

## **Specification: Universal Level Controller (ULC)**

---

### **General**

The Universal Level Controller (ULC) is a multi-setpoint user configurable level controller for the automatic operation of a total of six pumps, valves and alarm circuits.

Each circuit can be factory or field adjusted to open and close at the desired setpoint on either a rising or falling level. If the engineer's specifications so require, each unit can be furnished with special equipment which shall allow a definite draw-down in the water level before the reverse sequence will take place.

### **Overview**

#### **Two Analog Sources**

This allows any of the six step controls to be associated with two analog inputs. This essentially provides two independent level controllers.

For example outputs 1-3 could be associated with duplex pumps to fill a tank with output 3 for high alarm. Outputs 4-6 could be used to empty a different tank with an output for low level alarm.

#### **Independent selection of control type**

Each step has an independent output relay and can be selected to operate as Make-On-Rise (On when the level rises) or Make-On-Fall (On when the level drops). This means you could have as many as six separate level control functions from a single controller.

#### **Step Inhibit**

Each step has an associated input to inhibit the output. If it is desired to prevent the output from turning on during a low level cutout, temperature alarm, etc., a dry normally open contact input will provide an inhibit.

#### **User Scaled Analogs**

Each analog input is user scalable for the attached device. If a transducer fails and a unit with a different range is installed, the user can re-scale the input for the new device.

#### **Data Logging**

The controller is programmed as a data logger. If a memory chip is installed, the user can enable logging for Digital Output, Digital Input and Analog Input data.

Digital Input and Output logging occurs on a change of state (when the output/input turns on or off).

## **Specification: Universal Level Controller (ULC)**

---

Analog Input logging interval is set by the user and is adjustable from 5-900 seconds.

The controller stores the data in date and time stamped .csv (comma separated variable) files. These files can be easily viewed and charted with Microsoft Excel.

**Specification: Universal Level Controller (ULC)****Controller Specifications**

General		
Input:	120VAC @ 10A	
Relative Humidity:	5 to 95% Non-condensing	
Operating Temperature:	0°C to +50°C	
Compliance:	UL 508	
Digital DC Inputs		
No. of Inputs:	8	
Input Voltage:	24VDC	
Absolute Max. Voltage:	35VDC Max.	
Input Impedance:	10 Kohm	
OFF to ON Response:	1 ms	
ON to OFF Response	1 ms	
Digital Relay Outputs		
No. of Outputs:	6	
Commons per Output:	6	
Max. Output Current per Relay:	3A at 250VAC, resistive	
Max. Total Output Current:	5A Continuous	
Max. Output Voltage:	275 VAC, 30VDC	
Max. Switched Power:	1250 VA, 150W	
Contact Isolation to ground	1000VAC	
Max. Voltage Drop at Rated Current:	0.5V	
Expected Life:	No Load: 5,000,000	Rated Load: 100,000
Max Switching Rate:	300 CPM at no load	20 CPM at rated load
Type:	Mechanical Contact	Form A
Analog Inputs		
No. of Inputs:	2	
Input Range:	4-20 mA	
Input Impedance:	100 ohm	
Nominal Resolution:	10 Bits	
% AI Full Scale:	32,000 counts	
Max. Over-current:	35 mA	
Max. Error at 25°C	1.00 %	