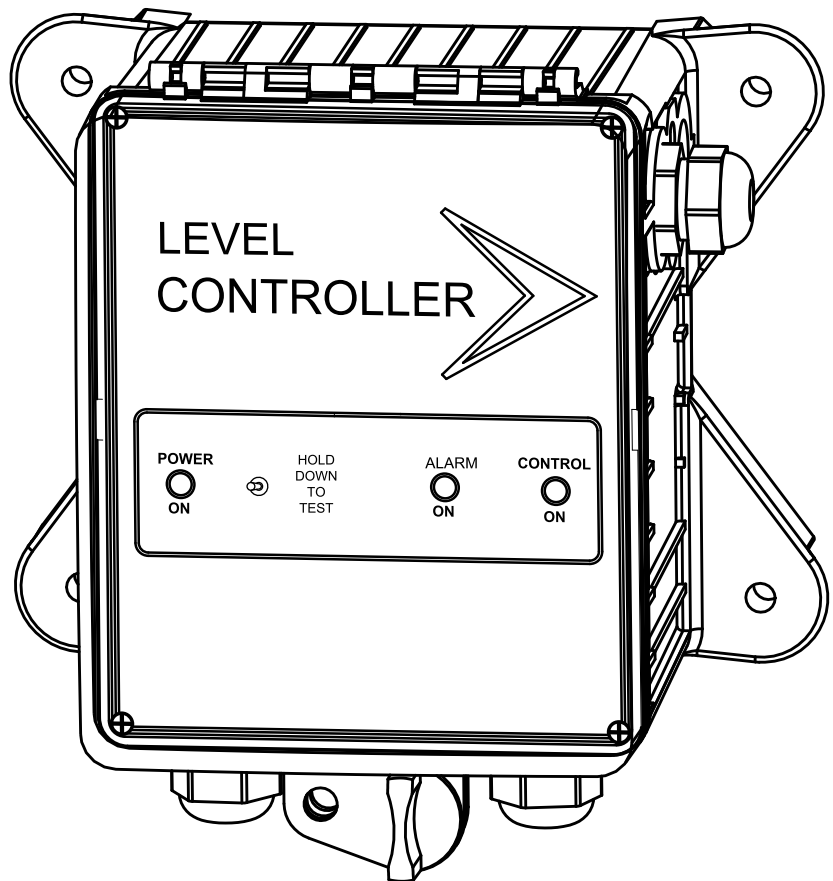


# Model ALL & FILL

## Liquid Level Alarm Controller

***Installation***  
***Maintenance***  
***Repair***  
***Manual***



**Advantage Controls**  
4700 Harold-Abitz Dr.  
Muskogee, OK 74403 USA  
Phone: (800) 743-7431  
Fax: (888) 686-6212  
[www.advantagecontrols.com](http://www.advantagecontrols.com)

07/2014

# Instruction & Maintenance Manual

## Table of Contents

I.	Warranty & 30 Day Billing Memo Policy .....	2
II.	Introduction .....	3
	Model Numbering.....	3
III.	Installation.....	3
IV.	Start-up .....	4
	Front Panel Controls .....	4
V.	Operations .....	4

### I. Advantage Controls' Product Warranty

#### Manufacturer's Product Warranty

Advantage Controls warrants units of its manufacture to be free of defects in material or workmanship. Liability under this policy extends for 24 months from date of installation. Liability is limited to repair or replacement of any failed equipment or part proven defective in material or workmanship upon manufacturer's examination. Removal and installation costs are not included under this warranty. Manufacturer's liability shall never exceed the selling price of equipment or part in question.

Advantage disclaims all liability for damage caused by its products by improper installation, maintenance, use or attempts to operate products beyond their intended functionality, intentionally or otherwise, or any unauthorized repair. Advantage is not responsible for damages, injuries or expense incurred through the use of its products.

The above warranty is in lieu of other warranties, either expressed or implied. No agent of ours is authorized to provide any warranty other than the above.

#### 30 Day Billing Memo Policy

Advantage Controls maintains a unique factory exchange program to ensure uninterrupted service with minimum downtime. If your unit malfunctions, call 1-800-743-7431, and provide our technician with Model and Serial Number information. If we are unable to diagnose and solve your problem over the phone, a fully warranted replacement unit will be shipped, usually within 48 hours, on a 30 Day Billing Memo.

This service requires a purchase order and the replacement unit is billed to your regular account for payment.

The replacement unit will be billed at current list price for that model less any applicable resale discount. Upon return of your old unit, credit will be issued to your account if the unit is in warranty. If the unit is out of warranty or the damage not covered, a partial credit will be applied based upon a prorated replacement price schedule dependent on the age of the unit. Any exchange covers only the controller or pump. Electrodes, liquid end components and other external accessories are not included.

## II. Introduction

ALL and FILL low level units prevent chemical metering pumps from pumping dry and provide an alarm LED and relay notification of the low level condition. FILL units automate filling of a tank with a control relay output based on a low "ON" and high "OFF" level switch input.

### Model Numbering

ALL and FILL units have several base system control functions and unit optional features. Your unit may be supplied with one or more of the features described in this manual. To determine what features apply to your unit check the model number label located on the controller enclosure.

#### Models

<b>ALL-C</b>	Controller only, no wand
<b>ALL-12</b>	Controller with 12" (30.48 cm) wand
<b>ALL-30</b>	Controller with 26" (60.04 cm) wand
<b>ALL-50</b>	Controller with 42" (106.68 cm) wand
<b>ALL-100</b>	Controller with 60" (152.4 cm) wand
<b>FILL-C00</b>	Fill Controller only, with no level wands
<b>FILL-C35</b>	Fill Controller only, with 2 wands sized for an Advantage 35 gal. tank
<b>FILL-C55</b>	Fill Controller only, with 2 wands sized for an Advantage 55 gal. tank

#### Options

<b>C</b>	230 Volt Service
<b>E</b>	Extra Control Output Cord
<b>V</b>	Audible Alarm with Silence Switch
<b>W-1</b>	Single 25 Amp Output Relay
<b>H</b>	High alarm input on FILL unit with control cut-off and 115 volt alarm
<b>H1</b>	High alarm on FILL unit with control cut-off and dry contact, alarm output
<b>LED</b>	LED on Level Wand
<b>S</b>	Switch for Output (ON/OFF)

#### Replacement Level Wands

<b>ALL-S12</b>	Adjustable to 12" (30.48 cm)
<b>ALL-S26</b>	Adjustable to 26" (60.04 cm)
<b>ALL-S42</b>	Adjustable to 42" (106.68 cm)
<b>ALL-S60</b>	Adjustable to 60" (152.4 cm)

## III. Installation

### Electrical Installation

The standard units have a voltage regulated internal power supply capable of operating in the range of approximately 105 to 135 VAC. Use a supply voltage of 110 to 125 VAC for best results. Relay outputs (2.5 amp) and power into the logic board (2 amp) are each individually protected by a replaceable fuse.

Prewired units are supplied with a 16 AWG cable with 3-wire grounded USA 115 volt plug for incoming power and 18 AWG 3-wire grounded receptacle cords for all control relay outputs.

- WARNINGS:**
- 1. The controller should be connected to its own isolated circuit breaker and for best results the ground should be a true earth ground not shared. Wiring must be done according to all applicable local codes.**
  - 2. Power (line voltage) must be disconnected while making any connections. If power is supplied to the unit, line voltage will be present.**
  - 3. Low voltage signal wires (probes, flow switch, water meter etc...) should never be run in conduit with high voltage wires.**

## Conduit Connections

Conduit units are predrilled at the factory and supplied with conduit knockouts for easy hard wiring to supplied connectors located in the back section of the controller. Remove the panel screws for access.

## Mounting

Select a mounting location that provides the operator easy access to the unit and a clear view of the controls through the cover of the controller. The location should be in proximity to grounded electrical connections, the needed sample line plumbing, and on a stable vertical surface.

**WARNING:** Avoid locations that expose the controller to direct sunlight, vapors, vibration, liquid spills or extreme temperatures; less than 0°F (-17.8°C) or greater than 120°F (50°C). EMI (electromagnetic interference) from radio transmissions and electric motors can also cause damage and should be avoided.

## IV. Start-up

Adjust the level wand to the proper activation height for your chemical supply tank. To adjust, loosen the black retaining nut on the level shaft. Slide the shaft in or out to achieve the proper height.

Plug the chemical pump into the PUMP outlet, plug the alarm device into the outlet marked ALARM.

Plug the unit into a convenient 115 VAC power source.

The unit is now ready for operation. To test the switching mechanism and check for proper operation of the alarm device press the test switch.

## Front Panel Controls

The control light illuminates whenever power is supplied to the unit, and the level switch indicates that solution is present in the tank. The Control light goes out when an alarm (low level) is present.

## V. Operation

Model ALL and FILL level controllers takes an external low voltage signal which activates/deactivates a pump and alarm. Level wands which can be purchased with the ALL controller are capable of sending an external low voltage signal and are easily adjustable. The operator can determine the chemical level at which the controller will activate. When the chemical tank level is above the height setting of the level wand, the controller will provide power to the PUMP outlet. When the level in the chemical tank drops below the wand setting, the outlet marked pump will de-energize, preventing the chemical pump from running "dry", or without a chemical supply.

The alarm outlet is de-energized whenever the chemical level is above the wand setting. When the chemical level drops below the wand setting, the alarm outlet is energized. The alarm outlet can be used for an external bell, light or other indicator requiring 115 VAC power.

If option V has been ordered, the unit will have an internal audio alarm with an alarm silence switch. This feature will be in addition to the regular alarm output.