

Low Level Cutoff LLC8 Series Liquid Level Control



- Designed for Low Level Cutoff Protection
- Energized on Wet Probe
- Fixed Time Delay of 1 ... 60 s
- Fixed Sense Resistance of 5K ... 250K Ω
- 24, 120, or 230 V AC Input Voltages Available
- Isolated 10 A, SPDT Relay Contacts

Approvals:

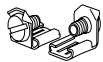
Accessories



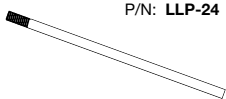
Electrode
P/N: PHST-38QTN



Female quick connect
P/Ns:
P1015-13 (AWG 10/12)
P1015-64 (AWG 14/16)
P1015-14 (AWG 18/22)



Quick connect to screw adaptor
P/N: P1015-18



Level probe
P/N: LLP-24

See accessory pages for specifications.

Description

The LLC8 Series is a low cost single probe conductive liquid level control designed for low liquid level cutoff protection. It offers a factory fixed time delay of 1 to 60 s and is available for input voltages of 24, 120, or 230 V AC. LED indicator illuminates whenever the LLC8's isolated 10 A SPDT output relay is energized. Sense resistance is fixed from 5K to 250K Ω . Available with manual/automatic reset or a special manual reset with a power outage feature that auto resets the unit when power is restored and the water level is acceptable. 24 and 120 V AC units are UL recognized as limit switches under UL353 (230 V AC units are UL 508) and CSA certified under Standard 14.

Operation

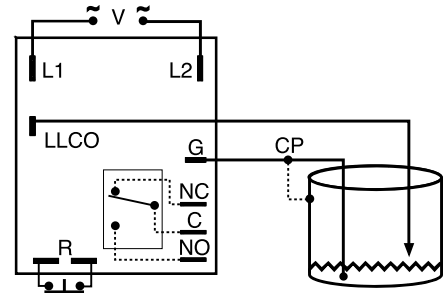
Automatic Reset (Reset switch not connected):

When liquid rises to low level cutoff probe, output relay and LED indicator energize. When liquid falls below low level cutoff probe, output relay and LED indicator de-energize after a fixed time delay.

Manual Reset (Reset switch connected): When the liquid level falls below low level probe, the output relay and LED de-energize after a fixed time delay. When the liquid level rises to low level probe, the output relay and LED indicator remain de-energized until the N.C. manual reset switch is opened; then they energize immediately.

Power Outage Manual Reset (Reset switch connected): A power outage causes the output relay and LED indicator to de-energize. Upon restoration of power, if the liquid is touching the low level probe, the output relay and LED indicator will re-energize. If the liquid level is below the low level probe, the output relay and LED indicator remain de-energized until the N.C. reset switch is opened.

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.

V = Voltage LLCO = Low Level Probe
G or CP = Ground or Common (Reference) Probe
R = Optional NC Reset Switch (not included)
NO = Normally Open NC = Normally Closed
C = Common or Transfer Contact

Ordering Table

LLC8 Series	X Input	X Time Delay (Fixed)	X Sense Resistance	X Reset
	-2 - 24 V AC	Specify Fixed Delay	-F - Fixed	-M - Manual/Automatic Reset
	-4 - 120 V AC	In Seconds	Specify Fixed Resistance	-P - Power Outage Manual Reset
	-6 - 230 V AC	[1 ... 60] In 1 s Increments	In Kilohms [5 ... 250] in 1K increments	

Example P/N: LLC8410F25M, LLC8620F100P

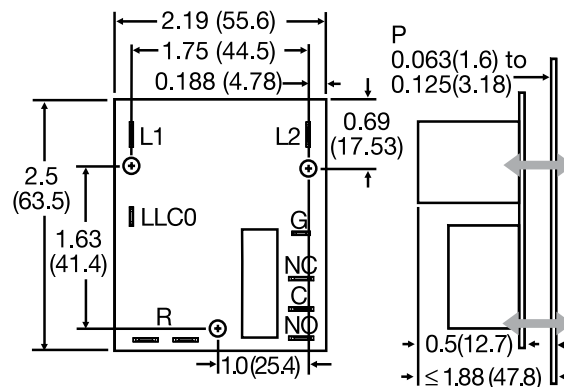
Low Level Cutoff LLC8 Series Liquid Level Control

Liquid level
controls

Technical Data

Control		
Type		Resistance sensing for conductive liquids with time delay
Sense Voltage		12 V AC nominal at probe terminals
Sense Resistance		5K ... 250K Ω fixed
Sense Resistance Tolerance		+/-10%
Time Delay		
Tolerance		+/-20%
Repeat Accuracy		+/-10%
Time Delay vs. Temperature & Voltage		+/-10%
Power Outage Reset Delay		≤ 1 s
Input		
Voltage		24, 120, or 230 V AC
Tolerance	24 V AC	-15% ... +20%
	120 or 230 V AC	-20% ... +10%
Frequency		50 ... 60 Hz
Output		
Type		Electromechanical relay
Form		Isolated single pole double throw (SPDT)
Rating		10 A resistive at 120/240 V AC; 1/4 hp at 125 V AC; 1/2 hp at 250 V AC
Protection		
Surge		IEEE C62.41-1991 Level A
Isolation Voltage		≥ 2500 V RMS input to output terminals
Mechanical		
Mounting		0.5 in. (12.7 mm) x .187 (4.76 mm) dia. nylon standoffs (3)
Termination	Electrical	0.25 in. (6.35 mm) male quick connect terminals
	Reset Switch & Probe(s)	0.187 x 0.03 in. (4.75 x 0.76 mm) male quick connect terminals
Environmental		
Operating Temperature		-40°C ... +60°C
Storage Temperature		-40°C ... +80°C
Coating		Printed circuit board is conformal coated to resist moisture & corrosion
Humidity		95% relative, non-condensing
Weight		≈ 5 oz (141.7 g)

Mechanical View



Inches (Millimeters)

P = User supplied mounting panel thickness

LLC82B01 06.30.04