

# DOUBLER®

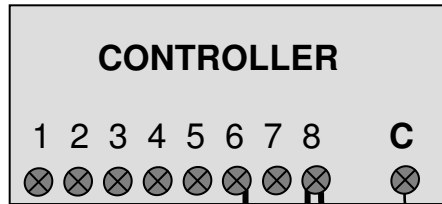
A Reg. Trademark of TSM - US Patent No. 4,575,004 6,126,141

## INSTRUCTIONS FOR INSTALLING **DOUBLER** - SERIAL #'s ABOVE 50,000 COMPATIBLE WITH ALL 24VAC 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!



### Specifications

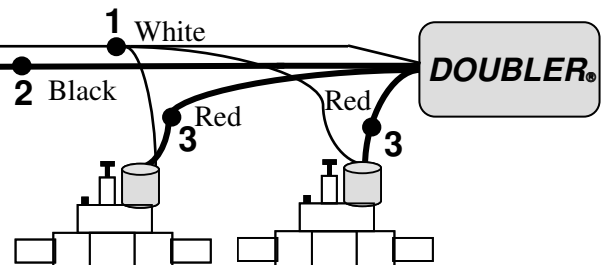
Input: 24VAC, 60Hz

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 above) the two valves turn on in sequence with the two stations, using the same wire to the **DOUBLER**. On solid state controllers these stations should not be in sequence.

**-OR-**

If only one station is used to operate **DOUBLER** you may use another program or start time to operate the second valve. Each time the **DOUBLER** receives power it switches to the opposite valve. Test by turning on each station. If the valves are reversed, turn the master switch off and on while one valve is operating.

**Congratulations, you have now installed your **DOUBLER**! Please set watering times on each station.**

### DUAL PROGRAMMING (If the two **DOUBLER** valves are to water on different days)

You will need two stations and two programs. Install **DOUBLER** as described above. On program "A" set the watering time for one valve on the station you choose and set a minimum time on the second station. On program "B" set the watering time for the second valve on the second 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 a minimum time on program "A" for station 8.

Station 8 is to water weekly on program "B", also set a minimum time on program "B" for station 6.

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

### **IMPORTANT!!**

**AFFIX THIS DECAL IN, ON OR NEAR  
CONTROLLER & FILL IN THE STATION  
NUMBER(S) YOUR **DOUBLER** IS USING.  
THIS DECAL WILL PROVIDE FUTURE  
REFERENCE FOR USE IN PROGRAMMING  
& MAINTENANCE OF THIS SYSTEM.**

**SEE OTHER SIDE**

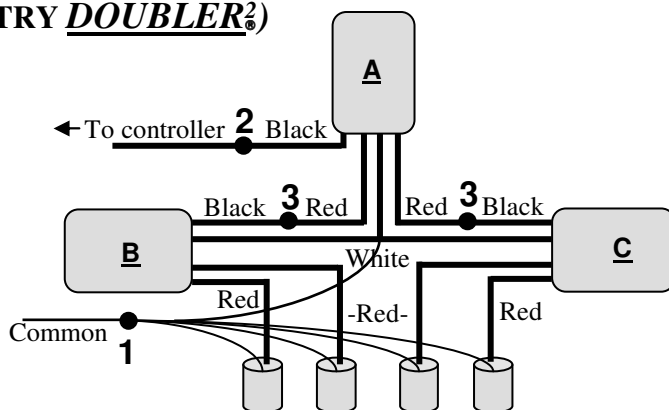


## **FOR 3 OR 4 VALVES ON ONE WIRE\***

(\*NOW FOR 3 OR 4 VALVES TRY **DOUBLER<sup>2</sup>**\*)

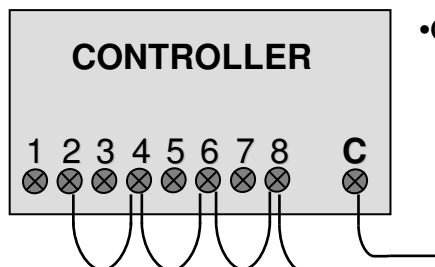
### **INSTALLATION: IN THE VALVE BOX**

1. Connect the **white** wires from the **DOUBLER** 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 **DOUBLER's B & C**, as shown.
- Leave red wires of **DOUBLER's B & C** disconnected until controller is wired. See the following:



### **INSTALLATION: AT THE CONTROLLER**

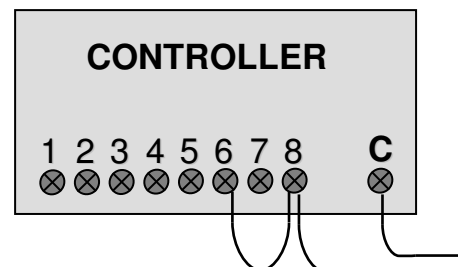
Install jumper wires in the controller for the operation of the new **DOUBLER's**. NOTE: On solid state controllers, stations should not be in sequence; *i.e.* connect to stations 6 & 8, rather than 6 & 7 or 7 & 8.



- Connect the jumper wire to 4 stations and use 1 program.

← OR →

- Connect the jumper wire to 2 stations and use 2 programs.



The **DOUBLER** wire must be powered 4 times to keep the valves in sequence with the stations, even if there are only 3 valves to be operated. Each time power is sent to the **DOUBLER** it will switch to its opposite red wire.

### **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.

**Congratulations, you have now installed your **DOUBLER's**! Please set watering times on each station.**

**TO TEST:** If necessary, you may perform an operational test on **DOUBLER** to ensure it is functioning properly. To test this unit:

1. Apply 24VAC to the black and white wires of the **DOUBLER**.
2. With a meter, find the hot output by measuring between the white wire and each of the red output wires. You should read 24VAC out.
3. Switch the power to the **DOUBLER** off and back on once and test between the white wire and the other red output wire.
4. Repeat step 3 until you have cycled through the units outputs a few times to ensure it is working correctly.

**IMPORTANT:** After testing or servicing sprinkler systems, turn the **last DOUBLER** station on and off until the correct valve is watering. The controller will then activate **all** valves in the order you chose.

### **ONE YEAR LIMITED WARRANTY**

TRANSITIONAL SYSTEMS MANUFACTURING INC., hereinafter referred to as the manufacturer, warrants its products including, but not limited to, those manufactured to specifications supplied to it, for a period of one year from the date of delivery to (a) distributor's vendee, or (b) purchaser other than distributor buying directly from manufacturer, to be free from defects in workmanship and materials. Any defect appearing more than one year from the date of delivery to purchaser shall be deemed to be due to ordinary wear and tear. Manufacturer, however, assumes no risk or liability for results of the use of the products purchased from it, including but without limiting the generality of the foregoing: (1) the use in combination with any electrical or electronic components, circuits, systems, assemblies or any other materials or substances; (2) unsuitability of any product for use in any circuit or assembly or environment. Purchaser's rights under this warranty shall consist solely of requiring manufacturer to repair, or in manufacturer's sole discretion replace, free of charge, F.O.B. factory, any defective items received at said factory within said year and determined by manufacturer to be defective. The giving of or failure to give any advice or recommendation by manufacturer shall not constitute liability of the manufacturer, AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY AS TO MERCHANTABILITY, FITNESS FOR PURPOSE SOLD, DESCRIPTION, QUALITY, PRODUCTIVENESS, OR ANY OTHER MATTER. In no event shall manufacturer be liable for special or consequential damages or for delay in performance of this warranty. Some states do not allow the limitation or exclusion of incidental or consequential damages and some states do not allow limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.



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