

INSTRUCTIONS FOR CONVERSION OF LAKESHORE TEC2000 STAND ALONE CONTROLLED FREEZERS TO TEC3000 CONTROL.

READ INSTRUCTIONS COMPLETELY BEFORE PROCEEDING.

UNITS AFFECTED

This kit and procedure applies to freezers originally equipped with the LakeShore TEC2000 stand alone controller.

PARTS SUPPLIED

PART #	Description	QTY
13223844	LL CONTROLLER TEC3000 NO DSPLY	1.000
13223836	PANEL FRONT TEC3000 W/TEXT	1.000
13281972	WIRE HARNESS TEC 3000/4000	1.000
10713354	TEMPERATURE PROBE 1000OHM RTD	2.000
11836479	PURGE ASSY HE/ETERNE/STOCK/230	1.000
13319539	FILL VLV ASSY LSCI TO T3 KIT	1.000
11795030	POWER SUPPLY 30VDC 1.2A	1.000
10946596	POWER CORD DETACHABLE 18/3 SVT	1.000
13319555	INSTR UPGRD LSCI TO T3000	1.000
13289481	MNL QK START TEC 3000 ENGLISH	1.000

TOOLS REQUIRED

Screw Driver Phillips #2
Adjustable wrench
Tube cutter capable of cutting 1/8" OD tube

GENERAL

This modification replaces the existing LakeShore stand alone controller with a TEC3000 controller. Since the new TEC3000 controller and its required power supply are not capable of providing 24VAC to the existing valves on the freezer, replacement valves (purge and fill) are supplied as well. New temperature sensors are provided, since the existing sensors will not connect to the new TEC3000 control system and would not work with it if they could be connected. The new probes will not fit the existing temperature sensor tube, so a new sensor tube assembly will be required. The models covered by this kit do not use a common sensor tube assembly, so the sensor tube assembly is not included with the kit. Contact Chart Customer/Technical Service at 770-257-1299 or 800-482-2473 to order a current production sensor tube assembly for the model that is being converted to TEC3000 control.

NOTE: If the freezer is equipped with a gas bypass, it will be necessary to replace the existing bypass sensor and valve. The freezer will operate properly without the bypass until a new sensor and valve can be obtained (it should be left connected to the plumbing until the replacement components arrive). Contact Chart Customer/Technical Service at 770-257-1299 or 800-482-2473 and request P/N 13319643, KIT UPGRADE LSCI BYPASS TO TEC3000.

INSTRUCTIONS FOR CONVERSION OF LAKESHORE TEC2000 STAND ALONE CONTROLLED FREEZERS TO TEC3000 CONTROL.

DISCONNECT THE POWER CORD FROM THE WALL OUTLET.

SHUT OFF THE LN2 SUPPLY AND DISCONNECT THE TRANSFER HOSE FROM THE FREEZER.

CONVERSION PROCEDURE

1. Disconnect 24VAC input power cable from the bottom of the existing controller.
2. Disconnect wire harness, temperature sensors, and tubing from the controller.
3. Remove the existing controller and mounting bracket from the freezer.
4. Remove the controller from the bracket.
5. Install the new controller on the bracket.
6. Re-install the mounting bracket on the freezer.
7. Connect the new wire harness to the base of the controller. Reference Figure 4
8. Connect the new temperature sensors to the base of the controller. Reference Figure 4
9. Remove the existing purge valve (Reference Figure 1) and replace with the new purge valve assembly provided (Reference Figure 2), making sure to reconnect the copper and vinyl tubing.

NOTE: It should be possible to reuse the existing compression nuts on the ends of the 1/8" copper purge gas tube and the 1/4" copper tube feeding to the annular line of the freezer by tightening them approximately 1/8 to 1/4 turn past finger tight. These connections should be checked for leaks with a soap solution during the first 30 seconds of the fill cycle to make sure that they are leak free. If they cannot be made to seal, cut off the end of the tube and use the compression nuts provided with the valve assembly.

10. Connect the leads of the purge valve assembly to the new wire harness at the connection labeled "purge valve".
11. Remove the existing fill solenoid valve (Reference Figure 1) and replace with the new fill valve assembly provided (Reference Figure 3).

NOTE: If the new and old valves are physically identical, it will be possible to simply swap the coils. If they are not identical, it will be necessary to replace the entire valve. Make sure to use Teflon tape on all pipe threads.

12. Connect the leads from the new valve to the wire harness connection labeled "fill valve".
13. Connect the level sensor tube to the hose barb on the base of the new controller. Reference Figure 4
14. Connect the 30VDC input cable from the power supply to the receptacle on the base of the new controller. Reference Figure 4.

INSTRUCTIONS FOR CONVERSION OF LAKESHORE TEC2000 STAND ALONE CONTROLLED FREEZERS TO TEC3000 CONTROL.

15. Replace the existing sensor tube assembly with the new assembly that was ordered separately.
16. Connect the mains power cord provided to the new power supply.
 - 16.1. If the freezer has a bracket to hold the old power supply, it should hold the new power supply, however, the feet on the new power supply will not mate with the existing holes in the bracket.
 - 16.2. If the freezer does not have a power supply bracket, it can be placed on top of the plumbing shroud of HE style freezers or it can be placed on the floor or any other suitable location.
17. Follow the instructions in the new quick start manual provided for startup check out and programming.

For additional technical information on the new TEC3000 control system, contact Chart customer/technical service at 770 257-1299 or 800 482-2473 and order the technical manual P/N 13289499.

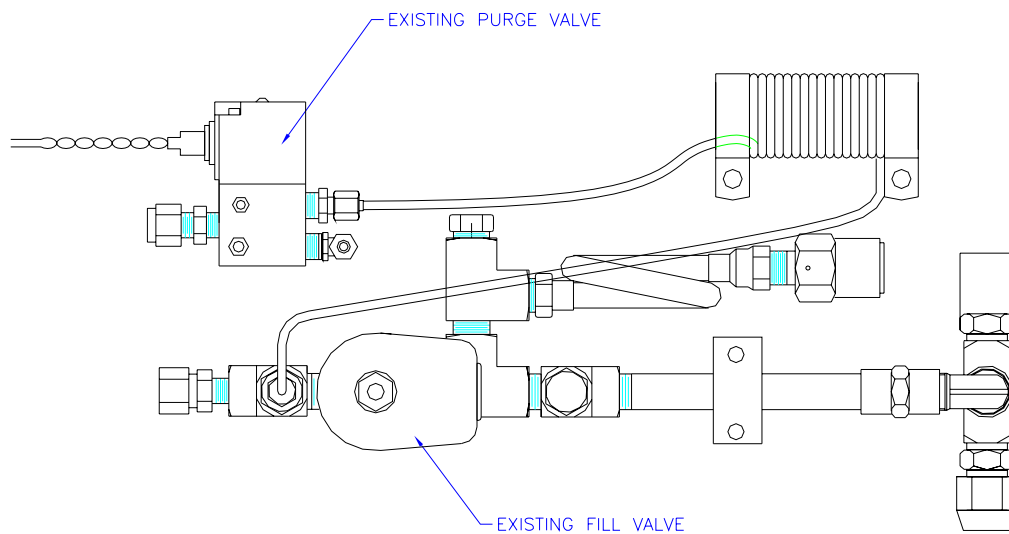


Figure 1, Existing plumbing details

INSTRUCTIONS FOR CONVERSION OF LAKESHORE TEC2000 STAND ALONE CONTROLLED FREEZERS TO TEC3000 CONTROL.

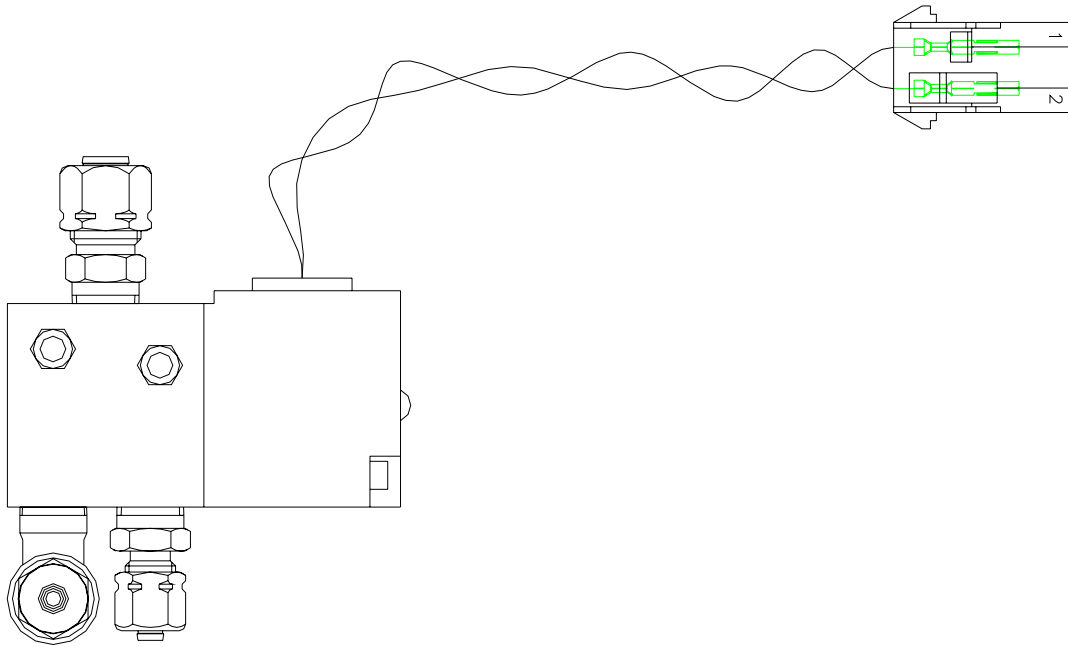


Figure 2, NEW PURGE VALVE ASSEMBLY

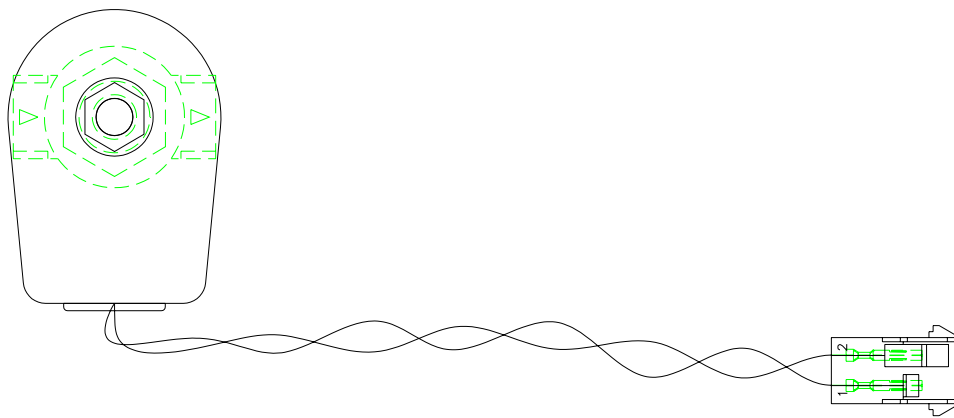


Figure 3, NEW FILL VALVE ASSEMBLY

INSTRUCTIONS FOR CONVERSION OF LAKESHORE TEC2000 STAND ALONE CONTROLLED FREEZERS TO TEC3000 CONTROL.

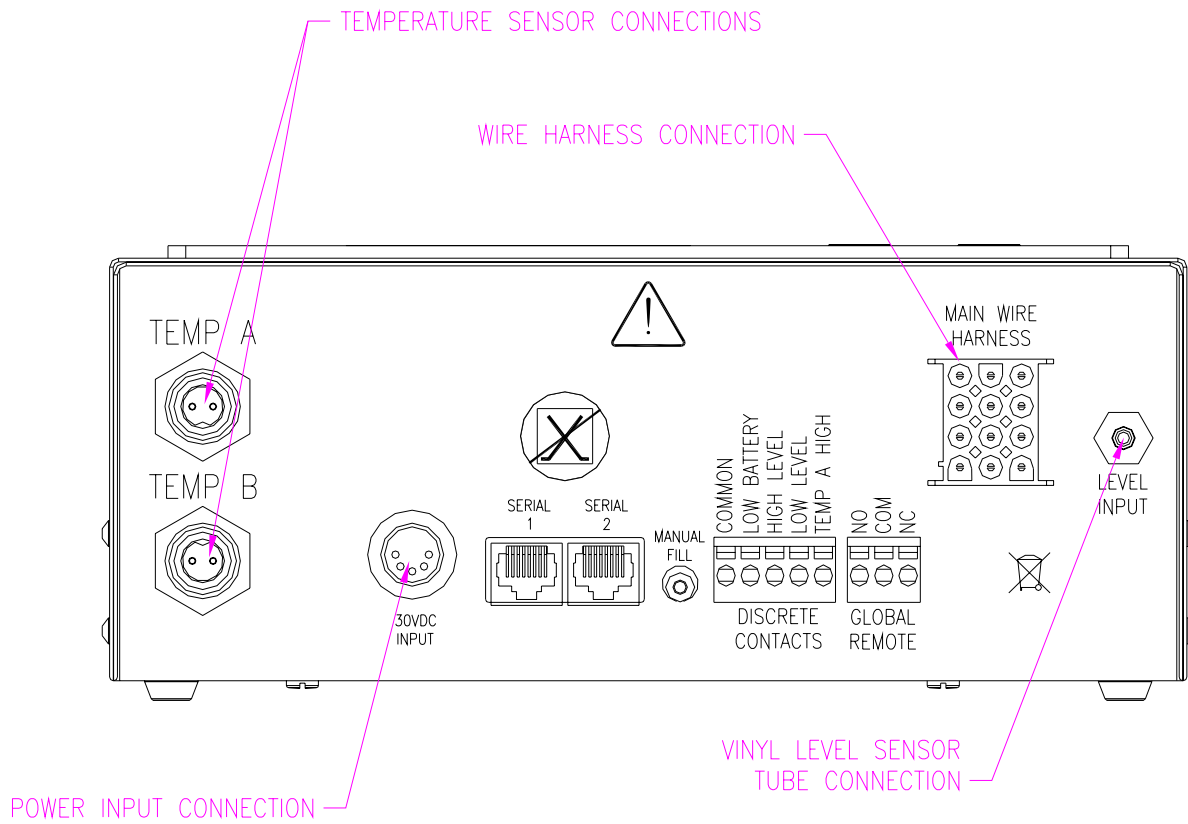


Figure 4, TEC3000 CONTROLLER CONNECTIONS