

## VAT, Transmitter and VAR/P, Receiver Installation Instructions

### TRANSMITTER/VAT

The VAT Transmitter has been programmed with sequential ID numbers. (see label on VAT), and with the master valve ID of 100.

1. Install the VAT transmitter within two feet of the irrigation controller.
2. Use the multi conductor, labeled cable wires to connect the transmitter's inputs to the controller's outputs.
3. Connect the coaxial cable to the antenna, and mount the antenna base to a 10-foot-long pipe. Keep the antenna clear of surroundings for 10 feet. Mount the antenna as far away from the transmitter's location as the coaxial cable will allow.
4. Connect one end of the coaxial cable to the antenna. The other end of the coaxial cable is connected to the 'antenna tuner'. Connect the antenna tuner's connector, marked 'transmitter' to the VAT's coaxial connector. Be careful not to strip the connector's threads.
5. **To avoid damaging transmitter, the antenna's coaxial cable must be connected to the VAT before the power cable is plugged into the power outlet.** Plug the VAT's power cord into a 120VAC power outlet.

### RECEIVER / VAR

The VAR/P receiver units have been programmed to the ID numbers that are indicated on the labels attached to the receivers. Twist the receivers canister, in order to remove it from the receivers base.

6. Use DBRY type of wire connectors to connect the receivers solenoid output wires to the solenoid wires. For each set of output wires, connect red solenoid wire to receiver's black wire, and the black solenoid wire to the receivers' red wire. The valve should be in the automatic mode, and pressurized with water.
7. **Observe correct battery polarity when installing and changing batteries. Failure to do this can result in permanent damage to the receiver.**
8. Install the four battery cells in the battery holder, remember that the batteries negative (-) is installed at the spring end of the holder, and the positive (+) is to the red wire (top) of the holder.

9. The receiver was shipped with the “test/run” jumper in the “test” mode, (across the 2 pins) and the fuse connected.
10. To actuate solenoids manually, use the manual push button switches located on the control board. The on/off indicator for each output, will blink when the solenoid has been turned on, and stop blinking when the solenoid is turned off.
11. If the receivers on/off indicator light blinks, but the valve does not open, reverses the solenoid wires.

**Note: the controller’s master valve will turn on whenever it turns on an irrigation valve, and will stay on until the last valve is turned off.**

12. Use the controller’s manual mode to turn on output 1. This will enable the VAT to send a signal to the VAR programmed to ID number 1. After a minute the valve on/off indicator on the VAR’s control board will start to blink, the valves latching solenoid will latch on, and the valve will open. Wait 30 seconds, to turn the solenoid off.
13. Use the controller again to turn off output 1. After a minute, the valves on/off indicator on the VAR’s control board will stop blinking, the valves latching solenoid will unlatch, and the valve will close.
14. Place the receiver’s “test/run” jumper, in the “run” mode (remove jumper), and re- install the receivers’ canister.
15. Repeat steps 7 to 15 for the remaining receivers.
16. Switch the controller to the program mode. The system is now ready to run automatically. Remember that when a program starts running, the first valve will turn on after a minutes delay.

## MAINTENANCE

If the receivers' battery pack voltage measures less than 2.2 volts, the batteries must be replaced. To replace the batteries:

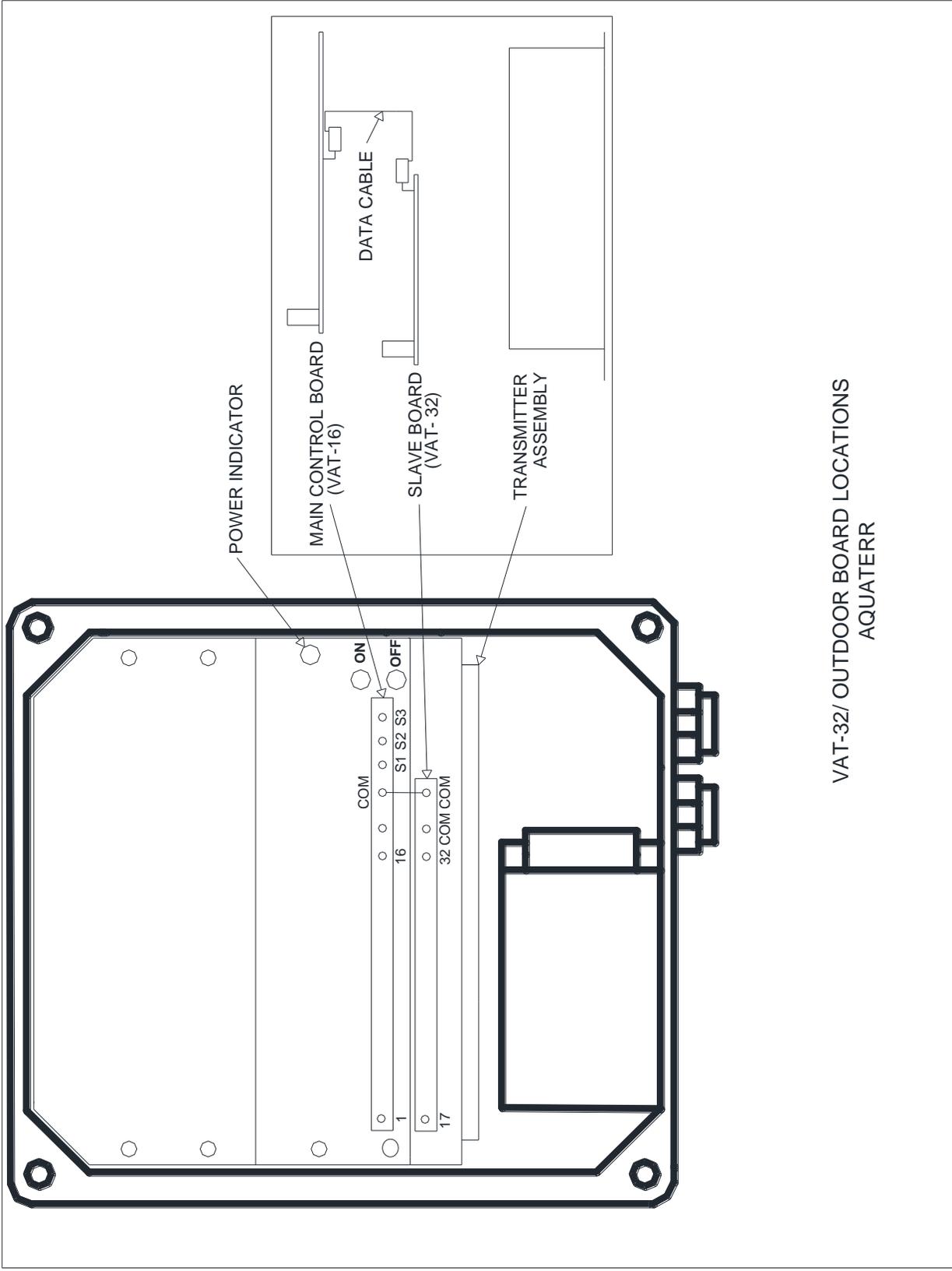
1. Remove the receivers' canister.
2. Note the battery cells polarity, and remove the cells.
3. Install new battery cells, keeping the same polarity.
4. Move the "test/run" jumper to the 'test' mode position.
5. Use the manual switch to turn a valve on, and check that the valve on/off indicator is blinking.
6. Use the manual actuate switch to turn the valve off, and check that the valve on/off indicator is off.
7. Move the "test/run" jumper to the 'run' mode position.
8. Replace the receivers' canister.
9. The receiver is now ready to use again.

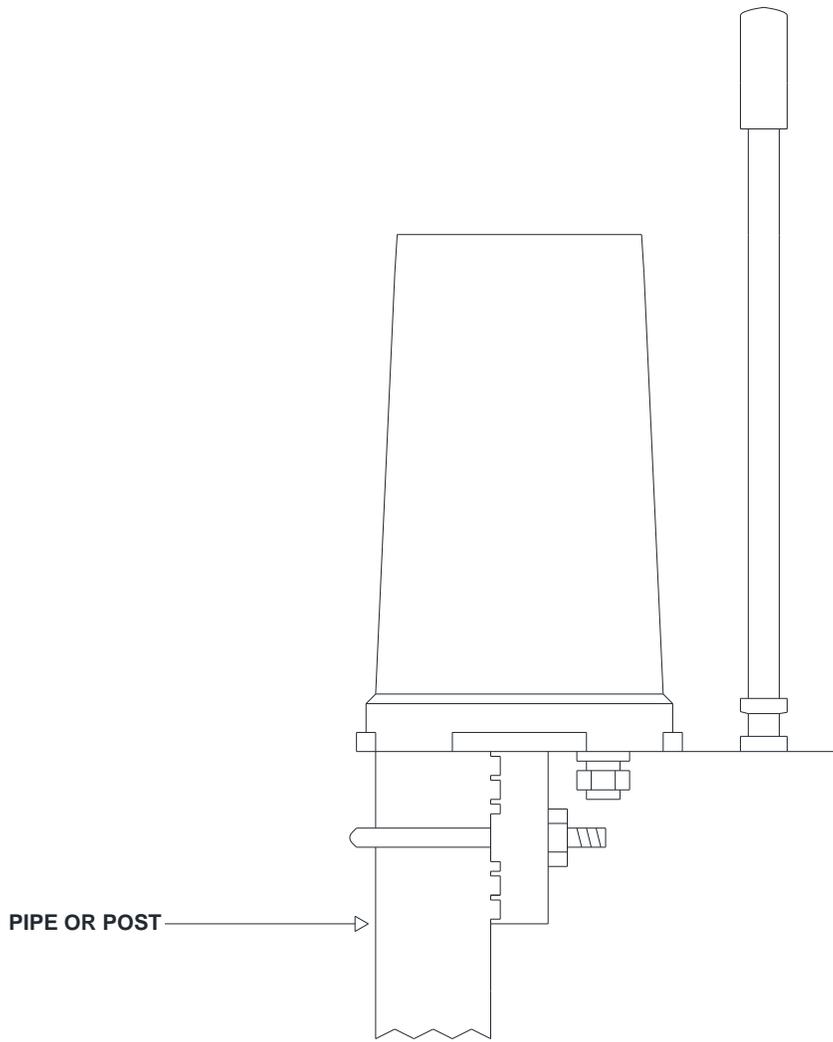
## CAUTIONS

1. Receiver to solenoid wiring for most latching solenoids should be: black to red, and black to red. If the valve does not open with this wiring, reverse the wires.

**Note: Do not double up on any of the receivers outputs. Use only one solenoid per output.**

2. **If you use a receiver Programmer, after using the Programmer, turn the Programmer off, and unplug it from the receiver, then disconnect the VAR from the batteries, by removing the fuse, and wait for 60 seconds. Replace the fuse, the receiver is now reset and ready to use.**
3. Observe the correct battery polarity when changing batteries.
4. Make certain to connect the VAT transmitter to the antenna, before connecting the transmitters' power supply to 120V AC.
5. Mount the transmitters' antenna as far above, and away from the transmitters location, as the coaxial cable will allow.

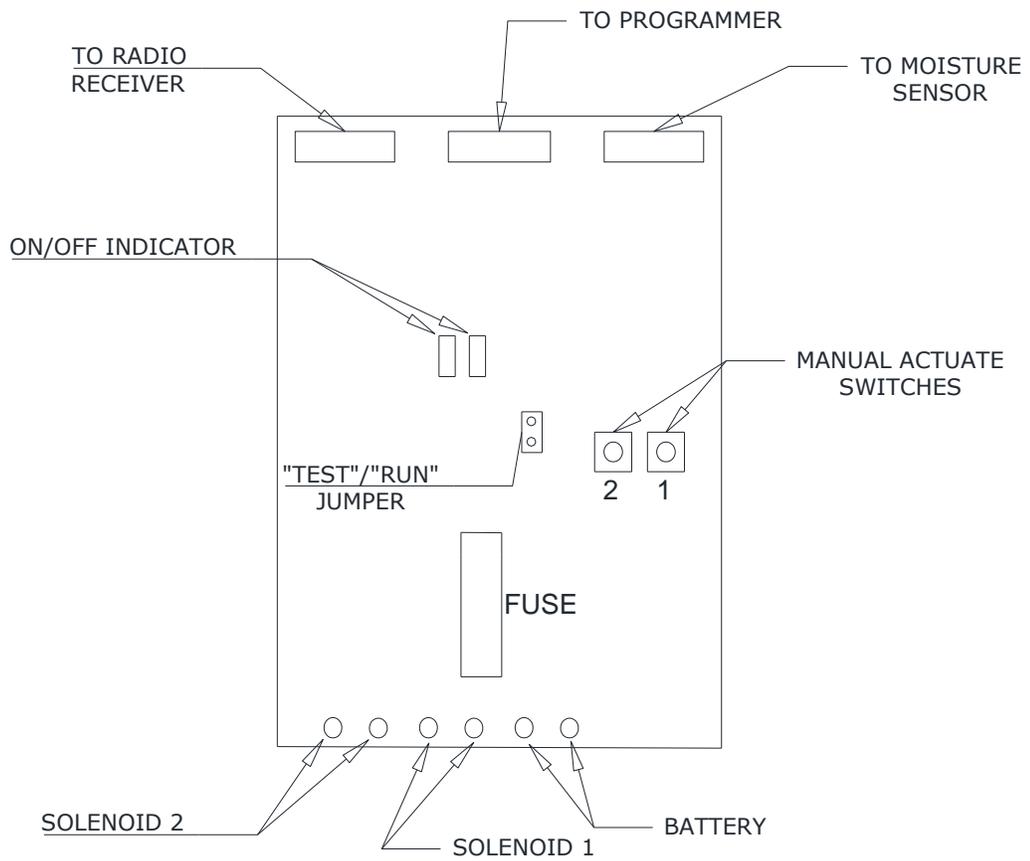




PIPE OR POST

VAR POLE MOUNT INSTALLATION

AQUATERR



VAR-1 & 2 CONNECTORS, FUSE, AND INDICATORS  
AQUATERR

