

# THANK YOU FOR PURCHASING A PHYTOTRONICS®

## 12A 12 Zone

### AUTOMATIC MISTING CONTROLLER Instruction Manual

4/01



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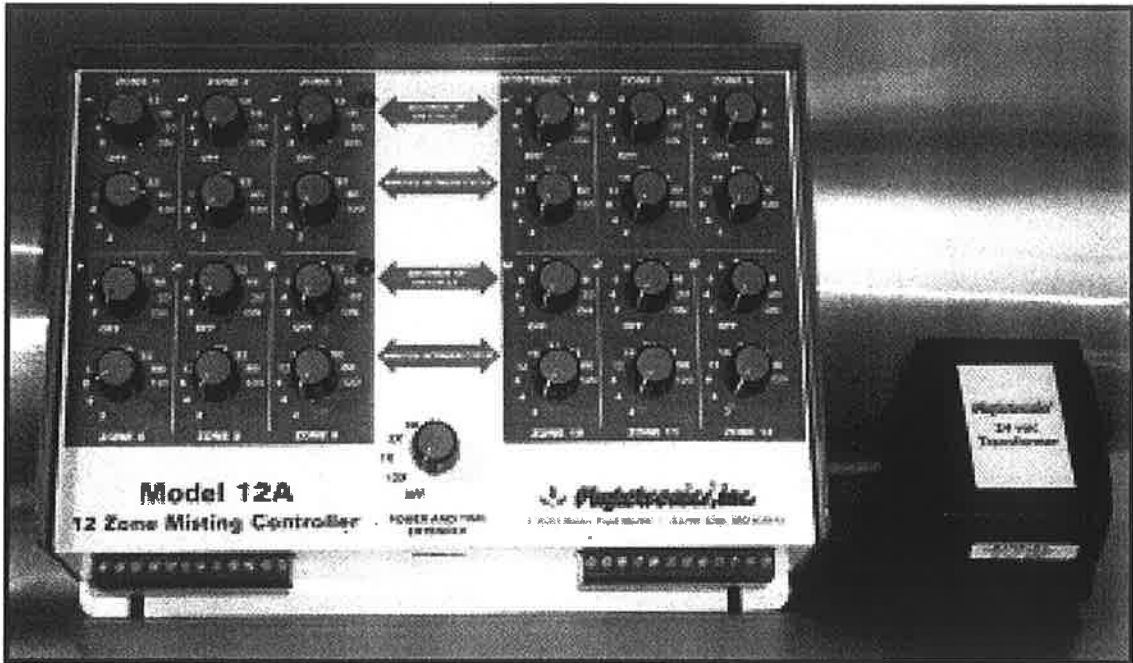
PLEASE READ ENTIRE INSTRUCTION MANUAL (INCLUDING  
LIMITED WARRANTY) BEFORE INSTALLATION.

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# 12A 12 Zone Misting Controllers

12A



## Quick Start Instructions

1. Mount the controller per the instructions on page 7 of the manual.
2. Turn the controller power switch "off".
3. Plug the controller power cord into a grounded outlet.
4. Connect your solenoids to the terminal strip. Example: Zone 1 valve will be wired to positions 1 and 1. Zone 2 will be wired to positions 2 and 2.
5. Turn the controller power switch "on".

## Understanding Your Controller

### "Zone Control Blocks"

Your new Phytotronics® 12A controller has twelve (12) "Zone Control Blocks". Each "Zone Control Block" contains the necessary switches and lights to control the misting operation for that zone. Each "Zone Control Block" contains the following three (3) items: 1) a "Zone On Indicator (LED lamp)"; 2) a "Seconds of On Time" rotary switch; and 3) a "Minutes Between Cycle" rotary switch. The operation of each of these zone controls is described in detail below.



### "Zone On Indicator (LED Lamp)"

The "Zone On Indicator" is a light located at the top of each "Zone Control Block" on your new Phytotronics® 12A controller. The light is an indication that 24VAC power is being delivered to the zone's valve.

### "Seconds of On Time"

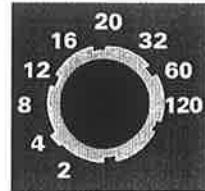
The "Seconds of On Time" switch is located in the top portion of the "Zone Control Block". Rotating the selector switch clockwise will increase the amount of time during which 24VAC output power will be delivered to the appropriate valve. Rotating the selector switch counter-clockwise will decrease the amount of time. "Seconds of On Cycle" selections for the 12A controller are listed below:



<b>MODEL</b>	<b>AVAILABLE SELECTIONS (Seconds)</b>
12A (1/2X)	OFF, 1, 2, 3, 4, 5, 6, 8, 10 and ON
12A (1X)	OFF, 2, 4, 6, 8, 10, 12, 16, 20 and ON
12A (2X)	OFF, 4, 8, 12, 16, 20, 24, 32, 40 and ON
12A (3X)	OFF, 6, 12, 18, 24, 30, 36, 48, 60 and ON

### "Minutes Between Cycle"

The "Minutes Between Cycle" switch is located at the bottom of each "Zone Control Block". Rotating the selector switch clockwise will increase the amount of time between the start of each "On" cycle when 24VAC power is delivered to the appropriate valve. Rotating the selector switch counter-clockwise will decrease the amount of time. The "OFF" position will prohibit any valve operation; while the "ON" position will force the valve into continuous operation. The "ON" and "OFF" positions are considered manual operations. "Minutes Between Cycle" selections for the 12A controller are listed below:



<b>MODEL</b>	<b>AVAILABLE SELECTIONS (Minutes)</b>
12A (1/2X)	1, 2, 4, 6, 8, 10, 16, 30, 60
12A (1X)	2, 4, 8, 12, 16, 20, 32, 60, 120
12A (2X)	4, 8, 16, 24, 32, 40, 64, 120, 240
12A (3X)	6, 12, 32, 36, 48, 60, 96, 180, 360

### "Power Switch"

The power switch is located on the time extender knob. Select a time extender function to turn clock on. Select "OFF" to turn clock off.

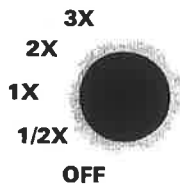
### Self-Resettable Internal Fuse

Each Phytotronics® 12A controller is supplied with a 2 AMP self-resettable internal fuse to prevent damage to the internal circuits as well as to valve wiring and low wattage solenoid valves. The fuse will interrupt all internal power to the controller and the 24VAC power to the valves. Should the 'short circuit' still exist, the fuse will again trip and interrupt service.

**Manufacturer's Note:** Whenever the fuse 'trips' it is recommended that all valves and valve wiring be inspected for 'short circuits'. Excessive tripping of the fuse will shorten its lifetime, requiring fac-

tory service and grower loss of use. Short circuits may be caused by crossed wiring, improper grounding techniques, damaged valves, moisture collection, or an internal controller malfunction.

**"Time Extender Block (Phytotronics® 12A)"**



Phytotronics® 12A controllers are equipped with an additional feature; the "Time Extender". The "Time Extender" is a five (5) position rotary switch which will multiply the "Seconds of On Time" and "Minutes Between Cycle" times by one half (1/2X), one (1X), two (2X), or three (3X), depending on switch position. Selection of the 1X position indicates that the "Seconds of On Cycle" and "Minutes Between Cycle" periods will be as they are marked. Selection of the 2X position of the "Time Extender" will double all time periods, and selection of 3X will triple the time periods.

**Example #1:** With the "Time Extender" set for 3X operation:

Function	Knob Setting Position	Actual Time
"Seconds of On Time"	20 seconds	60 Seconds
"Minutes Between Cycle"	60 minutes	180 Minutes

**NOTE:** Phytotronics® 12A controllers have water-tight, easy-turn switches that endure many years of continued use. Each switch has a fixed stop position at the minimum and maximum selectable time. DO NOT force the switches past the minimum or maximum times available for your model.

**Installing Your Controller**

**CONTROLLER LOCATION:**

Selecting the proper location for mounting your new Phytotronics® 12A controller is important, and there are several guidelines you should follow to insure long and satisfying service.

- 1) **HEAT:** Avoid locations of excessive heat, such as extended exposure to direct sunlight and locations near heaters or boilers.
- 2) **VENTILATION:** Provide adequate ventilation to the controller. Do not mount the controller in enclosed areas. Allow a minimum of 3" clearance on all sides of the unit to allow proper air flow and avoid excessive heating of the unit.

3) **LIQUIDS:** Select a location where the controller is away from direct and continuous flooding from liquids.

4) **POWER:** 24V plug in transformer supplied.

**CONTROLLER MOUNTING:** Your new Phytotronics® 12A controller is supplied with all necessary mounting hardware for a typical installation. For hollow-wall or concrete mounting surfaces, additional hardware may be required to secure the controller properly.

Pre-drill the marked locations with a 1/8" or smaller starter hole. Install the two (2) bottom mounting screws, leaving approximately 1/16" between the head of the screw and the mounting surface. Test fit the controller by inserting the bottom mounting holes over the head of the mounting screws. Loosen or tighten the mounting screws as required, to provide a snug-fit between the controller and mounting surface.

### **Starting Your Controller**

After you have selected and mounted your Phytotronics® 12A misting controller, and wired the solenoid valves, you are ready to begin misting operations. Improper grounding will void the warranty of the 12A controller (See page 11, for correct grounding techniques).

Do Not connect solenoid valves to the controller before verification and trial operation.

**Connecting the 24VAC Power Plug:** Be sure the Phytotronics® 12A controller power switch is in the "off" position. Plug into connector. Ensure the power cord is routed away from walkways and high traffic areas to prevent accidental interruption of power to the controller.

**Turning on the Power:** For first time start-up and an understanding of your new Phytotronics® 12A controller, follow these procedures.

- 1) Turn all of the Zone "Seconds or On Time" selector switches to the desired position.
- 2) Turn all of the Zone "Minutes Between Cycles" selector

switches to the desired time.

3) Turn the "Time Extender" selector switch to the 1X position.

Each controller is put through a "Burn-in" process that checks and verifies all systems are functioning properly before it leaves our "factory". However, circuits may become loose, etc. during shipping or other rough handling. Therefore, it is necessary to be sure that your controller is operating correctly by testing it in the following method. Make sure the green light of zone one lights and valve turns on.

Should the green light not be observed, turn the "Power" switch to the off position. Check the power cord connections and restart the controller. If it still does not work, call Phytotronics®.

The Phytotronics® 12A misting controller will now begin automatic zone cycling. Each Zone light will come on sequentially, indicating that 24VAC power is being supplied to the solenoid valves. If a Zone light fails to come on, or if the Zones fail to sequence properly, check for the proper settings of the "Seconds of On Time" and "Minutes Between Cycle" selector switches.

## **Connecting Solenoid Valves to the Controller**

**Valve Connector:** Solenoid Valves are connected to the 12A controller via a terminal strip located on the bottom right of the controller. Phytotronics® 12A controllers have two 12 position strips for connection of 6 valves per terminal strip. Locate the terminal strip on your controller and familiarize yourself with the positions and markings on the terminals.

The terminal strip accepts 22 thru 12 gauge wire, and will require a slotted screwdriver for wire attachment.

For grounded valves (valves with 3 wires), the ground wire may remain 1) disconnected; 2) connected to a terminal; or, 3) connected to a metal grounding rod or water line.

Always turn the controller Power switch OFF or switch all Zone "Seconds of On Cycle" to the OFF position before connecting valves to the controller. Connecting valves to active Zones may cause power surges which may damage the controller or solenoid valve.

**ON and OFF Control:** Each Zone of the Phytotronics® 12A controller 'Seconds or On Cycle' has two manual operations positions, ON and OFF. ON is a good way to check valve operation or Zone location. OFF provides a means of turning off unused Zones or removing power to the terminal strip when connecting new solenoid valves to the controller.

**Operational Notes:**

Two internal time clocks in the Phytotronics® 12A controllers provide misting control. Both clocks start when the controller power is turned ON.

**Wiring Diagrams for Terminal Strips**

1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
Common	Zone 1	Common	Zone 2	Common	Zone 3	Common	Zone 4	Common	Zone 5	Common	Zone 6	Common	Zone 7	Common	Zone 8	Common	Zone 9	Common	Zone 10	Common	Zone 11	Common	Zone 12



## GROUNDING PROCEDURES FOR PHYTOTRONICS CONTROLLERS

