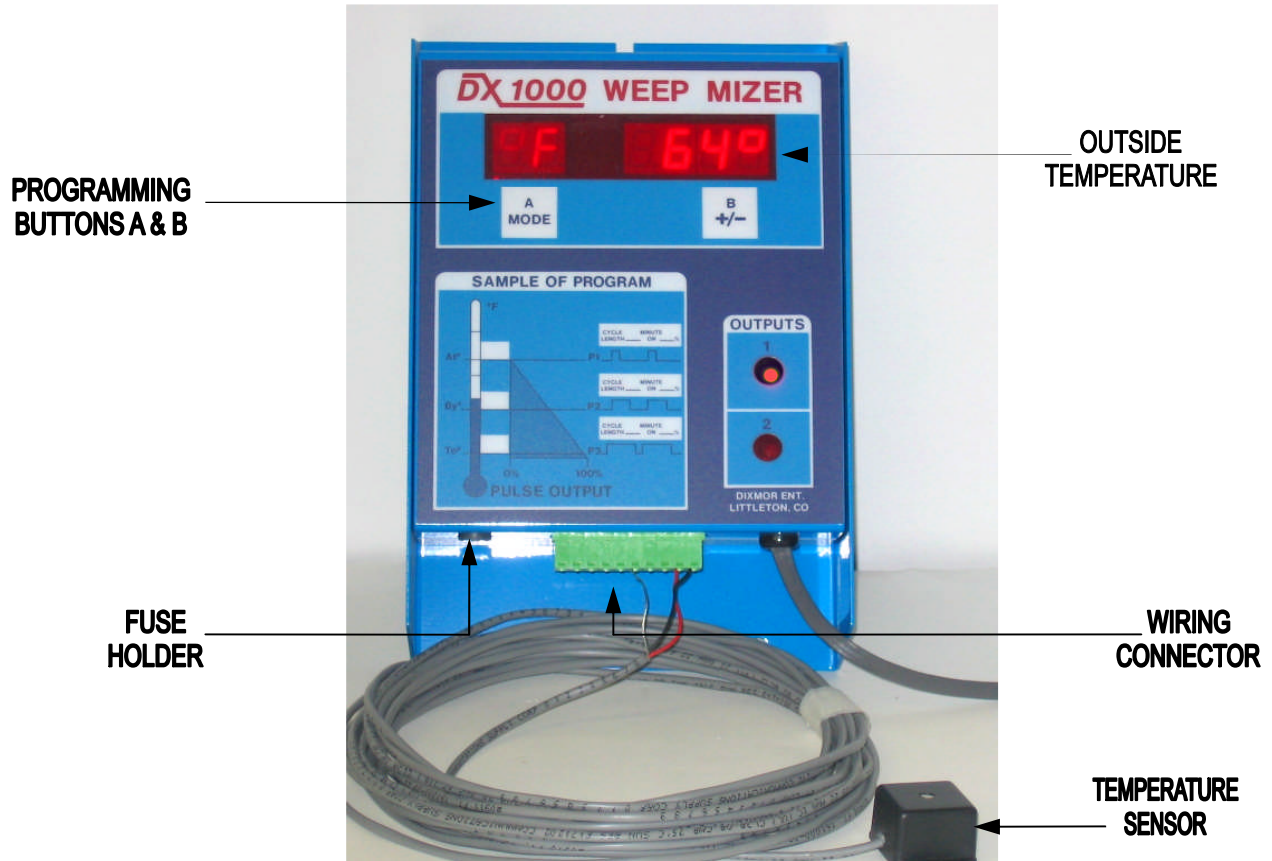


DX1000 WEEP MIZER

INSTALLATION AND OPERATING INSTRUCTIONS



SPECIFICATIONS

Normal Display	Outside temperature (coldest of sensors)
Power Required	120 volt wall outlet
Output Voltage	24 or 120 depending on input voltage
Output 1 Operation	Cycles normally open solenoid off and on
Output 2 Operation	On or off on rise or fall of temperature
Output 1 Cycle Length	Adjustable in 30 second increments
Output 1 Cycle Start Temperature	35° F (operator adjustable)
Continuous Weep Temperature	14° F (operator adjustable)
Sensor Length	25 Ft standard. 50-75-100 ft available
Memory Retention	Long life lithium battery
Maximum Output Load	3 amps
Fuse (protects output circuit)	5 amp maximum
Warranty	Two year limited

INTRODUCTION

The DX1000 WEEP MIZER is a microprocessor controlled system which will automatically cycle your existing normally open solenoid valve (normally closed optional with modification to electronics), depending on outside temperature. When it starts its cycle it only opens your valve for a few seconds and as the temperature drops it automatically increases the amount of time that the valve stays open until it finally opens the valve 100% of the time. The WEEP MIZER also has a secondary output which can be programmed to turn on or off depending on a rise or fall of temperature. You may install temperature sensors in two different locations and the unit will operate from the colder of the two.


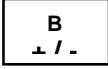
The WEEP MIZER comes preprogrammed with what we refer to as the "fail safe" program. This program was used for development and testing in the Denver area with excellent results and average weep water savings of 65%. The "fail safe" program operates as follows:

Temperature	Cycle Length	% of cycle water runs
35°	1 minute	10% or 6 seconds
25°	1 minute	50% or 30 seconds
15°	1 minute	90% or 54 seconds
14°		100% or full on

As you can see we are using a one minute cycle so that for every degree the temperature drops your water will run approximately two seconds longer.

PROGRAMMING

The DX1000 WEEP MIZER comes programmed from the factory with the "fail safe" program and adjustments are not necessary in most cases. In some instances where there is a long run to the farthest bay, or there are a number of nozzles to weep as may be the case with an automatic, it may be necessary to increase the percentage of cycle time that the water runs at the initial turn on temperature.

Beneath the temperature display are two white squares marked  and .

These are the pushbuttons that are used for programming.

There are five main menu items in the WEEP MIZER. Push the "A" button to advance from item to item and push the "B" button to enter that section. Use "B" button to make any adjustments in that section.

PUSH	DISPLAY SHOWS	REPRESENTS
A	?_ Log	Data storage section
A	?_ Prog	Programming section
A	?_ Out1	Manual operation of output 1
A	?_ Out2	Manual operation of output 2
A	?_ Clr	Used to clear data stored in Log section

LOG SECTION (?_ Log)

PUSH	DISPLAY SHOWS	REPRESENTS
A	?_ Log	Data storage section
B	LO -22°	Lowest temperature recorded since last cleared
A	HI -22°	Highest temperature recorded since last cleared
A	ON 0000	Number of hours water has run since last cleared
A	IF 38°	Average turn on temperature of normal weep system
A	IF 0000	Hours temperature has been below average turn on temperature shown above

PROGRAMMING SECTION (?_ Prog)

PUSH	DISPLAY SHOWS	REPRESENTS
A Two times	?_ Prog	Programming section
B	At 35°	System turn on temperature. Weep cycling starts. (P1)
A	By 25°	Middle set point in program (P2)
A	to 15°	Lowest set point in program (P3)
A	P1 01:00	Cycle length, in minutes, for P1
A	P1 10%	% of cycle P1 that water flows
A	P2 01:00	Cycle length, in minutes, for P2
A	P2 50%	% of cycle P2 that water flows
A	P3 01:00	Cycle length, in minutes, for P3
A	P3 90%	% of cycle P3 that water flows
A	LL -22°	Low limit setting for output 2
A	HL 113°	High limit setting for output 2
A	°F - - °	Normal display showing outside temperature

Any of the above settings can be reprogrammed by using the “B” button while that particular item is being displayed. Press the “B” button repeatedly to increase the number. Hold the “B” button in to decrease the number.

MANUAL OPERATION OF OUTPUTS (?_ Out1 and ?_ Out2)

These sections are used for the manual operation of output 1 and output 2. They enable you to manually turn on or off the outputs for service or troubleshooting.

For output 1:

PUSH	DISPLAY SHOWS
A Three times	?_ Out1
B	IS ON or IS OFF (depending on the state of the output at the time) Use the “B” button to turn the output off or on as required.
A	°F - - ° (normal operation)

For output 2:

PUSH	DISPLAY SHOWS
A Four times	?_ Out2
B	IS ON or IS OFF (depending on the state of the output at the time) Use the “B” button to turn the output on or off as required.
A	°F - - ° (normal operation)

CLEARING THE LOG (?_ Log)

Push the “A” button five times. Display will show ?_ Log. Push and hold the “B” button until display shows “SURE” then “DONE”. All information stored in the log has now been reset.

OUTPUT 2 OPERATION

Output 2 is designed to be an on-off switch. This output is programmed using the LL and HL settings in the programming section. If the temperature is between the LL and HL settings, the output will be OFF. If the temperature is 1° below the LL setting or 1° above the HL setting the output will turn ON and remain on until the temperature rises to 1° above the LL setting or falls to 1° below the HL setting. Should you wish to control output 2 based on a temperature other than the outside temperature, connect a sensor in the number 3 sensor position. Output 2 will then operate using the temperature from that sensor. Output 1 will continue to operate on the outside temperature.

INSTALLATION

Pick a location on your wall that is near a 120 volt outlet and easily accessible.

Mount the sensor outside in a location that is not in direct sunlight or near any light fixtures. We recommend mounting the sensor on an angle bracket at least 3 inches from the wall on the north side of your building. Sensor should NOT be mounted to the equipment room wall due to the heat that leaks through the walls. If you cannot get to the north side of your building or far enough away from any heat sources we recommend using two sensors, one mounted on the east side and one mounted on the west side. The WEEP MIZER will operate off the colder of the two sensors.

DO NOT attach sensor wire to any conduit as that can cause erratic temperature readings.

The sensors are sealed against normal rain and etc. but should not be submersed in water.

The green connector is designed so that it can only be plugged in one way. However, there is always the possibility that it may be plugged in backwards. If you should plug the connector in backwards it will damage the unit beyond repair and void the warranty. BE CAREFUL. When installed, the screw heads should be facing away from you.

When installing the wires into the connector be careful not to strip too much insulation from wire, 1/4" maximum. Also be sure that all strands of the wire are fully in the proper slot and not shorted to the wire next to it.

MINIMUM 18 GAUGE WIRE MUST BE USED FOR ALL POWER
WHATEVER VOLTAGE YOU PUT INTO 9 AND 10 WILL DETERMINE OUTPUT VOLTAGE
PINS 6 AND 10 ARE CONNECTED INTERNALLY AND SHOULD BE NEUTRAL ON 120 VOLT
ALL BLACK SENSOR WIRES MUST BE CONNECTED TO SLOT 1
ALL BARE SENSOR WIRES MUST BE CONNECTED TO SLOT 5

TROUBLESHOOTING

Problem	Cause	Solution
Temperature reads high ¹	Sensor is picking up heat from an external source	Relocate sensor
	Sensor is defective	Replace sensor
Temperature reads low	Unit needs recalibrated	Return unit for service
	Sensor is defective	Replace sensor
Temperature reads -22° or 112°	Sensor is defective	Replace sensor
	Unit is defective	Return unit for service
Weep runs continuous (output light is on) ²	Fuse is blown in unit	Replace fuse (5 amp maximum) ³
	Solenoid valve is stuck open	Take valve apart and clean
	Component failure in unit	Return unit for service
Weep runs continuous (output light is off)	Unit needs reset	Unplug unit from wall and plug back in
	Programming is scrambled	Reprogram unit

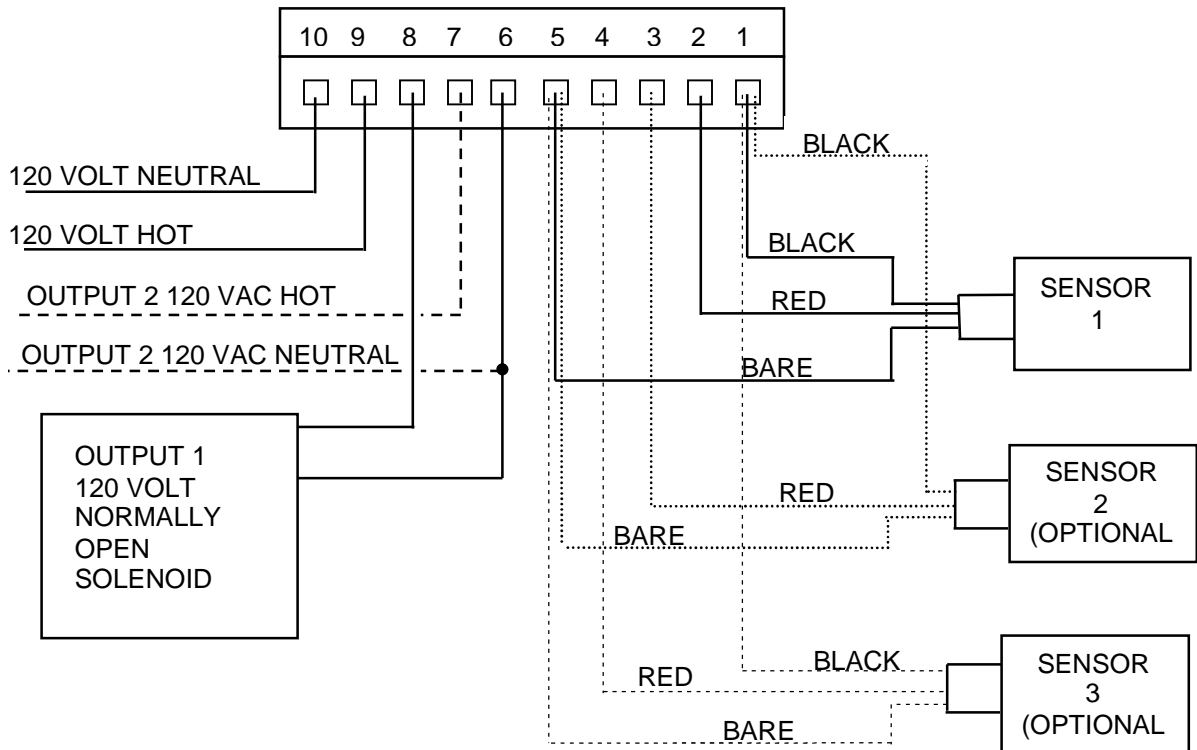
^{1.} Sensor itself may be calibrated by turning the small screw located on the back of the sensor in the silicone. Turn screw clockwise to lower the temperature, counterclockwise to raise. 1/2 turn per degree. Do not adjust more than 10 degrees.

^{2.} To check for power to your solenoid valve without a meter: press "A" button 3 times. Press "B" button once. Now press "B" button repeatedly and listen for solenoid to click. If you hear it click, weep mizer is working and solenoid is stuck or bad.

^{3.} Fuse holder is located on bottom of unit next to the green wiring connector. Turn counterclockwise with a small screwdriver to remove.

WEEP MIZER WIRING 120 VOLT SOLENOID

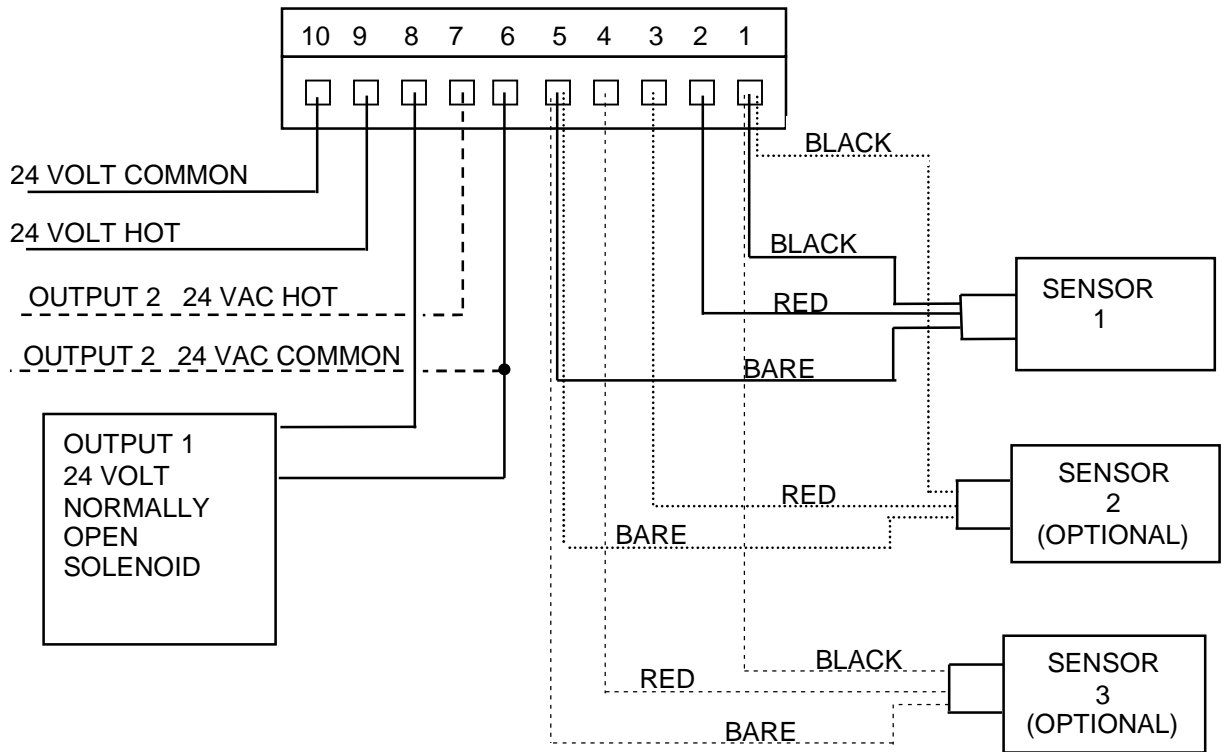
REMOVE GREEN WIRING CONNECTOR BY PULLING DOWN ON IT
CONNECT WIRES AS SHOWN IN DIAGRAM
BE SURE ALL CONNECTIONS ARE PROPER AND TIGHT



NOTE: When installing extra sensors, put all black wires to #1, all bare wires to #5, and red wires to appropriate positions. If sensor is installed as sensor 3, output 2 will operate on the temperature from that sensor instead of temperature from sensor 1 or 2.

WEEP MIZER WIRING 24 VOLT SOLENOID

REMOVE GREEN WIRING CONNECTOR BY PULLING DOWN ON IT
CONNECT WIRES AS SHOWN IN DIAGRAM
BE SURE ALL CONNECTIONS ARE PROPER AND TIGHT



NOTE: When installing extra sensors, put all black wires to #1, all bare wires to #5, and red wires to appropriate positions. If sensor is installed as sensor 3, output 2 will operate on the temperature from that sensor instead of temperature from sensor 1 or 2.

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