
		DIESEL ENGINES	750 TO 3600 RPM
	OPTIONAL FEATURES	AUTO START	YES
		INTERFERENCE FILTER MODULE	YES
		POWER STRIP	N/A
		TRANSFER SWITCH	N/A

AuraGen System Specification - G6000X Inverter Charger

INVERTER CHARGER (ICS) - 5000 WATT						
			AURAGEN MODELS			
			G6000X/G6000XM (12 VDC VEHICLE)		G6000X/G6000XM (24 VDC VEHICLE)	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	6000 WATTS		6000 WATTS	
		CONTINUOUS POWER	5000 WATTS		5000 WATTS	
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	5000 WATTS		5000 WATTS	
		AC STANDBY (20 MINUTES)	6000 WATTS		6000 WATTS	
		AC SURGE (2 SECONDS)	7200 WATTS		7200 WATTS	
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	42 AMPS	21 AMPS	42 AMPS	21 AMPS
	AC OUTPUT IN BATTERY MODE / ENGINE OFF	AC POWER	2500 WATTS		4000 WATTS	
		AC SURGE (2 SECONDS)	3000 WATTS		6000 WATTS	
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT	21 AMPS	11 AMPS	33 AMPS	16 AMPS
		ENGINE ON-TO-OFF-TO-ON TRANSITION	SEAMLESS		SEAMLESS	
		BATTERY DRAW/AC ON/NO LOAD	10 AMPS NOMINAL		8 AMPS NOMINAL	
		BATTERY DRAW/AC OFF	LESS THAN .01 AMPS		LESS THAN .01 AMPS	
		BATTERY DRAW	APPROX. 100 AMPS PER KW		APPROX. 50 AMPS PER KW	
	DC OUTPUT	DC POWER	UP TO 1750 WATTS		UP TO 3500 WATTS	
		DC VOLTAGE	14 VDC		28 VDC	
		DC CURRENT	125 AMPS		125 AMPS	
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		12 VDC		24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	20.75"LX13.5"WX8.52"H		20.75"LX13.5"WX8.52"H	
	WEIGHT	GENERATOR	65 LBS.		65 LBS.	
		ECU	64 LBS.		64 LBS.	
	OPERATIONAL AMBIENT TEMPERATURE RANGE	GENERATOR	-40 ºF TO 180 ºF		-40 ºF TO 180 ºF	
		ECU	-40 ºF TO 120 ºF		-40 ºF TO 120 ºF	
	TYPICAL OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	N/A		N/A	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		TRANSFER SWITCH	YES		YES	

AuraGen System Specification - G8500X Inverter Charger

INVERTER CHARGER (ICS) - 8000 WATT						
			AURAGEN MODELS			
			G8500X/G8500XM (12 VDC VEHICLE)		G8500X/G8500XM (24 VDC VEHICLE)	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	8500 WATTS		8500 WATTS	
		CONTINUOUS POWER	8000 WATTS		8000 WATTS	
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	8000 WATTS		8000 WATTS	
		AC STANDBY (20 MINUTES)	8500 WATTS		8500 WATTS	
		AC SURGE (2 SECONDS)	9000 WATTS		9000 WATTS	
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	2 X 33 AMPS	33 AMPS	2 X 33 AMPS	33 AMPS
	AC OUTPUT IN BATTERY MODE / ENGINE OFF	AC POWER	2500 WATTS		4000 WATTS	
		AC SURGE (2 SECONDS)	3000 WATTS		6000 WATTS	
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT	21 AMPS	11 AMPS	33 AMPS	16 AMPS
		ENGINE ON-TO-OFF-TO-ON TRANSITION	SEAMLESS		SEAMLESS	
		BATTERY DRAW/AC ON/NO LOAD	10 AMPS NOMINAL		8 AMPS NOMINAL	
		BATTERY DRAW/AC OFF	LESS THAN .01 AMPS		LESS THAN .01 AMPS	
		BATTERY DRAW	APPROX. 100 AMPS PER KW		APPROX. 50 AMPS PER KW	
	DC OUTPUT	DC POWER	UP TO 1750 WATTS		UP TO 3500 WATTS	
		DC VOLTAGE	14 VDC		28 VDC	
		DC CURRENT	125 AMPS		125 AMPS	
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		12 VDC		24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	20.75"LX13.5"WX8.52"H		20.75"LX13.5"WX8.52"H	
	WEIGHT	GENERATOR	65 LBS.		65 LBS.	
		ECU	64 LBS.		64 LBS.	
	OPERATIONAL AMBIENT TEMPERATURE RANGE	GENERATOR	-40 ºF TO 180 ºF		-40 ºF TO 180 ºF	
		ECU	-40 ºF TO 120 ºF		-40 ºF TO 120 ºF	
	TYPICAL OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	N/A		N/A	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		TRANSFER SWITCH	YES		YES	

System Specifications

All-AC, All-DC, AC/DC/Engine-Off Inverter Charger
System Product Line and Specifications

			All-AC			
	AURAGEN PRODUCTS		G5000		G8500	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	6000 WATTS	6000 WATTS	8500 WATTS	8500 WATTS
		CONTINUOUS POWER	5000 WATTS	5000 WATTS	8000 WATTS	8000 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	5000 WATTS	5000 WATTS	8000 WATTS	8000 WATTS
		AC STANDBY (20 MINUTES)	6000 WATTS	6000 WATTS	8500 WATTS	8500 WATTS
		AC PEAK (2 SECONDS)	7200 WATTS	7200 WATTS	9000 WATTS	9000 WATTS
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	42 AMPS	21 AMPS	2 X 33 AMPS	33 AMPS
	AC OUTPUT IN BATTERY MODE/ENGINE OFF	AC POWER	NOT APPLICABLE		NOT APPLICABLE	
		AC PEAK (2 SECONDS)				
		AC VOLTAGE				
		AC CURRENT				
		ENGINE ON-TO-OFF-TO-ON TRANSITION				
		BATTERY DRAW/AC ON/NO LOAD				
		BATTERY DRAW/AC OFF				
		BATTERY DRAW				
	DC OUTPUT	DC POWER	NOT APPLICABLE		NOT APPLICABLE	
		DC VOLTAGE				
		DC CURRENT				
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		12 OR 24 VDC		12 OR 24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	19.27"LX13.5"WX8.52"H		19.27"LX13.5"WX8.52"H	
	WEIGHT	GENERATOR	62 LBS.		65 LBS.	
		ECU	50 LBS.		51 LBS.	
	OPERATIONAL AMBIENT OUTSIDE AIR TEMPERATURE RANGE	GENERATOR	-40 ºF TO +200 ºF		-40 ºF TO +200 ºF	
		ECU	-40 ºF TO +125 ºF		-40 ºF TO +125 ºF	
	OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	YES		YES	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		TRANSFER SWITCH	YES		YES	

All-AC, All-DC, AC/DC/Engine-Off Inverter Charger System Product Line and Specifications (cont'd)

			All-DC & AC/DC			
	AURAGEN		G6000D All-DC	G6000D AC/DC		G7000D All-DC
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20	-	5800 WATTS	5800 WATTS	-
		CONTINUOUS	5600 WATTS	5300 WATTS	5300 WATTS	7000 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER	NOT APPLICABLE	2500 WATTS	2500 WATTS	NOT APPLICABLE
		AC STANDBY (20		3000 WATTS	3000 WATTS	
		AC PEAK (2		3600 WATTS	3600 WATTS	
		AC VOLTAGE		120VAC	120VAC	
		AC CURRENT		21 AMPS	21 AMPS	
	AC OUTPUT IN BATTERY MODE/ENGINE OFF	AC POWER	NOT APPLICABLE	NOT APPLICABLE		NOT APPLICABLE
		AC PEAK (2				
		AC VOLTAGE				
		AC CURRENT				
		ENGINE ON-TO-OFF-TO-ON TRANSITION				
		BATTERY DRAW/AC ON/NO				
		BATTERY DRAW/AC				
		BATTERY DRAW				
	DC OUTPUT	DC POWER	5600 WATTS	2800 WATTS	2800 WATTS	7000 WATTS
		DC VOLTAGE	28 VDC	14 VDC	28 VDC	28 VDC
		DC CURRENT	200 AMPS	UP TO 200 AMPS	UP TO 100 AMPS	250 AMPS
	AC POWER QUALITY	TOTAL HARMONIC	NOT APPLICABLE	LESS THAN 2.5%		NOT APPLICABLE
		FREQUENCY	NOT APPLICABLE	50/60 ± 0.15 HZ		NOT APPLICABLE
		VOLTAGE	NA	1.5%		NA
	VEHICLE		12 OR 24 VDC	12 VDC	24 VDC	12 OR 24 VDC
	BATTERY DRIVE OPTIONS	ENGINE BELT	YES	YES		YES
		POWER-TAKE-	YES	YES		YES
		HYDRAULIC	YES	YES		YES
	DIMENSIONS	GENERATOR	12.16"DX6.4"W	12.16"DX6.4"W		12.16"DX6.4"W
		ECU	19.27"LX16.8"WX8.52"H	19.27"LX16.8"WX8.52"H		19.27"LX16.8"WX8.5
	WEIGHT	GENERATOR	62 LBS.	62 LBS.	62 LBS.	65 LBS.
		ECU	66 LBS.	65 LBS.	58 LBS.	58 LBS.
	OPERATIONAL AMBIENT OUTSIDE AIR TEMPERATURE RANGE	GENERATOR	-40 ºF TO +200 ºF	-40 ºF TO +200 ºF		-40 ºF TO +200 ºF
		ECU	-40 ºF TO +125 ºF	-40 ºF TO +125 ºF		-40 ºF TO +125 ºF
	OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM	1200 TO 6000 RPM		1200 TO 6000 RPM
		DIESEL	750 TO 3600 RPM	750 TO 3600 RPM		750 TO 3600 RPM
	OPTIONAL FEATURES	AUTO START	YES	YES		YES
		EMI FILTER	YES	YES		YES
		POWER STRIP	N/A	YES		YES
		TRANSFER	N/A	YES		YES

All-AC, All-DC, AC/DC/Engine-Off Inverter Charger System Product Line and Specifications (cont'd)

		AURAGEN PRODUCTS	AC/DC/ENGINE-OFF SILENT WATCH (INVERTER CHARGER SYSTEM [ICS])			
			G6000X 24 VDC		G8500X 24 VDC	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	6000 WATTS	6000 WATTS	8500 WATTS	8500 WATTS
		CONTINUOUS POWER	5000 WATTS	5000 WATTS	8000 WATTS	8000 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	5000 WATTS	5000 WATTS	8000 WATTS	8000 WATTS
		AC STANDBY (20 MINUTES)	6000 WATTS	6000 WATTS	8500 WATTS	8500 WATTS
		AC PEAK (2 SECONDS)	7200 WATTS	7200 WATTS	9000 WATTS	9000 WATTS
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	42 AMPS	21 AMPS	2 X 33 AMPS	33 AMPS
	AC OUTPUT IN BATTERY MODE/ENGINE OFF	AC POWER	4000 WATTS	4000 WATTS	4000 WATTS	4000 WATTS
		AC PEAK (2 SECONDS)	6000 WATTS	6000 WATTS	6000 WATTS	6000 WATTS
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT	33 AMPS	16 AMPS	33 AMPS	16 AMPS
		ENGINE ON-TO-OFF-TO-ON TRANSITION	SEAMLESS		SEAMLESS	
		BATTERY DRAW/AC ON/NO LOAD	8 AMPS NOMINAL		8 AMPS NOMINAL	
		BATTERY DRAW/AC OFF	LESS THAN .01 AMPS		LESS THAN .01 AMPS	
		BATTERY DRAW	APPROX. 50 AMPS PER KW		APPROX. 50 AMPS PER KW	
	DC OUTPUT *	DC POWER	UP TO 3500 WATTS		UP TO 3500 WATTS	
		DC VOLTAGE	28 VDC		28 VDC	
		DC CURRENT	125 AMPS		125 AMPS	
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		24 VDC		24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS **	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	20.75"LX13.5"WX8.52"H		20.75"LX13.5"WX8.52"H	
	WEIGHT ***	GENERATOR	65 LBS.		65 LBS.	
		ECU	64 LBS.		64 LBS.	
	OPERATIONAL AMBIENT OUTSIDE AIR TEMPERATURE RANGE	GENERATOR	-40 ºF TO +200 ºF		-40 ºF TO +200 ºF	
		ECU	-40 ºF TO +125 ºF		-40 ºF TO +120 ºF	
	OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	550/750 TO 3600 RPM		550/750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	N/A		N/A	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		TRANSFER SWITCH	YES		YES	

G6000Y & G8500Y Series: Same as respective X-Series above with the following exceptions:

1. *DC OUTPUT = Increase to 200A/28VDC; DC Ripple remains ± 100 millivolts RMS
2. **ECU = Decrease to 17"L x 11"W x 8.5"H if Compact (See Y-Series, Fig. 4)
3. ***Weight = Decrease to 48 Lbs if Compact (See Y-Series (Fig.4)

AuraGen/VIPER Single and Dual G8500YC Inverter Charger System Configuration Specifications

			AC-DC/ENGINE-OFF SILENT WATCH [24VDC] (INVERTER CHARGER SYSTEM [ICS])			
		AURAGEN PRODUCTS	SINGLE G8500YC		DUAL* G8500YC	
SPECIFICATIONS	TOTAL POWER	STANDBY POWER (20 MINUTES)	8500 WATTS	8500 WATTS	17000 WATTS	17000 WATTS
		CONTINUOUS POWER	8000 WATTS	8000 WATTS	16000 WATTS	16000 WATTS
	AC OUTPUT IN GENERATOR MODE/ENGINE ON	AC POWER (CONTINUOUS)	8000 WATTS	8000 WATTS	2 x 8000 W	2 X 8000 W
		AC STANDBY (20 MINUTES)	8500 WATTS	8500 WATTS	2 X 8500 W	2 X 8500 W
		AC PEAK (2 SECONDS)	9000 WATTS	9000 WATTS	2 X 9000 W	2 X 9000 W
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT (CONTINUOUS)	2X33 AMP	33 AMPS	4 X 33 AMPS	2X33 AMP
	AC OUTPUT IN BATTERY MODE/ENGINE OFF	AC POWER	3000 WATTS	3000 WATTS	2 x 3000 W	2 X 3000 W
		AC PEAK (10 MINUTES)	4000 WATTS	4000 WATTS	2 X 4000 W	2 X 4000 W
		AC VOLTAGE	120 VAC	240 VAC	120 VAC	240 VAC
		AC CURRENT	33 AMPS	16 AMPS	2 X 33 A	2 X 16 A
		ENGINE ON-TO-OFF-TO-ON TRANSITION	SEAMLESS		SEAMLESS	
		BATTERY DRAW/AC ON/NO LOAD	8 AMPS NOMINAL		2 x 8 AMP NOMINAL	
		BATTERY DRAW/AC OFF	LESS THAN .01 AMPS		LESS THAN 2 x 0.01 AMPS	
		BATTERY DRAW	APPROX. 50 AMPS PER KW		APPROX. 2 X 50 AMPS PER KW	
	DC OUTPUT	DC POWER	UP TO 7000 WATTS		UP TO 14000 WATTS	
		DC VOLTAGE	28 VDC		28 VDC	
		DC CURRENT	250 AMPS		500 AMPS	
	AC POWER QUALITY	TOTAL HARMONIC DISTORTION	LESS THAN 2.5%		LESS THAN 2.5%	
		FREQUENCY STABILITY	50/60 ± 0.15 HZ		50/60 ± 0.15 HZ	
		VOLTAGE REGULATION	1.5%		1.5%	
	VEHICLE BATTERY		24 VDC		24 VDC	
	DRIVE OPTIONS	ENGINE BELT	YES		YES	
		POWER-TAKE-OFF	YES		YES	
		HYDRAULIC MOTOR	YES		YES	
	DIMENSIONS	GENERATOR	12.16"DX6.4"W		12.16"DX6.4"W	
		ECU	17"LX11"WX8.5"H		[2X] 17"LX11"WX8.5"H	
	WEIGHT	GENERATOR	65 LB		2X 65 LB	
		ECU	48 LB		2X48 LB	
	OPERATIONAL AMBIENT OUTSIDE AIR TEMPERATURE RANGE	GENERATOR	-40 ºF TO +200 ºF		-40 ºF TO +200 ºF	
		ECU	-40 ºF TO +130 ºF		-40 ºF TO +130 ºF	
	OPERATIONAL ENGINE SPEED	GAS ENGINES	1200 TO 6000 RPM		1200 TO 6000 RPM	
		DIESEL ENGINES	750 TO 3600 RPM		750 TO 3600 RPM	
	OPTIONAL FEATURES	AUTO START	N/A		N/A	
		EMI FILTER MODULE	YES		YES	
		POWER STRIP	YES		YES	
		SALTWATER FORDING	YES		YES	

Note: 130°F ambient air testing by Army Aberdeen Test Center; 140°F will be goal.

***Dual Generator configuration can be two generators as Side-by-Side (SBS) Generator set on engine or as Tandem Generator (TANGEN) set driven off single pulley: 13.66”Lx12.13”D (+2.47” Locally at Junction Box), Uncoated**

AURAGEN® LIMITED WARRANTY

Aura Systems, Inc. ("Aura") warrants to the end user that this product shall be free from defects in materials and workmanship for three (3) years starting from the date of initial installation, but starting no later than six (6) months from the date of product being shipped from Aura Systems, Inc. Engine components such as pulleys, tensioners, belts, etc', would be under warrany for 18 months from the date of installation, but starting no later than six months from the date of product being shipped from Aura Systems, Inc. Should a defect covered by this warranty occur during the warranty period, Aura will repair or replace, at its option, any part that is proven to be defective in material or workmanship under normal use during the applicable warranty time period. Warranty repairs and replacements will be made without charge for parts or labor. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

Warranty Service or Repair:
If the end user experiences problems with the product, stop use immediately and contact the nearest authorized AuraGen dealer.

Owner's Responsibility:
Retail purchaser is obligated to operate and maintain the AuraGen in accordance with the instructions published in the Owner's Manual and supplemental literature provided to them by their AuraGen dealer. Retail purchaser is responsible for costs associated with the operation and maintenance of their AuraGen system. Failure to properly maintain the AuraGen and related systems may cause or substantially contribute to component damage. Such damage is not covered by this limited warranty.

Normal Wear:
The AuraGen is designed to operate in an under-the-hood engine environment. The service life of the AuraGen is dependent on the care it receives and the conditions under which it operates. Certain environments which are, among others, extremely corrosive, may cause excessive wear which in turn may cause premature component failure. Such excessive wear is not covered by this warranty.

Return Procedure:
Contact your authorized AuraGen dealer for complete return procedures.

Warranty Limitations:

This warranty shall not apply if this product: 1) is used with products other than described in your Owner's Manual and supplemental literature; 2) is modified or tampered with; 3) is damaged by negligence, accident, unreasonable use, or by other causes unrelated to defective materials or workmanship; 4) has had the serial number altered, defaced, or removed; 5) This warranty only covers the first retail purchaser and the vehicle which the AuraGen system was originally installed; or 6) product has not been installed by an certified AuraGen installer. This warranty is void if the AuraGen system is new materials, production methods and design refinements may be introduced into existing models without notice. For this reason, your AuraGen may differ in some respect from its published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.

DISCLAIMER OF IMPLIED WARRANTIES AND LIMITATIONS ON DAMAGES:

UNLESS CONSIDERED UNENFORCEABLE OR UNLAWFUL UNDER APPLICABLE LAW, AURA EXTENDS LIMITED EXPRESS WARRANTIES SOLELY TO END-USERS OF ITS PRODUCTS AND NEITHER AURA, ITS AFFILIATES, SUBSIDIARIES, OR SISTER COMPANIES (FOR PURPOSES OF THIS PARAGRAPH, COLLECTIVELY, "AURA") MAKE, NOR DOES THE END-USER RECEIVE, ANY WARRANTIES, REGARDING ANY PRODUCTS OR MERCHANDISE ORDERED BY, SOLD TO, OR RECEIVED BY THE END-USER EXCEPT AS EXPRESSLY SET FORTH HEREIN. AURA OR ITS SUPPLIERS WILL NOT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCTS OR MERCHANDISE.

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This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

This warranty is valid only in the United States and Canada.

AURAGEN

AURA®

SYSTEMS INC.

1310 E. Grand Ave., El Segundo, CA 90245
Phone: 310-643-5300 Fax: 310-643-7457 Toll Free: 800-909-AURA
Web Site: www.aurasystems.com