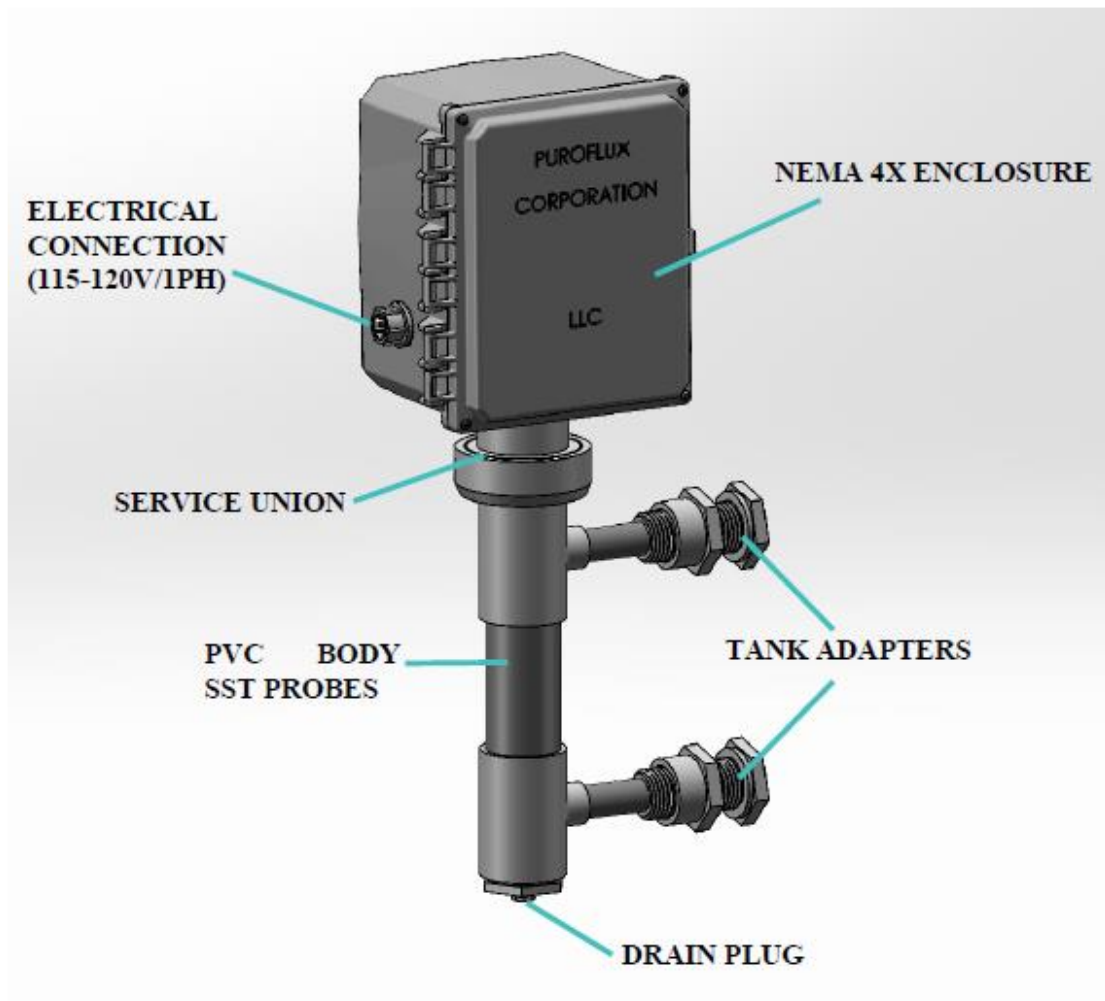


PUROFLUX Corporation

Liquid Level Controller EP Series



The Puroflux LLC-EP (liquid level controller – external probe) is a simple and reliable method to accurately control water levels in cooling towers, evaporative condensers, fluid coolers, and process tanks. The LLC-EP eliminates equipment flooding and reduces water usage from unnecessary overflows.

The LLC is mounted on the outside of a reservoir where an internal disturbance has no effect on the probes. Mounting the LLC-EP externally provides for ease of inspection and eliminates any exposure to a wet environment. The LLC-EP can be easily serviced without shutting down equipment and can be installed with hand tools.

The LLC-EP is constructed of quality components: long life controller – 30,000,000 cycles, 304 stainless steel probes, safety shield, PVC probe chamber, connection hub, and a NEMA 4X control enclosure

Specifications:

Enclosure: NEMA 4X

- Glass filled polycarbonate construction
- Fully gasketed cover
- ½” electrical conduit connection
- Base plate and connection lug

Controller Relay: 8 Pin Plug in Type

- Input power – 115 Vac.
- Output – SPDT relay
- Maximum switch loading - 10 amps resistive
- Probe voltage – 24 Vac.
- Probe sensitivity – 4.7 to 100k adjustable
- Function indicator – Led
- Mechanical life – 30,000,000
- Listings – UR/CSA

Controller Base:

- Panel mount 8 pin type
- Listings – UR/CSA

Probes: (Available in 3-probe, 4-probe, and 5-probe)

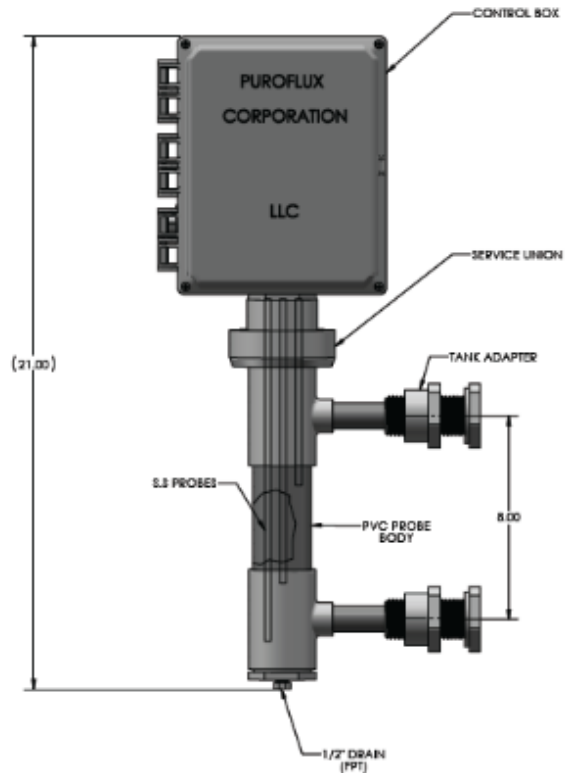
- 1/4 “ dia. stainless steel, with plastic shield
 - (1) Common probe – long
 - (1) Start probe – medium
 - (1) Stop probe – short
 - (1) Low alarm – optional
 - (1) High Alarm - optional

Probe Housing:

- (1) 2” dia. X 15” Sch. 40 PVC body
- (2) 3/4” Sch. 80 tank adapter mounting
- (Optional) Clear S40 PVC body

Valve: (Sold Separately)

- Solid brass connection
- Waterproof solenoid coil
- Slow opening and closing
- Manual operation
- Manual shut off
- Dirty Water Valve
- Adjustable flow control



Standard Installation:

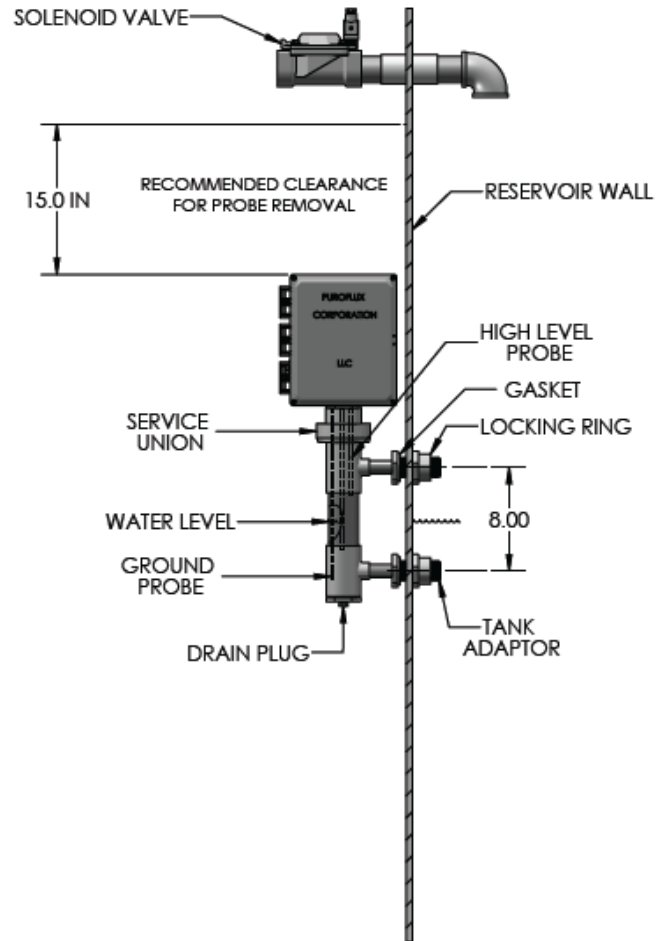
1. To install, locate desired water level, measure 4" above and below this point (8" spread) ¹.
2. Mark center line points on the reservoir wall where the LLC-EP tank adaptors will penetrate.
3. Make sure that the center line measurements are perpendicular to the water line. Position the LLC-EP housing beside marks to insure that the center lines of the tank adaptors line up with the center line marks on the reservoir.
4. Verify that the locations of center line do not have any obstructions on the interior of the reservoir.
5. Bore a 1-3/4" dia. Hole at each center mark. (Note: a hole-saw or chassis punch can be used for making penetrations.)
6. Clean all burrs and dirt from area around the holes.
7. Insert the tank adapters, with gaskets on the outside of the reservoir wall into the new holes.
8. Make sure that probe housing is in the vertical position.
9. Install the lock nuts on the tank adapter from the inside of the reservoir and tighten.

CAUTION, DO NOT OVER TIGHTEN.

Install a solenoid valve (sold separately) in the supply water line. Complete all necessary plumbing to and from the solenoid valve. Wire in the LLC-EP and valve following the wiring diagram provided (120V/ 1ph/ 60Hz). (Note: Leave enough extra flex conduit so the unit probe assembly can be removed for inspection.)

For areas that require freeze protection use only self regulation heat tape and then insulation on probe housing, solenoid valve, and supply water line. Always follow all local ordinance and codes that apply to the application and installation of equipment.

¹ Optional shorter/longer LLC-EP body and probe assemblies are available.

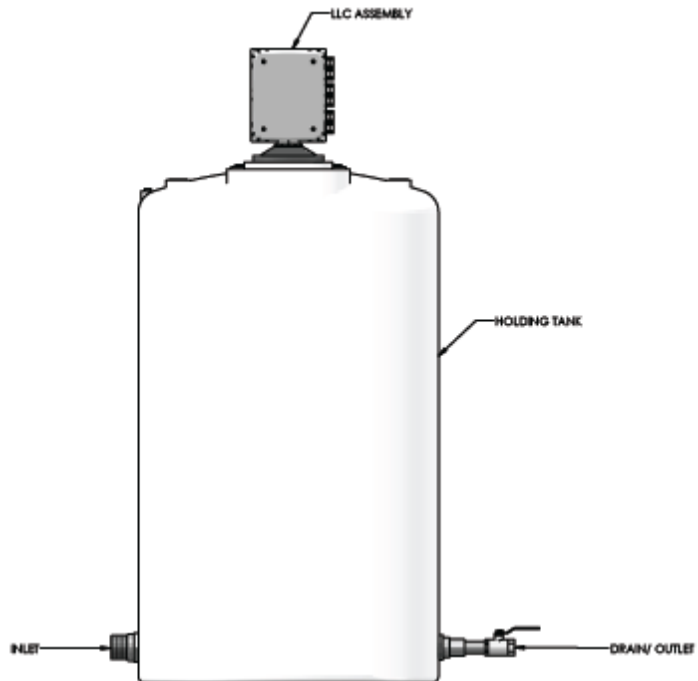


Holding Tank/Reservoir Installation:

The LLC-EP for open non-pressurized tanks/reservoirs is designed to monitor water levels for pump-up or pump-down applications. The LLC-EP is supplied with the controller housing and mounting union only. The probes are designed to hang down into the tank. The LLC-EP can be installed using a 2" tank adaptor or a 2" male adaptor threaded into a coupling in the tank or glued into a 1-1/2" PVC pipe.

To install, locate the desired location in the tank/reservoir top. For installations utilizing an existing tank penetration use the required fittings necessary to adapt the LLC controller to the tank fitting. If installation requires penetration to be put into the tank/reservoir, mark a center point on the tank/reservoir top where the LLC will penetrate. Make sure that the LLC is perpendicular to the water line. Verify that the location of the LLC does not have any obstructions on the interior of the tank/reservoir. Cut a hole at the center mark for the desired adaptor fitting to be installed. (Note: a hole saw, or chassis punch can be used for making the penetrations.) Clean all burrs and dirt from the area around holes. Insert the LLC into the new tank fitting, make sure that probes are in the vertical position and secure in place.

The probes can be cut to the desired length at the factory if the water levels are known. If the water levels are not known, the probes can be furnished long and can be cut in the field. The probe length will depend on the type and size of the tank, location of inlet, outlet, overflow, and drain. Wire in the LLC and valve following the wiring diagram provided (120V/3ø/60Hz). (Note: leave enough extra flex conduits or have a junction box, so the unit probe assembly can be removed for inspection.)



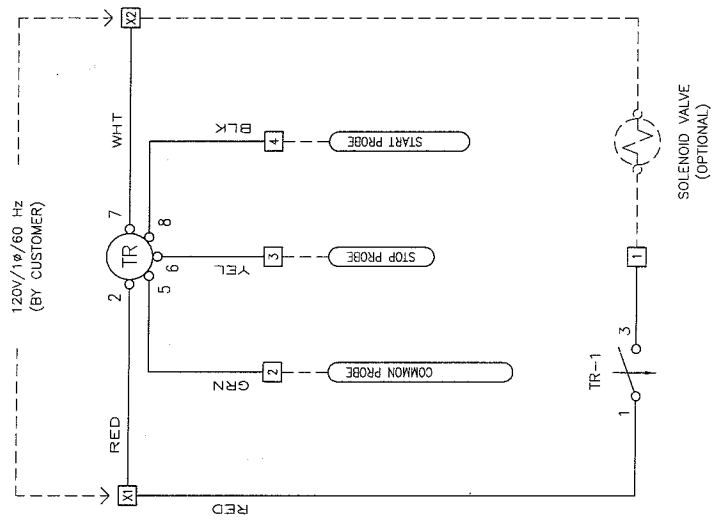
For areas that require freeze protection, use only self regulation heat tape and then insulation on probe housing, solenoid valve, and supply water line. Always follow all local ordinances and codes that apply to the application and installation of equipment.

General maintenance:

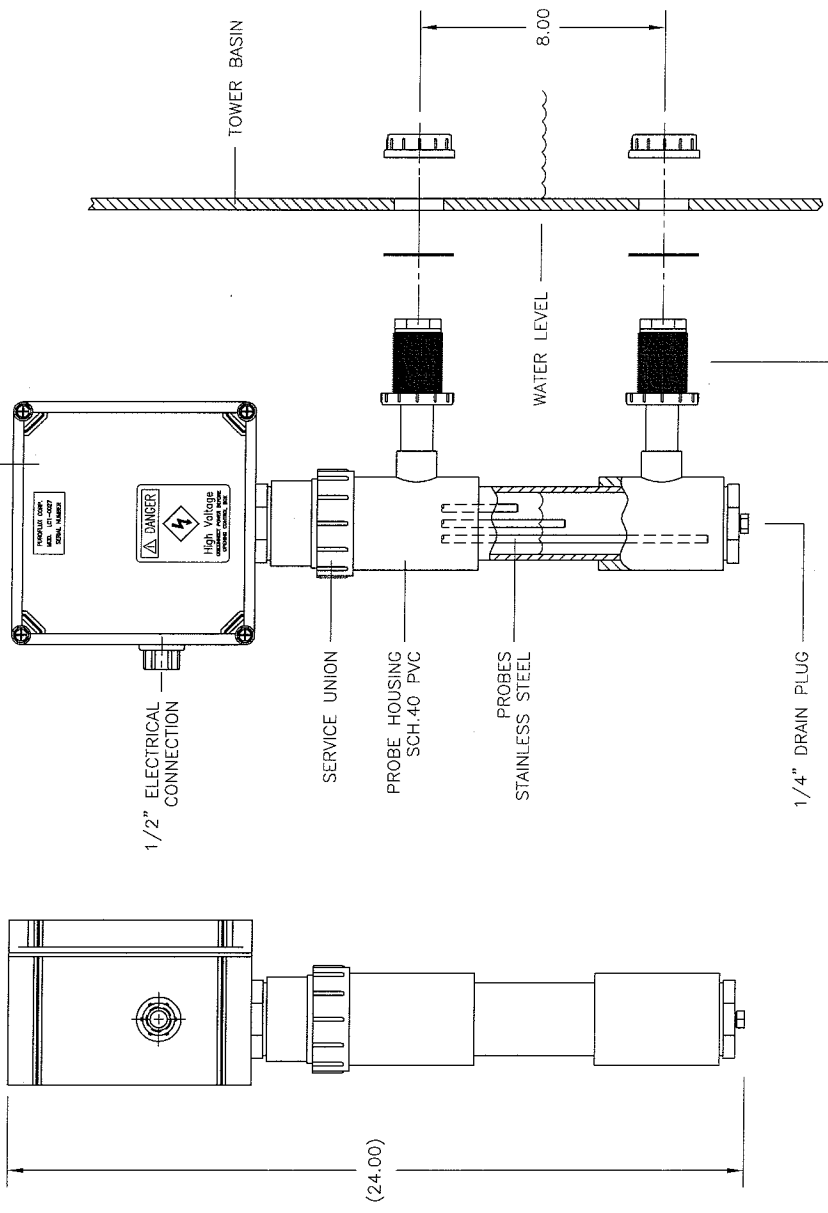
- **Verify probe operation locally by confirming filter/equipment shuts off/closes as desired weekly.**
- **Inspect probes weekly and clean as necessary.**
 - **Dirty probes can lead to malfunction and possible flooding.**
 - **Adjust sensitivity as needed.**

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WIRING SCHEMATIC



120V/1Ø/60 Hz
(BY CUSTOMER)



2X 3/4" TANK ADAPTER

PROJ. NO.	LIQUID LEVEL CONTROLLER
DRAWN	K. CARTER
CHECKED	
DESIGN APPROVED	
MFG APPROVED	
QA APPROVED	
RELEASE DATE	09-20-00
SIZE	C
DWG. NO.	LC1-0013
SCALE	NONE
SHEET	1 OF 1

UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES DO NOT SCALE THIS DRAWING INTERPRET DRAWING PER APPLICABLE STANDARDS	DECIMAL XX.XX ± XXX ± XXX ±
FINISH	HEAT TREAT
APPLICATION	HEAT ASSEMBLY
THREADS PER NIS HANDBOOK-H2B	CONCENTRICITIES 010 TIR
INTERNAL RADIUS	015-020

MATERIAL	HEAT TREAT
FINISH	HEAT ASSEMBLY
APPLICATION	HEAT ASSEMBLY

REV	DESCRIPTION	DATE	APPROVED

