



YOUR PATH TO POWER



GENERLINK™ AND YOUR GENERATOR

www.generlink.com

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ABOUT GENERLINK



Plugging your generator into GenerLink gives you a safe and easy way to connect a generator to your home during those unexpected power outages.

During a power outage, **more inconvenience** is the last thing you want or need. The first thing you want is GenerLink installed behind your home's electric meter. With GenerLink, using your portable generator is easy and safe. Turn off appliances on your breaker panel, plug your generator into GenerLink, start your generator and turn on your appliances from your breaker panel.

GenerLink + your generator = **YOUR PATH TO POWER**

No more hazardous extension cords. No need for expensive installation of a transfer switch and sub panel. No more dangerous backfeed. GenerLink is designed with you, the homeowner, in mind. This device is installed behind your electric meter by your electric utility technician in less than 30 minutes. No need to be home for installation, no need to rewire your home. With GenerLink, you plug in your portable generator and turn on the appliances you need. It's that easy, that safe and that convenient; it's **YOUR PATH TO POWER**

GenerLink Eliminates Transfer Switch?

GenerLink eliminates the need for a transfer switch and sub panel. A transfer switch and sub panel require rewiring of the household electrical system and limit the number of circuits that can be powered by the portable generator. GenerLink offers several advantages over traditional a transfer switch and sub panel:

1. GenerLink is installed outside your home at the electric meter in less than 30 minutes by a utility technician. And, in most cases, you do not need to be at home for the GenerLink installation. By comparison, to install a transfer switch and sub panel, you will need an electrical permit and you will have to hire a licensed electrician. Installation can often take about two to three hours and may require re-wiring your home's electric system.
2. With GenerLink, you have the flexibility of selecting the appliances you want to run from your home's breaker panel, up to the capacity of your generator. Transfer switches and sub panels limit the number and size of appliances you can operate.
3. Since GenerLink uses your existing breaker panel, you can operate any 120-volt appliance and most 240-volt appliances. Your well pump, water heater, sump pump, electric range and clothes dryer are just some of the appliances that can be operated with GenerLink. Many transfer switches and sub panels are limited to one or two 240-volt circuits rated at 15-amps or 20-amps. Heavier loads requiring 30-amps, such as hot water heaters and electric ranges require more expensive transfer switches/sub panels. GenerLink gives you flexibility and more appliance options than any other interconnection device currently on the market.



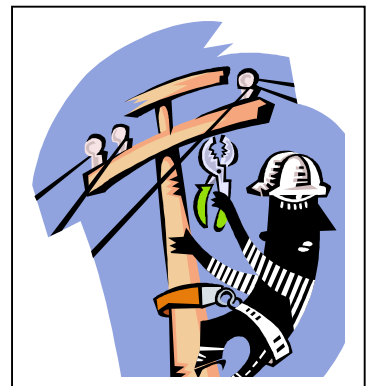
GenerLink Eliminates Extension Cords

With GenerLink and your portable generator, you eliminate the hazards of running extension cords. Most homeowners do not own an extension cord that is long enough and made of the appropriate gauge wire to connect to their portable generators. Typically, extension cords are used to power multiple appliances. A potentially hazardous situation can occur if an overloaded extension cord overheats. This can cause a fire. In other instances, an extension cord that is too long may result in a voltage loss that could damage expensive appliances. Many appliances such as sump pumps, well pumps, furnaces and hot water heaters are direct-wired and cannot be connected via an extension cord to a portable generator. You should never attempt to rewire these appliances yourself. GenerLink provides you with the safety you need and want for yourself and your family.



GenerLink Prevents Backfeed

GenerLink makes using a home generator safe for you and your utility by preventing dangerous backfeed. Backfeed is a condition in which electricity from a generator flows back into the utility's electric distribution system through the home's breaker panel. Back feed can damage equipment or injure utility workers. Back feed occurs if your home is not properly disconnected from the utility grid before using a generator. GenerLink automatically disconnects a home from the utility's electric distribution system when you are operating your generator, eliminating backfeed. GenerLink has undergone extensive safety and reliability testing and is recognized by utilities across the country as a safe, automatic and appropriate method for preventing backfeed from a portable generator.



GenerLink Provides Homeowners with Flexibility

With GenerLink, you can operate virtually any electric load/appliance in your home up to your generator's capacity – just not all at the same time. You can only get this kind of flexibility and peace of mind with GenerLink.

Both extension cords and transfer switches and sub panels limit your ability to operate many of the appliances you may need during a power outage. Appliances wired through your household breaker panel, such as your furnace, hot water heater and many lights cannot run using extension cords or many transfer switches and sub panels. GenerLink provides the flexibility to run these loads from your portable generator.

FOR MORE INFORMATION, PLEASE READ THE FOLLOWING SECTIONS ON:

[About Generators](#)
[About Power Cords](#)
[About Surge Protection](#)
[Appliance Usage Guide](#)
[Appliance Worksheets](#)
[Frequently Asked Questions](#)
[Glossary of Terms](#)

ABOUT GENERATORS



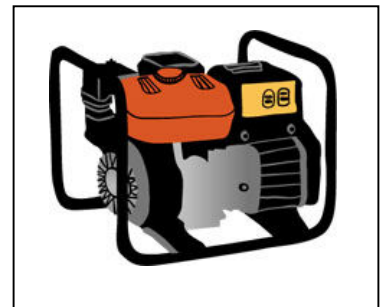
During a power outage, portable generators can provide your home with electricity. GenerLink is designed for use with most portable generators. Most American homes are wired for electric service of 200-amps or less. GenerLink is currently rated to be connected to homes with electric service rated at 200-amps or less. To use GenerLink, **you must have a generator that has a four-wire 120/240-volt outlet with maximum rating of up to 50-amps.** If your generator has a four-wire 120/240-volt outlet rated at 20-amps, you can still use GenerLink, but you will limit the number and size of appliances you can power.

What Kind of Generator Do I Need?

There are a wide variety of portable generators that are currently available for customers to purchase. Some are more suitable than others for connecting to your house.

When selecting a generator to connect to your house, you should ensure that the generator:

- will not damage sensitive electronic appliances/equipment,
- provides the capability to start large motor loads such as a well pump, if needed,
- has a 120/240-volt connector(s) and
- has the necessary four wire 20- amp, 30-amp or 50-amp receptacle required to connect to GenerLink.



As a guide, GenerLink should be used with a generator that has the following features:

- a peak rating sufficient to start the largest motor you will be running during an outage
- an automatic voltage regulator
- 'low oil' shut down
- 1420, 1430 or 1450 locking receptacles for connecting to GenerLink

GenerLink **is not compatible** with the following generator output receptacles:

- 3 wire 120/240 volt receptacles
- 4 wire 120/240 volt receptacles rated at *more than 50 amps*
- 120 volt only receptacles
- 240 volt only receptacles (not the same as 120/240 volt receptacles)
- 1420 or 1430 straight receptacles

The quality of power produced by a portable generator is also an important factor to consider when selecting your generator. If the voltage output is too low, it could cause motors, such as your refrigerator or furnace motor to overheat. If the voltage output is too high, it could damage sensitive electronic equipment such as your computer or the digital controls on your heating system.

To maximize your generator's power quality, it is recommended that your generator have automatic voltage regulation. Electronic voltage regulation is preferred over capacitor or condenser type regulation in instances where sensitive electronic equipment is being operated.

What Size Generator Do I Need?

During a power outage, GenerLink allows you to select the combination of loads/appliances you want to operate by simply switching breakers in the household breaker panel. This flexibility makes generator sizing easy.

You can purchase a generator of any size providing the generator is equipped with a 20-amp, 30-amp and/or 50-amp connector. **GenerLink is designed to be compatible with 20-amp, 30-amp and/or 50-amp connectors.** GenerLink is not rated to be compatible with larger current outputs and will electronically disconnect if you are generating outputs larger than 30-amps.

If you are purchasing a generator, you will want one that has a large enough capacity to operate your large appliances and appliances with motors. You can always operate other smaller loads/appliances by rotating them on and off as necessary.

For example, if you have a generator with 7200 continuous watts of capacity, you can run the hot water heater (typically 4800 watts) during a power outage by turning off the majority of other household breakers until the water tank heats up. Once the water is heated, shut off the water heater breaker and switch the other household circuit breakers back on.

To determine the loads you can support with a portable generator, you must consider both the "running watt" and the "starting watt" requirements of the loads you want to operate.

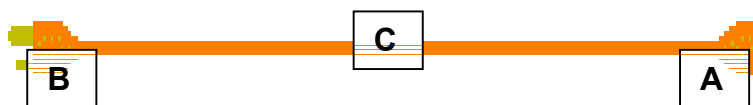
For example, when your furnace motor first starts up, it will require approximately three times more starting watts for a brief 1 to 2 second period than the running watts it needs to operate for extended periods. Your generator must have the capacity to start a motor and keep it running.

To assist you in determining which loads/appliances you can operate using your portable generator refer to the Appliance Usage Guide in this booklet or visit our interactive guide at www.generlink.com/appliance_guide.cfm

For assistance in learning more about portable generator, contact GenerLink at 1-800-886-3837 or visit our web site at www.generlink.com

To connect your portable generator to GenerLink a GenerLok power cord is required. The GenerLok Power cord consists of three components:

- A** a GenerLok™ connector
- B** a connector for your generator
- C** an 10 gauge power cord



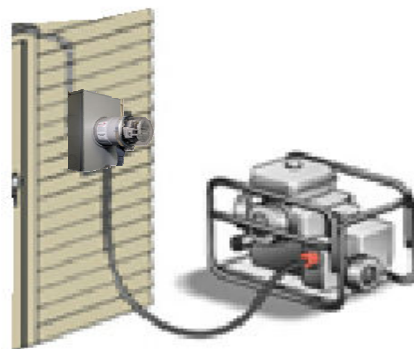
The GenerLok™ Connector:

GenerLink is equipped with GenerLok, a unique connector that allows for quick and easy connection to your portable generator. GenerLok locks in place when connected to GenerLink. NOTE: GenerLok will always be fitted on one end of the power cord.

The Generator Connector:

GenerLink is connected to the generator's 120/240-volt AC receptacle using a GenerLok power cord with the appropriate generator connection. Generators have different types of receptacles depending on the type of generator, the type of power provided and the size of the generator. Some generators are rated for only 120-volt or only 240-volt output; neither are appropriate for powering your home. **If your generator does not have a 120/240-volt AC receptacle, it is not suitable for use with GenerLink.** Check your generator for one of the receptacles shown in Diagram 1. These receptacles are rated for 120/240-volt output, which is what you need to run your home. If your generator does not have one of these receptacles, it should not be used with GenerLink. Your GenerLok power cord will be fitted with a male plug compatible with one of the following generator receptacles

Connection cords are typically 20 to 50 feet long, with a maximum recommended length of 60 feet for a 30-amp circuit. To determine the correct cord length, follow these easy steps:



L14-20 Locking



L14-30 Locking



L14-50 Locking



ABOUT POWER CORDS



Step 1 Select a location for your generator when it is being used with GenerLink. Consult your generator manufacturers owner's manual for instructions on the acceptable placement of your generator.

Step 2 Measure the length of the cord you will need by calculating the distance from the installed GenerLink to your generator, including the vertical distance from the electric meter to the ground.

The length of the power cord should always be as close as possible to the actual measured distance from the electric meter in order to maximize your generator's power quality. Additionally, the power cord must be fully unrolled during use.

NOTE:

The GenerLok power cord is the only power cord approved for use with GenerLink. These connection cords are exclusively available through GenerLink Cord Connections.

APPLIANCE USAGE GUIDE

Equipment	Starting Factor	Running Wattage (avg.)
Water Heater (50 gallon)	1	4500-5000
Portable Heater with fan	2	500-1500
Furnace Fan (Central) - 1/4 HP	3	400
1/3 HP	3	450
1/2 HP	3	600
Computer	1	200
Fax Machine	1	50-1000
Space Heater	1	500-1500
Refrigerator/Freezer	3	750
Home Security System	1	200
Lights	1	40-150
Range w/Oven	1	12200
- Small Burner	1	1300
- Large Burner	1	2400
Garage Door Opener - 1/3 HP	3	750
- 1/2 HP	3	1050
Well Pump - 1/3 HP	3	750
1/2 HP	3	1000
3/4 HP	3	1500
Submersible Sump Pump - 1/2 HP	3	1000
Electric Heat Pump	3	6000
Central A/C 3 ton	3	6000
Dishwasher w/o hot water	2	1200
Television	1	150-400
Radio	1	70-200
Microwave	1	600-1500
Coffee maker	1	750-1200
Toaster	1	1100
Hair Dryer	2	600-1400
Washing Machine w/o Hot Water	2	1000
Clothes Dryer	2	4850
Air Cleaner	2	50
Dehumidifier	2	840
Humidifier	1	177
Vacuum Cleaner	1	800

Notes to Appliance Usage Guide

The equipment wattages on the Appliance Energy Guide are estimates. The estimated wattage required for your appliances can be easily calculated. (*NOTE: 1 kW=1000 watts; 2 kW=2000 watts and so on.*) The formula for finding wattage is: Volts x Amps = Watts (running). Always use starting factor when calculating electrical load requirements for your generator. Select the appliances you want to operate and add the starting wattages together to determine if they can all be operated at the same time without exceeding the capacity of your generator. *NOTE: individual circuit breakers on your breaker panel may control more than one appliance.* Always determine which appliances/loads are connected to specific breakers.

Worksheet Instructions

Write down the maximum and continuous wattage output ratings for your generator in the boxes marked A. From the Appliance Energy Guide, select the appliances that you wish to operate and write them in column B. For each selected appliance, write its corresponding starting factor and run watts in columns C and D respectively.

For each appliance that you have selected, multiply the starting factor by the run watts and write the results or the load watts in column E. *NOTE: Only items that start simultaneously should be tallied in column D.*

Finally, sum up all of the load wattages for each appliance and lights in column E. Add each appliances load watts and write the number in box G. The number in box G represents the total amount of load you plan to run on your portable generator. Be sure that the total in box G does not exceed the generator size in box A.

Always select a generator that is as large or larger than the estimates for both running and starting wattages.

**VISIT OUR INTERACTIVE WORK SHEET AT
WWW.GENERLINK.COM**

SAMPLE WORKSHEET

A

Generator
(Watts)

Size: 7200

B

C

D

E

Load	Start Factor	X	Run Watts	=	Starting Watts
------	--------------	---	--------------	---	-------------------

Refrigerator	3	X	1000	=	3000
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Sump Pump	2	X	1000	=	2000
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Fan (1/4) Hp	3	X	400	=	1200
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Computer	1	X	200	=	200
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		X		=	
--	--	---	--	---	--

		X		=	
--	--	---	--	---	--

F

Lights	Wattage	Number
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60	X	5	=	300
----	---	---	---	-----

100	X	1	=	100
-----	---	---	---	-----

150	X	0	=	0
-----	---	---	---	---

Total: 6800 G

WORKSHEET

A

Generator (Watts) Size:

B

C

D

E

Load	Start Factor	X	Run Watts	=	Starting Watts
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F

Lights	Wattage	Number
--------	---------	--------

60	X	<input type="text"/>	=	<input type="text"/>
100	X	<input type="text"/>	=	<input type="text"/>
150	X	<input type="text"/>	=	<input type="text"/>

Total: G

TECHNICAL FACT SHEET

GenerLink Specifications and Technical Information

Physical:

Diameter:	6 ½ in.
Depth:	5 ¼ in.
Weight w/o surge:	5 ½ lbs
Weight with surge:	5 ¾ lbs
Socket Style:	Ring or Ring-less, 200 Amp, 4 jaw

Electrical:

Source Compatibility:	200 Ampere or less
Withstand Current:	10,000 Amperes rms symmetrical at .7 - .8 pf, 240 Volts, 60 Hz 6000 Amperes for 6 cycles at .7 - .8 pf, 240Volts, 60 Hz
Generator Input:	7.2kW Continuous [†] , 120/240 Volt for MA23-N/S and 9.6kW 120/240 Volt for MA24-N/S
Connection:	Proprietary GenerLok™ QuickConnect Power Cord [‡]

Operational:

Transfer Type:	Break–Before–Make
Transfer Delay:	2-3 Seconds
Life Cycle:	300,000 Operations
Temperature Range:	-30°C to 60°C External Ambient

Features:

Generator Input Protection:	Generator Input Voltage \geq 200 Volts Supplemental Overcurrent \leq 30 A
Utility Input Protection:	Utility Input Voltage \geq 180 Volts Over-Temperature Trip \geq 105°C
Load Protection:	Integrated Whole-House Surge Protection (<i>Optional</i>)
Status Indication:	Long-life LED indicators show utility power availability and/or fault presence

[†] 3 hours at 25° C/ 77° F ambient

[‡] Sold Separately

HomeGuard Surge Protection Specifications and Technical Information

Nominal Line Voltage:	120/240	
Max Cont. Operating Voltage:	250	
Operating Frequency:	60 Hz	
Total Surge Current:	100000 A	
Max Surge Current Per Mode:	50000 A	L1 - G
	50000A	L2 - G

Circuit Type:	Parallel High Energy
Storage Temperature:	-40° to +160° F (-40° to +70° C)
Operating Temperature:	-40° to +140° F (-40° to +60° C)
Operating Altitude:	Sea Level to 12,000 feet (3,658 Meters)

Performance:

ANSI/IEEE C62.41:	
Category A3 200A	600 V
Category B3 500A	660 V
Category C1 3000A	690 V

EMI/RFI noise rejection:	Up to -20dB
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FREQUENTLY ASKED QUESTIONS

Q. Do I need a generator in order to use GenerLink?

A. Yes. GenerLink is an interconnection device that enables you to connect your portable generator directly to your home's wiring system. During a power outage, your generator becomes your source of emergency back-up power. GenerLink is designed as an alternative to expensive transfer switches and hazardous extension cords.

Q. How quickly can I get GenerLink installed after I order it?

A. In most cases, GenerLink will be installed within two weeks of your placing an order. Contact Bartholomew County REMC for installation schedules. During inclement weather, the GenerLink can be back-ordered for 4 weeks or more based on the demand.

Q. Is there any potential for damage to my appliances?

A. GenerLink is designed to function as an interconnection device and serves to connect your generator to your home. There is no risk of damage to your appliances created by the GenerLink device. You should exercise care when selecting your generator to ensure you are buying a high quality generator.

Q. I want surge protection for my home and appliances, can I still use GenerLink?

A. Yes, REMC offers a whole house surge protector that is installed at the meter, and will work in conjunction with the GenerLink.

Q. Why can't I run my whole house from a portable generator?

A. The appliances in the average home consume relatively low amounts of electricity to operate once they are started. However, many of them require a significant amount of electricity to start up the appliances. Please review the appliance guide to determine the start-up wattage required for individual appliances.

Q. What happens when the utility power is restored and my generator is operating through GenerLink?

A. Your generator continues to power your home until you turn it off. Once you turn off your generator, GenerLink will automatically switch your home back to utility power. GenerLink has a built-in safety feature that prevents back feeding the generator's power into the utility lines, eliminating hazardous conditions for you and for utility service personnel.

Q. What maintenance is required for GenerLink?

A. There is no regular maintenance required for GenerLink.

Q. Does my utility meter continue to run when using GenerLink with my generator?

A. No, your utility meter will only run when the utility is providing electric power to your home. When using GenerLink, with your portable generator, you are automatically disconnected from the utility power supply and will not reconnect until you turn off your generator.

Q. How can I tell when the utility power is restored?

A. There are three indicator lights on GenerLink, one green status light, one yellow status light and one red fault status light. When the green status light is illuminated, utility power is present. This represents a normal condition. The yellow light indicated that the household load is greater than 30 amps. It is normal for the yellow status light to be illuminated while utility power is present. The load must be reduced before the GenerLink unit can be operated with a portable generator. Reduce the load by turning off circuit breakers in the breaker panel. The red status light indicates an abnormal condition exists and GenerLink's safety circuits were initiated. See the owner's manual for more information.

Q. Can I use GenerLink during inclement weather?

A. GenerLink is completely sealed inside the meter socket and does not represent a hazard. However, generators should not be operated during rain or snow unless they are protected from the elements. Please consult your generator manufacturer, distributor and/or owner's manual for instructions on the safe operation of your generator.

Q. What happens if the generator gets overloaded?

A. Your generator should have a circuit breaker that will activate in the event of an overload. If it does not have this feature, it is not suitable for use with GenerLink. If you trip the circuit breaker on your generator, turn off all the household circuit breakers in your breaker panel, reset the circuit breaker on the generator, and restart the generator. Please refer to your generator owner's manual for complete instructions on the safe operation of your generator.

Q. Where should the generator be placed?

A. Remember, generator exhaust gases contain deadly carbon monoxide. The generator should never be operated inside; this includes basements, crawl spaces and/or attached garages. Please consult your generator owner's manual for complete instructions on the safe location for and operation of your generator.

Q. What is a power cord?

A. A power cord consists of a standard GenerLok connector that will attach to GenerLink, a four wire, 10 gauge, heavy duty, outdoor rated, water-resistant wire and an appropriate NEMA connector for your generator. Your generator may have a 20-amp, 30-amp or 50-amp, 120/240-volt output that will require a 20-amp, 30-amp or 50-amp NEMA connector. The length of the power cord should be as close to the actual measured distance from the meter to the generator as possible in order to maintain your generator's power quality.

Q. What is GenerLok?

A. GenerLok is a unique fitted connector, exclusively available for GenerLink. GenerLok allows you to plug your Generator directly into GenerLink without needing a separate interconnection box. GenerLok easily connects to GenerLink and locks the power cord safely in place when GenerLink is being used.

Q. Why do I need a power cord?

A. A power cord is required in order to connect your generator to GenerLink. To use GenerLink, an appropriate power cord fitted with GenerLok must be used. The unit comes standard with a 20' power cord. For longer cords, contact REMC for a price quote. Longer cords will have to be ordered therefore may take longer to receive the unit.

Q. What gauge wire is used to make the cord?

A. 10 gauge wire is used. The cord is heavy duty, outdoor rated fire and water resistant and is appropriate for cords up to 60 feet for a 30-amp circuit.

Q. What if my generator connector does not have a straight or locking 14-20, 14-30 or 14-50 connector?

A. Some generators are fitted with connectors that are not 14-20, 14-30 or 14-50. You may still be able to use GenerLink with your generator.

Q. What happens if I want GenerLink removed from my home?

A. You must contact your utility to remove, replace or repair the GenerLink unit. Whether purchased or leased under a rental/service agreement, GenerLink remains Utility Control Equipment and falls under the jurisdiction of the National Electric Safety Code. Only authorized utility service representatives may have access to GenerLink and your electric meter.

GLOSSARY OF TERMS

Amp (Ampere):	The amount of electricity or current flowing through a wire, similar to the flow of water through a pipe.
Backfeed:	A condition where electricity is being generated from a source outside the utility power grid and is feeding/traveling back into the power lines.
Breakers:	See Circuit Breaker
Breaker Panel:	The main circuit breaker panel (or fuse box) is where all the circuits/fuses connect to the incoming electrical supply line from the utility.
Capacity:	<p>The amount of power, expressed in watts, kilowatts or megawatts, that a device can provide at any given instant</p> <p>OR</p> <p>The maximum load of electricity that equipment can carry.</p>
Circuit:	A continuous loop of current.
Circuit Breaker:	The most common type of "overcurrent protection." A resettable switch that trips when a circuit becomes overloaded or shorts out.
Connection Cord:	An electrical receptacle and plug wired to a length of flexible electrical cord.
Continuous Output:	The amount of power produced continuously as opposed to the maximum output, which can only be produced for short periods of time.
Current:	The rate at which electricity flows, measured in amperes
Electric Panel:	See Breaker Panel
Fuses:	Removable devices that link a circuit at the fuse box. A non-resettable overcurrent device.
Generator:	A machine that converts mechanical energy into electrical energy.
GenerLink:	A five-inch collar-like device installed behind your electric meter, which allows you to easily and safely connect a portable generator to your home's existing wiring system.
GenerLok:	GenerLok is a unique fitted locking connector, exclusively available for GenerLink.

Hardwire:	Process of wiring electric appliances directly into the electric power supply.
Indicator Lights:	GenerLink indicator lights are designed to display power conditions with the GenerLink unit, the utility and the portable generator.
Loads:	A source drives a load. An appliance, component or other device that requires current to operate.
Load Watts:	See Start-up Wattage
Meter:	Any electrical or electronic device used to measure the amount of electricity consumed.
NEMA:	National Electrical Manufacturers Association. A standard, which specifies the electrical connectors used on plug-in equipment.
Overload:	A condition that occurs when the load is greater than the system/device is designed to handle.
Power Outage:	A temporary loss of electric power or temporary disconnection from the electric utility.
Power Cord:	See Connection Cord.
Running Wattage:	The amount of energy necessary to continue running an appliance once it has started.
Sub Panel:	Device used in connection with a transfer switch designed to bypass a breaker panel and limits the amount of load or number of appliances that can be placed on a generator.
Start-up Wattage:	The amount of energy needed to first start an appliance. This amount is usually larger than the running wattage for appliances with motors (refrigerator). It is usually the same for appliances without motors (lights).
Surge:	A power disturbance known also as a transient voltage. OR A brief but extreme burst of energy.
Surge Protection:	Any device designed to limit or eliminate transient voltages from entering power, signal, telephone or data lines.
Transfer Switch:	Used in conjunction with a sub panel. Device installed by a licensed electrician designed to allow interconnection of a portable generator with limited appliance availability.
Utility's Electric Distribution System:	A network of power lines and associated equipment used to transmit and distribute electricity over a geographic area.
Voltage:	Electrical potential or force that causes current to flow through a conductor.
Watt:	A unit that measures the amount of electrical power. <i>watts = volts x amps</i>