



MLC-4T & 4aT Master Lighting Controllers

C.A.P. offers a full range of equipment for the growing enthusiasts. The MLC-4T & 4aT allow you to control up to FOUR 1000 watt HID lights from one 30 amp, 240 volt power source. The MLC-4T & 4aT come with a 120 volt "Trigger" cable, and a built in 24 hour Timer. The Trigger Cable can be connected to an HLC-1, 2 or 3 in order to protect your growing area from overheating and your lights from "Hot Starts," increasing the life of your lighting system and bulb.

CHECKING YOUR BALLASTS

Before making any connection, you should verify the ballasts you plan to run with the MLC are properly internally connected for 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 240 volt / 30 amp power must be supplied to the MLC using either 10/3 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 8 awg.
- 4) Three wire cable with ground (10/3) 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!

CHOOSING THE APPROPRIATE POWER CORD OR CABLE

There are two ways to hook up an MLC to a 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 10/3 Romex Cable directly into your circuit box connected to a 30 amp breaker. "10/3" designates 10 gauge wire with 3 insulated wires (normally red, black and white) and an uninsulated copper ground wire. Some Range or Dryer Cables do not have a white wire. They can be used on the MLC.



Nema 6-15
MLC-8a

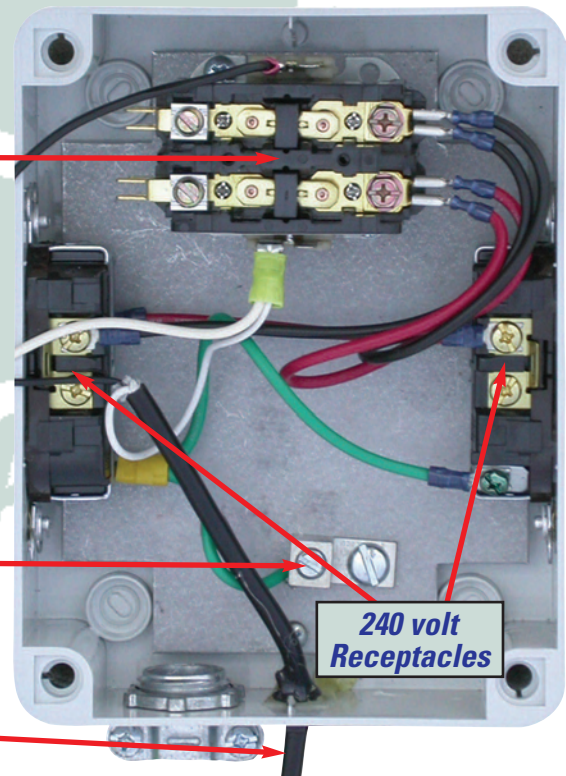


Nema 6-15
MLC-8

High
Power
Relay

Ground
Lug

Trigger
Cable



CONNECTING THE MAIN 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". If available, strip the White (common) wire about 3/4". 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) and the White wire (If used) 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 Bottom 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. Now, set the timer by turning the dial until the correct time is shown next to the triangular arrow on the face of the timer and on the hands on the time. Set the light on time by pushing the pins toward the center of the timer for the time that you want the lights on. 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 provides 120 volt power for the built in timer. The trigger cable can be plugged into an HLC to protect against high temperatures and "hot starts." If you will not be using an HLC, simply plug the trigger cable into a source of constant 120 volt power.

PRECAUTIONS

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

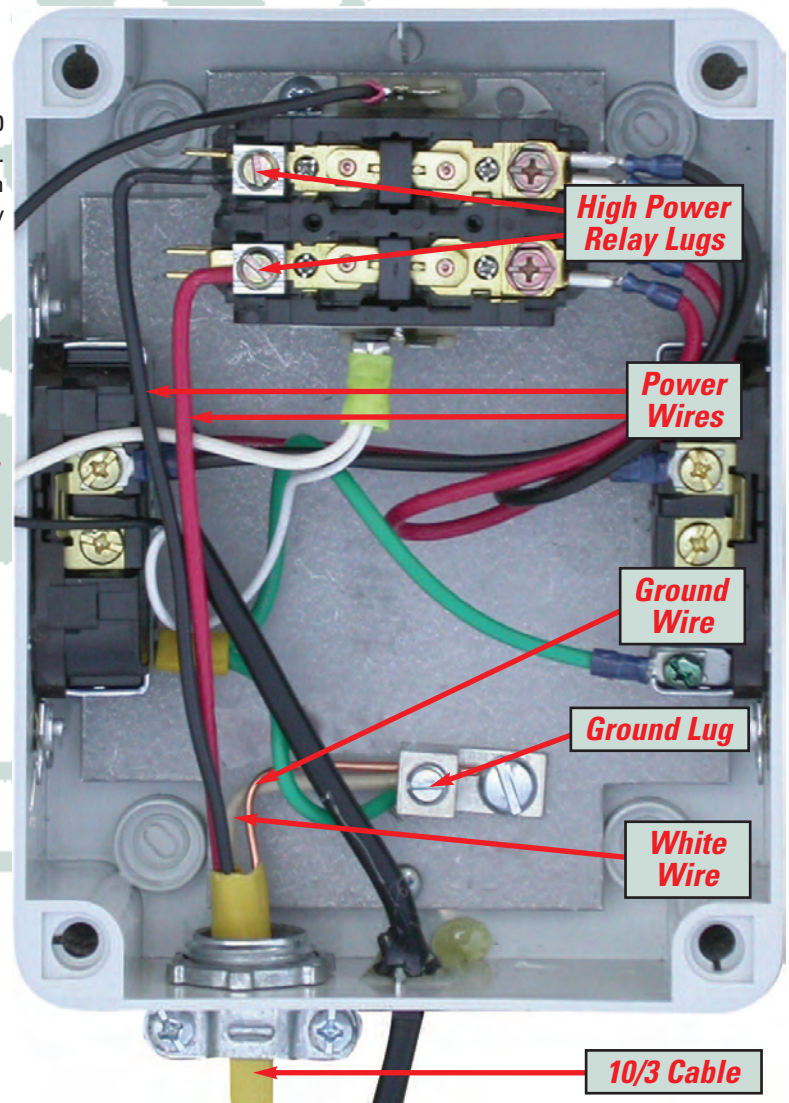
Do not plug in ANY 120 volt devices into the sockets on the side of an MLC-4aT. You will instantly destroy any 120 volt device that is plugged in!

WARRANTY

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

SPECIFICATIONS

Trigger Voltage:	120 volts
Receptacle Type:	MLC-4T: Nema 6-15 MLC-4aT: 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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