LLC1 SERIES

Open Board Liquid Level Controls

Description

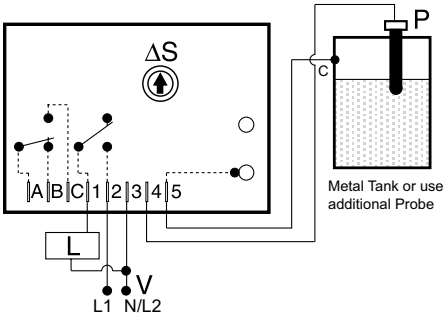
The LLC1 Series is a single probe conductive liquid level control designed for OEM equipment and commercial appliances. This unit may be ordered with fixed fill or fixed drain operation. A time delay (1-60s) prevents rapid cycling of the output relay. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. Isolated AC voltage is provided at the probe to prevent electrolysis. A trickle current of less than 1mA determines the presence or absence of liquid between the probe and common. The LLC1 Series printed circuit board is conformal coated to resist moisture and corrosion.

Operation

Drain (Pump-Down Mode): When the liquid level rises and touches the probe, a fixed time delay begins. This time delay prevents rapid cycling of the output relay and its load. At the end of the time delay, the output relay energizes and remains energized until the liquid level falls below the probe. The output relay then de-energizes and remains de-energized until the liquid again touches the probe.

Fill (Pump-Up Mode): When the liquid level falls below the probe, a fixed time delay begins. This time delay prevents rapid cycling of the output relay and its load. At the end of the time delay, the output relay energizes and remains energized until the liquid level rises and touches the probe. The output relay then de-energizes and remains de-energized until the liquid level again falls below the probe.

Wiring Diagram



P = Probe
L = Load
V = Voltage
ΔS = Sensitivity Adjustment

Contacts A, B & C are isolated.

Connect common to conductive tank or an additional probe as required.

Features & Benefits

FEATURES	BENEFITS
Isolated AC voltage on probe	Prevents scale buildup on the probe
Open PCB design	Cost effective design for OEM equipment and commercial appliances
Conformally coated PCB	Protects against moisture and corrosion
Sensitivity adjustment	Provides accurate level sensing while ignoring foam or floating debris

Ordering Information

MODEL	INPUT VOLTAGE	OPERATION	TIME DELAY	SENSE RESISTANCE	MOUNTING
LLC14A1AX	120VAC	Drain	1s	Adjustable	0.5 in nylon standoffs (3)
LLC14A5AX	120VAC	Drain	5s	Adjustable	0.5 in nylon standoffs (3)
LLC14B15AX	120VAC	Fill	15s	Adjustable	0.5 in nylon standoffs (3)
LLC14B1AX	120VAC	Fill	1s	Adjustable	0.5 in nylon standoffs (3)
LLC14B60AX	120VAC	Fill	60s	Adjustable	0.5 in nylon standoffs (3)
LLC16A25AX	230VAC	Drain	25s	Adjustable	0.5 in nylon standoffs (3)
LLC16A3AX	230VAC	Drain	3s	Adjustable	0.5 in nylon standoffs (3)

If you don't find the part you need, call us for a custom product 800-843-8848

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Accessories

P1015-13 (AWG 10/12), **P1015-64** (AWG 14/16), **P1015-14** (AWG 18/22) **Female Quick Connect**
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

P1015-18 Quick Connect to Screw Adapter
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

PHST-38QTN Electrode
Designed for a maximum steam pressure of 240 PSI; 400° F. UL353 Recognized.

LLP-24 Threaded Probe (24")
Threaded stainless steel probe measuring 24" (61 cm) long. For use with PHST-38QTN liquid level control electrodes.

Specifications

Control	
Type	ON/OFF (single level) resistance sensor with built-in time delay to prevent rapid cycling
Sense Voltage	Low voltage AC between probe & common. Isolated from input & output.
Sense Resistance	Fixed or adjustable to 250KΩ
Sense Resistance Tolerance	Adjustable - guaranteed range Factory fixed ±10%
Time Delay	
Range	Fixed 1 - 60s in 1s increments
Input	
Voltage	24, 120, or 230VAC
Tolerance	
24VAC	-15% - 20%
120 & 230VAC	-20% - 10%
AC Line Frequency	50/60 Hz
Output	
Type	Electromechanical relay
Form	Non-isolated, SPST & Isolated, SPDT contacts
Rating	10A resistive @ 120/240VAC & 28VDC; 1/3 hp @ 120/240VAC
Life	Mechanical - 1 x 10^7; Electrical - 1 x 10^5
Protection	
Surge	IEEE C62.41-1991 Level A
Isolation Voltage	≥ 1500V RMS between input, output & probe
Mechanical	
Mounting	Surface mount to probe common with two #6 (M3.5 x 0.6) screws or 0.50 in. (12.7 mm) nylon standoffs with three #6 (M3.5 x 0.6) screws (use Terminal 5 for probe common)
Termination	0.25 in. (6.35 mm) male quick connect terminals
Dimensions (Open Board)	**H** 88.9 mm (3.5"); **W** 69.9 mm (2.75"); **D** 50.8 mm (2.0")
Environmental	
Operating/Storage Temperature	-20° to 55°C/-40° to 80°C
Coating	Printed circuit board is conformal coated to resist moisture and corrosion
Weight	≅ 8.7 oz (247 g)