



Potentially hazardous voltages are present. Electrical shock can cause death or serious injury. Installation should be done by qualified personnel following all National, State & Local Codes.

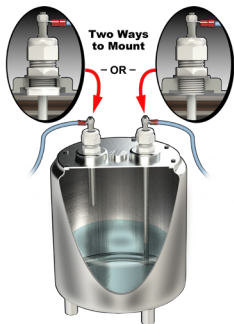


BE SURE TO REMOVE ALL POWER SUPPLYING THIS EQUIPMENT BEFORE CONNECTING OR DISCONNECTING WIRING. READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

Operation—Dual Probe

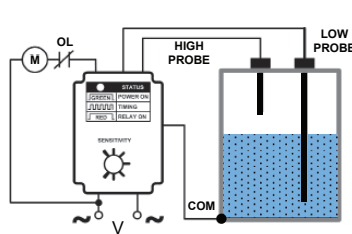
Pump Up (Fill): When the liquid level falls below the low level probe, a 1 second time delay begins & the LED flashes Red. At the end of the time delay, the output relay energizes & the LED is Red ON. The pump is ON to fill the tank. The relay remains energized until the liquid level rises & touches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

Pump Down (Drain): 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 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.

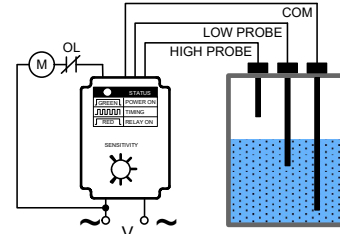


Suggested assembly. 8mm diameter GWR-P240 through GWR-P1600 probes can be used with BSPBX-12-W cable gland and CLC-ACC1 wiring kit. Can be mounted through tank hole with included nut or without the included nut when installed in a 1/2" NPT tank flange.

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.



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.



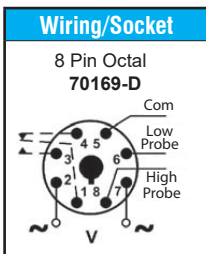
When using a plastic or non-conductive tank a third COM PROBE should be used that will always be lower in the process liquid than the LOW PROBE.

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Installation & Setup

Mount the appropriate 8 pin octal socket (Macromatic 70169-D is required to maintain UL Listing) in a suitable enclosure. Wire the socket per the wiring diagram on the side of the liquid level control relay or as shown below. **Make sure to match the terminal numbers on the socket to the ones shown on the wiring diagram (the wiring diagram on the relay is the view looking towards the bottom of the relay vs. the top of the socket).** Use one or two #12-22 solid or stranded copper or copper-clad aluminum conductors with terminals of the above sockets, a terminal tightening torque of 12 in-lbs should be used. Plug the liquid level control relay into the socket, making sure the key on the center post is in the proper orientation before insertion. **If the relay must be removed from the socket, do NOT rock the relay back & forth excessively—the center post could be damaged.**



Troubleshooting

If the unit fails to operate properly, check that all connections are correct per the appropriate wiring diagram on the product. Contact Automation Direct tech support at (770) 844-4200 or go to www.automationdirect.com for assistance.

Setting the Sensitivity

All CLC Series products come with an adjustable sensitivity range as indicated on the nameplate. Adjust the sensitivity by rotating the knob on top of the unit. This sets the level at which the relay determines whether liquid is in contact with the probe. Note: the tick marks are for reference only. For best results the sensitivity should be adjusted with the process fluid in contact with the probe at the desired switching level.

Typical resistance values of various liquids are shown in the table below:

Type of Liquid	Resistance (ohms)/cm
Fresh Water	5K
Salt Water	2.2K
Wastewater (Sewage)	0.5-2K
Well Water	2-5K
Condensed Water	18K
Coffee	2.2K
Fruit Juice	1K
Milk	1K
Wine & Beer	2.2K
Soap Foam	18K
Cement Slurry	5K

Using a Dual Probe Relay in Single Probe Alarm Application

A dual probe liquid level control relay can be used in single probe alarm applications. Connect a jumper wire between the COM & HIGH PROBE terminals. Connect the single probe to the LOW PROBE terminal & the COM to the COM terminal. This configuration will provide a level high alarm for drain models and a level low alarm for fill models.