# *DOUBLER*®

A Reg. Trademark of TSM - US Patent No. 4,575,004

FOR INSTALLING DOUBLER - SERIAL #'s ABOVE 50,000
COMPATIBLE WITH ALL <u>24VAC</u> CONTROLLERS

INSTALLATION: IN THE VALVE BOX

1. Connect WHITE wire and one wire from each
  solenoid to COMMON
2. Connect STATION/HOT wire to BLACK wire
  NOTE: Disconnect station/hot from any valves, if applicable.
3. Connect one RED wire to each valve SOLENOID.
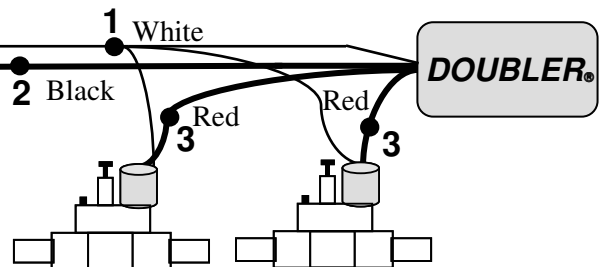 Be sure to WATERPROOF all wire connections.

CONTROLLER

1 2 3 4 5 6 7 8   C

1 White

2 Black

3 Red   Red   **3**

DOUBLER®
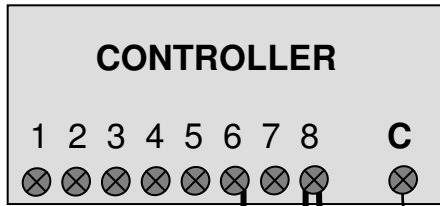
Specifications
Input: 24VAC, 60Hz   Nom. Power: 33ma
Output: 24VAC Up to 8 Amp   Switch time: 7ms
1 year full replacement warranty against defects

INSTALLATION: AT THE CONTROLLER

Run a jumper wire between the station the field wire is connected to and an open station of your choice.
When two stations are connected (as shown) the two valves turn on in sequence with the two stations,
using the same wire to the DOUBLER. This allows for separate watering times and dual programming.
On solid state controllers these stations should not be in sequence. Test by turning on each station. If
the valves are reversed, turn the master switch on and off while one valve is operating.

If only one station is used to operate DOUBLER you may use another program or another start time to
operate the second valve. Otherwise, the valves will operate on alternate cycles of the controller.
Each time the station is turned off and on, DOUBLER switches to the opposite valve.

DUAL PROGRAMMING

If the two valves are to water on different days, use two stations and two programs. In one program set the
watering time for one valve on the station you choose and set a minimum time on the second station. In the
other program set the watering time for the second valve on the other station and a minimum time on the
first station. These minimum times are to keep the valves in sequence

  Example: (*see illustration above*)
  Station 6 is to water daily on program "A", also set one minute on program "B" for station 6.
  Station 8 is to water weekly on program "B", also set one minute on program "A" for station 8.

> **After testing or servicing sprinkler systems turn the <u>last</u> DOUBLER station on and off until the
> correct valve is watering. The controller will then activate the valves in the order you chose.**

**PLACE THIS DECAL NEAR CONTROLLER
INSTRUCTIONS AND WRITE IN THE
STATION NUMBER(S).**

FOR 3 OR 4 VALVES ON ONE WIRE
(NOW FOR 3 OR 4 VALVES TRY OUR *DOUBLER*®)

1. Connect the **white** wires from the Doublers and one wire from each solenoid to common.

2. Connect **black** wire of one Doubler to station wire from controller. This will be Doubler **A**.

3. Connect **red** wires of Doubler **A** to **black** wires of Doublers **B** & **C**, as shown.

• Leave red wires of Doublers B & C disconnected until controller is wired. **See the following**.
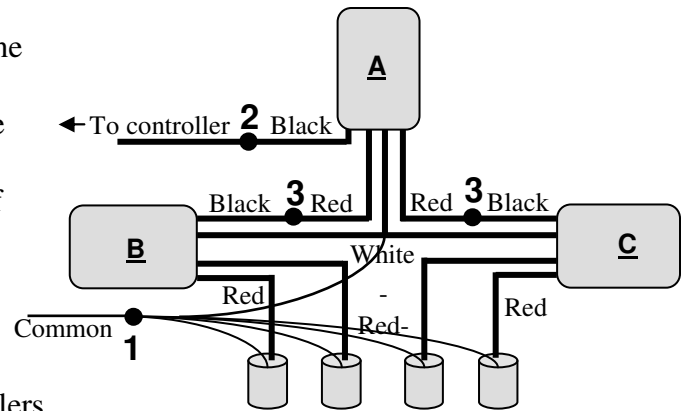
Wire the controller for the operation of the new Doublers.
There are some options when wiring the controller. For instance:

CONTROLLER

1 2 3 4 5 6 7 8   **C**
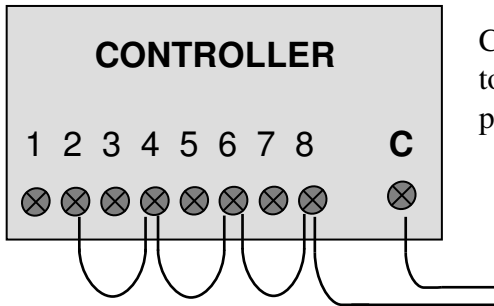
Connect the Doubler wire to 4 stations and use 1 program.

← OR →

Connect Doubler wire to 2 stations and use 2 programs.

CONTROLLER

1 2 3 4 5 6 7 8   **C**
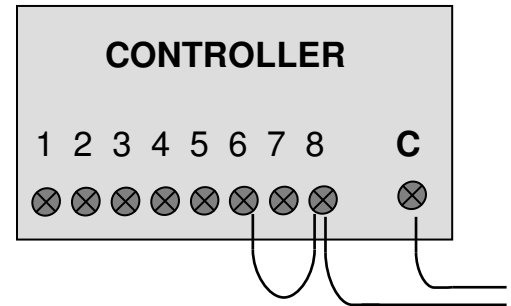
The Doubler wire must be powered 4 times to keep the valves in sequence with the stations, <u>even if there are only 3 valves to be operated.</u>

Each time current is sent to a Doubler it will switch to its opposite red wire.

On solid state controllers stations should not be in sequence; *i.e.* connect to stations 6 & 8, rather than 6 & 7 or 7 & 8.

NEXT CONNECT THE VALVES TO THE DOUBLERS

• Turn on the controller and set it to the first Doubler station. (On the left controller above that would be station 2, on the right controller station 6).

• At the valves, find which red wire is **HOT** and connect it to the valve you choose for that station.

• Advance controller to the next Doubler station and connect the **HOT** red wire to the correct valve.

• Repeat the process for valve 3. The last red wire connects to the remaining valve solenoid. If there are only 3 valves, waterproof the last red Doubler wire and ignore it.

After testing or servicing sprinkler systems turn the <u>last</u> DOUBLER station on and off until the correct valve is watering. The controller will then activate all valves in the order you chose.

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