

Liquid Level Control

LLC4 Series

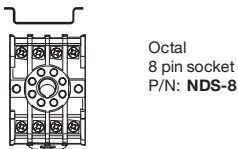
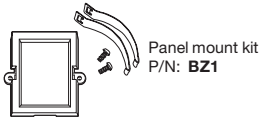
Single Probe



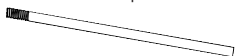
- Single Probe Level Control for Conductive Liquids
- Adjustable or Fixed Sensing up to 250K Ω
- Fill or Drain Operation Available
- 24, 120, or 230 V AC Models are Available
- Isolated AC Voltage on the Probes
- 4 A Resistive SPDT Isolated Contacts

Approvals:

Accessories



Level probe P/N: **LLP-24**



See accessory pages for specifications.

Description

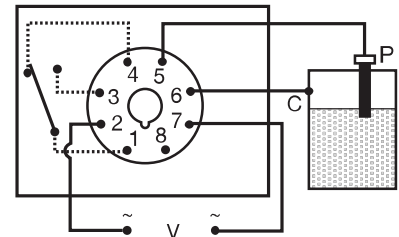
The LLC4 combines resistance sensing circuitry with solid state timing to provide single probe level maintenance. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. Transformer isolated 12 V AC is provided at the probe to prevent electrolysis. A trickle current of less than 1 mA determines the presence or absence of liquid between the probe and common. The LLC4 Series can be used with many types of low voltage (resistance changing) transducers to perform other control functions like temperature limit control, photo limit control, condensation sensing, and ice sensing.

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.

Connection



Relay contacts are isolated. Dashed lines are internal connections.

Connect common to conductive tank. Additional probe is necessary for non-conductive or insulated tanks.

P = Probe C = Probe Common V = Voltage

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Ordering Table

LLC4 Series	X Input	X Operation	X Time Delay (Seconds)	X Sense Resistance
	-2 - 24 V AC	-A - Drain	- Specify fixed delay (1 ... 60) secs. in 1 s increments	-A - Adjustable
	-4 - 120 V AC	-B - Fill		-F - Fixed
	-6 - 230 V AC			Specify fixed resistance (1 ... 250) in 1K Ω increments

Example P/N: **LLC44A1A** Fixed – **LLC46B5F50**

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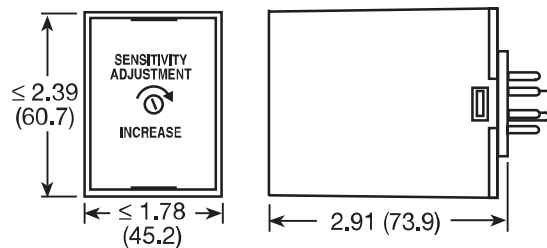
LLC4 Series

Single Probe

Technical Data

Control		
Type		ON/OFF (Single Level) Resistance sensor with built-in time delay to prevent rapid cycling
Sense Voltage		12 V AC at probe terminals
Sense Resistance		Factory fixed or adjustable to 250K Ω
Sense Resistance Tolerance		Adjustable - guaranteed range Factory fixed +/-10%
Input		
Voltage		24, 120, or 230 V AC
Tolerance	24 V AC	-15% ... +20%
	120 & 230 V AC	-20% ... +10%
Frequency		50 ... 60 Hz
Output		
Type		Electromechanical relay
Form		Isolated single pole double throw (SPDT) contacts
Rating		4 A resistive at 240 V AC; 1/10 hp at 240 V AC
Protection		
Surge		IEEE C62.41-1991 Level A
Isolation Voltage		\geq 1500 V RMS between input, output, & probe
Mechanical		
Mounting		Plug-in socket
Termination		8 Pin plug-in
Package		2.91 x 2.39 x 1.78 in. (73.9 x 60.7 x 45.2 mm)
Environmental		
Operating Temperature		-20°C ... +60°C
Storage Temperature		-40°C ... +80°C
Weight		\cong 6 oz (170 g)

Mechanical View



Inches (Millimeters)