

# ST140 | PUMP STATION CONTROL & MONITORING



Altrac started in 2015 at Blue Heron Vineyards in Roseburg, OR. Frustrated with the available automation products, Heath Westbrook engineered his own cellular-based system to monitor and control irrigation pumps, valves, flow meters, weather stations and wind machines for frost protection. Neil Schultz joined in 2016 in order to field-proof the hardware and bring the system to market.

We partner with existing equipment dealers to sell and service automation gear. Initially focusing on frost protection, Altrac has expanded to irrigation equipment.

4 of the top 5 growers in California and 2 of the top 5 growers in Washington use our products.

We enjoy bringing on new clients each week, and look forward to working with you.

## HOW IT WORKS

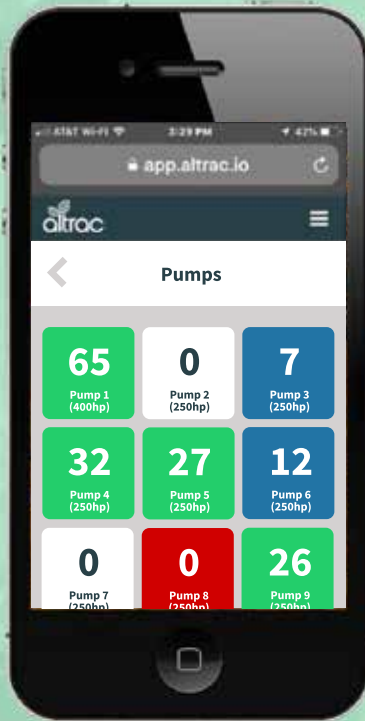


# THE APP

USE THE WEB APP TO START AND STOP EQUIPMENT WITH A SINGLE CLICK.

WEB APP LETS YOU QUICKLY SEE THE STATUS OF YOUR WIND MACHINES AT A GLANCE.

WHITE: OFF  
 BLUE: START  
 GREEN: FULL RUN  
 RED: ERROR



KEEP AN EYE ON EQUIPMENT FROM MULTIPLE RANCHES.

SET YOUR NOTIFICATIONS AND ALERTS SO YOU CAN IDENTIFY PROBLEMS AS THEY COME UP. AVAILABLE VIA TEXT, PHONE CALL, OR E-MAIL.



THE PUMP CONTROL SCREEN PROVIDES CONFIRMATION THE PUMP IS ON, A 24 HR CHART OF SENSOR ACTIVITY, AND CURRENT SENSOR VALUE.



DATA COLLECTED FROM THE FLOW METER IS DISPLAYED AS INSTANTANEOUS FLOW (GPM) OR CUMULATIVE FLOW (ACFT) TO INFORM WATER CONSUMPTION. IN THE ALTRAC WEBAPP YOU CAN EASILY ADJUST THE DATE RANGE TO CALCULATE WATER CONSUMPTION OVER ANY TIME PERIOD.



## OUT OF THE BOX, THE ST140 INTEGRATES WITH:

- 1 - PRIMARY PUMP (RELAY OR VFD) FOR IRRIGATION
- 1 - SECONDARY PUMP (RELAY) FOR FERTIGATION/pH MANAGEMENT
- 2 - PRESSURE SENSORS (TRANSDUCER OR SWITCH) PRE & POST FILTER LOCATIONS
- 1 - DOWNSTREAM FLOW METER (PULSE OUTPUT)

### RELIABLE CONTROL

THE ALTRAC PUMP STATION HAS TWO RELAYS WHICH ARE USED TO CONTROL TWO SEPARATE PIECES OF EQUIPMENT. THE FIRST RELAY IS USED FOR THE PRIMARY PUMP, AND THE SECOND RELAY FOR A FERTIGATION CONTROLLER OR SULFUR BURNER. THE ALTRAC STATION HAS CORRESPONDING INPUTS THAT ACCEPT A RUN SIGNAL WHICH ENSURES THE EQUIPMENT IS ACTUALLY RUNNING WHEN SIGNALLED TO START.

DURING AN IRRIGATION EVENT, THE SECONDARY EQUIPMENT IS USUALLY TIMED TO START AFTER THE WATER STARTS FLOWING AND TO STOP BEFORE THE WATER STOPS. IN THE WEBAPP, YOU CAN SCHEDULE THE SECONDARY EQUIPMENT SIMILARY TO HOW YOU SCHEDULE YOUR PRIMARY PUMP.

### PEACE OF MIND

A PRODUCER CAN VERIFY ON THEIR SMART PHONE OR COMPUTER THAT ALL IS WELL WITHOUT HAVING TO WORRY AT NIGHT OR DRIVE OUT TO PUMP SITES TO CONFIRM PUMP OPERATION.

### MONITOR FILTER HEALTH

THE ALTRAC PUMP STATION ACCEPTS UP TO TWO PRESSURE SENSORS. THESE SENSORS CAN BE PRESSURE SWITCHES (24 VDC MAX) FOR AN ON/OFF READING OR 4-20mA PRESSURE TRANSDUCERS FOR A PSI READING. COMMONLY, PRESSURE TRANSDUCERS ARE MOUNTED TO THE IRRIGATION LINE PRE-FILTER AND POST-FILTER TO DETERMINE PROPER FLUSHING.

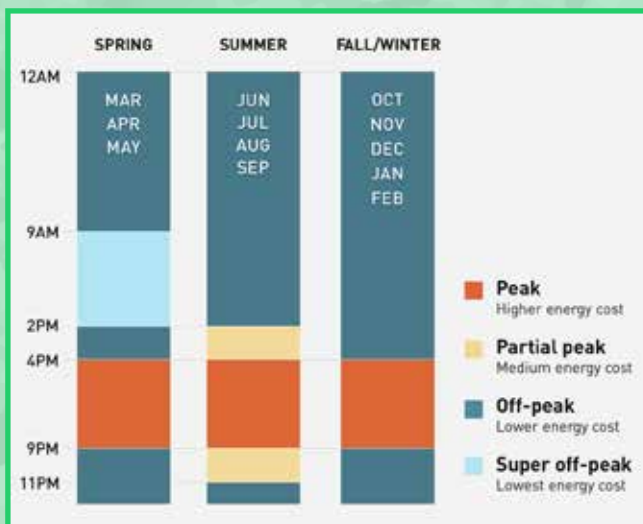
### FROST WATER

FROST WATER ACTUATION PROVIDES ANOTHER OPPORTUNITY FOR REMOTE PUMP CONTROL. AS AN ALTERNATIVE TO WIND MACHINES, CERTAIN ORCHARDS APPLY WATER WHEN THE AMBIENT TEMPERATURE REACHES THE RIGHT LEVEL RELATIVE TO THE DEW POINT. SIMILAR TO ALTRAC'S WIND MACHINE STATION, THE FROST WATER TOOL ALLOWS GROWERS TO SET A START AND STOP TEMPERATURE WHICH AUTOMATES FROST WATER APPLICATION.

**“MANY GROWERS CAN’T JUSTIFY \$10,000 PER PUMP, PLUS A MONTHLY DATA SUBSCRIPTION FOR BASIC REMOTE CONTROL. WE HAVE PRICED OUR DEVICE AT ABOUT \$3500, INCLUDING TWO PUMPS AND THREE SENSORS IN ORDER TO EXPAND THE ADDRESSABLE MARKET.”**

**- NEIL SCHULTZ, ALTRAC GM**

## TIME OF USE SCHEDULING



**SAVE ON COSTS BY SCHEDULING IRRIGATION CYCLES TO MINIMIZE UTILITY SPENDING. SCHEDULE BLOCKS OF IRRIGATION WHICH COINCIDE WITH UTILITY T.O.U. RATE PERIODS TO HELP MAXIMIZE OFF-PEAK ELECTRICAL USAGE.**

THE SCHEDULING TOOL IS ESPECIALLY VALUABLE IN CALIFORNIA DUE TO TIME-OF-USE ELECTRICAL PRICING. BY TURNING PUMPS ON AND OFF AUTOMATICALLY, A GROWER IS ABLE TO TAKE ADVANTAGE OF UP TO 50% LOWER ELECTRICITY COSTS. IN ADDITION, BY TURNING PUMPS OFF AUTOMATICALLY, AN IRRIGATOR IS ABLE TO LEAVE THE PROPERTY AND STILL ENSURE THE PUMP TURNS OFF AT THE END OF THE SET.

## LABOR SAVINGS

**OVERTIME LAWS ARE CHANGING AND LABOR IS BECOMING MORE EXPENSIVE. ELIMINATE LABOR COST WHILE INCREASING CONTROL OVER YOUR PRODUCTION.**



**NO MONTHLY FEES EVER**

5 years of 2G/3G/ or LTE/5G cellular data, software maintenance, and data storage costs are included into the price.



**CONNECT TO THE FIELD WITH YOUR PHONE**

Track your equipment in realtime. Receive alerts through SMS Text E-mail, or Phone Call.



**REMOTE OR MANUAL START**

Manually start and stop equipment in person or remotely with your phone.



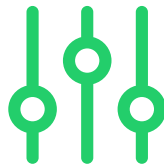
**TAKE ADVANTAGE OF T.O.U. SAVINGS**

Schedule irrigation cycles to T.O.U. off-peak hours for electrical cost reductions.



**FROST WATER**

Mitigate frost with frost water scheduling and remote pump control



**MONITOR AND CONTROL**

Keep an eye on equipment from multiple ranches. Start and stop equipment with a single click.



**TOUGH AND ROBUST**

Using IP67 Waterproofing and automotive grade hardware, the ST100 is built to last.



**TRUSTWORTHY AND RELIABLE**

Proven cellular technology, watchdog, and a three day auxiliary power supply.

**TRUSTED BY:**



BLUE HERON VINEYARDS



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