



INSTALLATION INSTRUCTIONS

LCP SERIES

LIQUID LEVEL CONTROL RELAYS

December, 2020 - Rev. D

901-0000-296



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—Single Probe

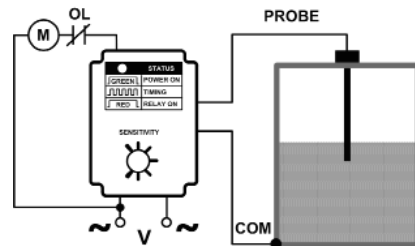
Pump Up (Fill): When the liquid level falls below the probe, a fixed time delay begins & the LED flashes Red. This time delay prevents rapid cycling of the output relay & its load. At the end of the time delay, the output relay energizes & the LED is Red ON. The pump is ON to fill the tank. The relay remains energized until the liquid level rises & touches the probe. The output relay de-energizes, turning off the pump, and remains de-energized & the LED is Green ON until the liquid level falls below the probe.

Pump Down (Drain): When the liquid level rises & touches the probe, a fixed time delay begins & the LED flashes Red. This time delay prevents rapid cycling of the output relay & its load. At the end of the time 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 probe level. 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 probe.

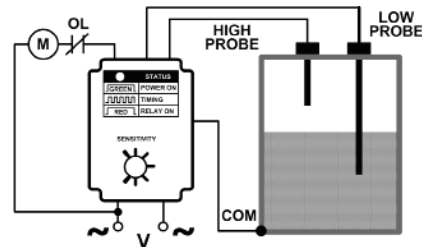
Operation—Dual Probe

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 again falls 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.



If the container is non-conductive or insulated, an additional probe must be installed as the COM connection where it will always be submerged.



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Installation & Setup

Mount the appropriate 8 pin octal socket (Macromatic 70169-D or Custom Connector OT08-PC) in a suitable enclosure. Wire the socket per the wiring diagram on the side of the liquid level control relay or as shown on this sheet under "Operation". **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. If problems continue, contact Macromatic at 800-238-7474 or e-mail tech-support@macromatic.com for assistance.

Setting the Sensitivity

All LCP Series products come with an adjustable sensitivity range as indicated on the nameplate and by the Catalog Number. Adjust the sensitivity within the range of the product by rotating the knob on top of the unit. This sets the level at which the relay determines whether liquid is present at the probe. **Note: the tick marks are for reference only.**

Using a Dual Probe Relay in Single Probe Application

A dual probe liquid level control relay can be used in single probe 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 applies to all three dual probe liquid level control relay output configurations.

Warranty

All Catalog-listed LCP Series Liquid Level Control Relays manufactured by Macromatic are warranted to be free from defects in workmanship or material under normal service and use for a period of five (5) years from date of manufacture.

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For product information and technical support go to www.macromatic.com/contact