

# CS3000 Irrigation Controller Installation

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## Physical Installation

### Location

Calsense Irrigation Controllers are supplied by low voltage (24-VAC) step-down transformers. The irrigation controller and transformer are housed in weather resistant stainless steel cabinet that can be wall mounted. The key-locking door swings left and can be removed.

In choosing a location for irrigation controller, consideration should be given to the accessibility of the 120-volt AC power wires and the routing of the wires connecting to the irrigation control valves.

A minimum of 2-inches of clearance above the irrigation controller is necessary for the door to be removable after installation. The door needs at least 15-inches on the left to fully open.

### Wall Mounting

For wall mounting, the irrigation controller should be mounted on a flat secure surface. The display should be below eye level of the shortest users for the best viewing.

Clearance must be given for the conduit containing the 120-volt AC power and the irrigation wires.

## Electrical Hookup

### 120-VAC Power Connections and Unit Grounding

Perform all 120VAC electrical and grounding hookup per local and national electric code.

Connect the 120-VAC power line to the input wires of the transformer. Connect one side to the black wire and the other to the white wire.

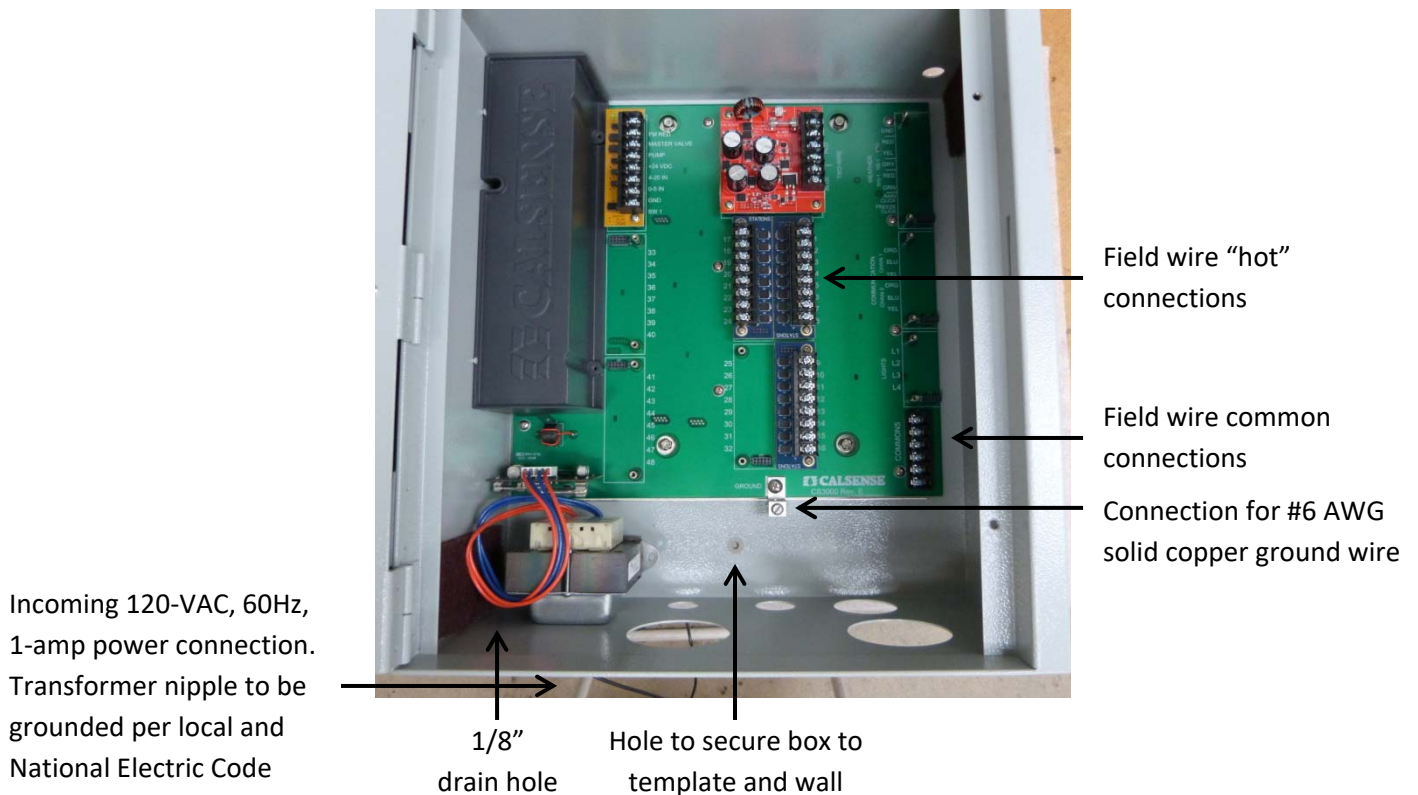
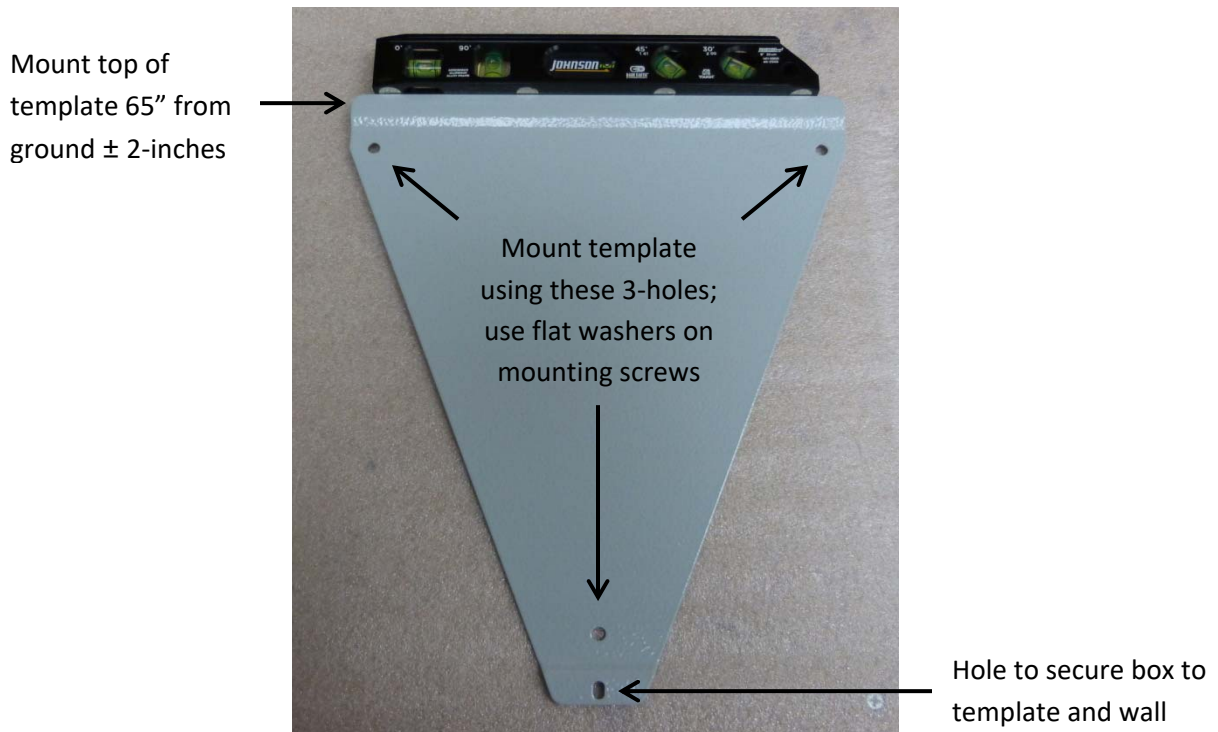
Enclose the 120-VAC power line in conduit approved for grounding and connect securely to the transformer nipple. The conduit is to be grounded and will serve as the controller ground.

### Loading

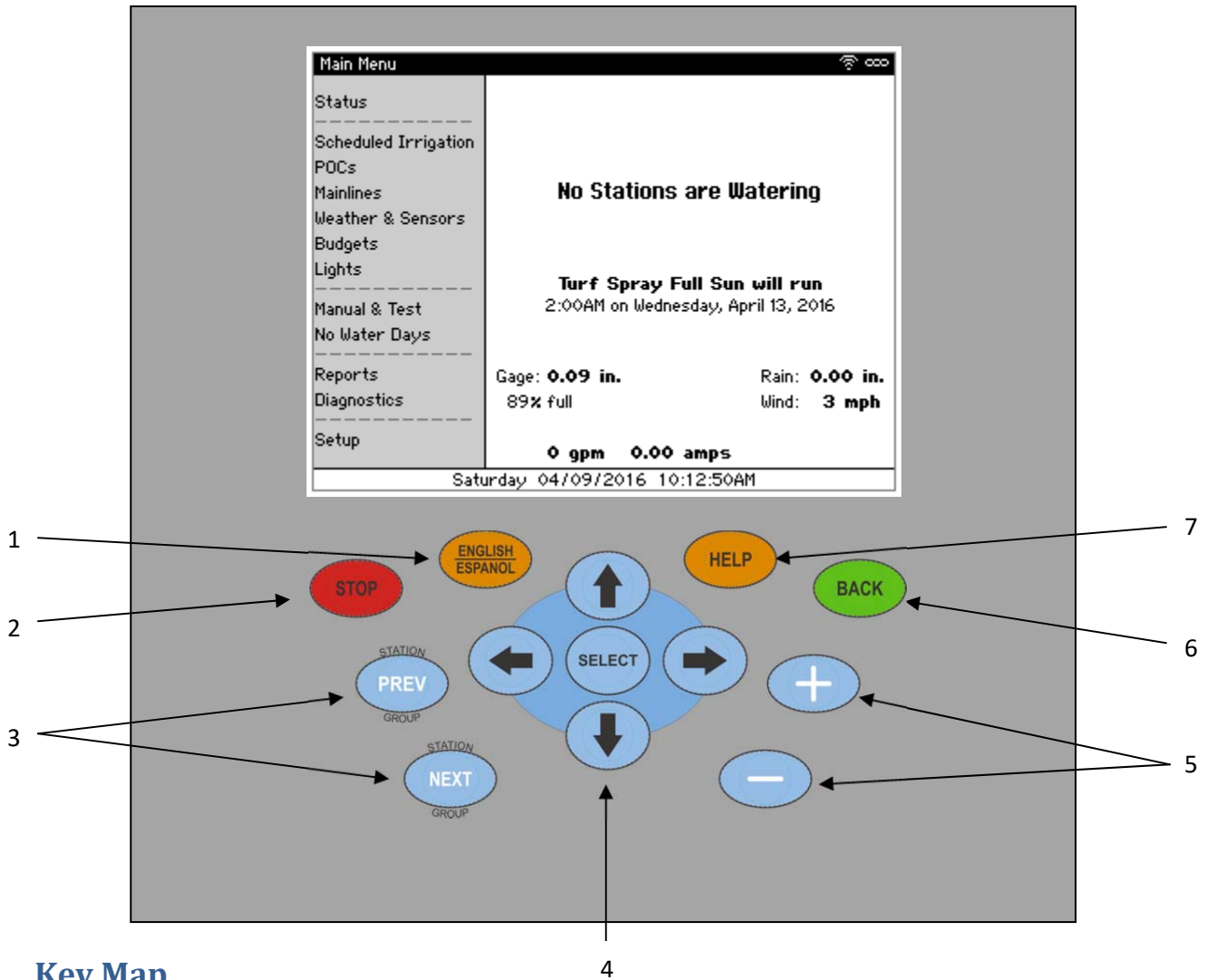
- Any single output may be loaded to 1.5A
- The total load must never exceed 2A

## Mounting Instructions

Use minimum 35-lbs. anchors. Use flat washers on mounting screws to secure template/box to wall.



# CS3000 Quick Start Guide



## Key Map

1. **ENGLISH/ESPAÑOL** – Change screen text from English to Spanish and vice versa
2. **STOP** – Stop any currently running irrigation
3. **PREV/NEXT** – Selects the Previous or Next menu item
4. **←↑→↓/SELECT** – Move the cursor position around in the different programming and reports screens and selects a main menu field or a particular programming field. **SELECT** also provides dropdown menus for certain fields or numeric keypad for others.
5. **+/-** – Increase or decrease values on programming screens
6. **BACK** – Returns to the previous screen
7. **HELP** – Display different help based upon the status or menu screens and highlighted cursor position on programming screens

## Setting Date and Time

The controller defaults to the Pacific Standard time zone. Based on your location, you may need to adjust the time zone and set the clock accordingly. To set the date and time:

1. From the Main Menu, use ↓ to navigate to **Setup** and press **SELECT**. The Setup menu displays.
2. Use ↓ to navigate to **Date & Time** and press **SELECT**. The Date & Time screen displays (Figure 1).



Figure 1 - Date & Time screen

3. Use +/- to adjust the time zone if necessary. Based on your time zone, the controller automatically determines whether it observes daylight saving time or not.
4. Use ←↑→↓ to navigate to the date and time and use +/- to change values to set the current date and time.
5. Once the time is correct, navigate to and select **Set Date & Time** to save the change.
6. Once done, press **BACK** to return to the Main Menu.

## Discovering 2-Wire Stations

If this controller has the 2-Wire option and uses 2-Wire decoders to operate stations, perform the following steps to discover the decoders and assign stations to each decoder. If you don't have a 2-Wire option, skip to [Using Station Groups](#).

**Note:** Prior to performing these steps, verify that the 2-Wire decoders are properly wired to the 2-Wire cable per the 2-Wire decoder installation diagram included with each decoder.

1. From the Main Menu, use ↓ to navigate to **Setup** and press **SELECT**. The Setup menu displays.
2. Navigate to **2-Wire** and press **SELECT**. The 2-Wire dialog displays (Figure 2).

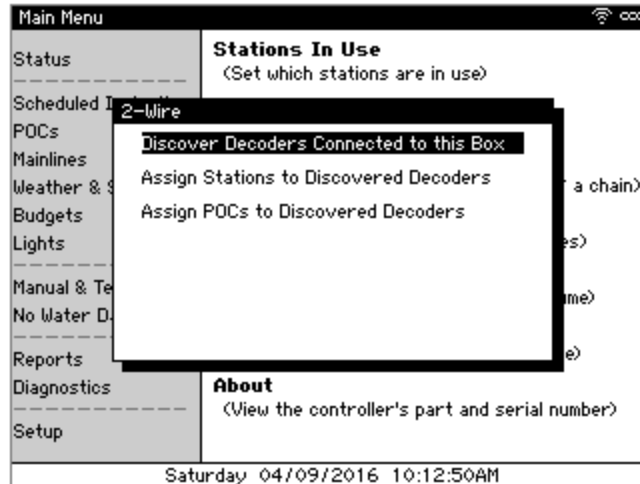


Figure 2 - 2-Wire dialog

3. Select **Discover Decoders Connected to this Box** and press **SELECT**. The controller scans the 2-Wire cable, discovering all decoders attached to this controller. When the discovery completes, the Station Assignment screen displays (Figure 3). The pane on the left displays the 2-Station and Moisture Sensor decoders discovered while the right shows each's station assignments. **Note:** If you're returned to the 2-Wire dialog, it means you have other types of decoders attached as well. Navigate to and select **Assign Stations to Discovered Decoders**.

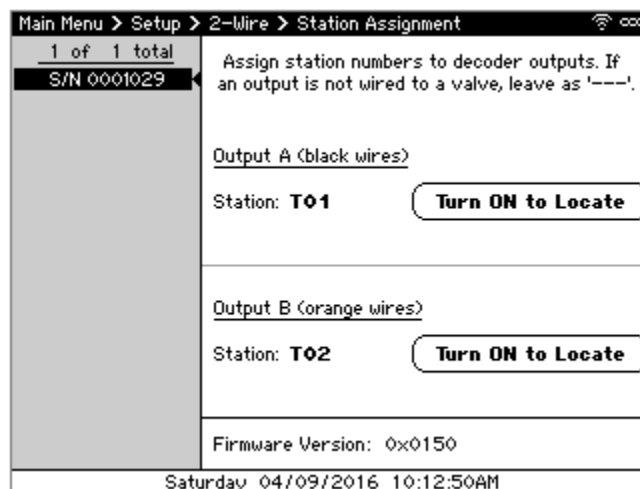


Figure 3 - Station Assignment screen

4. Using **←↑→↓** to highlight a decoder to edit and press **SELECT**. The cursor moves to the Station field on the right.
5. Use **←↑→↓** to navigate through the screen and the **+/-** to assign the appropriate station number to each of the decoder outputs. If no station is attached to an output, leave it as ---.
6. Press **BACK** to save the changes.
7. Repeat steps 4-6 for each decoder attached to the controller.
8. When done, press **BACK** to return to the Main Menu.

## Using Station Groups

Stations that share the same irrigation and/or landscape characteristics are grouped together using Station Groups. To add and edit Station Groups:

1. From the Main Menu, navigate to **Scheduled Irrigation** and press **SELECT**. The Scheduled Irrigation menu displays.
2. Navigate to and select **Station Groups**. The Station Groups screen displays (Figure 4). The panel of the left shows the list of Station Groups and includes the ability to add new groups.

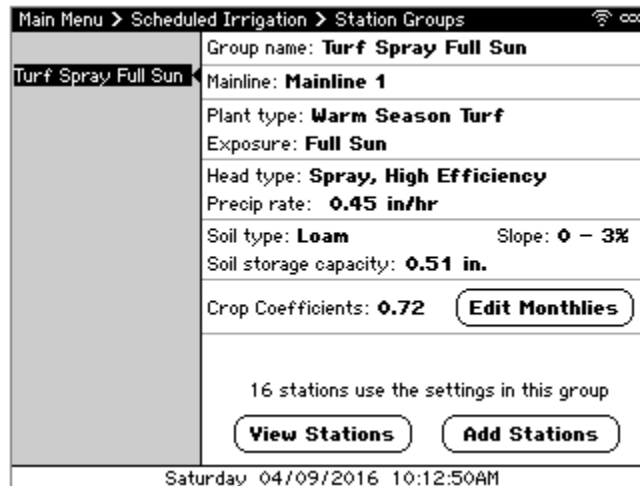


Figure 4 - Station Groups screen

3. Using  $\leftarrow$   $\uparrow$   $\rightarrow$   $\downarrow$  to highlight the Station Group to edit and press **SELECT**. The cursor moves to the Group Name field on the right.
4. Use  $\leftarrow$   $\uparrow$   $\rightarrow$   $\downarrow$  to navigate through the screen and the  $\pm$  to change values. The various settings on this screen include:
  - Group Name – A name which describes the stations assigned to that group. By default, the name will automatically take on the plant type, head type, and exposure.
  - Mainline – The mainline the stations in this group are physically connected to
  - Plant type – The type of plant material, such as **Warm Season Turf**
  - Exposure – The amount of sun exposure, such as **Full Sun**
  - Head Type – The type of sprinkler head or drip emitter, such as **Spray, High Efficiency**
  - Precip Rate – The precipitation rate associated with the head type
  - Soil Type – The type of soil such as **Loam**
  - Slope – The slope percentage
  - Soil storage capacity – The root zone working water storage associated with the plant material and soil type
  - Crop coefficients – The monthly crop or landscape coefficient associated with the plant material

- To add the stations that share these characteristics to the Station Group, navigate to and select **Add Stations**. The Add Stations screen displays (Figure 5).

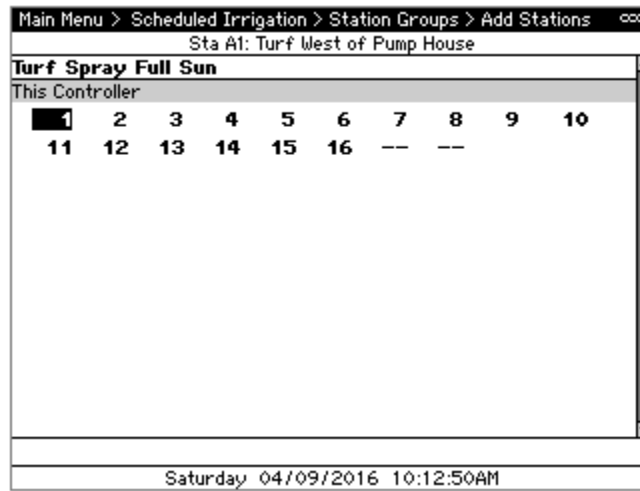


Figure 5 - Add Stations screen

- Use **SELECT** or **+/-** to add or remove stations from the Station Group.
- When you're done, press **BACK** to save the changes.
- If additional groups are required, press **BACK** and navigate to and select **<Add New Group>** to create additional groups and repeat steps 3-7 to define the characteristics and add stations.
- When done, press **BACK** to return to the Main Menu.

## Setting a Schedule

- From the Main Menu, navigate to **Scheduled Irrigation** and press **SELECT**.
- Navigate to and select **Start Times and Water Days**. The Start Times and Water Days screen displays (Figure 6). The pane on the left displays the Station Groups on this controller while the right shows the settings for each.

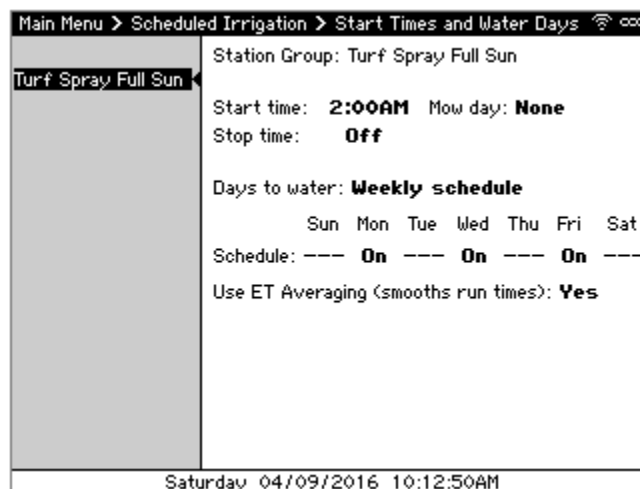


Figure 6 - Start Times and Water Days screen

3. In be pane on the left, select the Station Group to set a schedule for and press **SELECT**.
4. Use **←↑→** to navigate through the screen and **+/-** to change values. The various settings are as follows:
  - **Start time** – The time when the irrigation starts
  - **Mow day** – A day when irrigation is skipped to allow for maintenance
  - **Stop time** – The time when irrigation will stop, even if there is time remaining
  - **Days to water** – The days irrigation will run
5. Press **NEXT** to move to the next schedule and repeat step 4 to set the schedule.
6. When done, press **BACK** to return to the Main Menu.

## Adjusting Individual Station

1. From the Main Menu, navigate to **Scheduled Irrigation** and press **SELECT**. The Scheduled Irrigation menu displays.
2. Navigate to and select **Stations**. The Stations screen displays (Figure 7). The pane on the left displays the stations attached to this controller while the right shows the settings for each.

Main Menu > Scheduled Irrigation > Stations	
Station 1	Station 1: <b>Turf West of Pump House</b>
Station 2	Station group: <b>Turf Spray Full Sun</b>
Station 3	Station adjust: <b>0%</b>
Station 4	Approx. run time: <b>41.1 min</b>
Station 5	Minutes per cycle: <b>4.7 min</b>
Station 6	Soak between cycles: <b>51 min</b>
Station 7	Expected flow rate: <b>10 gpm</b>
Station 8	Square footage: <b>2,326</b>
Station 9	Distrib. uniformity: <b>78%</b>
Station 10	Precip. rate: <b>0.45 in/hr</b>
Station 11	
Station 12	
Station 13	
Saturday 04/09/2016 10:12:50AM	

Figure 7 - Stations screen

1. Press **SELECT** to enter the right side to adjust the schedule.
2. Use **←↑→↓** to navigate through the screen and **+/-** to change values, setting the following values:
  - **Expected flow rate** – The expected rate at which this station flows
  - **Square footage** – The square footage, used for budgetary purposes
  - **Distrib. uniformity** – The distribution uniformity or application efficiency of the zone
3. Press **NEXT** to move to the next station and repeat step 2 to set the individual station's settings.
4. Once done, press **BACK** to return to the Main Menu.



## Manually Watering a Station

1. From the Main Menu, use ↓ to navigate to **Manual & Test** and press **SELECT**. The Manual & Test menu displays.
2. Navigate to **Manual Watering** and press **SELECT**. The Manual Watering screen displays (Figure 8).

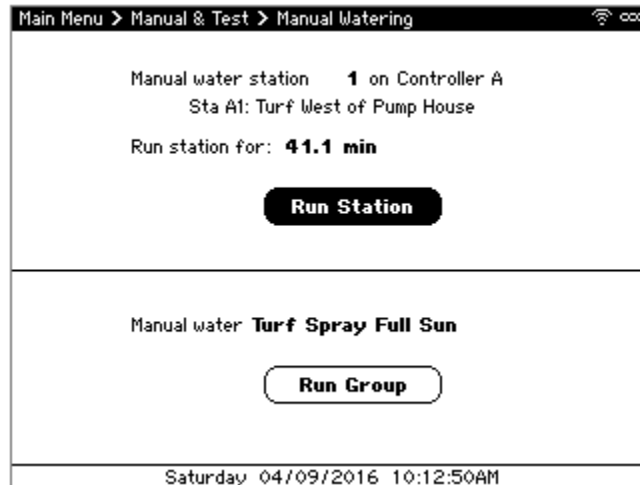


Figure 8 - Manual Watering screen

3. Use ←↑→↓ to navigate through the screen and +/- to select the station to manually irrigate.
4. Navigate to Run station for and use +/- to set how long to run the station for.
5. Navigate to and select **Run Station** to activate the selected station. The valve turns on and the Irrigation Details screen displays to show the progress.

## Sharing Real-Time Weather

If the controller does not have an ET Gage and Rain Bucket connected to it, you can share real-time weather to the controller using the Command Center Online web application. If you don't have an account yet, contact Calsense Product Support at (800) 572-8608 to create one. Once an account is created:

1. From the Main Menu of the controller, use ↓ to navigate to **Setup** and press **SELECT**. The Setup menu displays.

2. Navigate to **About** and press **SELECT**. The About screen displays (Figure 9).

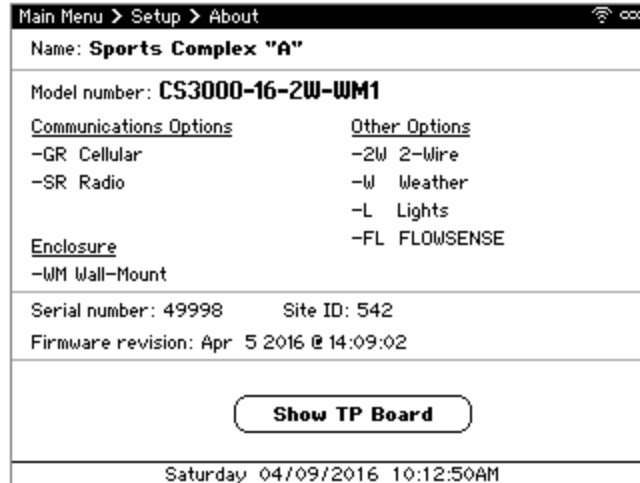


Figure 9 - About screen

3. Make note of the Site ID and Serial Number displayed on the screen.
4. Using a computer, log in to Command Center Online at [www.calsense.net](http://www.calsense.net).
5. If the CS3000 already exists, skip to Step 7. Otherwise, tap or click **Settings > Site Controllers**. The Site/Controllers list displays.
6. On the CS3000 Sites heading, tap or click **[Add CS3000]**.
7. Type the Site ID and Serial Number noted in Step 3 and tap or click **Add Site**. The controller is added.
8. Tap or click **Settings > Weather Sharing**. The Weather Sharing list displays.
9. Locate the new site in the list and tap or click **Edit**. The Site Settings page displays.
10. Under Sharing Settings, select your ET and Rain source. If you don't have an on-site ET Gage and/or Rain Bucket, select **WeatherSense** to receive data generated by Calsense.
11. Click **Save** to save the changes. Weather Sharing will automatically occur each night shortly after 8:00 PM local time.