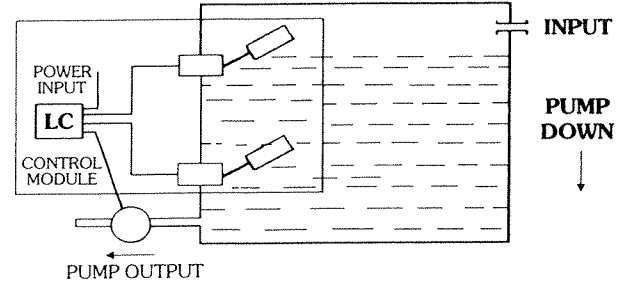
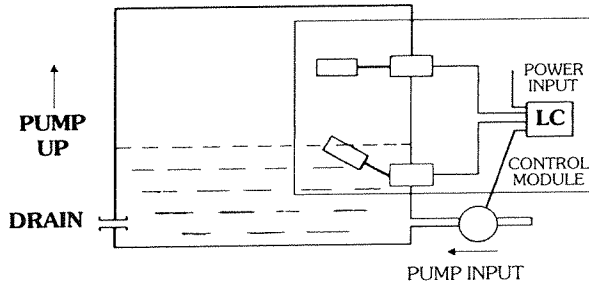


# PUMP UP/PUMP DOWN

## LIQUID LEVEL CONTROL

MODEL LC-1

The **combination** of any **two** Harwil liquid level **switches** and an **electronic control module** mounted in a weatherproof box, provide a ready-to-go system for the automatic filling or emptying of any type tank or vessel.

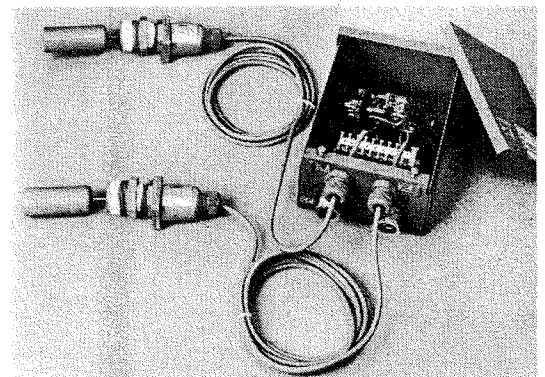


### • System is composed of

- Electronic Latching Control Module
- 30 amp DPST Motor Contactor Output for driving 2 or 3 HP pumps
- A secondary 10 amp SPDT Relay Output is also provided.
- 30 amp prewire color coded and labeled terminal strip.
- 120 or 240 VAC 50/60 HZ models available.
- Special electronic module design eliminates false starts due to turbulent wave action.
- NEMA 4 weatherproof junction box with sealtight input/output ports for standard 1/2 electrical conduit.
- Choose from **15** Harwil liquid level switch models any **two** switches which best **suit** your environment.
- Models for **clean** or **contaminated** fluids such as **water, sea water, sewage, machine cutting oils, thin slurries, etc.**
- Models for strong **acids, bases, hydrocarbons, alcohols, inorganics, ketones, esters or ethers.**
- Each system is provided with a complete, descriptive **parts list** and an **installation and wiring diagram** for both level switches and control module.
- Maintenance and check out requires only a standard multimeter.
- LC-1 Control Module is delivered prewired and is ready to hook-up and control your liquid level the day received.

UPPER AND LOWER LEVEL SWITCHES COMPRISING ANY TWO OF THE FOLLOWING HARWIL MODELS:

L-5	L-5SS
L-8N	L-8R
L-8CR	
L-21R/PP	
L-21N	L-21R
L-21VCR	
L-30R/PP	
L-30N	
L-30R	
L-30CR	
L-40N	
L-40VCR	



**HARWIL**

CORPORATION

DETAILED SPECIFICATIONS

QUALITY - THE ULTIMATE ECONOMY

541 Kinetic Drive, Oxnard, California 93030  
 TEL (805) 988-6800 FAX (805) 988-6804  
 EMAIL: harwil@harwil.com WEB Site: www.harwil.com

● **Electronic Latching Control Module Specifications**

- Operating Voltage (Input)
  - Voltage: 120 or 230 VAC
  - Tolerance: ±15%
  - Frequency: 50/60 Hertz
- Output
  - Electromechanical relay
  - Form: Single pole double throw, isolated
  - Rating: 10 amps resistive at 240VAC
- Protection
  - Transient Protected
  - Dielectric Breakdown: 1500 volts RMS minimum between input, output, and probe
- Environment
  - Operating Temperatures: -20°C to +55°C
  - Storage Temperature: -40°C to +80°C
  - Coating: Printed circuit board is conformal coated to resist moisture and corrosion.

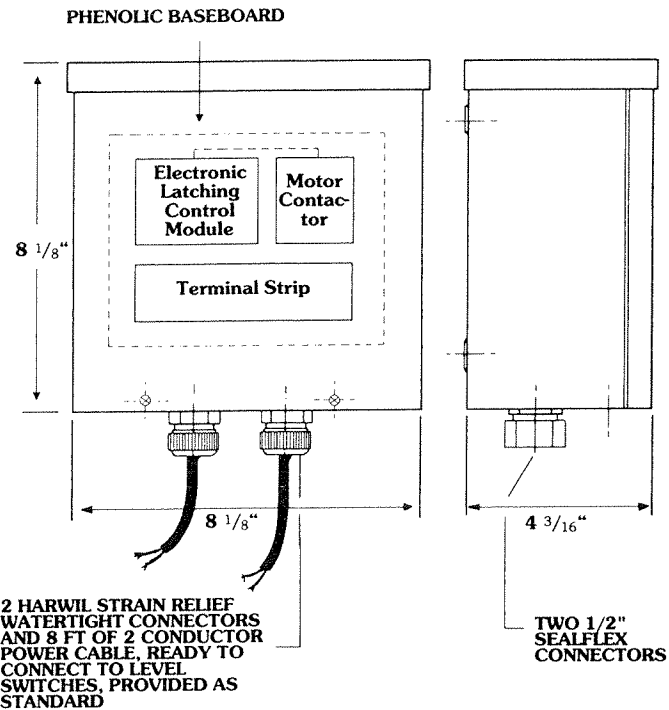
● **Motor Contactor Specifications**

- Operating Coil
  - 120 VAC or 208-240 VAC 50/60 HZ
  - Inrush: 31 VA
  - Continuous Use: 7 VA
  - Pick-Up: 90VAC (120 VAC Coil)
  - 170VAC (208-240 VA Coil)
  - Coil Insulation: Class B
  - Coil Connections: Double Male 1/4" quick connect
  - Maximum Ambient Temperature: 155°F
- Output Power Contacts
  - Type: DPST - Normally open
  - Contact rating per pole:

VOLTS	LOCKHED ROTOR AMPS (LRA)	FULL LOAD AMPS (FLR)	RESISTIVE AMPS
(120 208-240)	100	20	30

● **CONTROL BOX:**

Rainproof type 3R UL listed J&P Box 312J P/N 70233A



- Complete operating instructions, mechanical and electrical installation drawing and a numbered parts list is supplied with each unit.
- Current price information is listed on a separate sheet.
- Delivery from stock.

VOLTS	MAXIMUM NOMINAL MOTOR HORSE POWER
120 VAC	1.5 HP
208-240 VAC	3.0 HP

● **TERMINAL BLOCK SPECIFICATIONS:**

- Wire Range Size: #22 to #8 solid or stranded
- UL and NEMA Rating: 300V
- AMP Capacity: 40 amps
- Maximum Service Temperature: 220° F
- Breakdown Voltage 60 HZ AC: Contact to contact 5300V, Contact to ground 8400V
- Flammability: 94V-2 per UL94
- UL and RU Listing File: UL listing E15419, RU recognized E63810. CSA listed.

**WARRANTY**

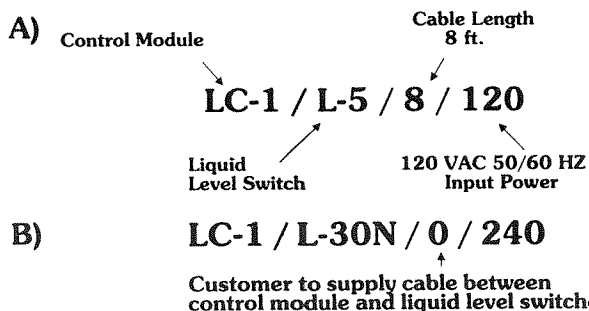
ALL HARWIL CO. EQUIPMENT IS GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR ONE YEAR FROM DATE OF ORIGINAL SHIPMENT. IF THE PRODUCT FAILS TO PERFORM AS WARRANTED, HARWIL CO. WILL REPLACE OR RECONDITION IT FREE OF CHARGE BUT WILL NOT ASSUME ANY LIABILITY (FOR ANY DAMAGES, LABOR OR DELAYS) INCIDENTAL THERETO. MISUSE, MIS-APPLICATION, REPAIR OR ALTERATION OF ANY PRODUCT, INVALIDATES ALL GUARANTEES, EXPRESSED OR IMPLIED.

● **How to Order**

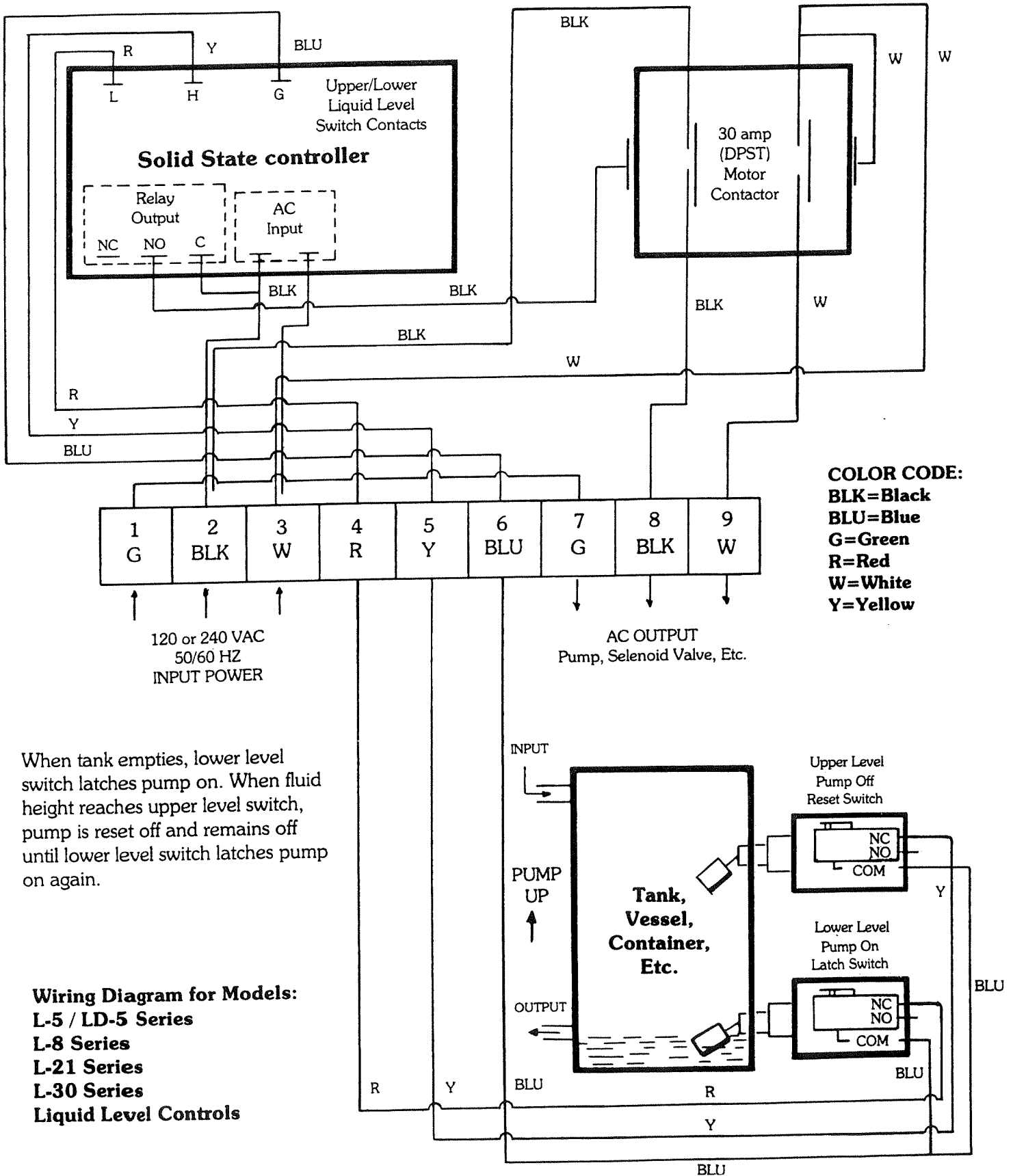
Four items are required to order a complete control system:

- 1) Basic Model Number: LC-1
- 2) Level Switch Model Number: Choose from 15 standard models
- 3) Length of cable in feet between control module and liquid level switches. Standard cable is 1/4" O.D. SVJ 18-2 90°C UL listed. Note: If customer is to supply cable, enter "0."
- 4) Operating Voltage

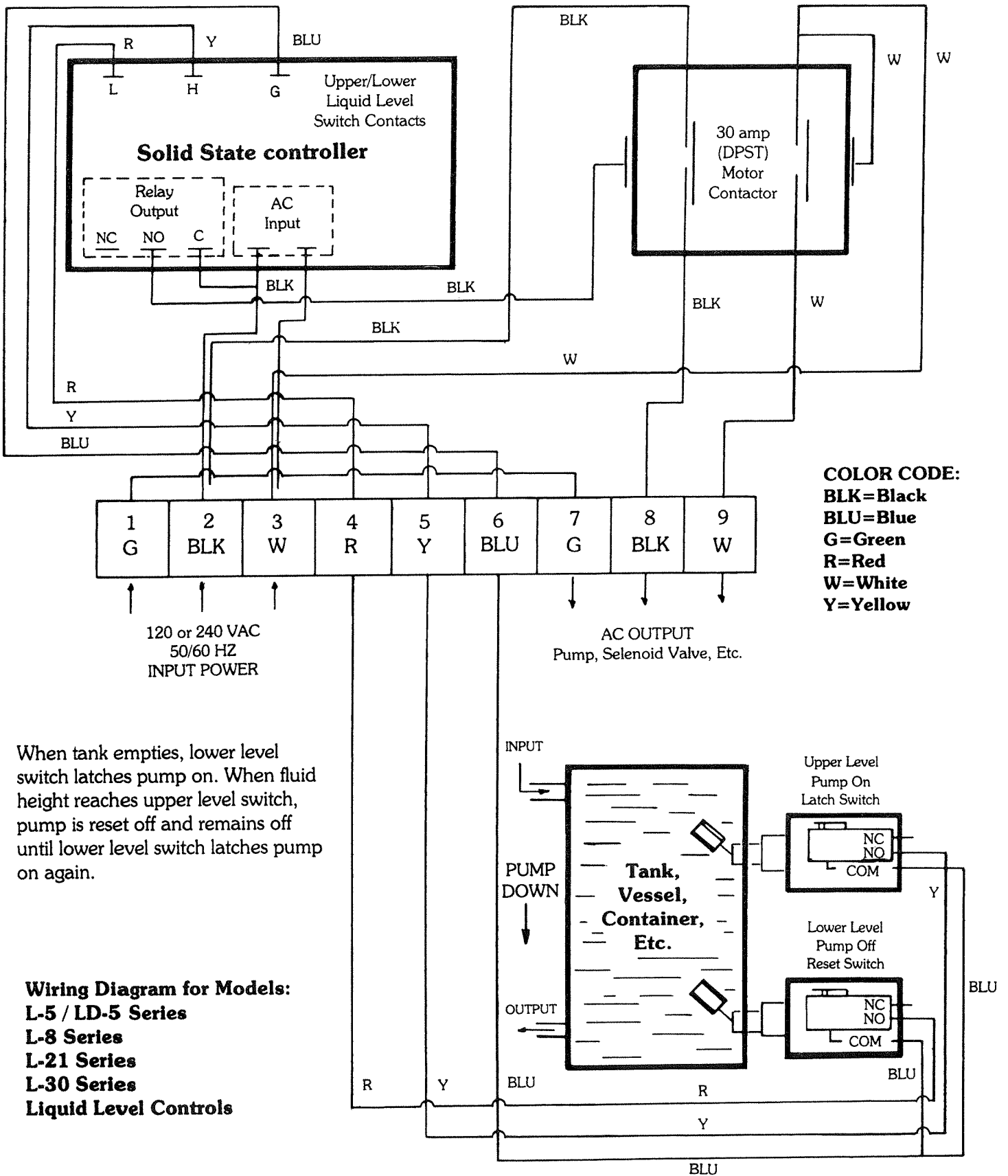
**Examples:**



# LC MODULE WIRING DIAGRAM PUMP UP



# LC MODULE WIRING DIAGRAM PUMP DOWN



When tank empties, lower level switch latches pump on. When fluid height reaches upper level switch, pump is reset off and remains off until lower level switch latches pump on again.

**Wiring Diagram for Models:  
L-5 / LD-5 Series  
L-8 Series  
L-21 Series  
L-30 Series  
Liquid Level Controls**