ProSense® CLC Series Liquid Level Controllers

Part No. CLC1-F-24

Overview

The ProSense CLC Series Liquid Level Controllers detect and control levels of conductive liquids (tap water, seawater, sewage, chemical solutions, coffee, ice cream, etc.) in dual probe pump up or pump down applications. The conductive properties of the liquid complete a circuit between a probe and common when the liquid comes in contact with both. These relays compare the value of the measured resistance between the probe and common with the setpoint of the adjustable sensitivity potentiometer provided on the product. The output of the relay is used to control pumps, solenoids or valves to automatically lower, raise or maintain the level of the liquid in the tank. The CLC Series controller pulses the probes with a DC voltage to prevent potential electroplating issues.

Operation - Dual Probe

Pump Up (Fill) Models: When the liquid level falls below the low level probe, a 1 second time delay begins & the LED flashes Red. At the end of the time delay, the output relay energizes & the LED is Red ON. The pump is ON to fill the tank. The relay remains energized (latched) until the liquid level rises & touches the high level probe. The output relay de-energizes, turning OFF the pump, and remains de-energized & the LED is Green ON until the liquid level again falls below the low level probe.

Pump Down (Drain) Models: When the liquid level rises & touches the high level probe, a 1 second time delay begins & the LED flashes Red. At the end of the delay, the output relay energizes & the LED is Red ON. The pump is ON to drain the tank. The relay remains energized (latched) until the liquid level falls below the low level probe. The output relay de-energizes, turning OFF the pump, and remains de-energized & the LED is Green ON until the liquid level rises & touches the high level probe.

Features

- Controls level of conductive liquids in pump up (Fill) or pump down (Drain) applications
- Dual probe operation
- Probes are pulsed with a DC Voltage to prevent electroplating
- Adjustable sensitivity range to meet a large variety of liquid types
- LED status indication
- Uses industry-standard 8-pin octal socket
- Pilot duty contact rating

Approvals

- cURus, File number E191059
- UL Listed when used with socket 70169-D, File number E191059
- CE

(with socket 70169-D)

CLC Liquid Level Controllers							
Model	***Function***	***Operating Voltage***	***Sensitivity***	***Price***	***Weight (lbs)***	***Use With***	***Drawing Link***
CLC1-F-24	Pump Up (Tank Fill)	24VAC	1K-250KΩ	$;57ts:	0.3	70169-D socket required for cULus	PDF
CLC1-F-120		120VAC		$;;57tt:	0.3		PDF
CLC1-F-240		240VAC		$;57tu:	0.3		PDF
CLC1-D-24	Pump Down (Tank Drain)	24VAC		$;57tv:	0.3		PDF
CLC1-D-120		120VAC		$;57tx:	0.3		PDF
CLC1-D-240		240VAC		$;57tz:	0.3		PDF

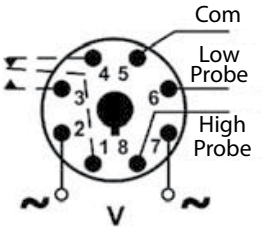
Order socket and sensing probes separately

ProSense® CLC Series Liquid Level Controllers

CLC Liquid Level Controller Specifications	
Voltage Tolerance	+10/-15% of nominal at 50/60 Hz.
Load (Burden)	2VA
Probe Voltage	5V DC Pulsed
Resistance Sensitivity Range	1K - 250KΩ
Response Time	Pick-up: One second Drop-out: One second
LED Indicator	Green ON with Input Voltage applied; Red Flashing during timing; Red ON when relay energized
Temperature	Operating: -28 to 65°C (-18 to 149°F) Storage: -40 to 85°C (-40 to 185°F)
Output Contacts	SPDT: 10A @ 240V AC / 7A @ 28V DC, 1/4HP @ 120V AC (N.O.), Minimum contact rating: 12V @ 100mA
Contact Life	Mechanical: 10,000,000 operations Electrical at Full Load: 100,000 operations
Mounting	Requires Industry-Standard 8 Pin Octal Socket (70169-D to maintain UL Listing or equivalent)
Approvals	cURus, cULus (File Number E191059), CE

Wiring

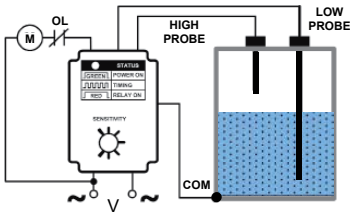
8 Pin Octal
70169-D



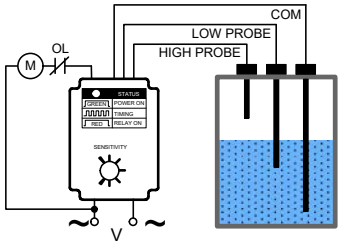
Suggested Probe Assembly

8mm diameter GWR-P240 through GWR-P1600 probes can be used with BSPBX-12-W cable gland and CLC-ACC1 wiring kit. Can be mounted through tank hole with included nut or without the included nut when installed in a 1/2" NPT tank flange.

Installation and Usage

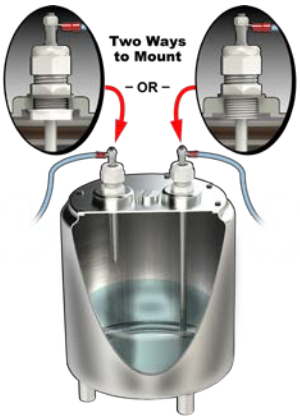


When using a metal or conductive tank the HIGH and LOW PROBE should be isolated from the tank and the COM should be tied to the tank wall that will be in contact with the process fluid.

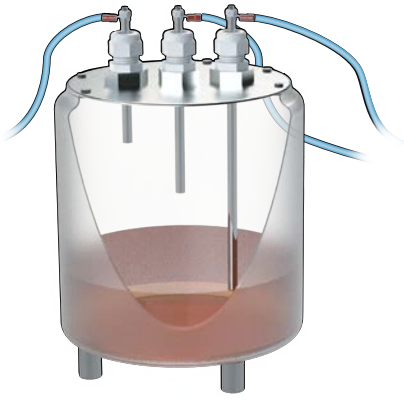


When using a plastic or non-conductive tank a third COM PROBE should be used that will always be lower in the process liquid than the LOW PROBE.

Dual Probe Installation



Dual Probe with Common Probe Installation



Note: The suggested probe configurations and suggested parts above are one application solution. Any conductive material can be used as a probe and installations do not have to be vertically installed in the tank. For applications in deep tanks threaded rod, available at most hardware stores, or an equivalent can be used.

ProSense® CLC Series Liquid Level Controller Accessories

Part No. 70169-D

Part No. GWR-P700

Part No. CLC-ACC1

Part No. BSPBX-12-W

CLC Liquid Level Controller Accessories

Model	Description	Pcs/ Pkg	Weight (lbs)	Price	Drawing Link
70169-D	Macromatic relay socket, 8-pin, 35mm DIN rail or panel mount. For use with ProSense octal relays.	1	3.8	$;5t6:	PDF
GWR-P240	ProSense level sensing probe, 240mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	0.7	$4ovo:	PDF
GWR-P450	ProSense level sensing probe, 450mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	0.9	$4ovp:	PDF
GWR-P700	ProSense level sensing probe, 700mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	1.3	$4ovq:	PDF
GWR-P1000	ProSense level sensing probe, 1000mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	1.5	$4ovg:	PDF
GWR-P1200	ProSense level sensing probe, 1200mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	1.9	$4ovh:	PDF
GWR-P1600	ProSense level sensing probe, 1600mm length, stainless steel. For use with GWR-1600-C and GWR-1600-P guided wave radar level sensors and CLC Series Liquid Level Controllers	1	2.3	$-4ovi:	PDF
CLC-ACC1	ProSense electrical connector, for use with ProSense GWR level sensing probes.	5	0.1	$;57ty:	N/A
BSPBX-12-W	Bimed cable gland, 1/2in NPT thread type, polyamide, light gray, accepts 6 to 12mm diameter cable, IP68. Package of 5. Mounting hardware included.	5	0.2	$114z:	PDF