ET GAGE & ENCLOSURE

INSTALLATION

ET GAGE

FIELD INSTALLATION

Mount in a location clear of nearby obstructions to wind or sunlight and at the edge of an irrigation area. Prevent the watering of sprinkler heads on the top surface of the ET Gage, as this will affect the daily ET readings.

Secure the stainless steel mounting bracket to the side of the stainless steel post provided with the ET Gage enclosure, or to some type of stake or post using the two (2) screws provided. The top of the post must be below the top evaporating surface. The top evaporating surface with the canvas covering should be 36 to 40 inches above ground level.

Protect from freezing. Install after the last spring frost and remove before the first fall frost.

If a problem with birds fouling the surface persist call CALSENSE at 1-(800)-572-8608. A stainless steel wire protector is available which fastens onto the top of the Gage. If the CALSENSE stainless steel enclosure is used for vandal resistance, the bird protection is not necessary. If birds dirty the canvas and clay ceramic plate substantially, it may be necessary to follow the Ceramic Maintenance procedures found in the Servicing the ET Gage portion of these instructions.

EXTERNAL WIRING

The CALSENSE irrigation controller is able to receive daily evapotransiration data directly from the ET Gage and automatically calculate individual station run times. The (-G) option contains a separate cable with three 22 AWG wires: Black, Red, and Yellow. These wires will be connected to the ET Gage.

WIRING FROM CONTROLLER TO GAGE:

Connect the BLACK wire from the controller to the BLACK wire on the Gage, the RED wire from the controller to the RED wire on the Gage, and the YELLOW wire form the controller to the YELLOW wire on the ET Gage. Make sure that all connections are waterproof. (Figure 1).

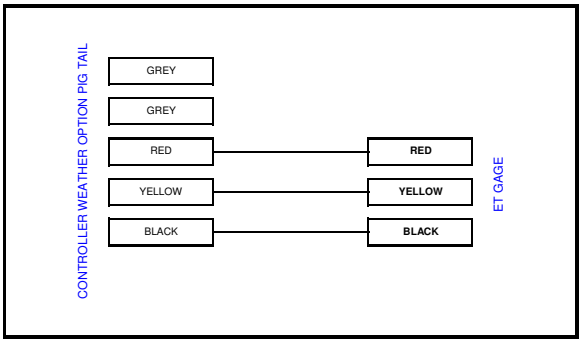

Figure 1

WIRING FROM TP-1 BOARD TO ET GAGE:

Connect the BLACK wire from the ET Gage to the BLACK post for the ET Gage on the TP-1 Board. Connect the RED wire from the ET Gage to the RED post for the ET Gage on the TP-1 board. Connect the YELLOW wire form the ET Gage to the YELLOW post for the ET Gage on the TP-1 board. Make sure that the wiring harness from the TP-1 board to the back of the controller is connected. (Figure 2).

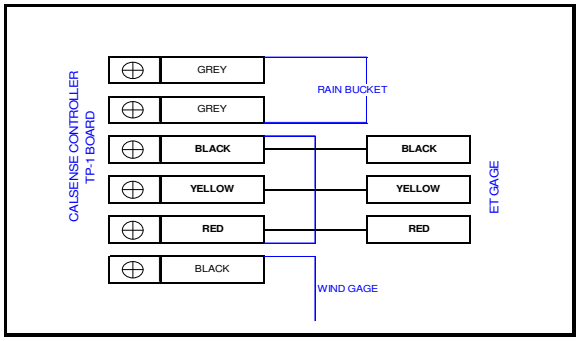

Figure 2

WIRING SEVERAL CONTROLLERS TO ET GAGE:

The RED wire on the (**-G**) option supplies power to the ET Gage. Use one Calsense controller with the (**-G**) interface to do this. Choose the one controller closest to the Gage. Connect the RED wire to the RED wire at the Gage, connect the YELLOW wire to the YELLOW wire at the Gage, and connect the BLACK wire to the BLACK wire at the Gage. When connecting ALL other irrigation controller(s), simply connect the YELLOW to YELLOW and BLACK to BLACK. Disregard the RED wire on these additional irrigation controllers. (See Figure 5).

If a Transient Protection board (TP-1) is installed, simply connect the Paige cable wires to the correct terminals on the transient board. The transient board is properly labeled for each option. Look for the terminals marked RED, BLACK, and YELLOW for the ET Gage.

ET GAGE HEATER WIRING:

If using an optional ET Gage heater attached to the ET Gage PC board, the heater power supply must be installed. (Figure 3).

1) The RED wire from the controller in the ET Gage harness is NOT used, put a wire nut on it.
2) Cut the wires from the new box to length.
3) Connect the ORANGE wire of the Heater Power Supply to the ORANGE wire in the BLACK wire harness connected to the controller.
4) Connect the BLACK wire of the Heater Power Supply to the BLACK wire in the ET Gage harness.
5) Connect the YELLOW wire from the ET Gage wire harness directly to the YELLOW ET Gage wire.
6) Measure 8 VDC at the Gage when installation is complete.

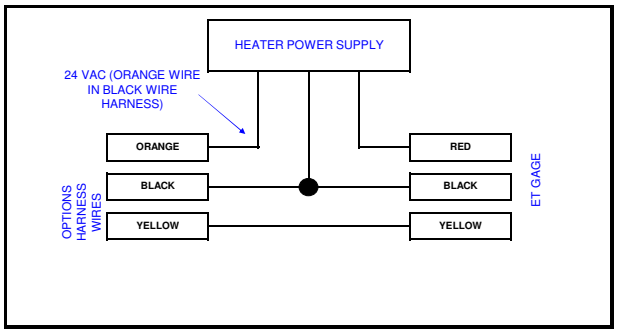

Figure 3

GENERAL MAINTENANCE

Keep the ET Gage reservoir filled only with distilled water. A one to two month reservoir refill interval is typical. Clean ceramic evaporation plate annually. Keep Gage from freezing.

If the canvas becomes very dirty, remove the canvas to wash. Be sure to use only distilled water for washing off the flat, canvas covered evaporating surface. No air space should be between the canvas and the top of the ceramic plate.

After removal from the field, the ceramic plate should be cleaned and reconditioned. Clean the ceramic plate without the fabric attached in a weak solution of one tablespoon of regular household bleach per gallon of warm water. Soak the surface of the ceramic plate in this solution for 15 minutes. After this initial soaking, the top flat surface of the ceramic plate should be wet sanded with 240 grit, very fine silicon carbide sand paper. Under a running water faucet, lightly and evenly sand the flat top surface to restore and recondition it to a uniform color. This recommended sanding should be done once a year.

After sanding, re-soak the ceramic cup in the weak bleached solution for another 15 minutes, Finally rinse and soak the cup in clean water for at least 30 minutes. Never use detergent to clean the ceramic cup. Store the uncovered ceramic cup where it can dry completely. The inside of the reservoir supply bottle should also be cleaned with this weak bleach solution and then rinsed with clean water.

To test if a ceramic cup has a clean well-conditioned surface, pour a small amount of distilled water over the top, of a completely dry cup. The surface should soak the water up quickly and evenly with no shiny, un-soaked spots. Sand as necessary if bird droppings stain and seal the clay evaporation surface.

ET GAGE VANDAL RESISTANT ENCLOSURE DETAILS

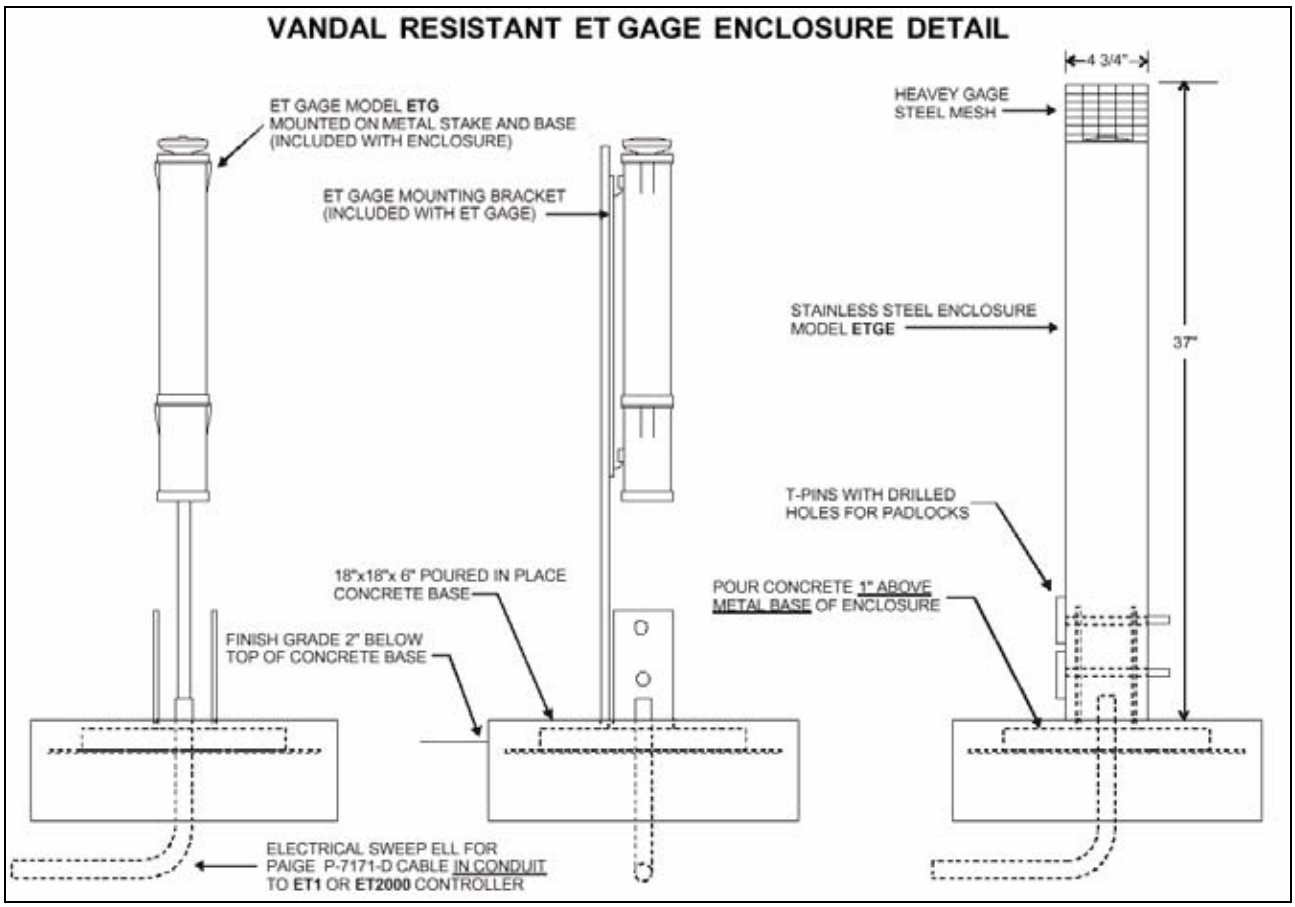

Figure 4

The ET Gage enclosure base is to be embedded in a concrete pad, with the top of the pad at least 2 inches above grade. The pad should be a minimum of 18 inches wide by 18 inched long by 6 inches deep.

Use ½ inch sweep ELL for the wiring used for the ET Gage. The sweep ELL comes up between the center brackets of the base. (See Figure 4).

Place the base on top of the ½ inch sweep ELL and into the concrete. Add concrete so that the finish level of concrete is approximately 1 inch above the top of the base. This is an important step in the concrete work. If the depth of concrete on the top of the base is too great, the stainless steel enclosure cannot be mounted to the center brackets of the base. At the same time, when the enclosure is mounted there should be little clearance between the finish grade of concrete and the enclosure.

Allow the concrete to set. Check the enclosure clearance before concrete has completely hardened, adjust if necessary.

Mount the ET Gage on to the bracket which comes with the Gage. Follow the ET Gage installation instructions for the proper installation of the ET Gage including priming and correct wiring to the CALSENSE irrigation controller.

Place the Stainless Steel Enclosure over the ET Gage and lock accordingly.

ET GAGE MULTIPLE CONTROLLER SHARING ONE ET GAGE

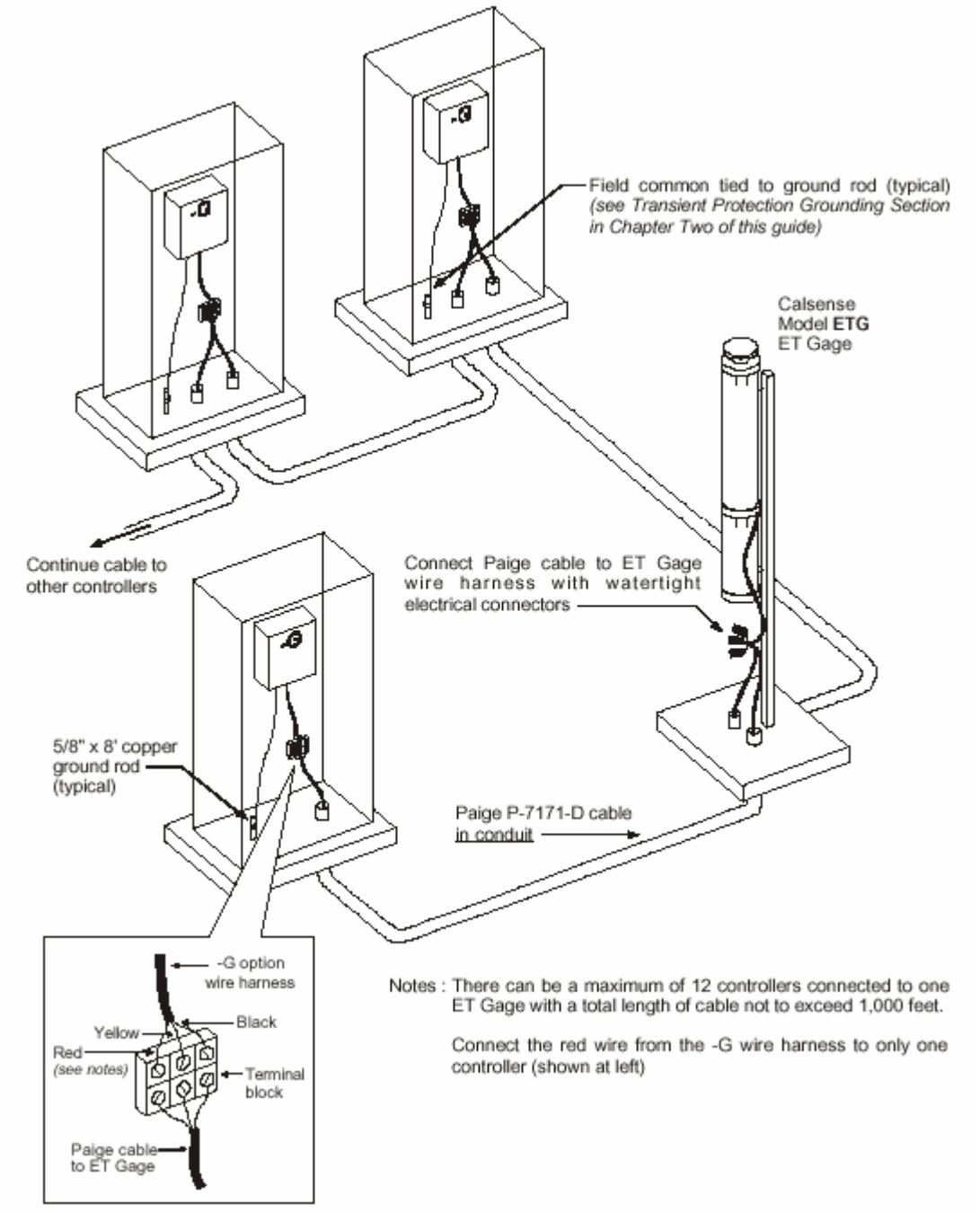

Figure 5

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