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

Description

The LLC8 Series is a low cost single probe 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.

- Approvals:

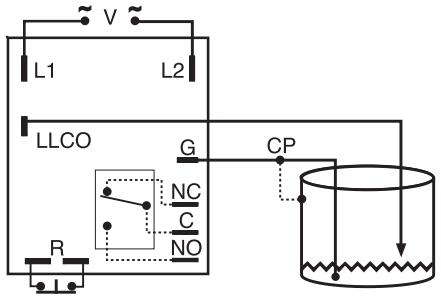
Ordering Table

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

Example P/N: LLC8410F25M

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
Protection		
Surge		IEEE C62.41-1991 Level A
Isolation Voltage		≥ 2500 V RMS input to output
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
	Probe(s)	0.187 in. (4.75 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)



Relay contacts are isolated. Dashed lines are internal connections.

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

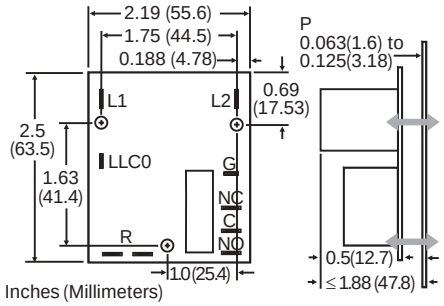
V = Voltage LLCO = Low Level Probe
G or CP = Ground or Common (Reference) Probe
R = Optional NC Reset Switch (not included)
NO = Normally Open NC = Normally Closed

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.

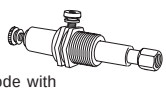
Manual Reset (Reset switch connected): When the liquid level falls below low level probe, the output relay and LED de-energize after a fixed time delay. When the liquid level rises to low level probe, the output relay and LED indicator remain de-energized until the manual reset switch is opened; then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

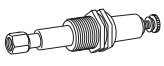


P = User supplied mounting panel thickness

Accessories

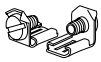


Electrode with common connection
P/N: WCC-1138-3



Electrode
P/N: WCC-1138

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 at the end of this section and the Monitors section.