



The LLC2 Series is a dual-probe conductive liquid level control designed for OEM equipment and commercial appliance applications. Models are available for fill or drain operation. Transformer isolated 12VAC is provided at the probes to prevent electrolysis. A trickle current of less than 1mA determines the presence or absence of liquid between the probes and common. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. The LLC2 Series printed circuit board is conformal coated to resist moisture and corrosion.

For more information see:  
Appendix B, page 167, Figure 27 for dimensional drawing.  
Appendix C, page 170, Figure 27 for connection diagram.

### Operation

**Drain (Pump-Down Mode):** When the liquid level rises and touches the high probe, the output relay energizes and remains energized until the liquid falls below the low probe. The output relay then de-energizes and remains de-energized until the liquid again touches the high probe.

**Fill (Pump-Up Mode):** When the liquid level falls below the low probe, the output relay energizes and remains energized until the liquid level rises and touches the high probe. The output relay then de-energizes and remains de-energized until the liquid level again falls below the low probe.

### Features:

- Dual probe level control for conductive liquids
- Isolated AC voltage on the probes
- Adjustable or fixed sensing up to 100KΩ
- Terminal block or quick connect terminals
- Fill or drain operation available
- 24, 120, or 230VAC models are available
- Isolated, 10A, SPDT output contacts

Approvals:   

### Auxiliary Products:

- **Quick connect to screw adaptor:**  
P/N: P1015-18
- **Electrode:** P/N: PHST-38QTN
- **Threaded probe (24"): P/N: LLP-24**
- **Female quick connect:**  
P/N: P1015-13 (AWG 10/12)  
P/N: P1015-64 (AWG 14/16)  
P/N: P1015-14 (AWG 18/22)

### Available Models:

- LLC24A2AN
- LLC24A2F50N
- LLC24B2F50N
- LLC26A1F25C

If desired part number is not listed, please call us to see if it is technically possible to build.

### Order Table:

<b>LLC2</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Input</b>	<b>Operation</b>	<b>Termination</b>	<b>Sense Resistance</b>	<b>Mounting Dimension</b>	
-2 - 24VAC	-A - Drain	-1 - 0.25 Quick Connect	-A - Adjustable to 100kΩ	-N	
-4 - 120VAC	-B - Fill	-2 - Terminal Block	-F - Fixed (Specify fixed resistance 1-100 in 1KΩ increments.)	-C	
-6 - 230VAC					

	N	C
W	0.44 (11.35)	0.25 (6.35)
X	3.62 (11.35)	3.5 (88.9)
Y	2.12 (53.8)	2.5 (63.5)
Z	0.19 (4.83)	0.25 (6.35)

Mounting dimensions as indicated in Appendix B, page 167.

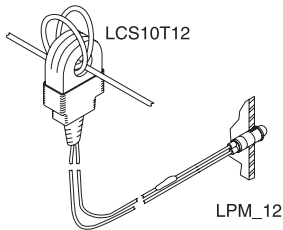
### Specifications

<b>Control</b>	Type..... Resistance sensing for high & low level detection of conductive liquids	<b>Termination</b> ..... 0.25 in. (6.35 mm) duplex male quick connect terminals
Sense Voltage..... 12VAC at probe terminals	<b>Sense Resistance</b> ..... Fixed or adjustable to 100KΩ	Terminal blocks for up to #14 AWG (2.5 mm <sup>2</sup> ) wire
<b>Sense Resistance Tolerance</b> ..... Adjustable; guaranteed range Fixed: ±10%	<b>Input</b>	<b>Dimensions (Open Board)</b> ..... 4 x 3 x 2 in. (101.6 x 76.2 x 50.8 mm)
<b>Voltage</b> ..... 24, 120, or 230VAC	<b>Tolerance</b> ..... 24VAC..... -15% - 20%	<b>Environmental</b>
120 & 230VAC..... -20% - 10%	<b>AC Line Frequency</b> ..... 50/60 Hz	<b>Operating / Storage Temperature</b> ..... -20° to 55°C / -40° to 80°C
<b>Output</b>	Type..... Electromechanical relay	<b>Coating</b> ..... Printed circuit board is conformal coated to resist moisture and corrosion
Form..... Isolated, SPDT	Rating..... 10A resistive @ 120/240VAC & 28VDC;	<b>Weight</b> ..... ≅ 9 oz (255 g)
1/3 hp @ 120/240VAC	Life..... Mechanical - 1 x 10 <sup>7</sup> ; Electrical - 1 x 10 <sup>5</sup>	
<b>Protection</b>	<b>Isolation Voltage</b> ..... ≥ 1500V RMS between input, output, & probe	
<b>Mechanical</b>	<b>Mounting</b> ..... Surface mount with two or four #6 (M3.5 x 0.6) screws	



# Appendix C - Connection Diagrams

FIGURE 22 - LCS10T12



Wire Length: 500 ft. (152.4m) max. (Customer Supplied)  
**CAUTION:** The LCS10T12 must be connected to the LPM12 or LPMG12 before current flows to prevent damage or shock hazard. Monitored wires must be properly insulated.

FIGURE 23 - LLC1 Series

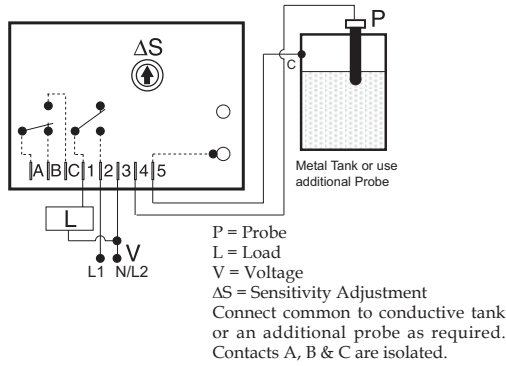


FIGURE 24 - LLC4 Series

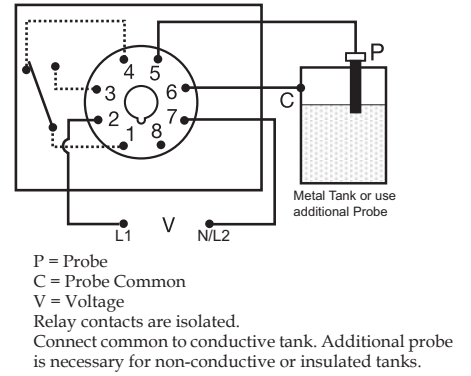


FIGURE 25 - LLC8 Series

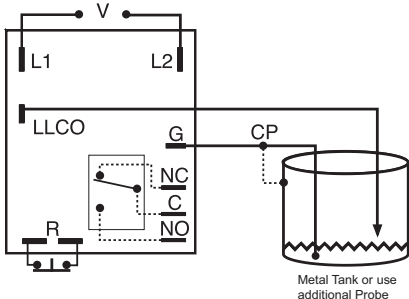


FIGURE 26 - LLC6 Series

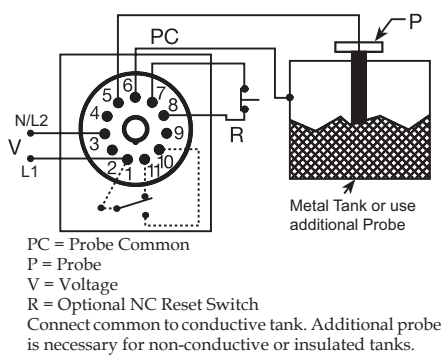


FIGURE 27 - LLC2 Series

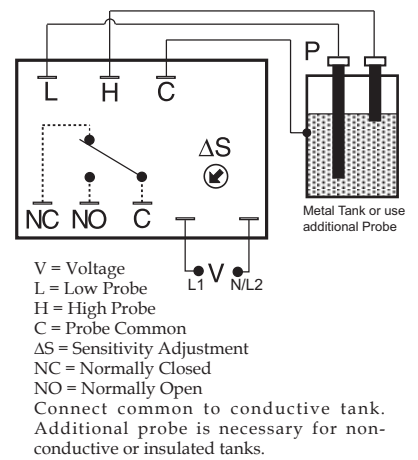


FIGURE 28 - LLC5 Series

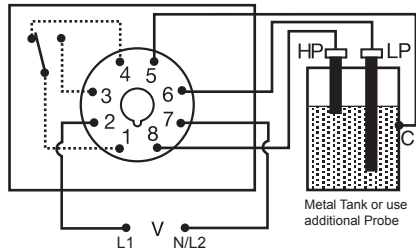
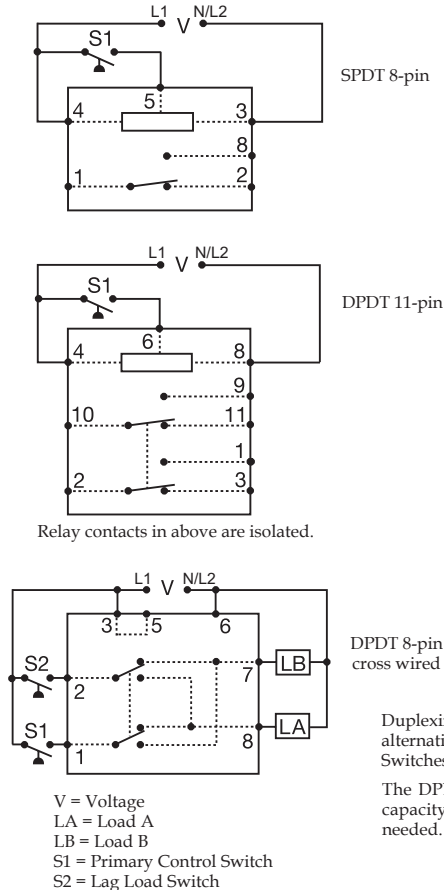


FIGURE 29 - ARP Series



Duplexing (Cross Wired): Duplexing models operate the same as alternating relays and when both the Control (S1) and Lag Load (S2) Switches are closed, Load A and Load B energize simultaneously.

The DPDT 8-pin, cross wired option, allows extra system load capacity through simultaneous operation of both motors when needed. Relay contacts are not isolated.