

# Versa-Pak V5 LDX

By PSI Waste Equipment Services, Inc.



Versa-Pak V5 SUPPORT [www.versa-pak.net](http://www.versa-pak.net)

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## Introduction

- The purpose of this manual is to provide the installer and owner with the necessary information to install our Versa-Pak Control system. Refer to equipment manufacturer's manual for additional information.
- PSI Waste shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the features and options in the use of this product. The installer shall ensure, upon installation, the combination of features and options used are safe for the application and operational environment.
- Installer and user shall read and understand ANSI Standard Z245.2 (Compactor Safety), OSHA 29 CFR, Part 1910.147 (Lock out/ Tag out), and the OEM compactor operation, maintenance, and installation manual.
- If you are not fully qualified to install the Versa-Pak system safely, please stop and return it for a full refund!

## Installation

### **Before installing**

- Get familiar with the Versa-Pak system by studying the drawings and documentation included. It will not only save you time, but there are a lot of great features you'll want to use. Refer to it frequently.
- Spend a few minutes watching all our youtube videos at [www.versa-pak.net](http://www.versa-pak.net) . You'll learn a lot! Average video length is 3-1/2 mins. Videos are easy to watch on your smart phone too.
- Please do not leave your manual behind when heading out to install our control system in the field! If you do forget it, please go to [www.versa-pak.net](http://www.versa-pak.net) to download one. If you don't have a smart phone find a computer, download a manual, and print it out.
- Make sure your control panel has a transformer that provides 120V power. Most compactors do.
- There are compactors out there with two stage pumps, additional valves, etc. that may NOT be compatible with our control system. If you are not sure, take a few pics and email us. We'll steer you I the right direction.
- Please leave all documentation in the control panel. There is nothing worse than getting to a site and not having the info you need to make a simple adjustment or troubleshoot a problem. If you need extra copies you can download them or call us and we'll send you a set, free of charge.

### **Install- PLEASE, DON'T FORGET YOUR MANUAL!**

1. We have included a manual, schematic decal, motor data tag decal, wire ties, tie pads, screws, wire nuts etc. to ensure you can install the Versa-Pak system in a professional manner. Please do so.
2. Remove control system and terminal blocks. Leave only the transformer and starter.
3. Remove all wires from contact blocks on the control buttons.
4. Start button and reverse button should have (1) N.O. contact block. E-Stop should have (1) N.C. contact block.
5. Install control system and wire according to diagram included.
6. Set pressure switch. We typically set the pressure switch 150-250psi below relief pressure.
7. Set relief pressure. Most compactors are set at 1800psi or so for timer shifting units. But some are much lower and some higher. If your compactor was limit or pressure shifting the relief is set too high for timer shifting.
8. Set Timers T0 (Forward Time), T1 (Reverse Time), T2 (Multi-Cycle Timer).
9. Enable other features as required.
10. Install data decal and schematic decal.
11. Give us a call if you have any problems.

## Versa-Pak V5 LDX Getting Started

Versa-Pak V5 is the 5<sup>th</sup> generation of PSI Waste's compactor control system designed especially for used stationary, self-contained and apartment style compactors. It provides all of your favorite features including safety and equipment longevity features you won't find in OEM units.

Versa-Pak is a timer shifting unit and has a smart-shift feature that shifts the compactor into reverse if it deadheads for more than a few seconds. There are many settings that can be changed to help you solve problems like poor power.

### A few things to remember

- The Versa-Pak controller has a decal on the front to indicate the program version.
- You will use |ESC 0|, |OK 1|, |▼ 2|, |◀ 3|, |▶ 4|, and |▲ 5| buttons to navigate the menu. You can always go back by using the |ESC 0| button.
- All settings are in PARAMETERS. If you are asked for a password, you are in the wrong place. Hit |ESC 0|.
- When changing settings or navigating through PARAMETERS you will use |OK 1| a lot. |OK 1| indicates you want to change the setting or parameter or you are done changing the setting or parameter.
- You change digits not numbers. In other words, if the number is 10 and you are on the zero and press down one time it will be 19 because the 0 will turn into a 9, 1 will stay the same.

### Status Screen

The Status Screen lets you know the program version, whether or not you are set to auto start, and error status. To switch to the status screen, press the |ESC 0| button. To change back to the home screen, press |ESC 0| again.

Use the status screen to check for the following.

- Program version will be displayed on line 1
- Error Status. If unit shut down because of an error, the error will be displayed on line 4.

### Buttons

Buttons on the front of the Versa-Pak controller perform multiple functions. In addition to setting parameters you can operate the compactor using these buttons. Before attempting this, make sure you know where the power disconnect is. Press the indicated combination of buttons below to perform the listed task. FYI- the buttons still navigate the menu screen so after each command hit the |ESC 0| button to exit the menu so you don't accidentally change a parameter or something.

- Press |ESC 0| and |OK 1| to START compactor.
- Press |ESC 0| and |▼ 2| to STOP compactor.

### Setting Parameters

We have a great youtube video for setting parameters. Stop, if you can, and go to [www.versa-pak.net](http://www.versa-pak.net) to watch our 3-1/2min video. It will save you time and walk you through better than the instructions below.

If you would rather wing it, keep reading.

To get to HOME screen turn power off and back on or press |ESC 0|. From HOME screen press |OK 1| ▼ 2| ▼ 2|. PARAMETERS should be blinking on and off. Press |OK 1|. Now you will see the 0 of T0 blinking on and off. Press |▼ 2|. You should be on Forward time. Press |OK 0| to change. Use |▲ 5| ▼ 2| ▶ 4| ◀ 3| to change each digit. You can set Forward and Reverse times down to the 1/10<sup>th</sup> of a second. Once the times are set press |OK| to save. Then navigate up to the parameter T0. To go to a different parameter press |OK| then use |▲ 5| to go to T1. Press |OK|. To get to a parameter other than "T" then instead of |▲ 5| to go to T1 hit |◀ 3| and then |▼ 2| ▼ 2| to go to C0.

### Start Forward and Reverse Push Buttons

If you are only using one "Start" push button, wire it as a REVERSE button. The compactor will always start in reverse unless the ram is all the way back against the rear limit switch. If you are not using a rear limit switch you'll need both FORWARD and REVERSE buttons.

## Basic Timers

Parameter Default	Parameter Name	Function	Notes
T0 (MM:SS) 99.59	Forward Timer	Ends forward stroke. Set for the time it takes the ram to go from all the way back to all the way forward.	For limit shifting compactors you can set the timers to 99.99 or slightly higher than it will take the ram to go the full stroke from one limit to the other. Don't forget to consider 2 stage pumps shifting to lower volume.
T1 (MM:SS) 99.59	Reverse Time	Ends reverse stroke. Set for the time it takes the ram to go from all the way forward to all the way back.	
T2 (MM:SS) 01.00	Multi Cycle Timer	Causes compactor to run multiple cycles.	Compactor will stop at the end of the cycle following T2 timing out.
T3 (MM:SS) Default 10.00	Auto Shut-down	Shuts compactor down if it runs too long.	Reset with E-stop, key switch, or main power.

## Using Fullness Features

Feature	Feature Description	Parameter Default/ Suggested Setting	Notes
Part Full Light	Turns on full light (Q3) but compactor continues to operate as usual. Light is reset by E-stop, maintenance door, key switch, or main power.	#5 (S) 06.50/ 00.50 To activate Part Full feature, #5 must be set below Smart Shift timer (Tb) and 100% timer (T4).	Not compatible with Auto Start with Warning light and buzzer. Both features will work but Auto Start and Full features both use Q3 for their lights and buzzer outputs. So both features' lights/ buzzer will be activated at the same time causing confusion.
100% Full	Turns on full light (Q3). Shuts down compactor immediately. Feature is reset by E-stop, maintenance door, key switch or main power.	T4 (S) 06.00/ 02.00 To activate Full feature, T4 must be set below Smart Shift timer (Tb). To use with Part Full feature, it must be set above part full timer (#5)	Timer will ignore first stroke after cycle is interrupted or feed door is opened. So, if using a feed door interlock, the compactor must be set to run two cycles (T2). Only the second cycle will sense for fullness.

## Motor Drives

- Remove jumper from 5A to 4
- Put the two control wires coming from the motor drive to 5 and 5A.
- Always use a pressure switch or amp switch to limit deadheading of the motor at full pressure.
- Wire up the main power wires using same wire size as a 1 phase motor. For 10HP motor drives you should use 4ga wire. Never wire up a 10HP motor drive using less than 6ga wire.
- We recommend the following, but these recommendations are optional.
  - Use 3 position open center valve and set T5 and Tf to 03.00 to allow drive to start unloaded.
  - Employ recommendations in "Motor Power Issues" section of this manual.

## **Errors**

Versa-Pak shuts down the compactor if it detects certain errors. In this event the error will be displayed on line 4 of the Status Screen. Check the status screen before clearing the error and correct the issue before continuing to operate compactor. To clear error either press the E-Stop, turn key switch off, or turn power off and back on.

Error	Common Causes	Possible Solution
Motor Overload	This error is caused by the overload relay on the starter tripping Overload setting is wrong	Check Motor issues section of this manual for solutions Set overload setting correctly
Full/ Jam	The compactor is full Something blocking the ram in the charge box. Timers are set incorrectly	Empty compactor Clear the hopper and watch the ram cycle. Set timers correctly
Ran Too Long	T2 (Multi Cycle) is set too high T3 (Auto Shut Down) is set too low Start button contacts have moisture	Correct timer setting Correct timer setting Repair short
PSI Too Long	Pressure switch has been on too long during the run time. This time is cumulative. Parameter #0 is time setting. Compactor was run with hoses disconnected QD's are bad Pressure switch is out of adjustment Pressure switch is bad Oil is too thick or too cold Hoses are too long	Check time setting. Should be 01.00 (1 minute) Connect hoses Replace QD's Adjust pressure switch Replace pressure switch Use thinner oil or let oil warm up Use larger diameter hoses or shorten them in length.

## **Motor Power Issues**

If you are having issues with poor power, you should always make sure to check the following and correct any issues you find.

- Proper wire size for circuit (consider length of run too).
- Good connections (including motor junction box)
- Proper breaker and fuse sizes
- Proper motor wiring
- Disconnect, breaker, starter, etc. are in good working order and properly sized.
- Pressure setting. You should be able to start the power at full pressure unit with hoses not connected to cylinder. (NOT with pressure already on the pump though).
- Size of pump vs motor size. Generally speaking- the GPM of the pump should be no higher than the HP of the motor. So a 10HP/ 1Ph motor should have no more than a 10GPM pump. Smaller is better.
- Check to see if the power unit can be started with the compactor not hooked up. If so, install a "compactor gone" interlock connector to the compactor so when the driver pulls the compactor, he has to disconnect the connector disabling the power unit. Wire up like Maintenance door.

## **Dumper Systems**

Our 5.0 LDX system will only work with Manual dumper valves on certain systems. Later versions will be more universal. Please call Kevin Long at 352-742-4774 opt 0 to discuss your system before installing.



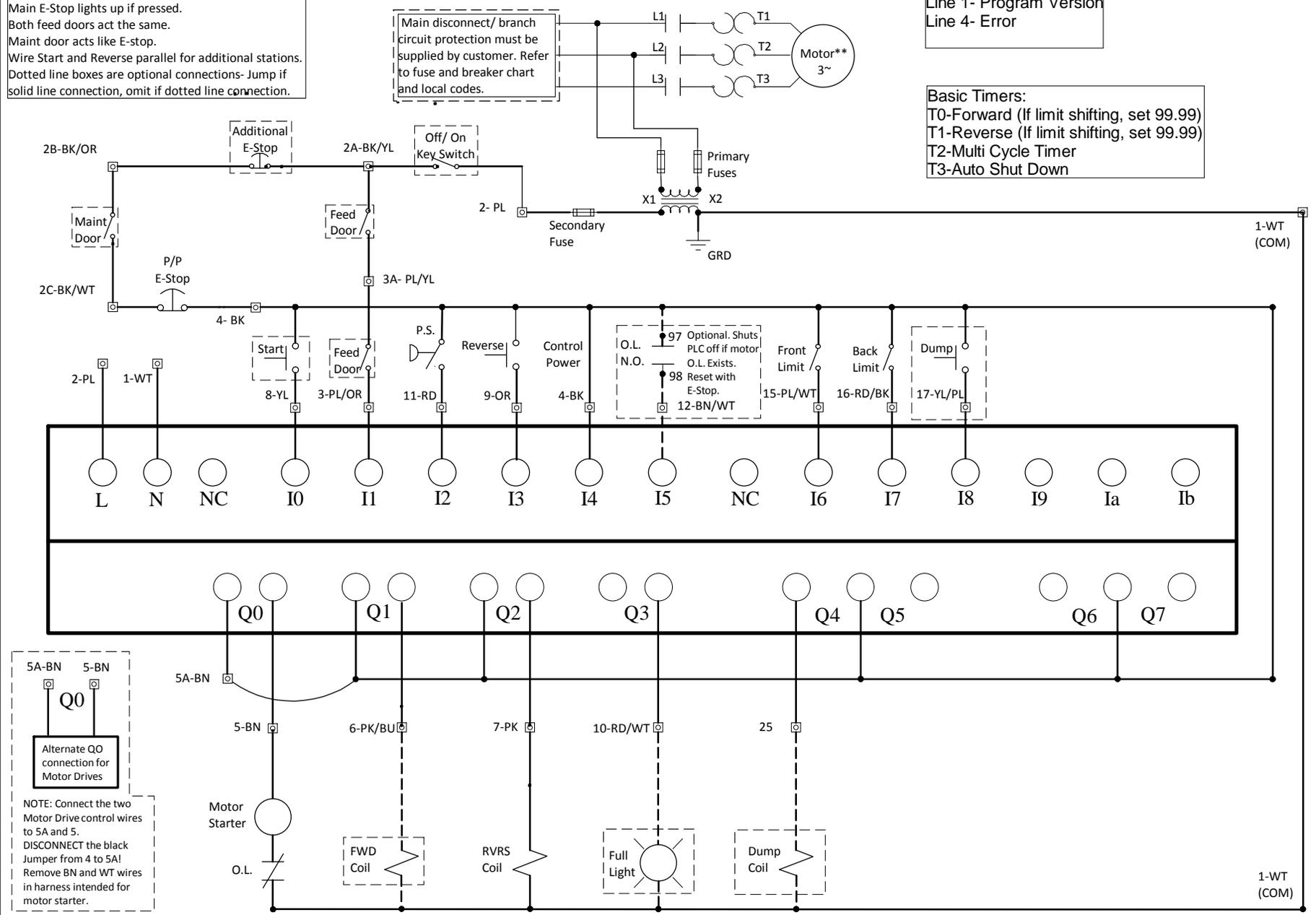
Notes:  
 Both E-stops act the same.  
 Main E-Stop lights up if pressed.  
 Both feed doors act the same.  
 Maint door acts like E-stop.  
 Wire Start and Reverse parallel for additional stations.  
 Dotted line boxes are optional connections- Jump if solid line connection, omit if dotted line connection.

\*\*For single phase motor jump T2 to L3 on starter, connect motor to T1 and T3.

Status screen:  
 Line 1- Program Version  
 Line 4- Error

Basic Timers:  
 T0-Forward (If limit shifting, set 99.99)  
 T1-Reverse (If limit shifting, set 99.99)  
 T2-Multi Cycle Timer  
 T3-Auto Shut Down

Main disconnect/ branch circuit protection must be supplied by customer. Refer to fuse and breaker chart and local codes.



5A-BN 5-BN  
 Q0  
 Alternate Q0 connection for Motor Drives

NOTE: Connect the two Motor Drive control wires to 5A and 5. DISCONNECT the black Jumper from 4 to 5A! Remove BN and WT wires in harness intended for motor starter.

Description: Versa-Pak V5 LDX Wiring. For support go to [www.versa-pak.net](http://www.versa-pak.net) or call 352-742-4774.