



MLC-4X Master Lighting Controller

C.A.P. offers a full range of equipment for the growing enthusiasts. The MLC-4X allows you to control up to FOUR 1000 watt HID lights from one 30 amp, 120/240 volt power source. The MLC-4X comes with a 120 volt Trigger cable, which will plug in to C.A.P.'s environmental controllers to increase their lighting control capabilities to 4 lights or into a standard 24 hour timer.

CHECKING YOUR BALLASTS

Before making any connection, you should verify the ballasts you plan to run with the MLC are properly internally connected for 120/240 volt operation. Follow the steps below to verify ballast wiring. NOTE: The ballasts must be wired for 240 vac operation. Most ballasts have multiple taps which allow several voltages to be used with the ballast. Please consult your ballast manufacturer if you have any questions about the voltage of your ballast. If you plug in a ballast wired for 120 volts into an MLC, you will burn out your ballast and potentially risk having a fire.

- 1) Disconnect power from the ballast. Allow 5 minutes before continuing to provide time for the voltage to drain from the capacitor.
- 2) Open the ballast cover exposing the ballast core, capacitor and wiring.
- 3) Look for wires coming from the ballast core that are marked 120 volt and 240 volt. If there are no wires with these markings or no spare wires, the ballast is not a "multi-tap" ballast.
- 4) Once you've identified the marked wires, find the ones marked 120 volt and 240 volt. If the 240 volt wire is not connected and the 120 volt wire is connected, the ballast is currently wired for 120 volt operation.
- 5) If the 240 volt wire is connected, the ballast is wired for 240 volt operation.
- 6) Make sure that your ballast power cord plugs match the outlets on your MLC.

POWER & WIRING REQUIREMENTS

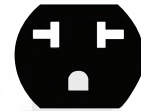
WARNING: Consult a licensed electrician if you do not fully understand these instructions.

- 1) The main 120/240 volt / 30 amp power must be supplied to the MLC using either 10/2 Romex Cable or a 30 amp Dryer or Range Plug cable.
- 2) The user must provide over current protection for the MLC using a 30 amp double pole circuit breaker.
- 3) 30 amps of power require a wire size of at least 10 awg.
- 4) Two wire cable with ground (10/2) is recommended.
- 5) The Ground Wire (copper or green) must be connected to the Aluminum ground lug.
- 6) Make certain that your ballasts are wired for 240 volt!

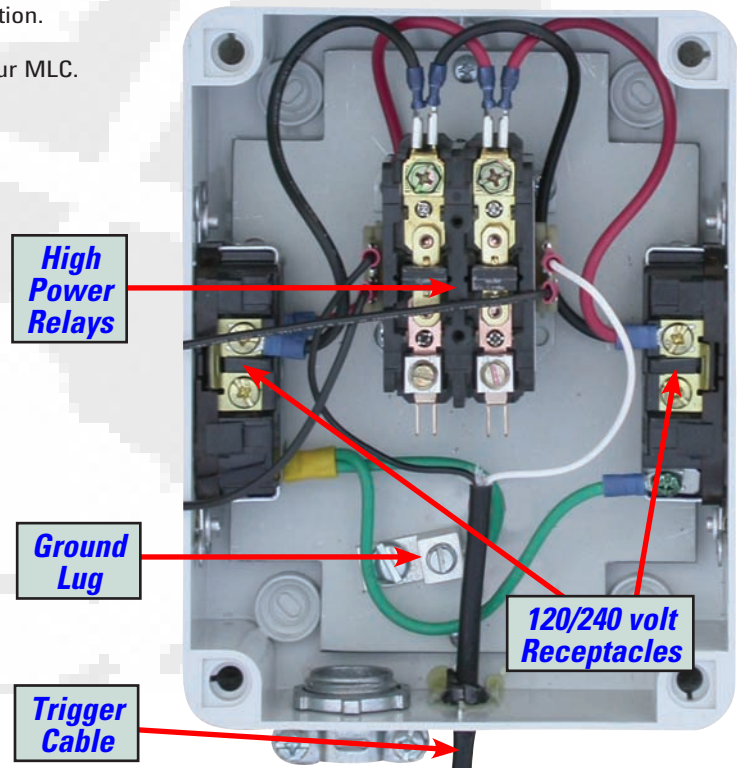
Note: Although this MLC can be wired for 120 volt operation and used in conjunction with a 120 volt ballast, this is not an optimal combination and reduces the number of ballasts that can be ran with this MLC.

CHOOSING THE APPROPRIATE POWER CORD OR CABLE

There are two ways to hook up an MLC to a 120/240 volt power source. The first is using an existing 240 volt range or dryer receptacle with 30 amp service. Make sure that you look carefully at the plug configuration as there are generally 4 that are in use in modern homes. You can buy the correct plug from your local C.A.P. dealer. The second way is to wire 10/2 Romex Cable directly into your circuit box connected to a 30 amp breaker "10/2" designates 10 gauge wire with 2 insulated wires (normally red and black) and an uninsulated copper ground wire. Some Range or Dryer Cables have a white wire. They can be used on the MLC.



Universal X-Plug works with either Nema 6-15 or Nema 5-15



CONNECTING THE MAIN 120/240 VOLT 30 AMP POWER

- 1) Secure the MLC to the wall using appropriate hardware.
- 2) Make sure that all ballasts are disconnected from the sockets on the side of the MLC. Make sure that the Trigger Cable is disconnected from any timers or other outlets.
- 3) Open the MLC by unscrewing the two screws on the left side completely, and unscrewing the two screws on the right side about halfway. The cover will then hinge open.
- 4) Carefully strip the Red and Black wires (power wires) on the Power Cord or Romex Cable 3/8". Pass all of the wires through the strain relief connector on the bottom of the MLC. (See picture below.)
- 5) Connect the copper or green wire (ground) to the Ground Lug. Make sure that you do not remove the existing green wire that is under the ground lug. Tighten securely with a flat bladed screwdriver.
- 6) Connect the Red and the Black power wires to the Aluminum Lugs on the High Power Relay. Make sure the wiring is routed so that it does not obstruct the operation of the relay. Tighten securely with a flat bladed screwdriver.
- 7) **Tighten all of your connections again. Especially the Aluminum Lugs on the High Power Relay! Loose connections will cause extreme heat buildup in the wires followed by arcing. Arcing is NOT covered by the warranty! Tighten your Connections!**
- 8) Resecure the cover on the MLC. Turn on the 240 volt power and test the MLC by plugging in your ballasts to the outlets on the side of the MLC and then plugging in the trigger cable to a standard 120 volt wall outlet. You should hear a mechanical click of the relays closing and your ballasts should turn on.

CONNECTING THE 120 VOLT TRIGGER CABLE

The small cable coming from the MLC is the Trigger Cable. It is a 120 volt signal cable, which will turn on the relays inside the MLC when power is supplied to the plug. Connect it to a timer or the "LIGHT" receptacle on an Xtreme Greenhouse Controller or a Complete Greenhouse Controller to control the MLC remotely

PRECAUTIONS

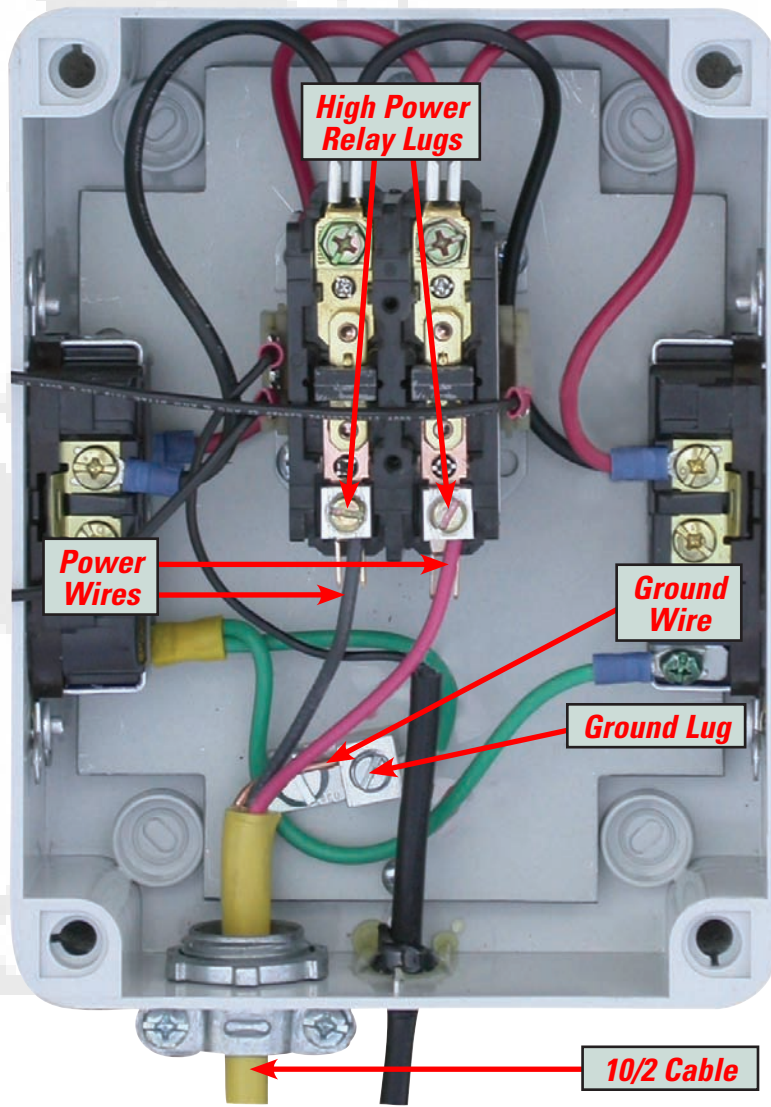
If you do not understand these instructions, please consult a qualified electrician.

WARRANTY

The MLC is warranted against defects in workmanship and parts for Three Years.

SPECIFICATIONS

Trigger Voltage:	120/240 volts
Receptacle Type:	Universal Receptacle that will work with either Nema 6-15 & Nema 5-15
Main Power Voltage:	240 volts
Maximum Relay Amperage:	30 amps
Maximum Wattage:	4000 watts/1000 watts per receptacle
Operating Temperature Range:	32-120° F
Operating Humidity Range:	0-99% RH
Relay Operations (minimum):	100,000 Electrical



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