LONGEVITY™

Instruction Manual
for
Electrical Plug Selection and Wiring

Warranty

Longevity™ provides a full parts and labor warranty for the Plasma Cutters and Welders we manufacture and sell. Please review the latest warranty information on our website in the terms and policy section.

Plasma Cutters, Welders, and Multi-Purpose Welders (Coverage for Parts and Labor for three years from the purchase date at our facility).

In the event of product failure or malfunction, the purchaser/recipient must contact LONGEVITY™ GLOBAL, INC. to obtain an RMA (return or missing) number and a location of a designated repair facility. The welder, plasma cutter, multi-purpose unit, or any other welding related equipment comes with warranty on all internal components. The torch, cables, power cord, clamps, air regulator, argon regulator, hoses, case, paint, and consumables are not covered under warranty. Packages that are not pre-approved for return, and that do not have an RMA number will be refused and returned to the purchaser/recipient at the purchasers/recipients own cost. The product must be returned in its original packaging, with all accompanying components. Repair or replacement of the defective product will be at our option. The repaired/replaced product will then be returned to the purchaser. LONGEVITY Global, Inc. will cover the return and replacement shipping charges (both ways) for units in need of warranty within and only for the first 30 days from the purchase date. After the 30 days from the purchase date, the purchaser shall be responsible for all shipping and handling costs of returning (both ways) the defective/faulty products for repair or replacement. We are not responsible for lost returns. The labor coverage only applies if the unit is serviced at our facility or one of our authorized dealers. We will not reimburse the labor if your wish to have a third-party or unauthorized repair technicians work on the product.

In Warranty Service

Customers, who own machines that are in warranty and require service, should contact our Warranty Department by email at help@longevity-inc.com to obtain a return authorization code. When doing so, please provide the following information:

Order No.: _____

Date of Purchase: _____

Warranty Period: _____

Out-of-Warranty Service

Customers, who own machines that are out of warranty and require service, should contact us for an estimate at 1-877-566-4462 / 1-877-LONG-INC

Introduction

Danger: Read this manual completely before attempting to wire up or connect your machine to an electrical power source. If you are not properly trained or experienced enough to handle or to wire up high-voltage equipment, contact an electrician to install any electrical outlets or plugs required.

All LONGEVITY™ brand machines sold in the United States operate from one of the following electrical power sources. Keep in mind, Longevity™ machines will detect actual input voltage automatically there is no need to manually switch anything to operate at either 110vac or 220vac – the voltage depends on the way you wire your plug with either a 110vac or 220vac and the voltage also depends on what power your machine is capable of running:

- 110VAC: These machines operate from 100 to 120VAC at 50/60 Hz. For most units, a 15amp breaker will be sufficient. However, Longevity™ recommends a 20amp breaker.
- 220VAC: These machines operate from 200 to 240VAC at 50/60 Hz. Generally, Longevity™ industrial size units are operational on 220vac. Longevity™ recommends a 50amp breaker for 220vac setup. However, a 30amp minimum plug will work with the machine. Generally, our 70-250amp plasma cutters and our WeldPro™ machines can operate only on 220v.
- 110/220VAC Dual Voltage: These machines operate at either voltage indicated above. The ForceCut™ LP-40D, LP-50D, LP-60D and the WeldMax LC-416/516/520D, along with other models that clearly indicate dual voltage capability. If you have any questions about wiring your machine, please ask on our Free Welding Forum or contact a representative.

Unless otherwise indicated, all machines are single-phase. Remember, the same wires are used to connect to a 110-volt system as are used to connect to a 220-volt system. The difference is that in connecting to a 110-volt system, the two hot wires are twisted together and connected to the hot lead. In both cases, the third wire is ground.

Note: The power cord on single-phase machines has one ground wire and two hot wires when connecting to 220vac. For 110vac setup, there will be one ground wire, one neutral wire, and one hot wire. Connecting these wires properly is extremely important. Improperly connected wires will void the warranty, affect personnel safety, and possibly damage your machine and electrical power outlet.

Identifying the Ground wire

Caution: The machine may appear to operate with an incorrectly connected ground wire, but it will not operate properly. Selecting the correct ground wire is important for proper machine operation and personnel safety.

Ground wires on Longevity™ machines are usually one of the following colors:

- The ground wire is a dark green with a yellow stripe.

Clean the ends of the wires to more easily distinguish the colors. The best and safest way to determine which wire is ground is to measure the resistance between the machine chassis and the selected wire, using an ohmmeter. Another method is to check the continuity between the chassis and the wire, using a continuity meter. If the selected wire is ground, the connection between the chassis and the wire will cause the meter to illuminate. If, for any reason, you cannot visually detect the ground wire or do not feel comfortable with your selection, ask an electrician for help.

Identifying the hot wire

For 220vac service, both the brown and blue wire are positive wires. As you may know, 220vac features two hot wires. If you are wiring to 220vac, your blue and brown wires are both hot. The green with yellow in it is the ground.

For 110vac, the brown wire is the positive wire, the blue is the neutral, and the green with yellow in it is ground.

Identifying the neutral wire

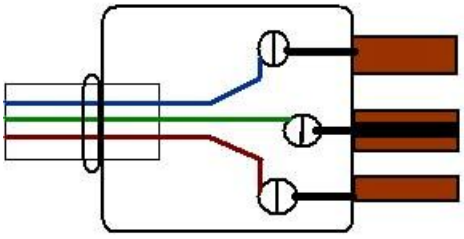
There is only a neutral wire when you are attempting to operate your machine on 110vac. There are no neutral wires for 220vac.

When connecting 110vac, the **BLUE** or **BLACK** wire is the neutral wire.

Connecting interchangeable multiple plugs to allow 110vac and 220vac

If you are in need to operate 110vac and 220vac frequently, you will be able to attach both plugs by running extended 10 gauge wires for each ground and positive or neutral lead. Ideally, you will have two plugs hanging off your power cord. Please keep in mind nothing needs to be switched inside or outside the machine to operate at either 110vac or 220vac. The machine automatically detects which input voltage you are running and will operate properly.

Selecting and Wiring the Plug



LONGEVITY MACHINES have a green or green with yellow lines color ground wire. Ground is the most important wire to connect. Never leave it disconnected. It will save your life.

Also make sure your connections are sound and tight with no fray wires hanging off as they may spark or arc to nearby wires.

You need two pieces of information to help you to find the proper plug for your machine:

- The electrical connection interface required. If you are not familiar with the type of connection interface required, take a picture with a digital camera.
- The amperage rating required by your machine. This information should be in the machine's user manual. Write down this information.

Bring this information with you to the electrical supply or hardware store. If you are not confident that you can select the proper plug for your machine, ask a qualified employee to assist you. If the selected plug does not come with detailed instructions on how to wire it, ask the employee to describe the procedure for you, and take notes if necessary.

A typical single-phase plug is connected as follows:

1. Connect the green with yellow in it ground wire to the plug.
2. For 220vac, connect the two live wires. Generally it does not matter which one goes on which side. As a general rule of thumb it is said to connect blue or black on left and brown on right.
3. For 110vac, connect the blue or black to neutral, brown to hot, and green with yellow in it to the ground.

If, for any reason, you do not feel comfortable wiring up your plug, ask an electrician for help.

Longevity™ Global, Inc. thanks you for your purchase and opportunity to be able to serve you. If, after reviewing this manual, you have any problems in setting up or operating your machine, contact us at help@longevity-inc.com.

Longevity™ Global, Inc.
Toll-Free 1-877-LONG-INC / 1-877-566-4462
Website: www.longevity-inc.com
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Customer Service: help@longevity-inc.com
Dealers: dealers@longevity-inc.com

Please join our welding forums to share welding tips and tricks, to receive useful information from customers who also use our products, and to be a part of the Longevity™ welding community at www.longevity-inc.com/forum or www.freeweldingforum.com