

# TECHNICAL DATA SHEET – ULTIMA UCT SERIES CONTROLLER



ULTIMA Advanced Cooling Tower controller (UCT) provides ultimate ease and control at your fingertips. The UCT series has an additional layer of software designed specifically for advanced industrial applications requiring the addition of extra 4-20mA or 0-5V devices, giving freedom to control, monitor and data log up to 6 additional inputs.

**Features:**

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

ULTIMA UCT is ideal for demanding industrial cooling water treatment applications including cooling tower systems with additional external sensors (corrosion, turbidity, level, pressure..). ULTIMA UCT may also be used to build customised dosing packages.

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

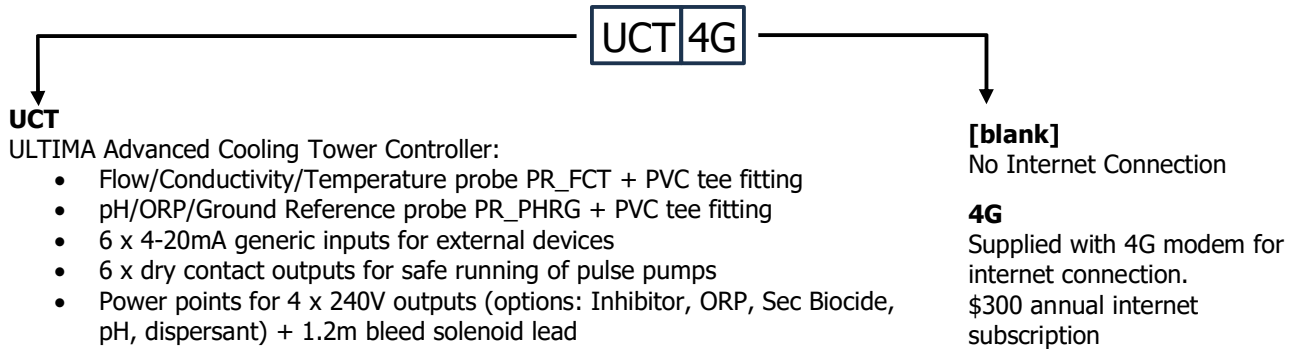
\*different ranges available

Features	
<b>7-day timers</b>	Outputs may be activated via 7-day timers set on selected days of the week, 4-week cycle.
<b>Accessory Timers</b>	4 x accessory timers link to each 7-day timer using "Before", "With" and "After" function.
<b>Inhibitor Dosing using bleed optimisation</b>	For any selected mode, inhibitor is not injected when Bleed is "ON" Mode "Water Meter" allows dosing according to the impulse from water metering. Mode "Bleed" allows post bleed inhibitor dosing proportional to the bleed time Other modes: "Continuous" and "Flow"
<b>Dispersant</b>	Functions control hourly volumetric dosage rate for inhibitor & dispersant applications.
<b>Fuzzy Control</b>	Configurable dynamic control for outputs controlling to a process value (sensor) set point. Adjusts control rate as process value approaches setpoint. Minimise overshoot & hysteresis.
<b>LSI</b>	Approximates system water Langelier Saturation Index based on input average calcium hardness.
<b>Alarms: User-Defined</b>	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.
<b>Alarms: Common</b>	1 x no-volt common alarm relay incorporated in all controllers for DDC operation. Common alarm to output 14 is standard for all PRO models.
<b>Alarms: No-Flow</b>	No-Flow alarm function standard for all PRO models.
<b>Data Logging</b>	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.
<b>Settings</b>	Settings can be downloaded to USB, cloned to other PRO controllers or stored on a PC.
<b>Password</b>	Three levels of access available using one password: Unlocked, Read Only, & Locked.

## Specifications

<b>Electrical Supply</b>	Dual input 240VAC power supply. Requires 230VAC +10%/-6% 10A continuous clean supply.
<b>Touchscreen Display</b>	Resistive 7" touchscreen + heavy duty Autotext XE screen protector resists UV & chemicals.
<b>Programmable Outputs</b>	14 programmable outputs, configurable via input value, timer, accessory, or manual control. 50V/240V outputs available to suit variety of applications.
<b>Input Modules</b>	Conductivity/TDS, pH/pHB, ORP/ORPB, and Temperature
<b>Additional Generic Inputs</b>	6 x 4-20mA/0-5V additional signal inputs from external sensors and devices. Configure to desired parameters, outputs and alarms, display on screen, trend & log data.
<b>Communications Port</b>	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



**Standard Shipping Dim. & Weight - 54cm x 36cm x 21cm, 15kgs**

## Optional Communications Packages

<b>Communications Bundle</b>	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.
<b>AquaReporter</b>	AquaReporter website is designed for remote access to the controllers. Settings and Data can be viewed/changed as if you were at the controller.
<b>Modbus</b>	ULTIMA UCT can be fitted with a Modbus PCB board to enable Modbus to BCMS/DDC.
<b>4-20mA Analogue</b>	ULTIMA UCT can be fitted with a BMS PCB board to enable 8 x 4-20mA data to BCMS/DDC.

## Optional Accessories

<b>Manifold</b>	20mm PVC-U manifold rated 700kPa @ 50°C. Min recommended flowrate 18 L/min. Plumbing inlet/outlet: 20mm BSP female or 19mm hose tails. PVC backboard supplied separately.
<b>Dosing Pumps</b>	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.
<b>Solenoid Valves</b>	Options of 15mm, 20mm, 25mm, 40mm & 50mm available.
<b>BCD Solenoid Kits</b>	15mm, 20mm or 25mm to suit BCD size, c/w non-return valve.
<b>BCD Feeders</b>	4kg, 12kg, 25kg or 100kg available.
<b>Ext. Solenoid Cable</b>	2.5m, 240VAC extension cable for remote bleed solenoids.
<b>Impulse Water Meter</b>	Provides pulses proportional to flow. Enables dosage proportional to a flow rate.
<b>Tank Level Switch</b>	Provides alarm when chemical tank is near empty. 500mm & 1000mm available.
<b>External Sensors</b>	External sensors outputting 4-20mA or 0-5V can be accepted. Options include: Free Available Chlorine/ Total Chlorine membrane sensors; Turbidity; Dissolved Oxygen; COD Analysers, etc.