

# Technical Support Notification

## TLS-450PLUS – Line Manifold Setup & Programming

### ► Overview

The TLS-450PLUS console can be configured to allow two or more tanks to run on a line manifold system. The console can be programmed for a specific dispense mode, such as alternating (with customizable settings and thresholds).

### ► Hardware Requirements

- 330020-619** – USM Module – 16 inputs
- 330020-620** – I/O Module – 5 pumps max per module

### ► Wiring Setup

#### Relay (Pump Control Output)

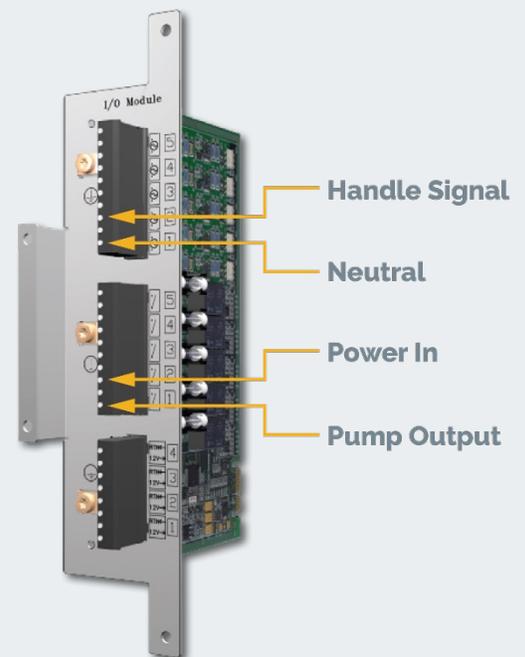
One relay per pump

- One terminal is the power in, this is always 120VAC and wired to the breaker panel.
- The other terminal is wired to the pump control box, this will be 120VAC when the pump turns on.

#### External Input (Pump Sense)

One external input per line (shared between all pumps on this line)

- One terminal is wired to the handle signal. This will be 120VAC when the handle is lifted.
- The other terminal is the neutral, this should be wired to the breaker panel.



### ► Programming Summary

Below is a brief list showing the order in which a line manifold must be programmed.

**WARNING:** Not going in order will cause the console to go into multiple setup data warnings.

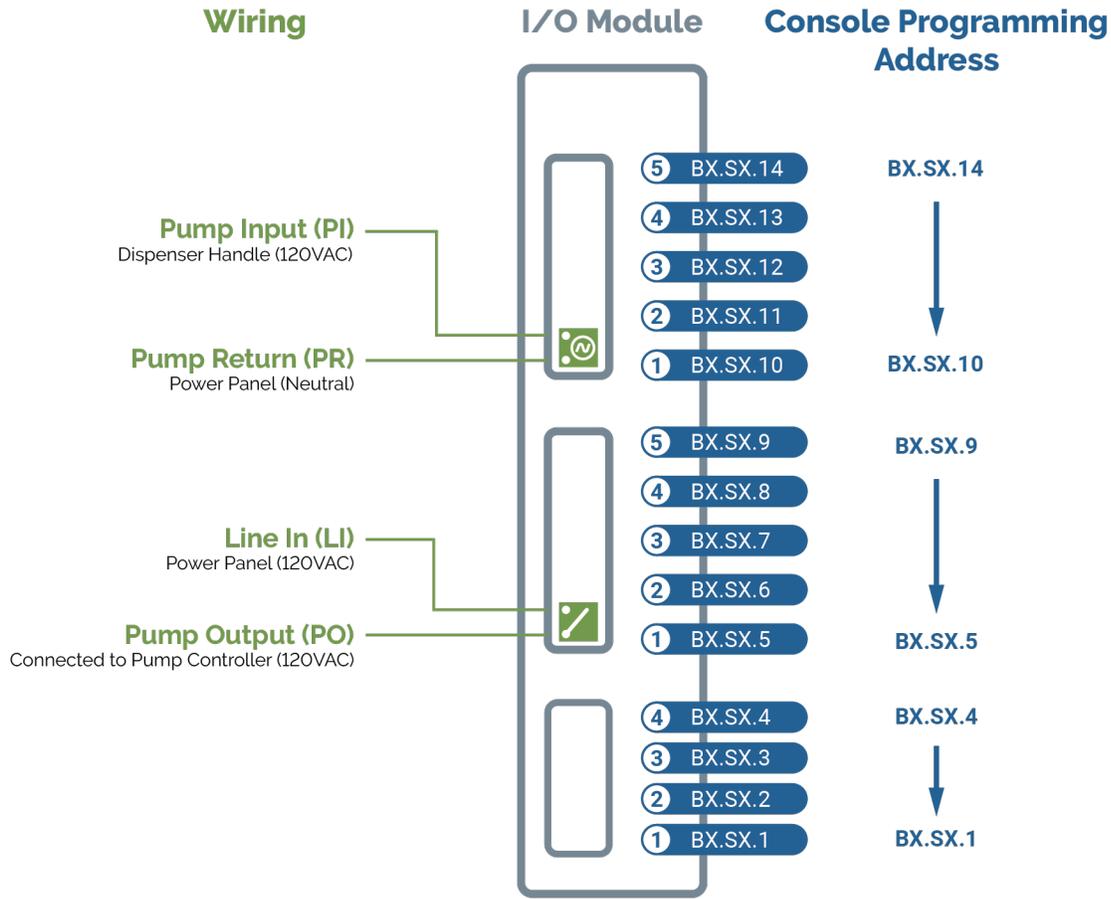
#### 1. Devices

- Relay
- External Input

#### 2. Pumps and Lines

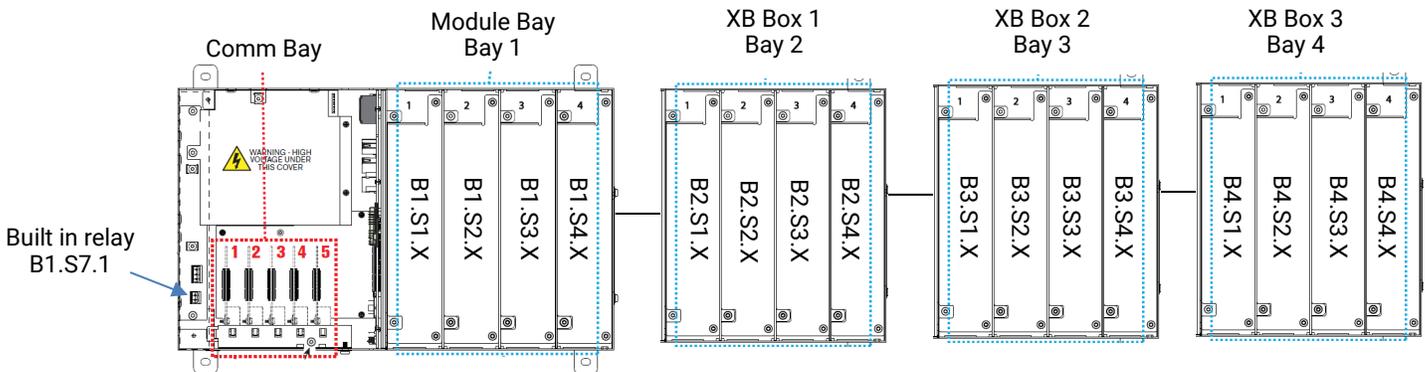
- Pumps
- Lines

## ► I/O Module Addressing



**Note:** Low voltage inputs **not** used with PLLD or pump sense.

## ► ATG and Expansion Box Addressing



## ► Device Setup Menu → Setup → Devices

### Relay

Program one relay per individual pump.

- Configured:** Enabled
- Select Address:** BX.SX.5-9
- Enter a Label (fuel type):** Ex: Unleaded, Premium, Diesel
- Type:** Pump Control Output
- Orientation:** Normally Open

The screenshot shows the 'Relay' configuration screen. The 'Configured' status is set to 'Enabled'. The 'Address' is 'B1.S2.5', the 'Label' is 'Unleaded', the 'Type' is 'Pump Control Output', and the 'Orientation' is 'Normally Open'. The left sidebar shows navigation options: Home, Favorites, Menu, Actions, and a '1' icon for Relay.

### External Input

Program one external input. This will be shared with all pumps on this line.

- Configured:** Enabled
- Select Address:** BX.SX.10-14
- Enter a Label (fuel type):** Ex: Unleaded, Premium, Diesel
- Type:** Pump Sense
- Orientation:** Normally Open

The screenshot shows the 'External Input' configuration screen. The 'Configured' status is set to 'Enabled'. The 'Address' is 'B1.S2.10', the 'Label' is 'Unleaded', the 'Type' is 'Pump Sense', and the 'Orientation' is 'Normally Open'. The left sidebar shows navigation options: Home, Favorites, Menu, Actions, and a '1' icon for External Input.

## ► Pumps and Lines Setup Menu → Setup → Pumps and Lines

**Note:** At least two pumps must be programmed for a Line Manifold.

1

### Pump

Program one pump per STP. Each pump must be assigned to a different relay. All pumps on this line must share the same external input.

- Configured:** Enabled
- Label:** Product Name
- Mode:** TLS Pump Control
- Tank:** Select a tank
- Pump Control:** Select a relay
- Pump Sense:** Select an external input

The screenshot shows the 'Pump' configuration screen. The 'Configured' status is set to 'Enabled'. The 'Label' is 'Unleaded', the 'Mode' is 'TLS Pump Control', the 'Tank' is 'TANK 1: Unleaded', the 'Pump Control' is 'R 1: Unleaded', and the 'Pump Sense' is 'EXTERNAL INPUT 1: Unleaded'. The left sidebar shows navigation options: Home, Favorites, Menu, Actions, and a '1' icon for Pump.

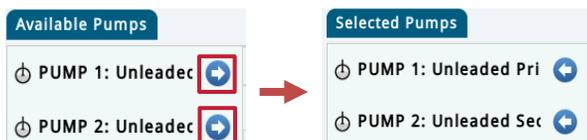
## ► Pumps and Lines Setup (continued)

2

### Line

**Note:** Program one line. All pumps will be assigned to this line.

- Configured:** Enabled
- Label:** Product Name
- Leak Monitoring:** If applicable
- Pressure Sensor:** If applicable
- Line Active Relay:** Not required
- Manifolded:** Yes
- Dispense Mode:** See Dispenser Mode section below
- Active Switchover:** See Active Switchover section below
- Switchover Volume (or Height) Threshold:** See Switchover Volume Threshold or Switchover Height Threshold section below
- Selected Pumps (scroll down):**
  - Use the arrows to select the desired Pumps



### Dispense Mode

**Manifolded Alternate-Volume:** The console will run the tank with the greatest inventory volume

**Manifolded Sequential:** Tanks are pumped one at a time until the volume drops below the Pump Threshold (Setup → Tank → General)

**Manifolded All Pumps:** All pumps turn on at the same time

**Standard:** Only one pump feeds the line (not used in a line manifold setup)

**Manifolded Pump Sense:** This is used for manifolded lines with pump sets that are controlled externally to the console. Pump Sense helps evaluate busy periods for tank testing

**Manifolded Alternate-Height:** The console will run the tank with the greatest inventory height

**Manifolded Alternate-Pump:** The console alternates the pump with each new handle signal

### Active Switchover

**This field is active only when Alternate-Volume or Alternate-Height are selected.**

- Yes:** During dispensing the console will automatically switch to an alternate tank based on the volume or height threshold.
- No:** Disables switchover to an alternate tank during dispensing. Requires the threshold to be met plus a new handle signal.

### Switchover Volume Threshold or Switchover Height Threshold

The volume or height used to determine when to switch over to an alternate tank.

## ► Further Information

- Contact Veeder-Root Technical Support at +1.800.323.1799 for additional help or questions.
- Learn more about the [TLS-450PLUS ATG](#) on our webpage.