AquaMetrix Model LL24 and LL25 Liquid Level Controller Installation Instructions

Liquid Level Controllers Models LL24 and LL25 are suitable for use in solutions having conductivity of 15 microSiemens / cm or greater.

The LL24 and LL25 controller operate on the principal of electrolytic conductivity. All aqueous solutions conduct electricity. The degree of conductivity is directly related to the amount of dissolved particles in the solution. The purer the water the less conductive the solution will be. By placing 2 metal rods into the solution and applying a voltage across them, we can detect when the solution rises to make contact with both electrodes, completing the electric circuit. The LL24 and LL25 have a sensitivity adjustment, which can be used to detect to either foam or liquid. Because foam is less conductive than the solution, by decreasing the sensitivity of the unit the foam will not be detected.

Specifications:

Input Power	120VAC 50/60Hz
Number of electrodes LL24	4, ground, differential level, single alarm
Number of electrodes LL25	5, ground, differential level, dual alarms
Relay Contact	3, DPDT Form C 10A resistive at 120VAC 1/3HP
Max. Interconnect Length	100 Meters (325ft)
Sensing Circuit Resistance	100K maximum (Adjustable)

Differential Level Service

Both the LL24 and LL25 have the ability to control differential level. The differential level circuit has 3 electrodes inputs and is used to control the process between two points.

Differential Level Service Pump Up

Wire the LL24/LL25 as per Figure 3 on overleaf.
Normally closed contacts open when liquid rises to short electrode connected to E3 and close when liquid falls below long electrode connected to E4.
Connect E1 to tank if metallic and grounded. For ungrounded tank connect a second electrode to E1, which must always be immersed in liquid.

Differential Level Service Pump Down

Wire the LL24/LL25 as per Figure 4 on overleaf.
Normally open load contacts close when liquid rises to short electrode connected to E3 and open when liquid falls below long electrode connected to E4.
Connect E1 to tank if metallic and grounded. For ungrounded tank connect a second electrode to E1, which must always be immersed in liquid.

Alarm Level

The LL24 and LL25 both have the ability to detect alarm points. The LL24 has a single alarm input and the LL25 has a dual alarm input. Each alarm input accepts a single electrode and is referenced to the common ground electrode, connected at E1. Each alarm has its own relay, but is wired identically. The Low Alarm is connected to E5 and the High Alarm is connected to E2.

Single Level Service / High Alarm or Low Level Cutoff

Wire the LL24/LL25 as per Figure 1 on overleaf.
Normally open load contacts close when liquid reaches electrode and open when liquid fall below electrode. Connect E1 to tank if metallic and grounded. For ungrounded tank connect a second electrode to E1, which must always be immersed in liquid.

Single Level Service / Low Alarm or High Level Cutoff

Wire the LL24/LL25 as per Figure 2 on overleaf.
Normally closed contact open when liquid reaches electrode and close when liquid falls below electrode.
Connect E1 to tank if metallic and grounded. For ungrounded tank connect a second electrode to E1, which must always be immersed in liquid.

Refer to DWG#N104-7

SINGLE LEVEL SERVICE
HIGH ALARM OR LOW LEVEL CUTOFF

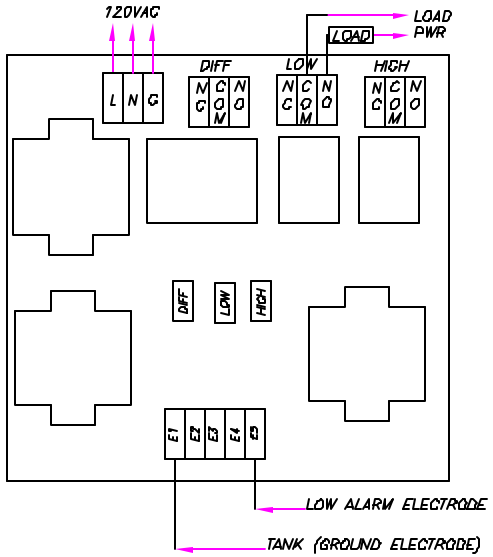


FIGURE 1

SINGLE LEVEL SERVICE
LOW ALARM OR HIGH LEVEL CUTOFF

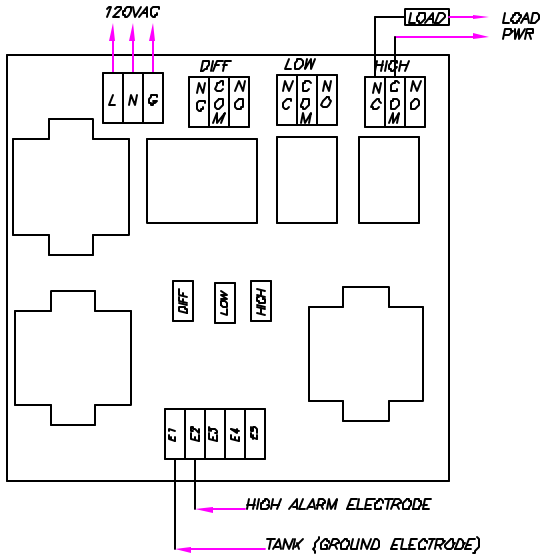


FIGURE 2

NOTE: THE LOW ALARM RELAY AND THE HIGH ALARM RELAY ARE WIRED IDENTICALLY

DIFFERENTIAL LEVEL SERVICE
PUMP UP

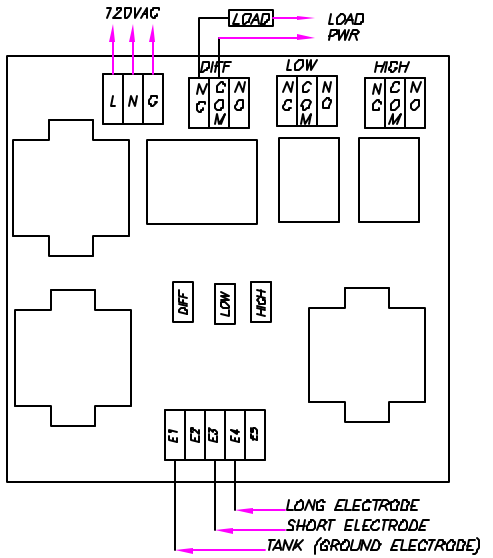


FIGURE 3

DIFFERENTIAL LEVEL SERVICE
PUMP DOWN

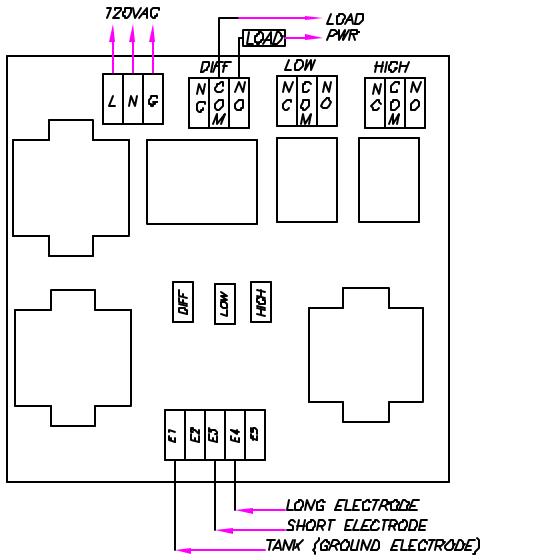


FIGURE 4

AquaMetrix Inc.
Industrial and Environmental Controls

WIRING DIAGRAM FOR
LL24 AND LL25
LIQUID LEVEL CONTROLLERS

CODE IDENT NO.	SIZE	DRAWING NO.
		N104-7
SCALE: NTS		SHEET 01 OF 01