

Level-Trac LT-110, LT-120, LT-130, LT-140 Control Units

General Description:

Level-Trac LT-120 and 140 Control units are designed to be used with any conductivity probes used for the discrimination of water and vapor (steam). The Control Unit delivers a low voltage common signal to a water column, which completes a circuit when a probe installed on the water column makes contact with water. The Control Unit provides the user with a set of contacts for each probe, and the facility for an optional indicator.

Receipt and Storage:

Upon receipt, verify:

- Model Number
- Power Supply Voltage

The Control Unit should be stored indoors prior to installation.

Model Numbering:

The middle number after the "LT-" prefix designates the number of plug-in modules used. For example, "LT-130" designates three plug-in modules.

The PC Boards are labeled with the maximum number of modules available. For example the "LT-140" board becomes an "LT-130" by using only three of the four module sockets.

The label on the inside enclosure door will have a Model Number extension of either "120" or "240" to designate the power supply line current as either 120 VAC, +10%, -15% or 240 VAC, +10%, -15%.

Installation:

The Control Unit is generally installed nearby the water column, but may be installed up to 1000 feet away. See Figures 1A and 1B for enclosure mounting dimensions.

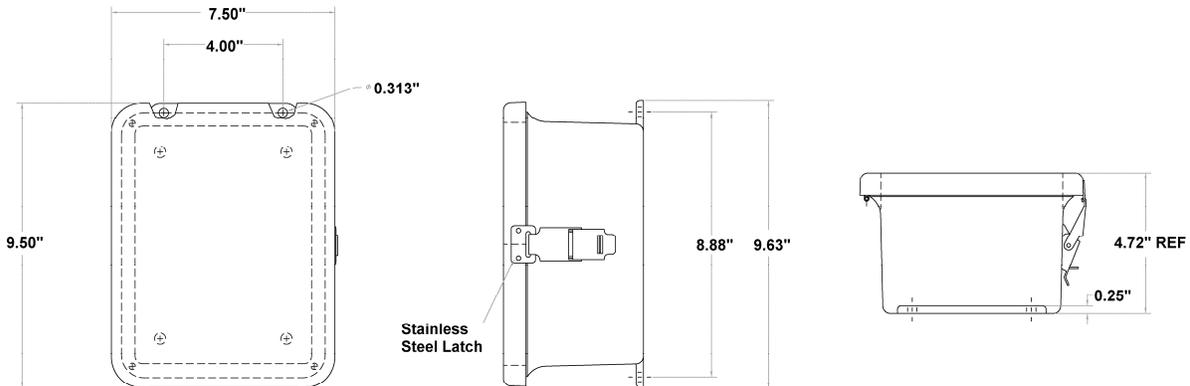


Figure 1A - LT-120 Enclosure Dimensions

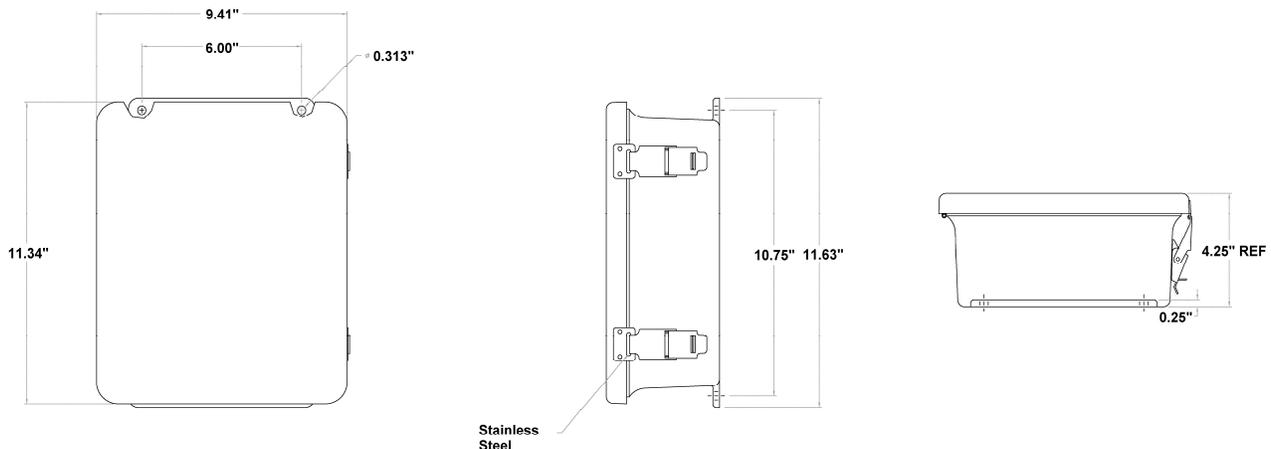


Figure 1B - LT-140 Enclosure Dimensions

See Figures 2A and 2B PCB Board Layout for making wiring connections. The Common wire to the water column can be made to any conductive part that makes firm contact with the water column body. On Level-Trac standard water columns this will occur at the upper probe cover bracket.

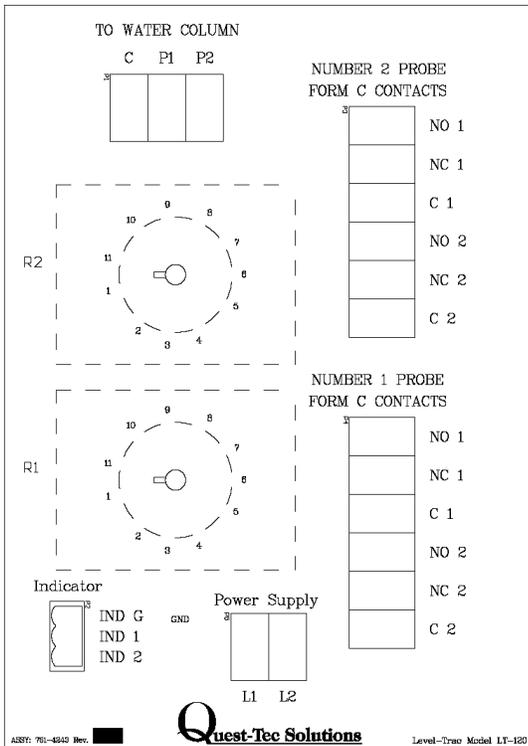


Figure 2A
LT-120 Board Layout

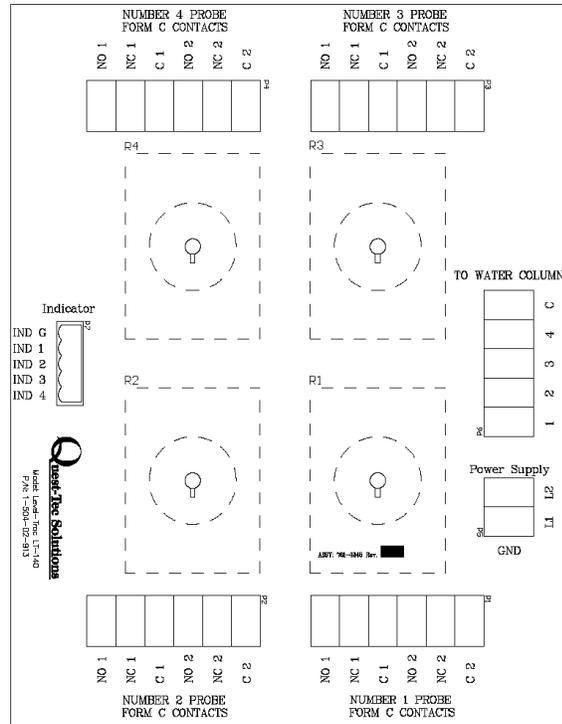


Figure 2B
LT-140 Board Layout

Detection Modules

Each relay detection module offers discrete function as shown in Figure 3. If a detection module fails, it will affect only the dedicated probe.

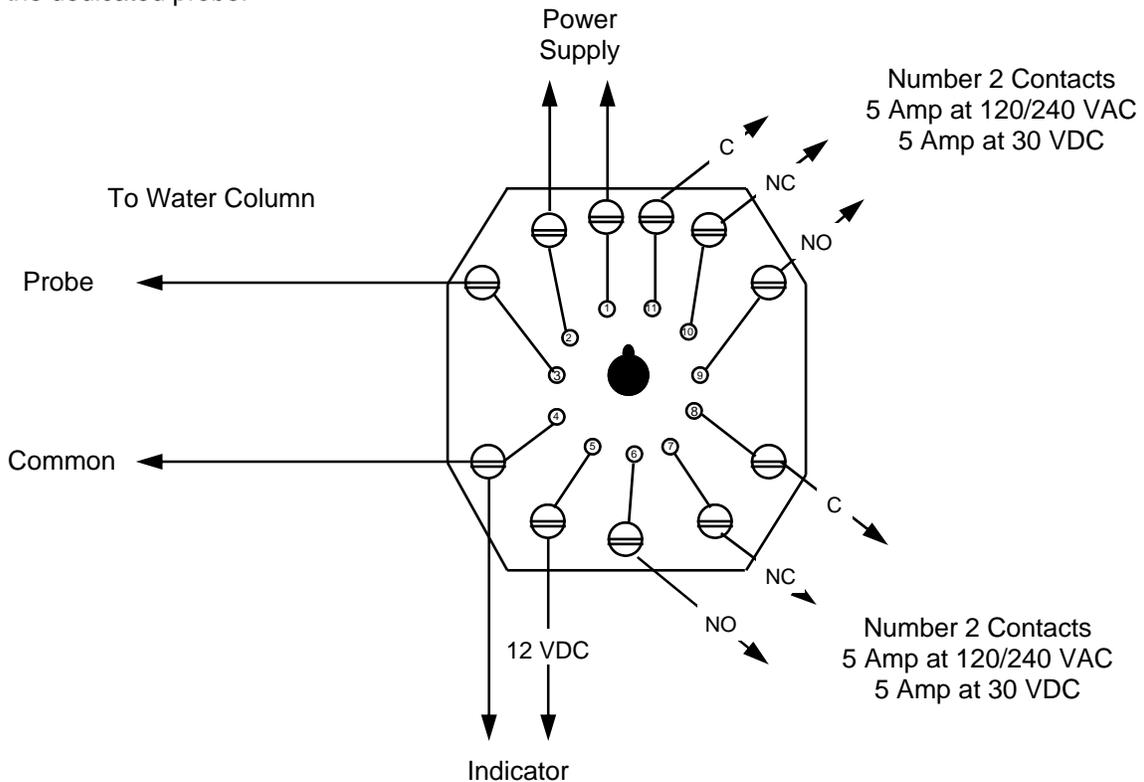


Figure 3 - Detection Module Configuration

Detection modules are available in three levels of sensitivity, three choices of power supply and a de-energized (Direct Mode) or energized (Inverse Mode) normal state.

Direct Mode Part Numbers

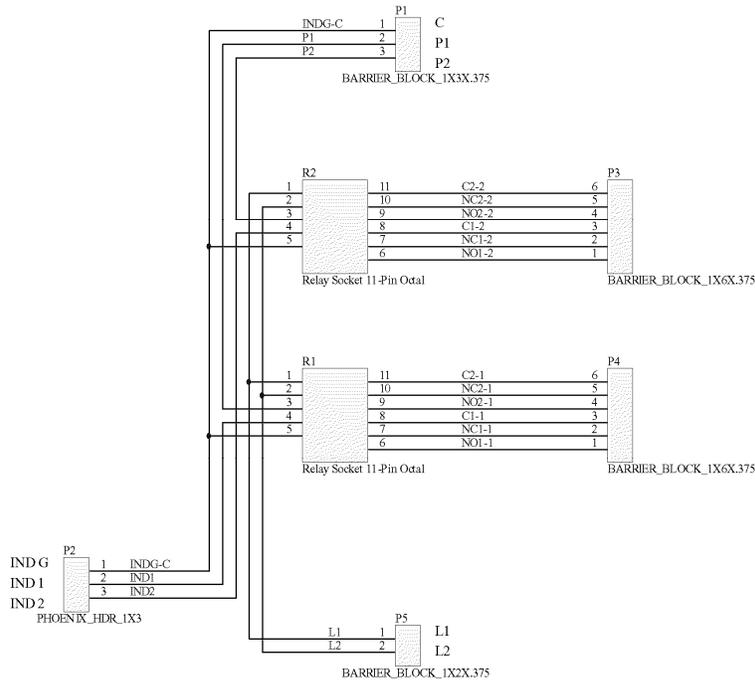
Ohms	120VAC	240 VAC	24VAC
26K	1-504-30-022	1-504-30-024	1-504-30-027
50K	1-504-30-021	1-504-30-025	1-504-30-028
100K	1-504-30-023	1-504-30-026	1-504-30-029

Inverse Mode Part Numbers

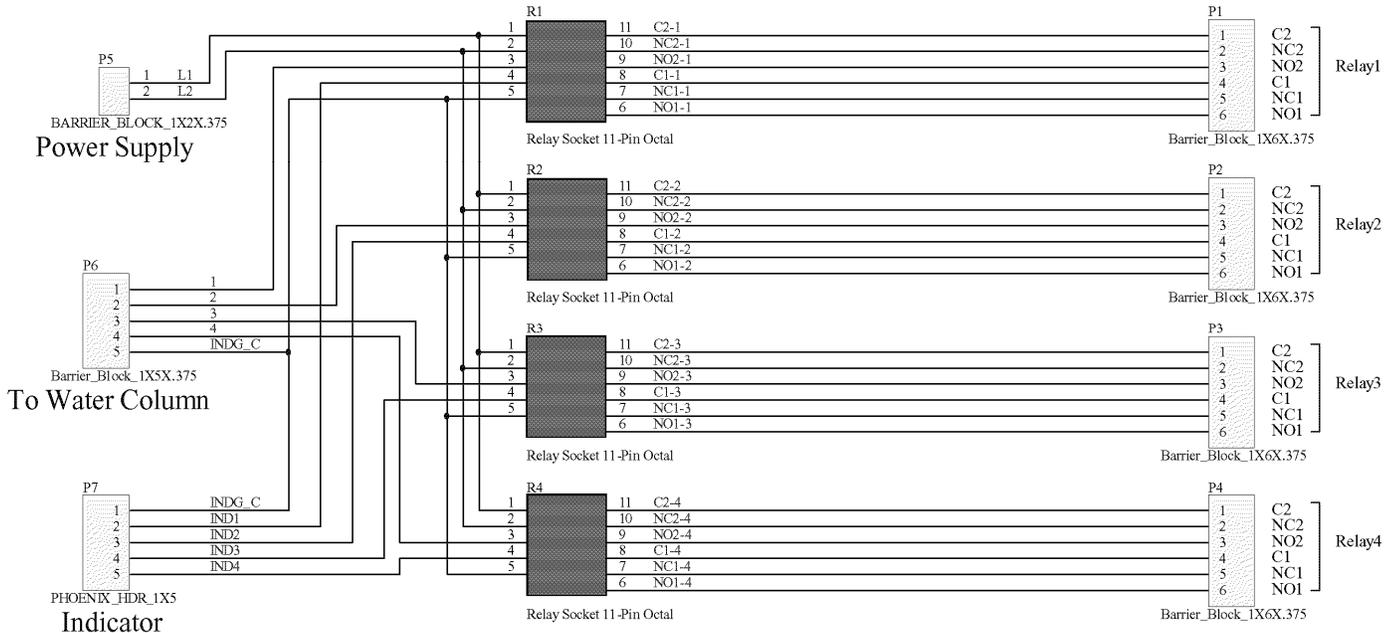
Ohms	120VAC	240 VAC	24VAC
26K	1-504-30-030	1-504-30-033	1-504-30-036
50K	1-504-30-031	1-504-30-034	1-504-30-037
100K	1-504-30-032	1-504-30-035	1-504-30-038

The 50K Ohm, 120 VAC Direct Mode is the standard detection module offered. When ordering spare parts, please verify physically or with the unit serial number.

Schematics:



LT-120 Schematics



LT-140 Schematics

Specifications:

Enclosure NEMA 4X, Fiberglass

Line Voltage Standard: 120 VAC +10%, -15%, 50/60 Hz

Common Current to Probe Column 12 VAC, 1.5 mA

Auxiliary Contacts DPDT, Form C for Each Probe
 5 Amps @ 120/240 VAC
 5 Amps @ 30 VDC

Indicator Current +12 VDC Closed (Water)
 -12 VDC Open (Steam)

<i>Utility Consumption:</i>	120 VAC	240 VAC
	LT-110: 0.037 Amps	0.019 Amps
	LT-120: 0.074 Amps	0.037 Amps
	LT-130: 0.111 Amps	0.055 Amps
	LT-140: 0.148 Amps	0.074 Amps

Recommended Field Wiring 18 AWG, Tinned Copper

Ambient Temperature Rating -40 to 150° F

Commissioning/Troubleshooting:

Most problems with the LT-100 Control Unit can be isolated and resolved by simple logic and observation of the LED indicator inside the Detection Module relay. The probe and correspondent Detection Module can be activated by simply shorting the probe to the water column to simulate a wetted state. Detection Modules are completely interchangeable with one another, and can be switched to verify correct operation.