

TECHNICAL DATA SHEET – ULTIMA SERIES COOLING TOWER CONTROLLERS



Aquarius ULTIMA series cooling tower controllers provide ultimate ease and control at your fingertips.

Features:

- 7" touch screen with cutting-edge, elegant display
- User-friendly navigation
- Dynamic & customizable to your application
- Remote monitoring and control capabilities: modem, WiFi, Ethernet
- 6-month data logging & historical trend charts

These controllers work with Aquarius Technologies peristaltic pumps or other brands via supply of power to the designated output which is provided through weather-proof power points inside the controller box. ULTIMA is also designed to be used with erosion feeders for BCDMH type products, using ORP to control various size solenoid outputs to suit the flow requirements.



Features	
7-day timers	Outputs may be activated via 7-day timers set on selected days of the week, 4-week cycle.
Accessory Timers	4 x accessory timers link to each 7-day timer using "Before", "With" and "After" function.
Fuzzy Control	Configurable dynamic control for outputs controlling to a process value (sensor) set point. Adjusts control rate as process value approaches setpoint. Minimise overshoot & hysteresis.
LSI	Approximates system water Langelier Saturation Index based on input average calcium hardness.
Alarms: User-Defined	All controller probes and inputs have alarm mode capability. Alarm is triggered when value deviates outside range. Active alarm will be displayed on screen and via common-alarm relay.
Alarms: Common	1 x no-volt common alarm relay incorporated in all controllers for DDC operation. Common alarm to output 14 is standard for all U-series models.
Alarms: No-Flow	No-Flow alarm function standard for all U-series models.
Data Logging	Controller memory can log >6 months of data, exportable to USB memory device as CSV files or viewed on AquaReporter as graphs. Calibration data stored for troubleshooting.
Settings	Settings can be downloaded to USB, cloned to other U-series controllers or stored on a PC.
Password	Three levels of access available using one password: Unlocked, Read Only, & Locked.

Input Sensor Modules	pH	ORP mV	Conductivity $\mu\text{S/cm}$	Temperature $^{\circ}\text{C}$
Operating Range	4 – 10	0 – 999	0 – 99,999	0 – 100
Resolution	0.01	1	1	0.1
Alarm Range (plus/minus)	0.3 – 3	25 – 400	200 – 1,000	0.5 – 40
Dead Band	N/A	N/A	1.5% of set point	N/A
Control Type	APL	APL	On/Off	N/A
Control Modes	Disabled, Flow-Dependent or Continuous			
Sensor Press. Rating kPa	280	280	280	280
Sensor Temp. Rating $^{\circ}\text{C}$	45	45	60	60

Specifications

Electrical Supply	Dual input 240VAC power supply. Requires 230VAC +10%/-6% 10A continuous clean supply.
Touchscreen Display	Resistive 7" touchscreen + heavy duty Autotext XE screen protector resists UV & chemicals.
Programmable Outputs	14 programmable outputs, configurable via input value, timer, accessory, or manual control. 50V/240V outputs available to suit variety of applications.
Input Sensor Modules	Conductivity/TDS, pH/pHB, ORP/ORPB, Temperature and FAC/FACB (Free Available Chlorine).
Communications Port	2 x USB ports for use with WiFi or Ethernet, or for importing/exporting settings/data. Modem connection port for 4G internet connectivity.

Ordering Guide

ULTIMA	X	4G	_P
<p>ULTIMA ULTIMA touch screen controller for cooling tower systems. Each unit also includes:</p> <ul style="list-style-type: none"> • Controller with 7" touch screen • 15mm bleed solenoid valve for conductivity control • 2.5m Extension cable for BCD solenoid (no solenoid) • Flow/Cond/Temp. Probe (includes Flow Switch) • pH/ORP/Gnd Ref Probe • Power points for 4 outputs 	<p>X = [blank] ULTIMA only, no pumps</p> <p>Not included:</p> <ul style="list-style-type: none"> • Manifold + backboard <p>X = 2P + ADD:</p> <ul style="list-style-type: none"> • PVC manifold with locations for probes and injection points • Mounted on a PVC backboard • 2.5m Extension cable for BCD solenoid (BCD solenoid valve not included) • 1 LPH inhibitor peristaltic pump • 3 LPH ORP peristaltic pump <p>X = 2P2S Inclusions are as per 2P above + ADD:</p> <ul style="list-style-type: none"> • BCD solenoid valve <p>X = 3P Inclusions are as per 2P above + ADD:</p> <ul style="list-style-type: none"> • 3 LPH ORP peristaltic pump 	<p>[blank] No Internet Connection</p> <p>4G Supplied with 4G modem for internet connection. \$300 annual internet subscription</p>	<p>[blank] No cabinet</p> <p>_P Controller fitted in premium quality polyester cabinet</p>

Standard Shipping Dim. & Weight - **Contact Aquarius for pricing & information**

Optional Communications Packages

Communications Bundle	4G modem, WiFi and Ethernet to enable remote access to the controller to see live data, change settings, receive alarms via SMS or e-mail, see and download trend charts.
AquaReporter	AquaReporter website is designed for remote access to the controllers. Settings and Data can be viewed/changed as if you were at the controller.

Optional Accessories

Dosing Pumps	Peristaltic: Available in 1 & 3 L/hr @ 300kPa. Designed for use with APL control. High Pressure Pulse/Diaphragm: 2, 5, 10 & 20 L/hr with variable control.
CO2 Dosing	CO2 Dosage & gas flow controller
Solenoid Valves	Options of 15mm, 20mm, 25mm, 40mm & 50mm available.
BCD Solenoid Kits	15mm, 20mm or 25mm to suit BCD size, c/w non-return valve.
BCD Feeders	4kg, 12kg, 25kg or 100kg available.
Ext. Solenoid Cable	2.5m, 240VAC extension cable for remote bleed solenoids.
Impulse Water Meter	Provides pulses proportional to flow. Enables dosage proportional to a flow rate.
Tank Level Switch	Provides alarm when chemical tank is near empty. 500mm & 1000mm available.