

ET2000e IRRIGATION CONTROLLER



INFORMATION

CHANGE 1

12 March 2007



CONTROLLER INFORMATION

ET2000e

The Calsense ET2000e irrigation controller may be used as a stand-alone water management system or as a key component in a central control system. Controllers can be linked together with communication cable to share communication. Controllers or groups of controllers can communicate with remote IBM-compatible computers via a variety of communication methods including phone modem, hardwired, Local Radio and a number of other communications options. The ET2000e allows irrigation based on time, and/ or soil moisture.

The ET2000e controller is a water management computer using the Motorola 68000 microprocessor. Water management features normally associated with centrally controlled systems are built into this stand-alone controller. When communication options are added, controller information is available not only at the controller but at the remote central computer as well.

The ET2000e provides lateral break and mainline break protection; electrical fault detection; and hydraulic limit protection. It uses real-time *ET and rain information to automatically make daily adjustments to the watering time for each station. A wind sensor can be added to the controller to cause irrigation to be paused in high wind conditions. In addition, the ET2000e controller integrates moisture sensing and *ET based programming and interactive monthly volume budgets are all standard features of the ET2000e controller.

*ET: *Evapotranspiration.*

Basic Features

1. No-charge factory direct on-site training.
2. Backlit 16 line by 40 character display.
3. Displays station and equipment descriptions for each station.
4. Multi-level password protection.
5. Optional radio remote receiver integrated onto the controller panel.
6. Laptop interface for field uploads and downloads.
7. Removable *EPROM's for easy controller software upgrades.

8. Lifetime program storage without battery backup.
9. Light and gate control independent from irrigation programs.
10. Operator set water window.
11. Hold-over memory to smooth-out watering schedules in a tight watering window without creating orphan stations.
12. Held-over irrigation gets highest priority during next watering day.
13. Stop irrigation based on soil moisture content, user set by program.
14. Pump output selected by program.
15. Rain switch input.
16. Central communication options include, Hardwire, Local Radio, Spread Spectrum radio, *GPRS, Ethernet, Wireless Ethernet, Fiber Optic Modem, and telephone.
17. Unique default display showing: current date and time, whether there are alerts, what is watering and next scheduled watering.
18. Powder-coated steel finish standard.
19. Available in 8, 12, 16, 24, 32, 40, or 48 stations.
20. *UL approved.

*EPROM's: *Erasable / Programmable Read Only Memory.*

*GPRS: *General Packet Radio Service*

*UL: *Underwriters Laboratories.*

English / Spanish

1. Displays in English or Spanish
2. Built-in English and Spanish HELP manuals.
3. Key-sensitive help in English and Spanish.

Irrigation

1. Irrigation in minutes, applied inches, as percent of ET (actual or historical, and / or by soil moisture content).
2. Built-in 12 month *CIMIS table or use your own historical ET numbers.
3. Defaults to historical ET if there is no real-time ET information input.
4. 28-day ET tables interactive with all programs.
5. Uses real-time ET information from an ET gage to change daily station run times automatically.

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6. Uses real-time wind information from a wind gage to pause and resume irrigation according to operator-set parameters.
7. Twelve-month master schedule changes water days and start times each month.
8. Monthly water volume budget proportionate to ET and interactive with all programs.
9. Cycle and soak watering.
10. Uses Twelve-month variable crop factors.
11. Stacked or simultaneous program operations.
12. 7, 14, 21, and 28-day watering scheduling.
13. Seven regular programs plus a special syringe / propagation program.
14. Special syringe / propagation program pauses regular programs and allows regular programs to run between special program cycles.
15. Copy function allows station-to-station, station to program or month-to-month copying.
16. No water days by station, by program or by controller from 0 to 31 days.
17. Pauses and resumes irrigation for numerous reasons: controller OFF / ON, wind, manual and test sequences, special syringe program, etc.
18. Master valve override feature allows the master valve to be opened or closed manually from 1 to 24 hours.

**CIMIS: California Irrigation Management Information System.*

Flow Monitoring

1. Mainline break protection with during-irrigation and off-irrigation set point.
2. Lateral break protection with trip parameters set by program.
3. Optional multiple flow meter inputs.
4. Real-time flow monitoring.
5. Controller learns flow for each station.
6. Built in model numbers of flow sensor provide easy flow setup.
7. Hydraulic limit setting to maintain flow within operator-set parameters when running simultaneous programs.

Alerts

1. Electrical fault detection and bypass.
2. Fault alerts flash on screen until cleared.
3. Faults can trigger a flashing light output to alert technicians on drive-by inspections.
4. Status screen sorts alerts by station, controller or catastrophic.
5. Over budget alerts show when current irrigation programs will exceed a user set budget.

Built In Reports

1. Two-year water usage summary by month.
2. Displays volume in gallons or in *HCF.
3. Water Usage summarized by station, by controller, by manual and test and by non-controller use – for current month and previous month.
4. Logs all program changes for up to one month.
5. Logs all faults: overflow, no flow, over current, open, shorts, etc.
6. Logs and displays all ET and rain data for past 28 days in one convenient display.
7. For each station each day: logs date, start time, end time, repeat cycles ran, programmed minutes, actual minutes ran, actual inches applied, program name, learned flow, actual flow, manual / test minutes, hold-over time and alert flags.
8. Status function displays current monthly budget, projected use for the month and use to the current day.
9. Status function displays status for each station: minutes remaining from held-over, minutes remaining for today, watering, holding, paused, finished, etc.

** Hundreds of Cubic Feet*



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