MINI-MIST
Misting and Irrigation Control

6-9-2020

Control System Installation Procedures

Growmaster Series of Controllers

MINI-MIST Mounting

Mount your MINI-MIST in an accessible location. Make sure the location is free of vibration and in close proximity to devices being controlled. Always consider voltage drop of electrical current when locating the MINI-MIST. Securely mount your MINI-MIST.

Powering the MINI-MIST

Always use stranded wire when connecting cables or conductors to the actual circuit board of the control panel. This will allow flexibility. Use no smaller than #18 gauge stranded wire for all outputs. Use no smaller than the recommended wire size of stranded cable for inputs, generally #22 gauge. *** We would highly recommend using a surge protector when operating your misting controller so that it will stop voltage spikes and surges that could damage you controller, such damage is not covered by your warranty.**

Wire to the AC screws on the transformer. Do not use the ground.

Dip Switches

DIP SWITCHES
Dip Switches, located on the rear panel of the MINI-MIST are numbered from 1-12. Each has an ON and OFF setting (up or down).
Each switch controls a setting for the MINI-MIST system. Refer to page 2 of this manual for correct settings.

IMPORTANT: If any changes are made to Dip Switches, the entire system must be reset.
To reset system: At the same time, hold down the RUN/SET and the VALUE toggle switches (make sure in the down position) until the entire image disappears from the screen (about 10seconds). Release switches. MINI-MIST will reset itself within 5 seconds.

Operation Modes

Prior to any operation, the system user must make the designation of STATION 1 and STATION 2. Each station may be set for Misting or Irrigation. Utilize Dip Switches, located on reverse of panel. Instructions for desired settings can be found on the 'Two Station Watering Controller Dip Switch Settings' page at the end of this manual.

Misting – In the misting mode, the user can define the amount of time a misting cycle will occur during a designated time period. Use Dip Switch settings on reverse of panel.
For example: From 10:00 am to 1:00 pm, the misting operation can be turned on every 'X' minutes for a predetermined amount of time (up to 120 seconds).

Irrigation – In the irrigation mode, the user can define an irrigation starting time and multiple irrigation cycles within that given period.
For example: Irrigation can be turned on at 'X' hour (AM or PM), run for a period of time, and then turn off.
The user can also have the irrigation repeat itself, up to 4 times during a 10, 30, 60 or 90 minute time frame.

DIP SWITCH SETTINGS

Desired Outcome Dip Switch Setting

Station Type - Station 1
If Misting Station 1 Dip Switch #1 = OFF
If Irrigation Station 1 Dip Switch #1 = ON
Station Type Station 2
If Misting Station 2 Dip Switch #2 = OFF
If Irrigation Station 2 Dip Switch #2 = ON
Irrigation Repetitions - Station 1
Allows user to schedule the number of times the Irrigation will occur.
If more than '0', use with dip switches 7 & 8 listed below.
If Irrigating repeats 0 time then Dip Switch #3OFF/#4 OFF
If Irrigating repeats 1 time then Dip Switch #3OFF/#4 ON
If Irrigating repeats 2 time then Dip Switch #3ON/#4 OFF
If Irrigating repeats 4 time then Dip Switch #3ON/#4 ON
Irrigation Off Time - Station 1
Allows user to schedule the amount of OFF time between Irrigation cycles.
If 10 min. desired between Irrigations then Dip Switch #7OFF/#8OFF
If 30 min. desired between Irrigations then Dip Switch #7OFF/#8ON
If 90 min. desired between Irrigations then Dip Switch #7ON/#8OFF
If 120 min. desired between Irrigations then Dip Switch #7ON/#8ON
Irrigation Repetitions - Station 2
Allows user to schedule the number of times the Irrigation will occur.
If more than '0', use with dip switches 9 & 10 listed below..
If Irrigating repeats 0 time then Dip Switch #5OFF/#6 OFF
If Irrigating repeats 1 time then Dip Switch #5OFF/#6 ON
If Irrigating repeats 2 time then Dip Switch #5ON/#6 OFF
If Irrigating repeats 4 time then Dip Switch #5ON/#6 ON
Irrigation Off Time - Station 2
Allows user to schedule the amount of time OFF between Irrigation cycles.
If 10 min. desired between Irrigations then Dip Switch #9OFF/#10OFF
If 30 min. desired between Irrigations then Dip Switch #9OFF/#10ON
If 60 min. desired between Irrigations then Dip Switch #9ON/#10OFF
If 190 min. desired between Irrigations then Dip Switch #9ON/#10ON
Night Misting Adjustments
If no night adjustment then Dip Switch #11 OFF/#12 OFF
If ON time 50% value, OFF time 100% value then Dip Switch #11 OFF/#12 ON
If ON time 25% value, OFF time 100% value then Dip Switch#11 ON/#12 OFF
If ON time 50% value, OFF time 200% value then Dip Switch#11 ON/#12 ON

MINI-MIST Operations

MINI-MIST
The MINI-MIST is a programmable irrigation and propagation greenhouse system, please follow instructions completely to assure proper installation and operation of your MINI-MIST system.

Layout of your MINI-MIST

The MINI-MIST was created for easy user programming. The following will highlight the front panel of the MINI-MIST system. Refer to setting and operation for details

SET – Use this position to program your MINI-MIST or update settings

RUN – After programming times have been established, place toggle to RUN to execute.

VALUE – When in programming (SET) mode, this switch will change the desired values. Value up increases the display while value down decreases the display.

STATION 1 – This toggle will allow the user to view the individual settings for STATION 1.

STATION 2 – This toggle will allow the user to view the individual settings for STATION 2.

LCD DISPLAY – Located in the upper portion of the MINI-MIST, the LCD DISPLAY will visually display the current status of the system. The 'Start Time, Mid Stop Time, and Set Time will be explained later.

Settings and Operations
Follow the settings and operations section to make sure your MINI-MIST system works correctly. Before making any settings, be sure your MINI-MIST system is installed correctly and has power. Please read the entire Settings and Operations portion before beginning programming.

To set MINI-MIST system operations, the RUN/SET and VALUE toggles will be used. *This toggle is a single pull. It will move back to its original position after each throw.* The LCD DISPLAY will display status of each operation.

<u>MISTING</u>

1. Setting Station Timing (if Misting STATION 1)
    Begin Misting Time
    a. Set the hour to begin misting of STATION 1.
        - Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to start time. A flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 misting to begin, use the VALUE toggle switch, up or down.
    b. Set the minute, of the same hour, misting to begin.
        - Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the misting begin.
    c. AM or PM.

- Flip the RUN/SET toggle one more time to SET. An 'A" or 'P' will now flash. Use the toggle to set AM or PM. (Up AM down PM).

Stop Misting Time
d. Set the hour to stop misting of STATION 1
- Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to MIST STOP CLOCK. A flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 misting to stop, use the VALUE toggle switch, up or down.
e. Set the minute, of the same hour, misting to stop.
- Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the misting stop.
f. AM or PM.
- Flip the RUN/SET toggle one more time to SET. An 'A" or 'P' will now flash. Use the toggle to set AM or PM (up AM down PM).

Set Duration of Misting
g. Set duration 'ON' period
- Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 and STOP CLOCK. The word 'ON' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.
- Use the VALUE toggle switch to change to desired length of misting time.(Maximum time length: 120 seconds).
h. Set duration 'OFF' period
- Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 and STOP CLOCK. The word 'OFF' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.
- Use the VALUE toggle switch to change to desired length of time between misting periods.

If misting is to be performed on STATION 2, repeat the above steps. Toggle to STATION 2.

Irrigation

2. Setting Station Timing (if Irrigation STATION 1)
Begin Irrigation Time
a. The hour to begin irrigation of STATION 1.
- Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to start time. A flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 Irrigation to begin, use the VALUE toggle switch, up or down.
b. Set the minute, of the same hour, irrigation to begin.
- Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the Irrigation begin.
c. AM or PM.
- Flip the RUN/SET toggle one more time to SET. An 'A" or 'P' will now flash. Use the toggle to set AM or PM.

Set Duration of Irrigation

      d.   Set duration 'ON' period

- Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 and STOP CLOCK. The word 'ON' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.
- Use the VALUE toggle switch to change to desired length of Irrigation time.(Maximum time length: 120 minutes).
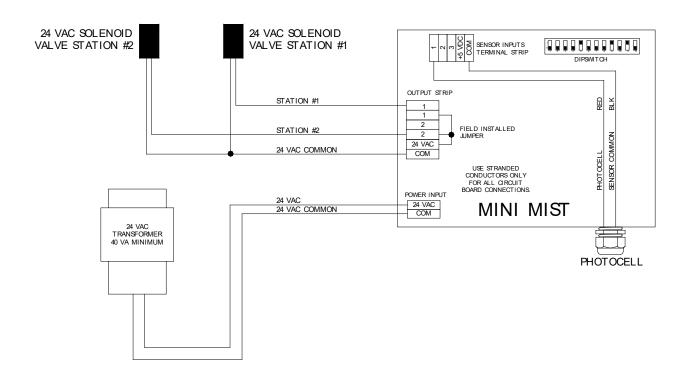
For number of irrigation repeats and time in between repeats see DIP switch settings above.

If Irrigation is to be performed on STATION 2, repeat the above steps. Toggle to STATION 2.

3. **Setting System Clock**

    Setting current time of day

      a.   Setting Hour

- Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to SET CLOCK. A flashing hour will be displayed indicating a random hour of day. To change the hour use the VALUE toggle switch, up or down.

      b.   Set the minute.

- Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute.

      c.   AM or PM.

- Flip the RUN/SET toggle one more time to SET. An 'A" or 'P' will now flash. Use the toggle to set AM or PM.

24 VAC SOLENOID
VALVE STATION #2

24 VAC SOLENOID
VALVE STATION #1

SENSOR INPUTS
TERMINAL STRIP

1 2 3 +5 VDC COM

DIPSWITCH

OUTPUT STRIP

STATION #1

1

1

STATION #2

2

2

FIELD INSTALLED
JUMPER

24 VAC COMMON

24 VAC

COM

RED

BLK

PHOTOCELL

SENSOR COMMON

USE STRANDED
CONDUCTORS ONLY
FOR ALL CIRCUIT
BOARD CONNECTIONS.

POWER INPUT

24 VAC

24 VAC

24 VAC COMMON

24 VAC

COM

MINI MIST

24 VAC
TRANSFORMER
40 VA MINIMUM

PHOTOCELL

LIMITED WARRANTY

Phytotronics Inc. warrants that all of the products Phytotronics Inc. manufactures are free from defects at the time of shipment by Phytotronics Inc. This warranty covers defects in workmanship and materials. No warranty is extended on any parts, materials, or components manufactured by others and purchased by Phytotronics Inc., and any warranty on these materials is limited to the warranty supplied by the original manufacturer or supplier of said products only. This warranty excludes any and all damages cause by installation by unqualified individuals, damage by misuse or neglect, shipment damage, alterations to original manufacturing, and improper installation or use for any reason than intended by manufacturer. This warranty may not be altered in any manner except with the written authorization of one the officers or owners of Phytotronics Inc. The only and sole liability of Phytotronics Inc. under this warranty is limited to repairing, replacing or the issuance of credit for any products returned to Phytotronics Inc., during the warranty period of twelve (12) months from date of shipment. This warranty is specifically conditioned upon Phytotronics Inc. being notified in writing promptly upon discovery of any product defects by the buyer or end user. The product must then be returned prepaid to Phytotronics Inc. within the twelve month warranty period for inspection by Phytotronics Inc. Upon inspection of said product, Phytotronics Inc. will notify buyer or end user of its findings. At Phytotronics Inc. sole discretion, the product will be replaced, repaired or a credit will be issued for the original sale price of the product, provided that damage has not occurred due to misuse, neglect, improper use or installation as outlined above, shipping damages or accident.

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