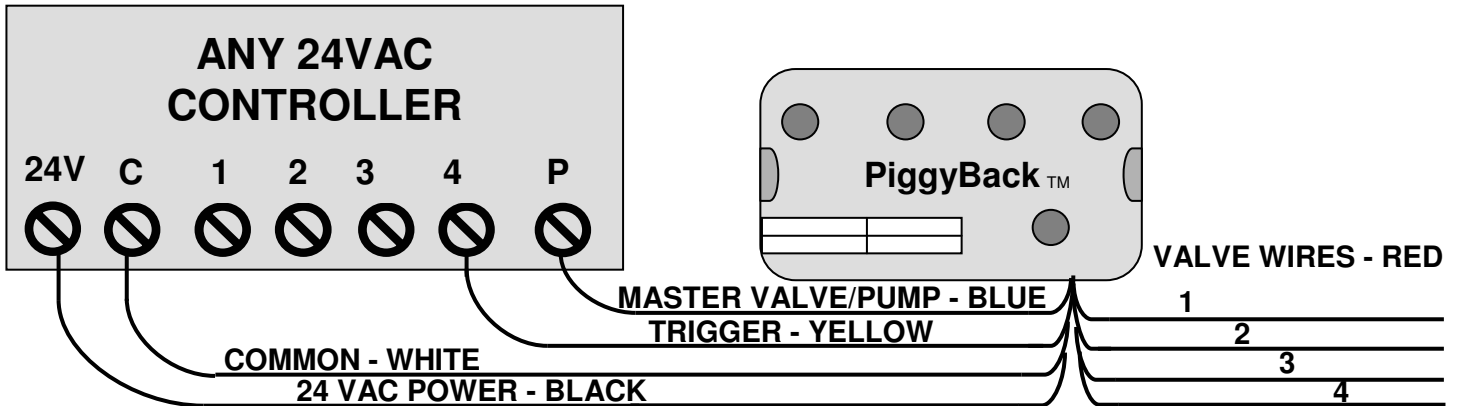


# PiggyBack™

Upgrade your controller

## INSTALLATION INSTRUCTIONS



Please note that PIGGYBACK is not weatherproof. Mount this unit in a protected location. Switch the controller to “OFF” before connecting the PIGGYBACK wires.

### TO EXPAND A CONTROLLER:

1. Connect **WHITE** wire to “COMMON” terminal or wire of the controller.
2. Connect **BLACK** wire to the 24-volt “HOT” terminal or transformer wire of the controller.  
**TIP:** To locate the HOT terminal connect the black wire to one of the 24-volt terminals. Set 1 minute watering time on each **PiggyBack** dial and press the **MANUAL ADVANCE** button. If #1 station indicator light turns on it is correct; if not, connect it to the other 24 volt terminal. Continue pressing the **MANUAL ADVANCE** button until all the station indicator lights are off.
3. Connect **BLUE** wire to the Pump/Master Valve terminal on the controller.
4. Connect **RED** wires to the valves **PiggyBack** is to control. Each wire is numbered.
5. Connect **YELLOW** wire to the last station on the controller. Turn on the controller and select the last station. Turn off the station and after a few seconds the first zone of **PiggyBack** will begin. An explanation of other ways to connect this yellow wire is on the back of this page.
6. The card that slips out of a pocket on **PiggyBack** is to record the zone locations.

### AS AN INDEPENDENT TIMER:

1. Connect the **BLACK** wire to one side of a 24-volt transformer.
2. Connect the **WHITE** wire and Valve Common to the other side of the transformer.
3. Connect the **RED** wires to the valves. Each wire is numbered.
4. Connect the **BLUE** wire to the Master Valve/Pump control wire or tape the end if not needed.
5. Tape the end of the **YELLOW** wire or refer to information on the back of this page.
6. Record the zone locations on the card in a pocket on **PiggyBack**.

SEE OTHER SIDE



## OPERATION AND EXPLANATION

### GENERAL

**PiggyBack** is very useful when installing a **DOUBLER** when your existing controller has all its stations already in use. If you need to add more than four stations, you can connect multiple **PiggyBack**'s in series.

### AS AN EXTENSION OF THE CONTROLLER

The yellow trigger wire is connected to a sensor inside **PiggyBack**. When the sensor detects an electric current in the yellow wire, it arms the circuit. When the current is turned off, there is a brief delay to allow the previous valve to close and then **PiggyBack** begins its automatic watering cycle.

If the yellow wire is connected to the last station of a controller, **PiggyBack** will follow that station but it can be connected to any station in-between.

**Example:** Connect **PiggyBack** to the last station on a lawn program for more lawn valves (a great help when using a **DOUBLER** to split the existing sprinkler lines for better pressure); **OR** connect **PiggyBack** to the first station on the controller for watering drip lines while the controller waters the lawns and shrubs (greatly reducing the total watering time).

### AS AN INDEPENDENT TIMER

There are many situations when a simple timer is preferred to a programmed fully automatic controller. Some residential homeowners even prefer push-button watering to automatic.

**PiggyBack** can be set to automatically recycle through its programmed watering times. To cause **PiggyBack** to recycle, connect the yellow wire to red wire #4. Set time on station #4 and press the **MANUAL ADVANCE** button to start the first cycle. **PiggyBack** will continue to recycle through all its stations until station #4 is turned off or the yellow wire is disconnected. This is useful to keep new seed, sod or ground cover damp in hot weather. Up to four hours delay time between cycles may be set on station #4, and watering times may be set as short as one minute.

#### SPECIFICATIONS

24VAC, 60 cycle input	24VAC, 2 amp output
Station timing: 1 minute to 4 hours	Optically isolated outputs & inputs

#### 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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