WeatherTRAK®ETPro²series
The proven leader in smart irrigation.

Controller Specifying Information

WeatherTRAK ET Pro² Series Controllers and Operational Features

- 12-48 station models
- Indoor/outdoor models with locking cabinet
- Stainless steel pedestal, stainless steel or cold rolled steel wall mount enclosures including retrofit chassis mount options available
- Four station modes, selectable by station:
  - Automated by WeatherTRAK
  - User - With ET
  - User - NO ET
  - OFF
- Built-in sprinkler, soil, slope and plant data-bases with customizable values for custom plant types
- Scheduling with 365-day calendar
- Seven selectable water modes:
  - Optimized by WeatherTRAK
  - Odd/Even
  - Interval (1-31 days)
  - Days of Week (1-7 days)
  - Days of Week by Month (1-7 days)
  - Off
- Sequential stacking of programs or over-lap up to four programs simultaneously
- Manual operation of individual valve stations or all stations from 1-99 minutes in 1-minute increments
- Compatible with normally closed rain, rain/freeze or wind sensors
- Compatible with normally open or normally closed master valves
- Non-volatile memory maintains programs in case of power outage
- Review mode provides schedule and program for each individual station
- Built-in alerts for high flow, no flow and leak detection, valve short detections, lost communication, water window or water day discrepancies, hardware and ET subscription renewals
- Compatible with Data Industrial Flow Sensors - IR Series
- Flow monitoring capability for high flow, leak detection and no flow conditions. WeatherTRAK also provides the option to specifically exclude station(s) from flow monitoring as needed
- Fourteen different levels of alert function for true water management

- Two user-defined start times and water windows from 1-24 hours by program with up to 20 cycles per start time both in automated or user-defined modes
- Heavy-duty transformer for simultaneous operation of multiple programs inclusive of a master valve, pump start and manual operation
- Assign any station output as dedicated pump start
- One day exclusion for "Optimized by WeatherTRAK" water day pattern
- Toll-free customer support, including bilingual assistance (English and Spanish), Monday through Saturday at 800.362.8774
- Universal hand-held remote ready with pre-installed connectors
- Optional upgrade: *WeatherTRAK Central Internet Management (CIM)* providing two-way, remote Internet control of one or multiple controllers, including communication diagnostic tools

Water Conservation Features

- *WeatherTRAK ET Everywhere*™ service wirelessly provides daily local ET updates for automated program adjustment to each controller
- ET on or off by station
- Daily and weekly ET display
- Reports menu provides cumulative totals of flow usage and station runtimes on a daily, weekly and monthly basis
- % Adjust in 5% increments on a station by station basis to increase or decrease runtimes or cycle and soak times. % Adjust feature also includes adjustable day frequency on the same station by station basis as a second percentage adjustment function
- Flow sensing and monitoring capabilities, inclusive of mainline break, leak detection and no flow conditions
- Manual Rain Pause from 1-200 days
- Skip Days - automatically skips irrigation days and carries over required irrigation to the following water day when water windows are exceeded
- Simple transition from establishment mode to "Optimized by WeatherTRAK" mode with Copy function.

Hardware and Electrical Specifications

- Surge protection up to 4KV on all 24V output boards conforming to IEC 61000-4-5 standards
- On all station output boards, there shall be one LED per station output for field diagnostics in which 24-volt output voltage can be verified in valve test mode
- In this test, each station output LED will illuminate to indicate 24-volt output to the associated terminal output
- Station output modules available in 6-station increments, giving the *ET Pro²* flexible scalability
- Screw-less station output terminal strip sized for up to 10 gauge wire for installation ease
- Dedicated rain sensor, master valve terminals and flow sensor
- Non-volatile memory to retain all programming information during a power outage for up to 10 years. Time and date will be retained for a period of 7-10 days
- Dual-voltage power supply for 120 or 22 volts, single phase AC applications
- Chassis mounted ground lug for additional lightning protection - standard feature
- A power input of 120 VAC, (+/- 15%) 60 Hz and shall be capable of operating up to two 24-volt VAC solenoids per station while running a 24-volt VAC pump/master valve output circuit
- Total controller output shall not exceed 3.0 amps (80 VA) at 24 VAC with 0.5 amps for the master valve/pump start
- Power supply overload, back-up fuse: 3.0 amps slow-blow fuse
- Input Power Draw: 1.0 amp or less (+/- 15%) at 110 volts VAC or 0.5 amps or less (+/- 15%) at 220 volts VAC.

General.

The controller shall be programmed via the built-in user interface and capable of receiving daily weather updates via the *ET Everywhere* subscription service. The controller shall be available in wall mount (two materials available), front entry pedestal (two sizes available) and top entry pedestal enclosure models. Enclosure shall be key-entry in both EZC™ cold-rolled steel and stainless steel for wall mount models and stainless steel only for pedestal models.

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Programs.

The controller shall have four customizable and independent programs. Any station can be assigned any program and station mode with start time, water window and water day pattern.

Station Modes. The controller shall have four station modes that can be assigned up to two start times, water windows and water day modes. The four station modes are:

1) Automated by WeatherTRAK. The *WeatherTRAK Scheduling Engine™* shall automatically calculate each station's runtime, cycle and soak periods. When using "Automated by WeatherTRAK" with "Optimized by WeatherTRAK", water day patterns are automatically calculated by a 50% MAD (soil moisture depletion model) for each station independent of one another based on plant type, root zone depth, crop coefficient (Kc) and other user-defined input values listed:

A) Usable Rainfall. The amount of usable rainfall can be determined to reflect unique landscape requirements. Examples include a valve zone under a dense tree canopy or planters under a roof or semi-porous roof. There are five choices to select including "None" that will continue to irrigate specific valve stations even when rain pause has been selected.

B) Sprinkler Type. Default or user-defined precipitation rates and sprinkler efficiencies used to automatically determine station runtimes. Choose from eleven different options of common sprinkler types.

C) Precipitation Rates. Each sprinkler type has a factory default that can be adjusted from 0.1-9.9 inches per hour in 0.01" increments.

D) Sprinkler Efficiencies. Each sprinkler type has a factory default that can be adjusted from 5% to 95% in 5% increments.

E) Soil Type. Five soil types representing soil texture characteristics used by the *Scheduling Engine* to automatically determine the number of cycles and soak times to eliminate runoff and determine watering interval requirements.

F) Plant Type. There shall be seventeen plant type choices, each with a default crop coefficient (Kc) and root depth that will determine plant-specific watering needs.

G) Root Depth. Associated with the selected plant material, root depth shall be user-defined from 2"-36" in 1" increments. Root depth will be used in conjunction with daily ET to determine watering day intervals required for optimal soil moisture levels.

H) Microclimate. The amount of sunlight that each valve zone receives over a day's timeframe shall provide station-specific water adjustments to runtimes and cycle and soak periods. The controller shall have four microclimates to select from.

I) Slope Factor. The amount of grade change with a station location will affect run and cycle times to minimize runoff and maximize the infiltration of applied water to the plant's root zone. There are five varying amounts of slopes or gradients to choose at the station level.

J) Sprinkler Location. When any slope factor except "None/Slight 0-5% Grade" is selected, the location of sprinklers on a slope can be chosen. Sprinkler location may increase or decrease watering and cycle times. There are four sprinkler slope locations to choose at the station level.

2) User - With ET. A program mode in which water day patterns, station runtimes, cycle and soak periods are user-defined but are adjusted on a daily basis by ET value downloads from *ET Everywhere*.

3) User - NO ET. A program mode in which water day patterns, station runtimes, cycle and soak periods are user-defined.

4) OFF. This program mode shall suspend irrigation start times for a specified station(s) until the mode is changed. It shall save the depletion level until irrigation is resumed as a result of a mode change.

Water Day Patterns

The controller shall have seven different water day patterns to assign to any program mode. The same water day pattern can be assigned to one or more programs when different start times are required by site needs. All water day patterns shall operate on a 365-day calendar.

1) Optimized By WeatherTRAK. The controller shall automatically calculate the required water day pattern based on user-defined site parameters. In this water day pattern, a single omitted day can be selected.

2) Odd. Odd water days can be set to irrigate based on odd calendar days. For any months with 31 days, the 31st day will be omitted.

3) Even. Even water days that can be set to irrigate based on even calendar days.

4) Interval. Selectable intervals up to 31 days between irrigation. Selecting 1 day is the same as everyday watering.

5) Days of Week. Select 1-7 days of the week (Sunday-Saturday).

6) Day of Week by Month. Select 1-7 days of the week (Sunday-Saturday) for each month of the year.

7) Off. Water day pattern is suspended until changed.

Start Times/Water Windows.

Each program shall have up to two user-defined start times and water windows. The second water window is for High-ET applications where needed. The combined water window for both start times within a program is 23 hours and 59 minutes. The water window range shall be 1 hour to 23 hours and 59 minutes. The first and second start time within a program cannot overlap. The second start time, specifically for High-ET, shall provide a second syringe cycle of no more than 25% of the runtime for each station. The controller shall have the ability to "stack" (run each program sequentially after another even if start times overlap) or "overlap" (allowing for start times to overlap as needed). The number of stations, along with the master valve and one manual station, cannot exceed 3.0 amps current draw.
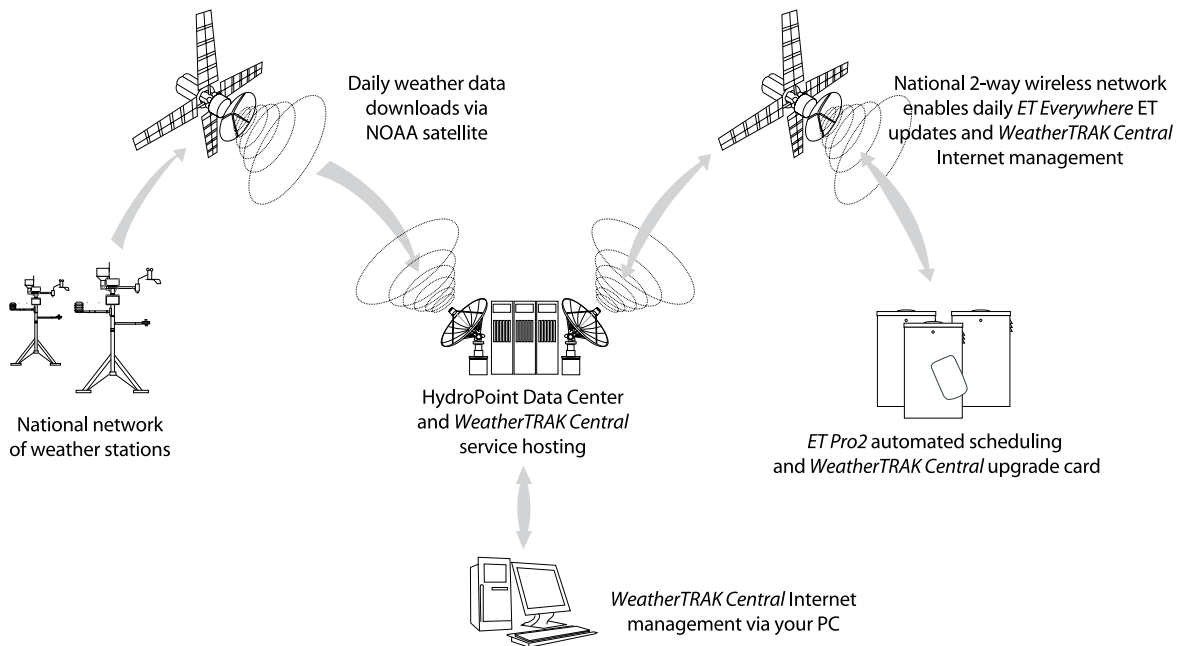
Flow Monitoring.

The controller shall be capable of flow monitoring as a standard feature when installed with a Data Industrial IR-Series flow meter in the following sizes: 1.00", 1.25", 1.50", 2.00", 3.00", 4.00" and "insert type" models. When any one of the first six sizes of flow meters (noted above) are selected, pre-loaded default K and Offset values will automatically appear in the Flow set-up screens. These values can be user modified as needed. The controller shall have direct connectivity to the flow meter through a dedicated flow meter input terminal without the need for a flow monitor. The controller shall have the ability to monitor high flow (mainline breaks), no flow and leak detections. Additionally some stations can be excluded from no-flow monitoring as determined by the end user. Each flow monitor condition has user defined gpm thresholds including "Off" if one flow condition is not needed. Each flow condition will also have a user-defined monitoring delay period from 1-6 minutes in 1-minute increments. When in use, the controller shall be capable of monitoring flows and initiating valve and/or master valve closure as well as posting a flow alert on a real-time basis.

Hardware and Electrical.

The controller's 24-volt station outputs shall have surge protection rated up to 4 KV in accordance with IEC 61000-4-5 standard. The controller shall use non-volatile memory to store and maintain all programming functions up to ten years during a power outage. The real-time clock and calendar shall be stored separately and maintained for 7-10 days after the loss of AC power. The controller shall have a dual voltage power supply capable of 120 VAC (+/-10%) 60 Hz or 220 VAC, single-phase (+/- 15%) 60 Hz and shall be capable of operating up to two, 24-volt solenoids per station while running a 24-

WeatherTRAK ET Pro² Central and *WeatherTRAK ET Everywhere*

Daily weather data downloads via NOAA satellite

National 2-way wireless network enables daily *ET Everywhere* ET updates and *WeatherTRAK Central* Internet management

HydroPoint Data Center and *WeatherTRAK Central* service hosting

National network of weather stations

ET Pro2 automated scheduling and *WeatherTRAK Central* upgrade card

WeatherTRAK Central Internet management via your PC

WeatherTRAK Central Internet Management™ Service Features

- Remote management and control
- Easy-to-use interface
- 24x7 access
- Secure password-protected Web site
- Single and multiple controller views

- Station-level programming
- Water budget feature enables comparison against monthly allocations
- Field change notification and synchronization
- Alerts for electrical and program issues
- Activity log and reporting

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volt VAC pump/master valve output circuit. Total controller output shall not exceed 3.0 amps (80 VA) at 24 VAC with 0.5 amps for the master valve/pump start. The master valve and pump start are independently programmable outputs. The pump start can be assigned any station output, lowering the controller's station count by one.

Operation Features and Options.
The controller shall have the following capabilities:

- Individual station runtimes from 1-99 minutes in .10 minute (6 second) increments
- Preview mode for all station programming data including flow data
- Manual operation by specific or all stations, with the ability to observe individual station flow when connected and programmed with a flow meter. Manual station runtimes shall be user-defined from 1-99 minutes in 1 minute increments
- User-defined Rain Pause from 1-200 days. When selected, all irrigation start times will be suspended. *ET Everywhere* updates will continue to adjust the schedule on a daily basis. Any station where usable rainfall is less than 100% could irrigate within a rain pause period

- Compatible with any normally open or normally closed 24 VAC solenoid master valve, including a dedicated terminal output
- Multiple valve common inputs made for commercial applications
- Chassis-mounted ground-lug for additional lightning protection as a standard feature as specified
- Compatible with normally closed rain or rain/freeze sensors including a dedicated rain sensor input terminal
- % Adjust feature by individual station with a range of -50% to +25% in 5% increments (Additional exclusive Day Adjust feature allowing for more frequent watering without exceeding daily ET requirements)
- Copy feature shall also include the ability to copy program data, setup data and station modes
- The controller shall have the ability to provide daily, weekly and monthly individual station data. Reports shall also be able to accumulate flow data on the same interval including resetting flow data for comparison against water meter readings
- Direct compatibility with *RainMaster*™1 ProMax UA hand-held remote model as well as RCT™2 Commander Series hand held remote
- Five-year limited warranty on parts and labor

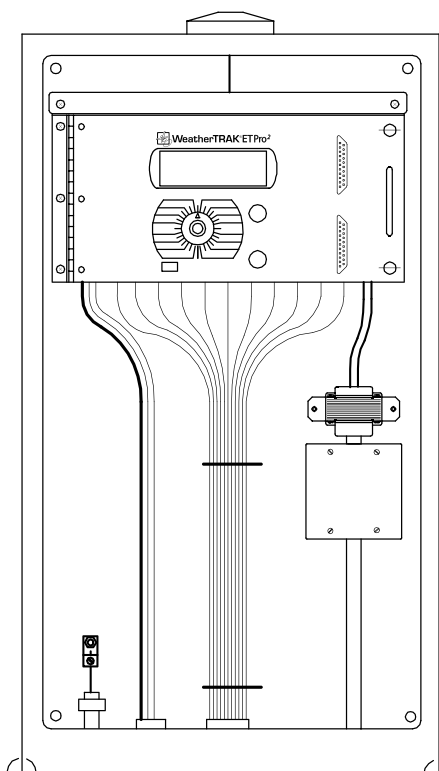**WeatherTRAK ET Everywhere Service.**
The controller shall include a built-in wireless transceiver that receives daily, local ET updates via the *ET Everywhere* service. Each controller shall have an assigned ET microzone that will allow it to receive the local weather for the controller's exact longitude and latitude coordinates. This shall be provided upon service activation. The weather data shall be collected from more than 14,000 government-maintained weather stations throughout North America.

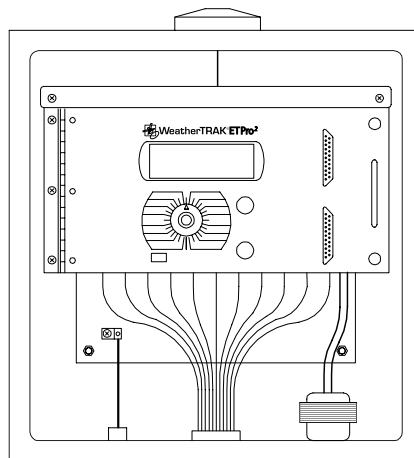**WeatherTRAK Central Internet Management (CIM).**
The controller shall have the ability to upgrade to a two-way GPRS modem that supports remote management of one or more controllers via a Web browser. CIM shall provided Internet-based management of all controller features and functions, including program, program modes, alert monitoring and clearing, set-up parameters, on/off of individual stations or controller, manual watering, rain pause and reporting. CIM shall provide real time alert notification indicating field and program changes, flow monitoring alerts, valve electrical issues, loss communication, scheduling conflicts, hardware conflicts and ET subscription expiration notification. CIM shall provide reporting capabilities by individual controller.

1 *RainMaster* is a registered trademark of RainMaster Irrigation.   2 RCT is registered trademark of Remote Control Technologies.

WeatherTRAK ET Pro² shown in pedestal enclosure

WeatherTRAK ET Pro² shown in wall mount enclosure

Chassis and Enclosure Configurations

Configuration	Cabinet Style	Dimensions (in Inches)	Station Count (where a range is provided, available in 6-station increments)	*ET Pro² Model #	*ET Pro² Central Model #
Chassis Options					
Wall Mount	Aluminum	16.5"W x 16.5"H	12-42	WTPRO2-<#>-CH1	WTPRO2C-<#>-CH1
Front Entry Enclosure	Aluminum	16.5"W x 32"H	12-42	WTPRO2-<#>-CH2	WTPRO2C-<#>-CH2
Front Entry Enclosure	Aluminum	22"W x 32"H	12- 48	WTPRO2-<#>-CH3	WTPRO2C-<#>-CH3
Narrow Top Entry	Aluminum	14"W x 26"H	12- 48	WTPRO2-<#>-CH4	WTPRO2C-<#>-CH4
Enclosure Options					
Wall Mount – Light Duty	Powder-coated cold-rolled steel	18"W x 18"H x 7"D	12-42	WTPRO2-<#>-CWM	WTPRO2C-<#>-CWM
Wall Mount – Light Duty	Stainless Steel	18"W x 18"H x 7"D	12-42	WTPRO2-<#>-SWM	WTPRO2C-<#>-SWM
Front Entry Pedestal – Light Duty	Stainless Steel-16 gauge	18"W x 36"H x 8"D	12-42	WTPRO2-<#>-SPL	WTPRO2C-<#>-SPL
Front Entry Pedestal – Heavy Duty	Stainless Steel-14 gauge	18"W x 36"H x 8"D	12- 48	WTPRO2-<#>-SPH	WTPRO2C-<#>-SPH
Front Entry Pedestal – Light Duty	Stainless Steel-16 gauge	24"W x 36"H x 10"W	12- 48	WTPRO2-<#>-PWL	WTPRO2C-<#>-PWL
Front Entry Pedestal – Heavy Duty	Stainless Steel-14 gauge	24"W x 36"H x 10"W	12-48	WTPRO2-<#>-PWH	WTPRO2C-<#>-PWH
Narrow Top Entry Pedestal – Heavy Duty	Stainless Steel-14 gauge	16"W x 38"H x 15.5"D	12-48	WTPRO2-<#>-SPT	WTPRO2C-<#>-SPT

*NOTE: insert station count number where the <#> is shown to specify model number.

Accessories

Accessory	Description	Model Number	Notes
Central Internet Management Upgrade	Upgrades *ET Pro²* series with WeatherTRAK Central Internet Management capabilities	WTEXB-PRO2-CIM	Compatible with 12-48 stations
Wireless Rain Sensor	500' range, 5 year battery life	WT-WRS	Compatible with 12-48 stations
GPRS Antenna – Monopole	Improves received signal by 36 points	ANT-GPRS-MP	For two-way communication
Modesty Panel	Lower interior cover for wall mount models	WT-MOD-P	Compatible with 12-42 stations
AC Surge Protector Kit	Provides AC surge protection to the input side of the controller	WT-SPK	Compatible with 12-48 stations
Antenna Amplifier Kit	Improves received signal by 36 points.	ANT-AMP-KIT	Compatible with one-way communication models only, any station count.

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