

# TD100 Transmitter Firmware Upgrade

# 1 - TD100 Firmware Management

**Firmware** is the **internal software** that operates the TD100 Transmitter and FINCH II Display. This firmware provides many of the advanced features available with the TD100 system.

The firmware is **upgradeable** even after the TD100 Transmitter and FINCH II Display have left the factory. SensorLink and the programming kit may install new features in the field.

An **Internet-connected** computer is best for upgrading. It will download the most recent firmware version. If the Internet is not available, a previously downloaded firmware file may also be installed. **Connect** the computer to the **Internet**, open SensorLink and accept the update if **prompted**. Close SensorLink. The computer may now be moved to an area lacking an Internet connection. SensorLink is installed with the **current** files.

## Topics

Topic 1.1 TD100 Transmitter Firmware Upgrade

Topic 1.2 TD100 Firmware Version Check

# Topic 1.1 TD100 Transmitter Firmware Upgrade

Firmware **upgrading** is done much like the strapping table programming. The TD100 is connected to the **programming kit**. A file containing the new **firmware** is selected and then sent to the TD100 Transmitter.

The **newest and current** firmware **file** is downloaded when SensorLink prompts to install an **update**. That firmware file is now available even without an Internet connection.

**DO NOT TURN THE POWER OFF, DISCONNECT OR EXIT THE PROGRAM WHILE UPDATING.**


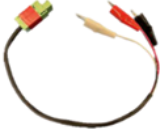



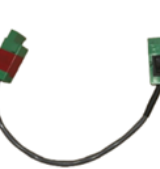
This may cause damage that requires a trip back to the factory for repair.

Here are the detailed steps.

# Topic 1.1 Continued

The TD100 Transmitter firmware may be upgraded in a shop environment before installation or while installed on the vehicle.

The Titan-supplied programming kit provides all the cables required for programming and firmware upgrade. It also includes an AC power adapter for the TD100 Transmitter power.

Component	Name	Component	Name
 ①	Wall Plug-in Adapter	 ④	Transmitter Adapter Cable
 ②	SV Bus Converter	 ⑤	SV Bus Adapter Cable
 ③	USB Converter Cable	 ⑥	FINCH II Programming Adapter for Transmitter

# Topic 1.1 Continued

Ensure your programming kit includes the current SV Bus Converter, part number **SV-RS232F**.

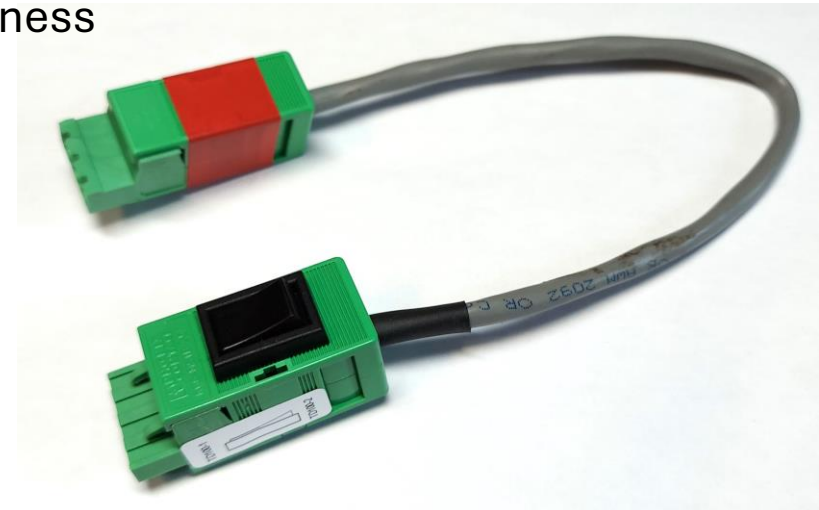
This version is required to install TD100 firmware updates for new features.

Your kit must also include the FINCH II SV Bus Programming Adapter Harness.



SV Bus Converter SV-RS232F

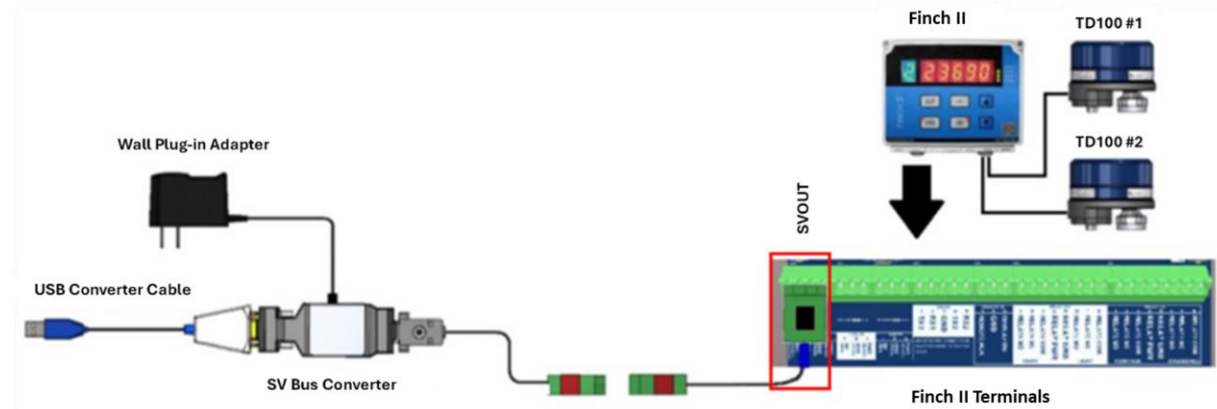
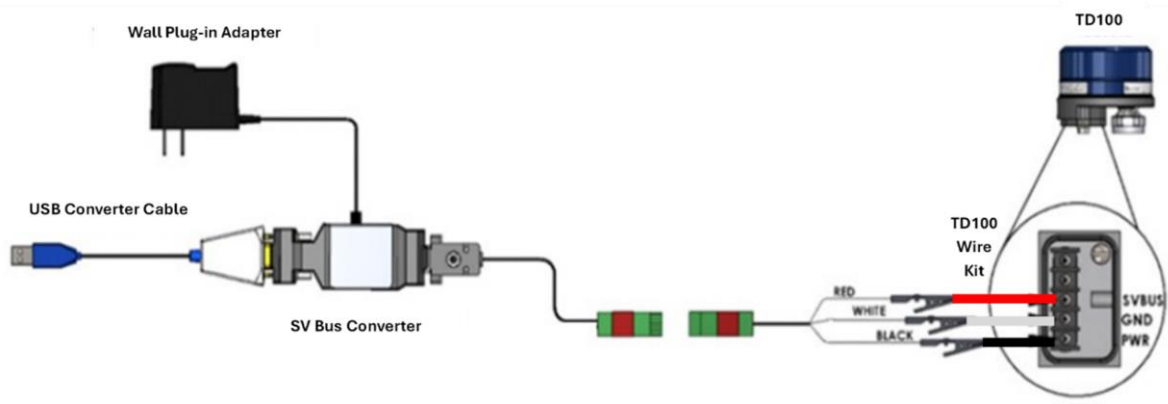
FINCH II SV Bus Programming Adapter Harness



# Topic 1.1 Continued

1. **Connect** the programming kit to the computer and to the TD100 Transmitter. This is **identical** to when the strapping table is programmed. Power may be provided by the **AC converter OR** the vehicle's **battery power**.

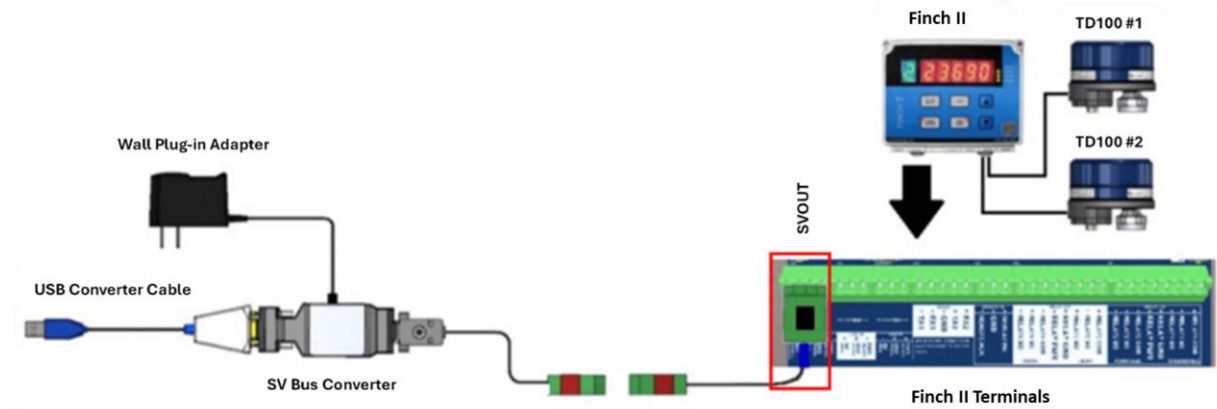
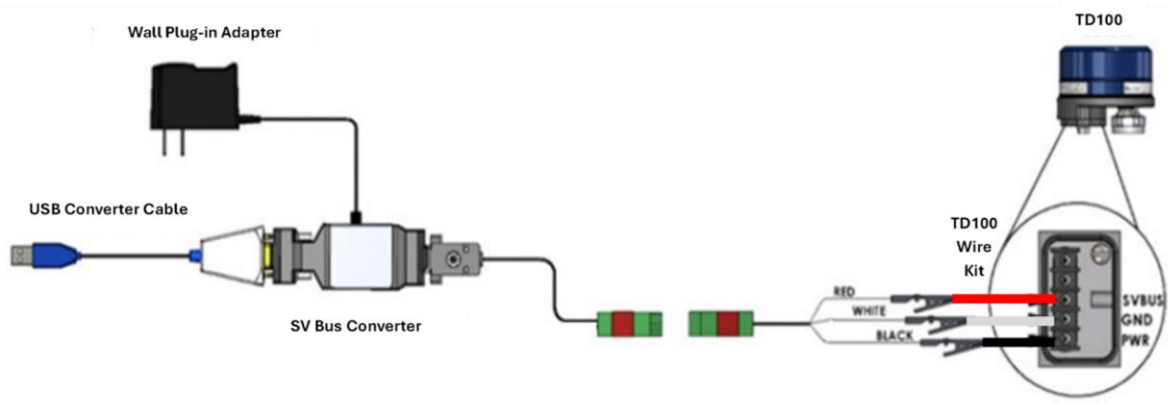
Now **plug in** the **AC converter OR** turn on the vehicle's **key switch** to **power** the TD100 Transmitter.



# Topic 1.1 Continued

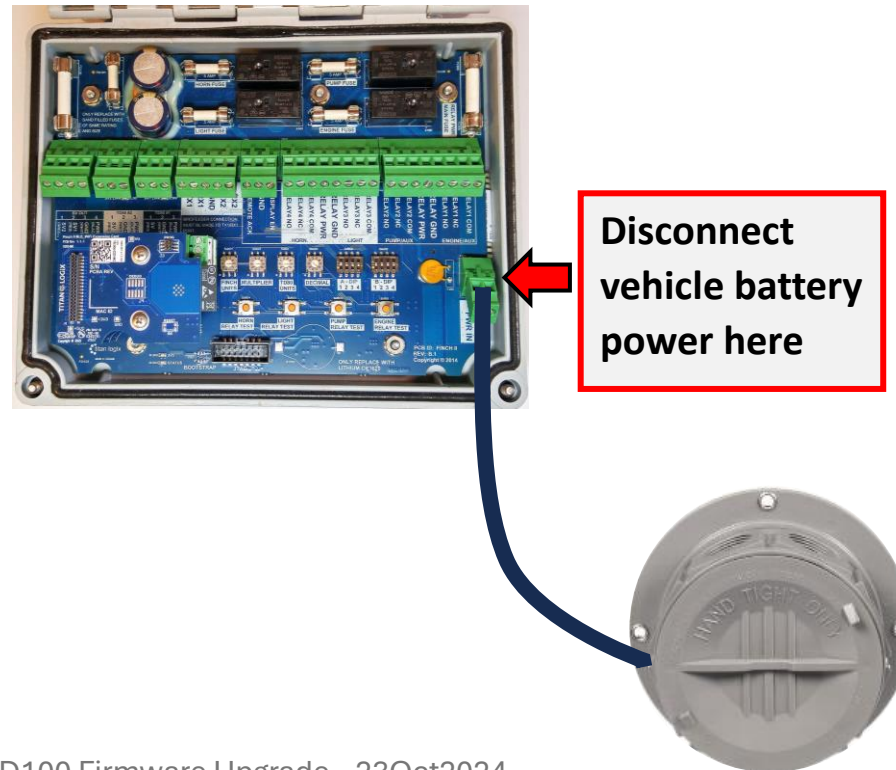
**Do not** connect the **AC converter** when using the vehicle's **battery** power. The AC converter may be **damaged**.

When using the **AC converter** power, **unplug** the vehicle's battery power into the FINCH II Display at the **PWR IN** connector. This will prevent damage to the AC converter.



# Topic 1.1 Continued

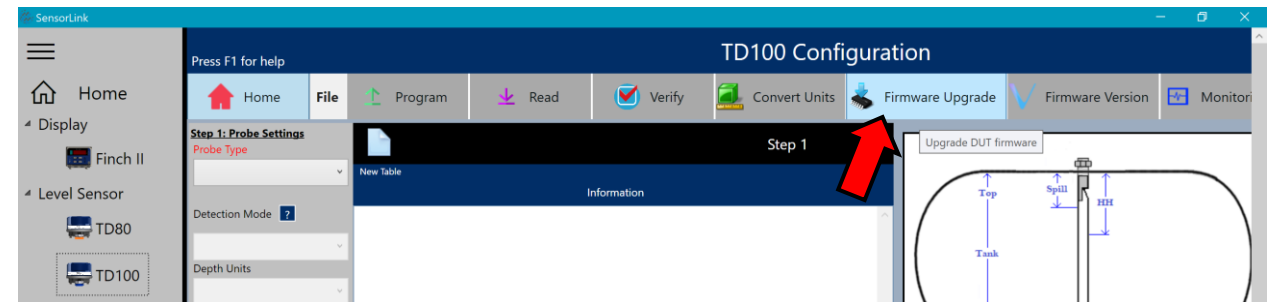
When using the **AC converter** power, **unplug** the vehicle's battery power into the FINCH II Display at the **PWR IN** connector. This will prevent damage to the AC converter.





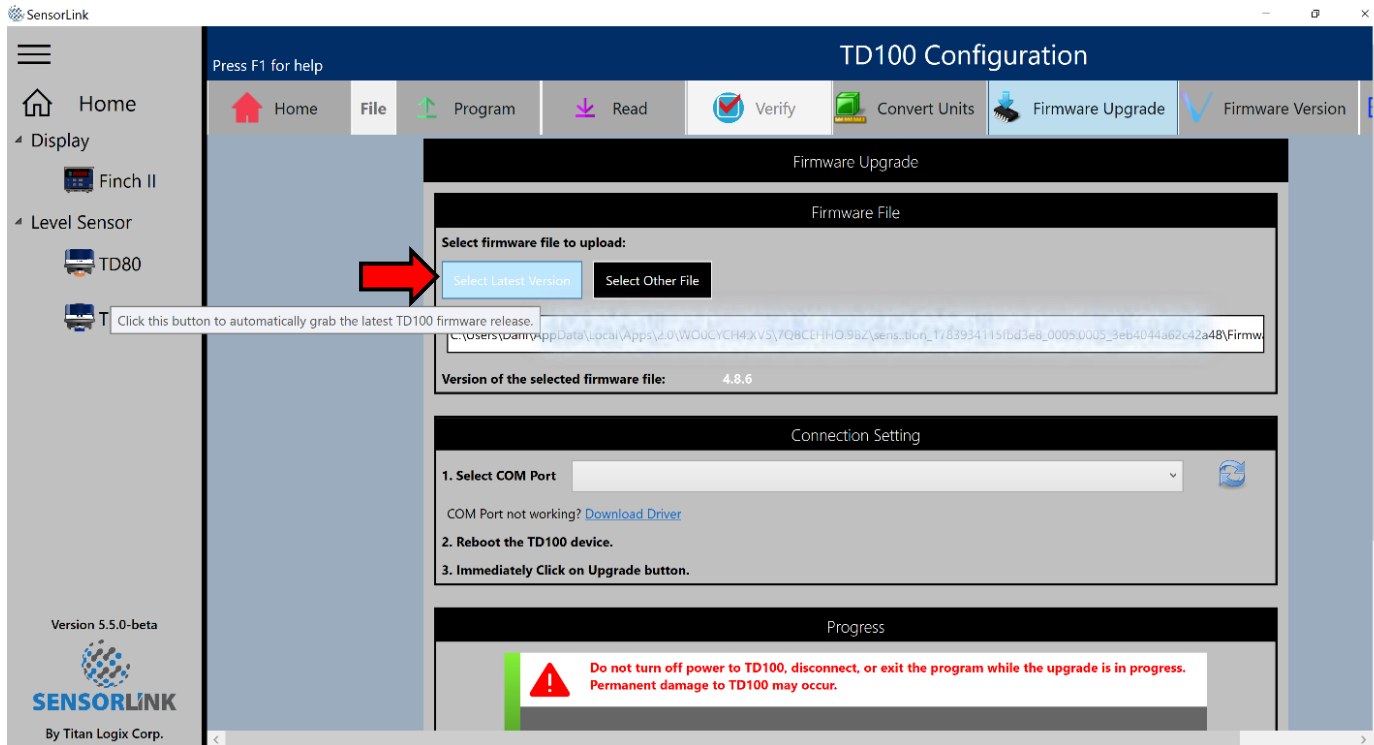
# Topic 1.1 Continued

2. **Open** SensorLink. SensorLink may prompt you to update the app when connected to the Internet. **Accept** the **update**.
3. Click the TD100 icon on the left side of the screen.
4. At the top of the screen, click **Firmware Upgrade**.



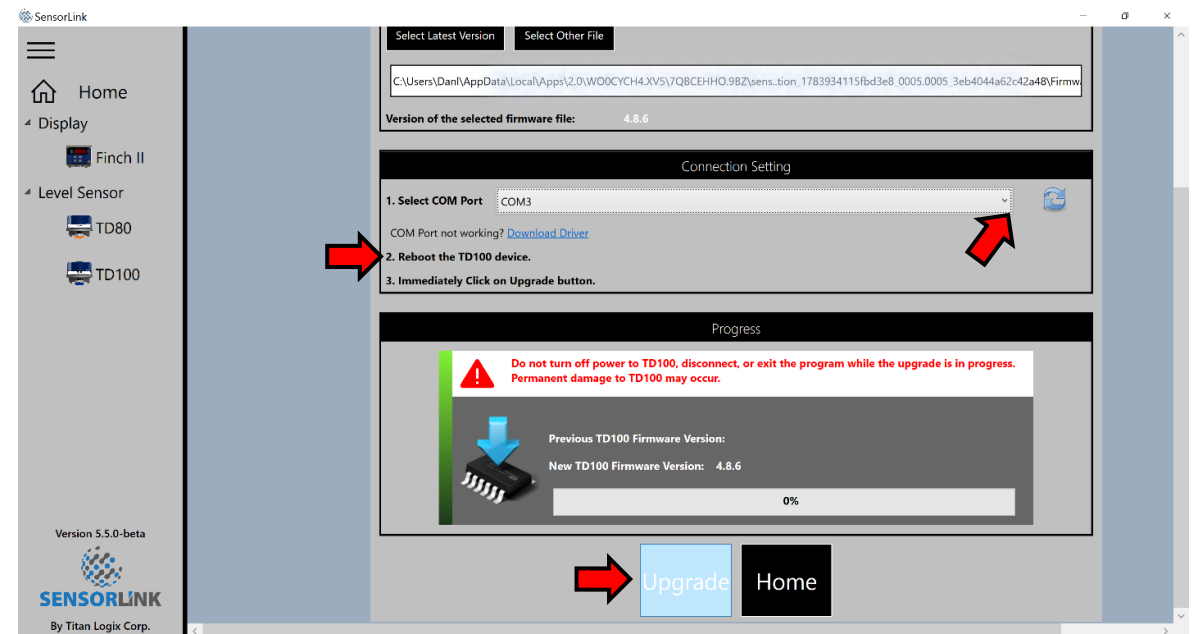
# Topic 1.1 Continued

5. Click the **Select Latest Version** button to load the current firmware version.



# Topic 1.1 Continued

6. Select the **Com Port** connected to the programming kit. COM Port issues are identical to the programming issues.
7. Turn the **power** to the TD100 Transmitter **off** and then back **on** by pressing the black **button** on the programming cable **or** the **vehicle's** battery power off and back on.
8. Quickly click the **Upgrade** button.

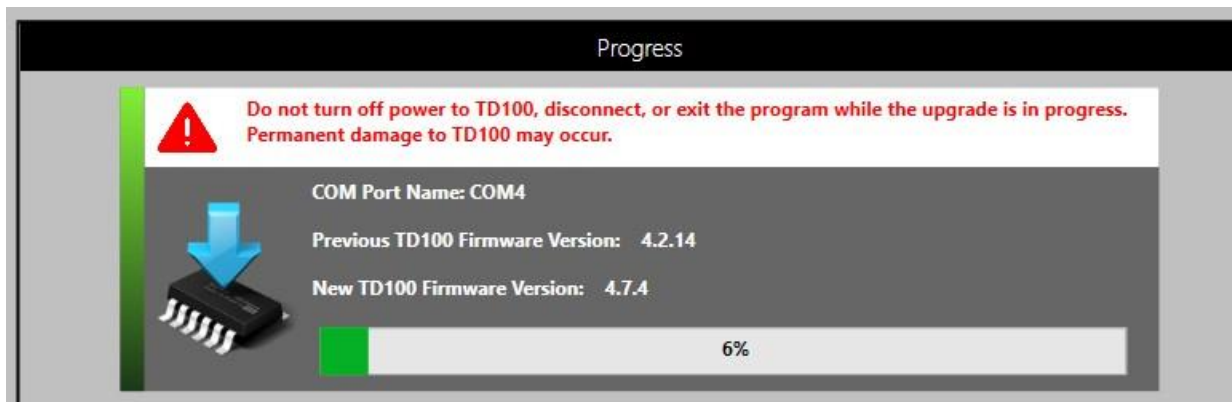


# Topic 1.1 Continued

9. The firmware update progress is now shown.

**10. DO NOT TURN THE POWER OFF, DISCONNECT OR EXIT THE PROGRAM WHILE UPDATING.**

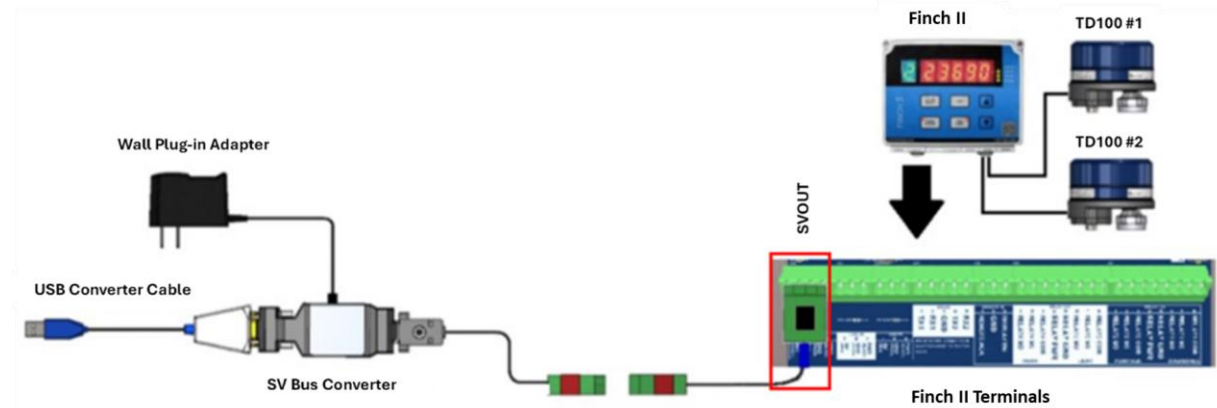
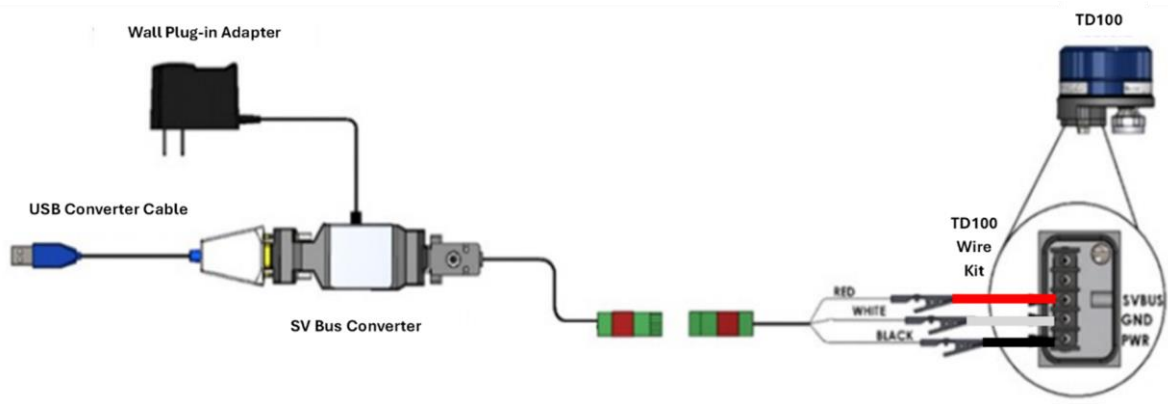
11. When the **upgrade** process is **complete**, click the **Home** button, and then **optionally** turn **OFF** power to the transmitter, **close** SensorLink and **disconnect** the programming kit.



# Topic 1.2 TD100 Firmware Version Check

Occasionally, you may need to check the **firmware version** that is installed in the TD100 Transmitter.

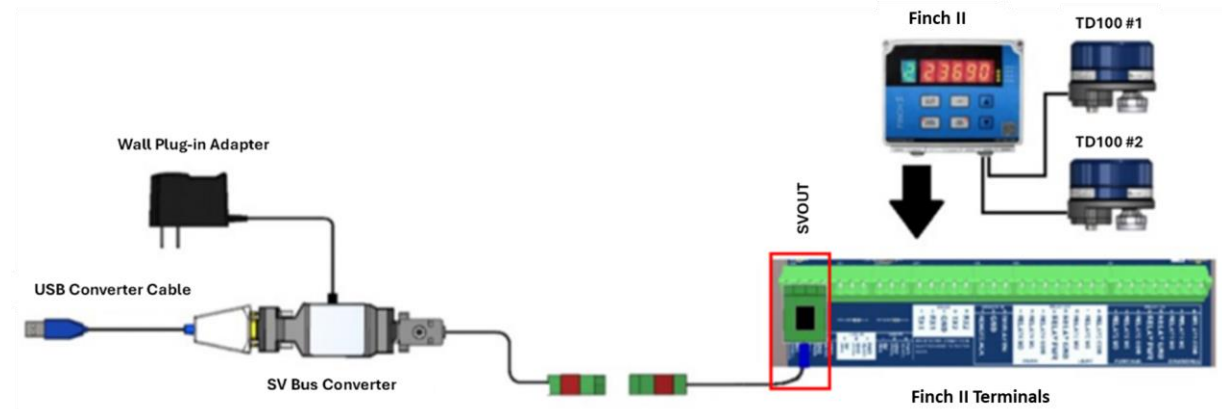
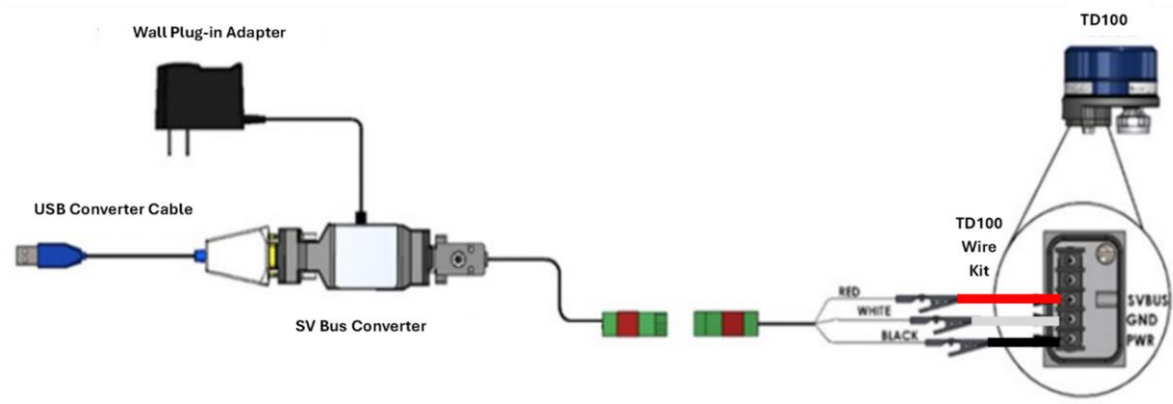
- 1. Connect** the programming kit to the computer and to the TD100 Transmitter. This is identical to how the firmware is upgraded. Power may be provided by the AC converter or the vehicle's battery power.



# Topic 1.2 TD100 Firmware Version Check

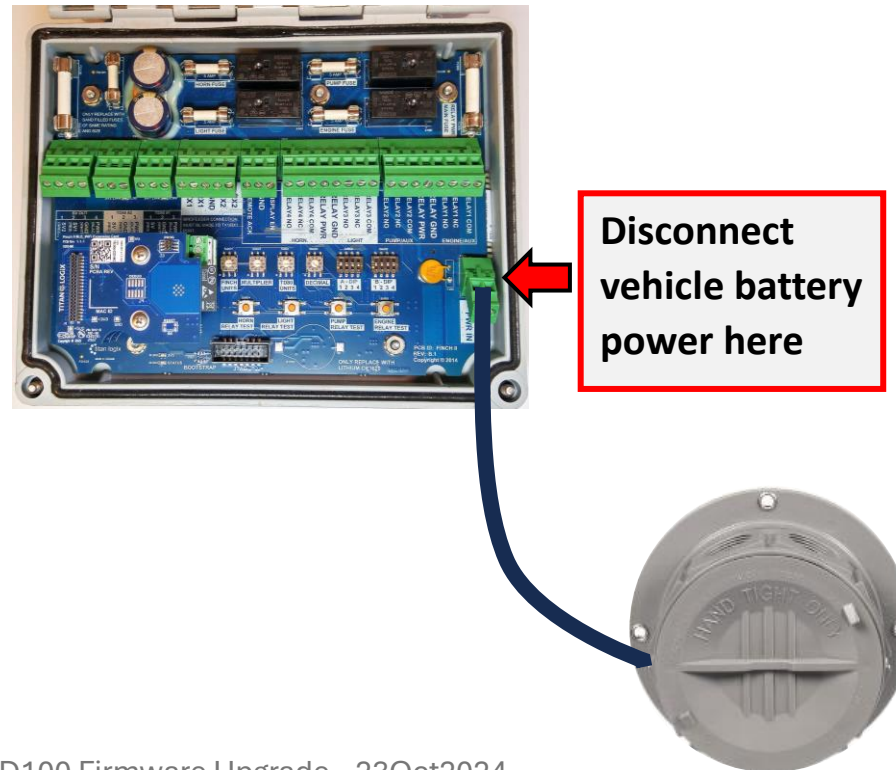
**Do not** connect the AC converter when using the vehicle's **battery** power. The AC converter may be **damaged**.

When using the AC converter power, **unplug** the vehicle's battery power into the FINCH II Display at the **PWR IN** connector. This will prevent damage to the AC converter.



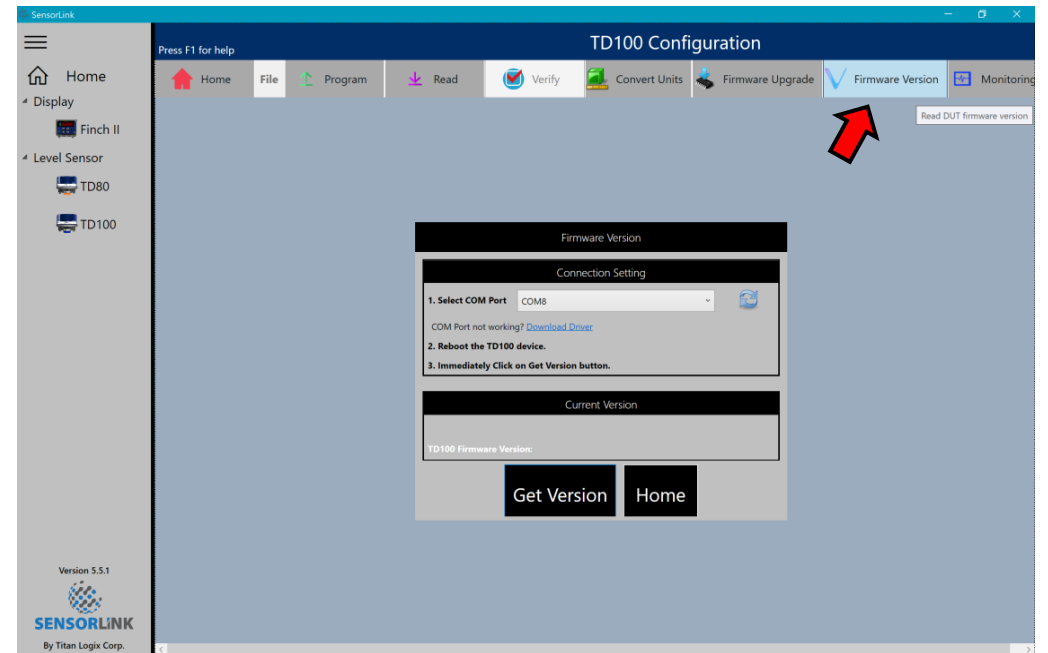
# Topic 1.2 Continued

When using the **AC converter** power, **unplug** the vehicle's battery power into the FINCH II Display at the **PWR IN** connector. This will prevent damage to the AC converter.



# Topic 1.2 Continued

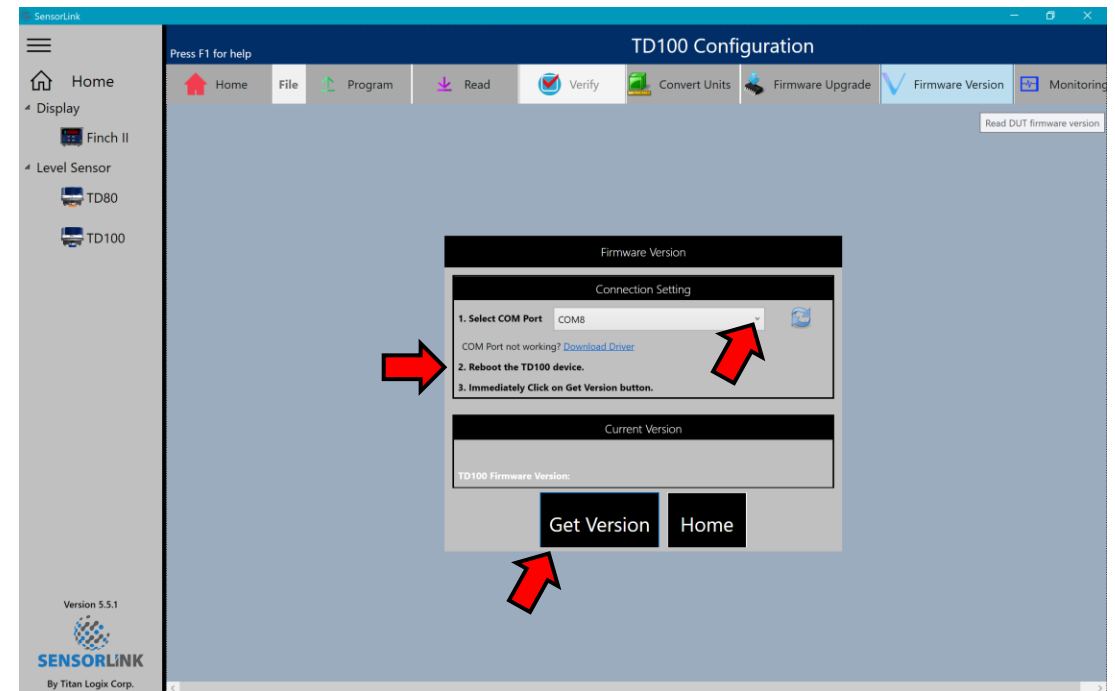
2. **Open** SensorLink.
3. **Click** the TD100 icon on the left side of the screen.
4. At the top of the screen, click Firmware **Version**.





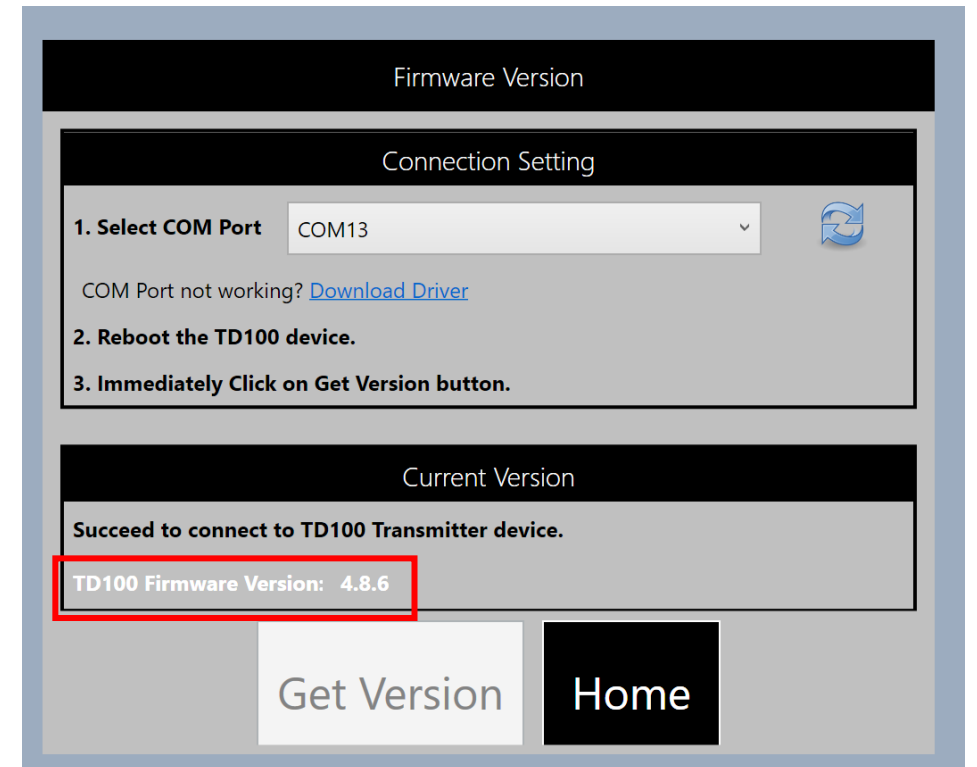
# Topic 1.2 Continued

5. Select the **Com Port** connected to the programming kit. COM Port issues are identical to the programming issues.
6. Turn the **power** to the TD100 Transmitter Off and then back on by pressing the black **button** on the programming cable **or** the **vehicle's** battery power off and back on.
7. Quickly click the **Get Version** button.



# Topic 1.2 Continued

8. The currently installed Firmware **version** is displayed. In this example, the current TD100 Transmitter firmware version is 4.8.6.
9. When the firmware version check is **complete**, click the **Home** button, and then **optionally** turn **OFF** power to the transmitter, **close** SensorLink and **disconnect** the programming kit.



# 2 - TD100 Transmitter Firmware Upgrade Through the FINCH II-6W Display

TD100 **firmware** upgrades through the **FINCH II-6W** Display are done in a familiar way. The TD100 Transmitter is still upgradable on a **desk or bench** before it is installed on the vehicle. The transmitters may also be upgraded **from the FINCH II-6W** Display after installation.

This Lesson describes details that are **specific** to connecting TD100 Transmitters through the **FINCH II-6W** Display to the **programming kit** and SensorLink.

Refer to Section 1, **TD100 Firmware Management** for the **process details** and for **compartments 1 and 2** connection to the programming kit.

The **difference** for **FINCH II-6W** displays is that:

- Compartments **3 to 6** transmitters **must** be upgraded through the disconnected **SVbus wiring**. That's the black, white and red wires. Each TD100 transmitter is programmed using the Transmitter Adapter Cable (Item **4** in the Programming Kit chart below) with the **alligator clips**. This is the familiar method for programming and upgrading the transmitter on the bench.
- Compartment **1 and 2** transmitters are connected using the FINCH II Programming Adapter for Transmitter cable (item **6** in the Programming Kit chart below) through the usual **SVOUT connector**. This is the familiar programming and upgrade method for 1 or 2 compartment installations.






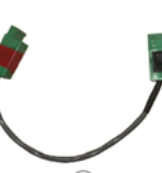
## Important Note:

- **Remove** only **one** set of compartment 3 to 6 wires at a time.
- Once the Black, White and Red wires are disconnected, use the **alligator clips** to connect to the TD100 Transmitter.
- When upgrading is complete, **replace** the 3 **wires** before moving on to another compartment.
  - Black wire to +
  - White wire to –
  - Red wire to the compartment number **3, 4, 5 or 6**.

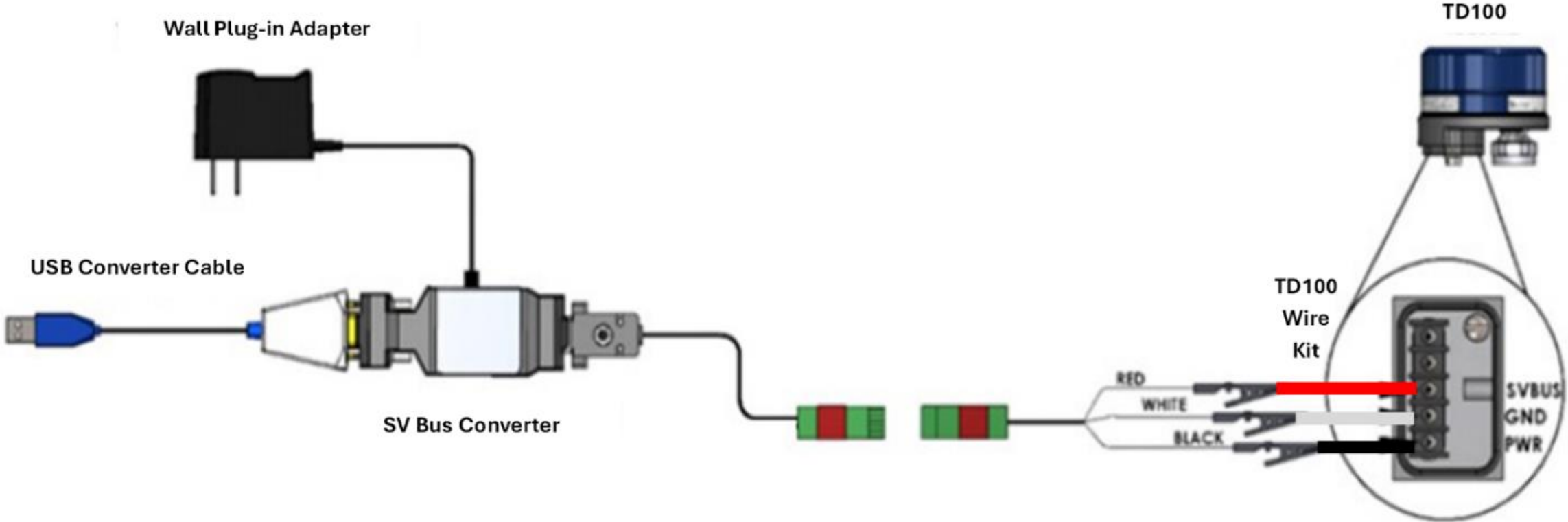
# Equipment Required for TD100 Firmware Upgrade

1. An Internet connected computer with SensorLink installed
2. The TD100 Programming kit
3. Access to AC power

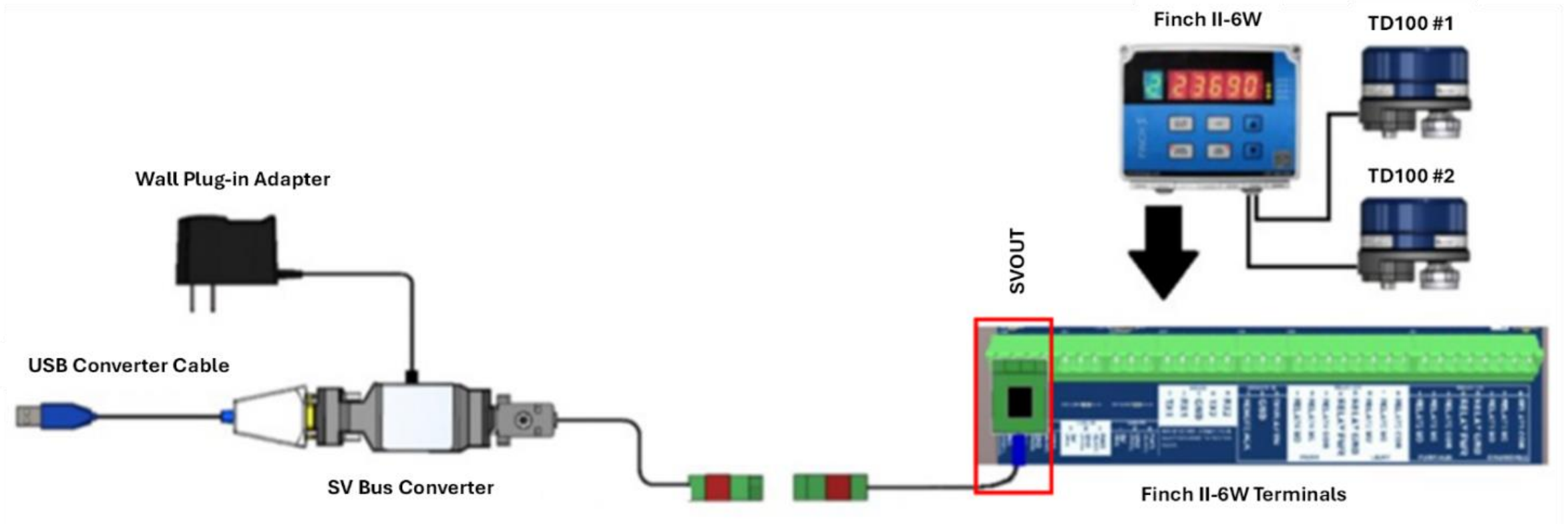
## Programming Kit Components

Component	Name	Component	Name
 ①	Wall Plug-in Adapter	 ④	Transmitter Adapter Cable
 ②	SV Bus Converter	 ⑤	SV Bus Adapter Cable
 ③	USB Converter Cable	 ⑥	FINCH II Programming Adapter for Transmitter

# Upgrading Connection Directly to the TD100 Transmitter for Compartments 3 to 6



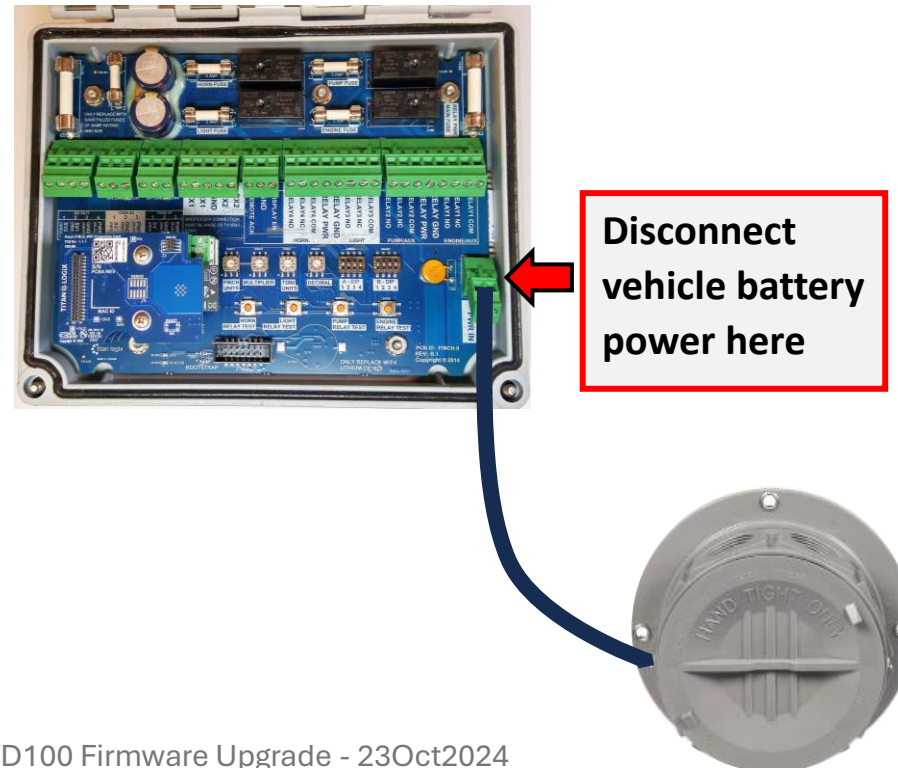
# Upgrading Connection Through the FINCH II-6W Display for Compartments 1 and 2





## Upgrading Connection Through the FINCH II-6W Display for Compartments 1 and 2

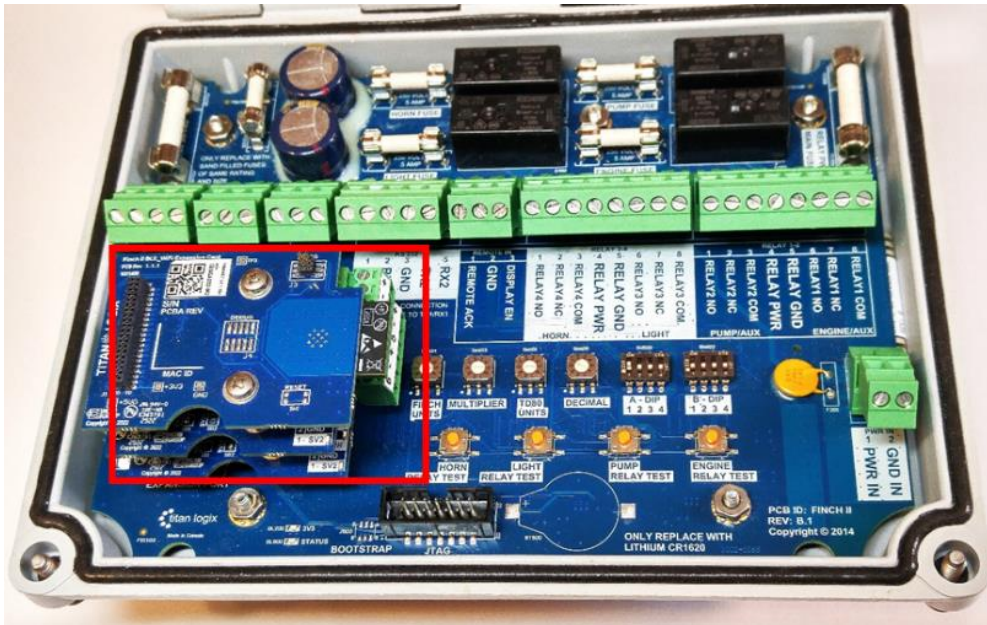
When using the **AC converter** power, **unplug** the vehicle's battery power into the FINCH II-6W Display at the **PWR IN** connector. This will prevent damage to the AC converter.



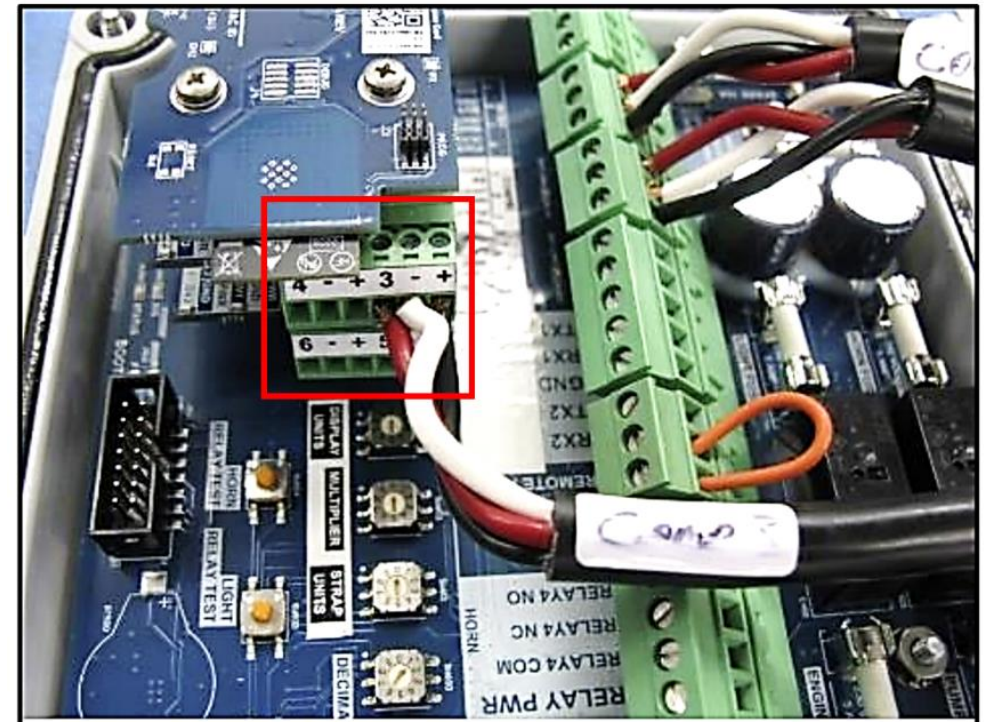
# Locating the Compartment 3 to 6 Connectors

Access to the TD100 Transmitters on compartments 3 to 6 requires disconnecting the wires at the **daughterboard** connector.

Compartments 3 to 6 Daughterboard Location

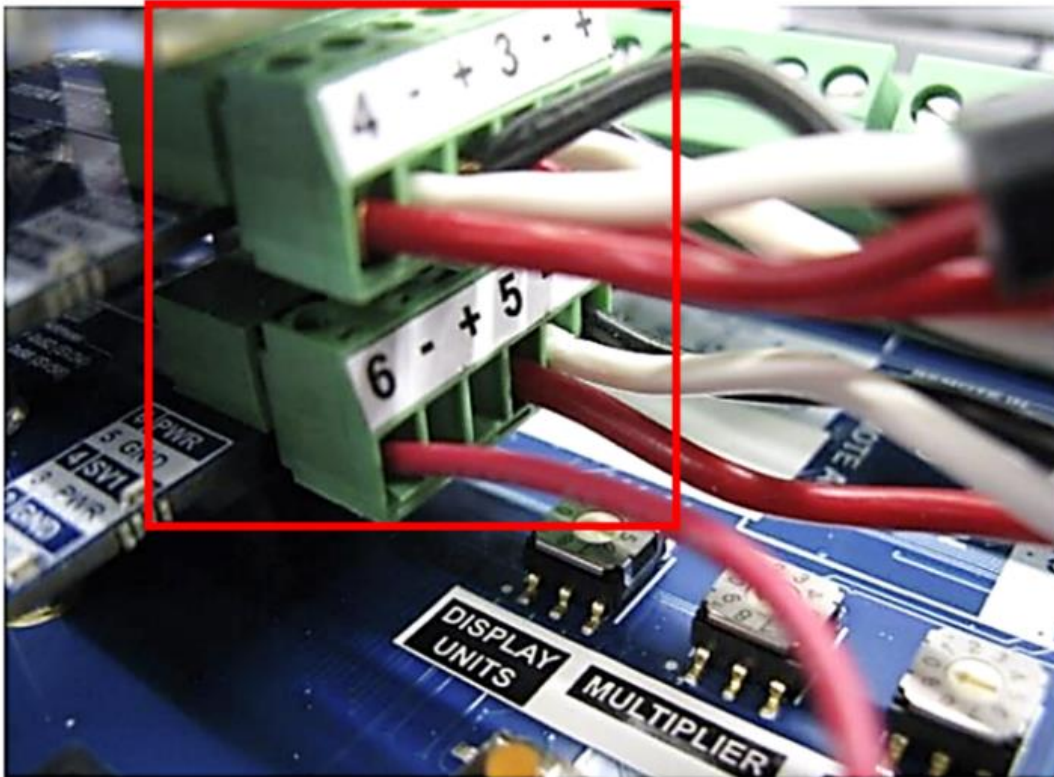


Compartments 3 to 6 Connectors



# Locating the Compartment 3 to 6 Connectors

## Compartments 3 to 6 Wiring



Each set of Black, White and Red wires from compartments 3 to 6 TD100 Transmitter is connected to the daughterboards.

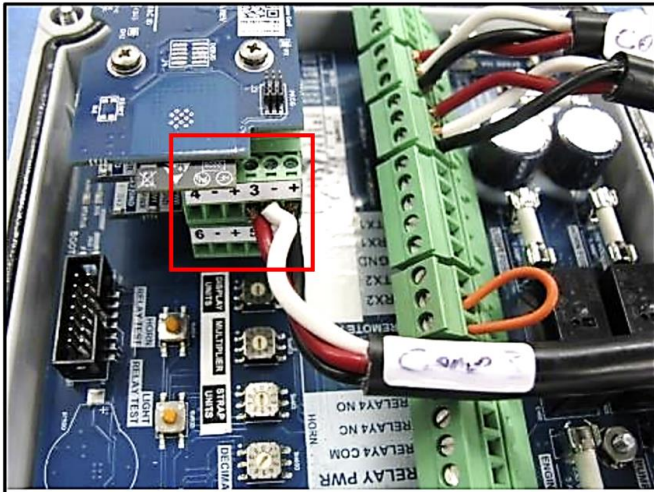
The compartment numbers are labeled on the daughterboard connectors.

# Firmware Upgrading Compartments 3 to 6

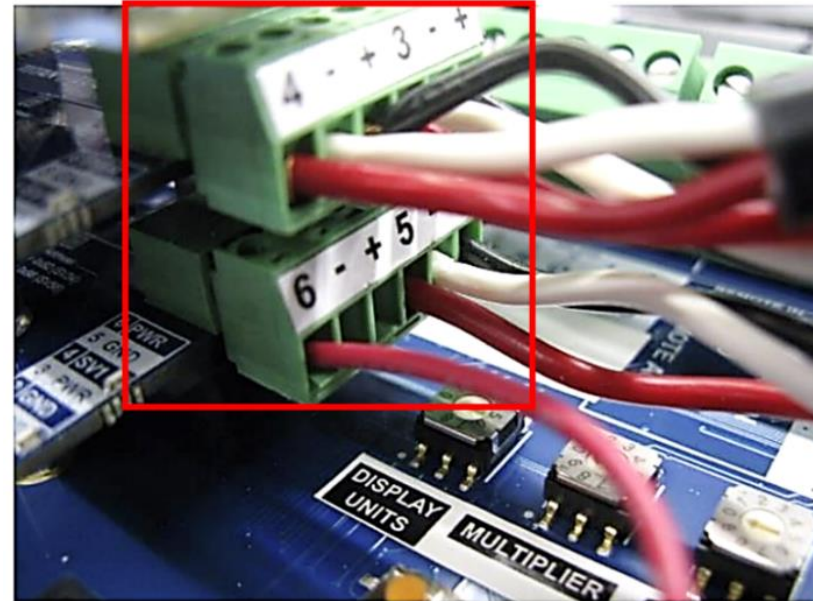
Ensure the **AC adapter** is unplugged from the SV Bus Converter before beginning.

1. If the TD100 Transmitter on **compartment 3** requires programming or updating, **unplug** the daughterboard **connector** for **compartments 3 and 4**.

Compartments 3 to 6 Connectors



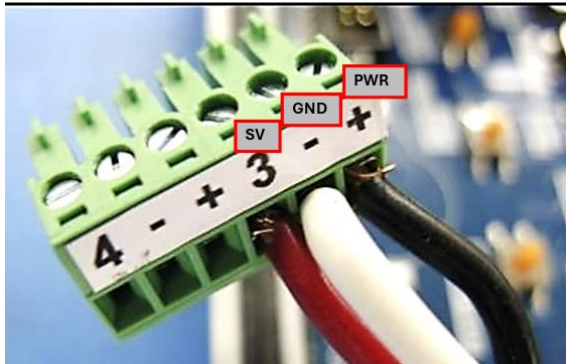
Compartments 3 to 6 Wiring



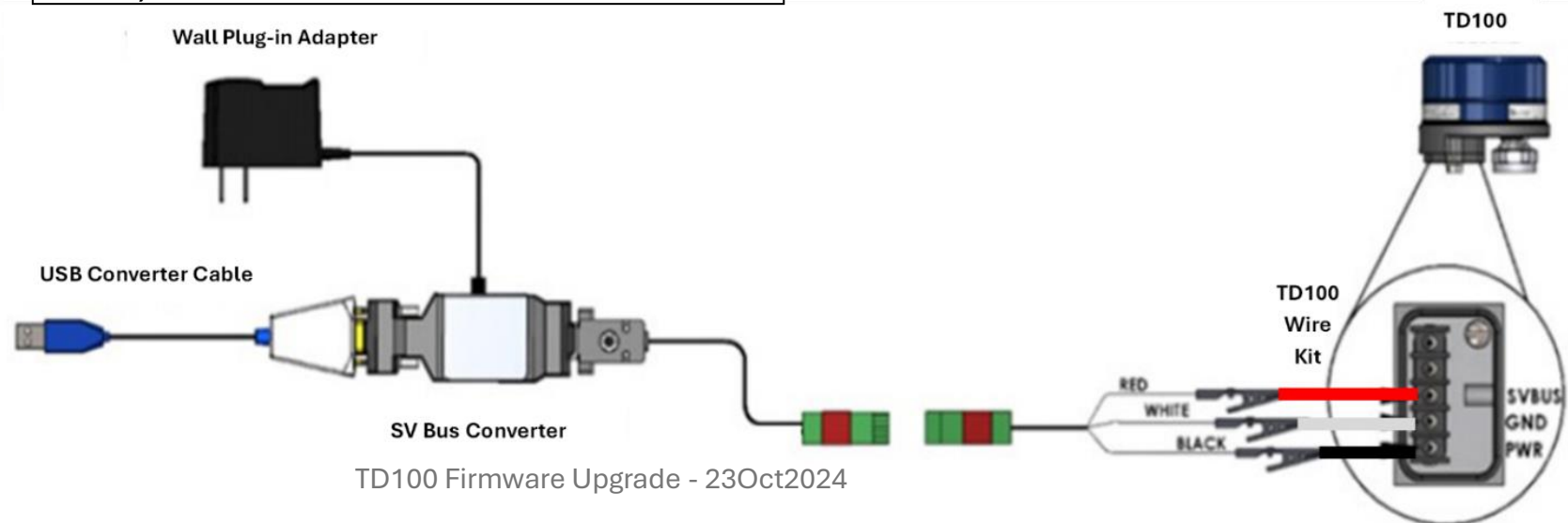
## Firmware Upgrading Compartments 3 to 6

2. **Disconnect** the black, white and red wires for compartment 3.
3. Connect the programming kit **alligator clips** to the 3 wires.

### Compartment 3 and 4 Connector Removed for Transmitter Programming or Updating



The Black, White and Red wires connect through the TD100 Wire Kit to the transmitter terminals labeled PWR, GND and SV.



# Firmware Upgrading Compartments 3 to 6

Connect the AC adapter to the SV Bus converter to power the TD100 Transmitter.

## 4. Upgrade the TD100 on compartment 3.

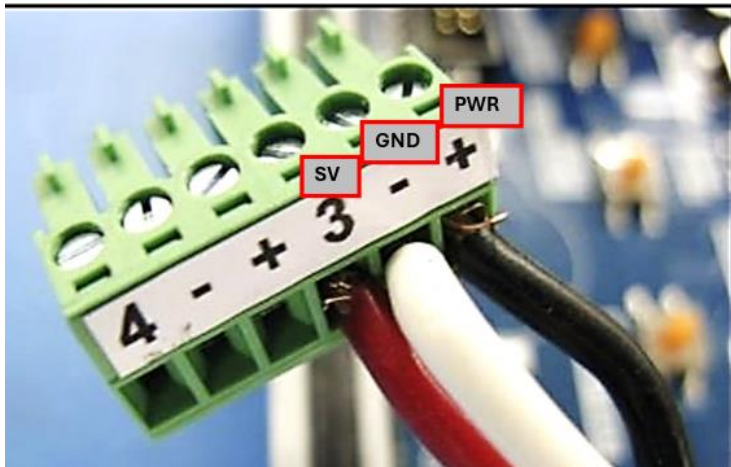
The image displays two screenshots of the SensorLink TD100 Configuration software interface. The left screenshot shows the 'Firmware Upgrade' window with the 'Firmware File' section selected. It displays the selected file path: `C:\Users\DanI\AppData\Local\Apps\2.0\W00CYCH4XV5\7QBCEH0.9BZ\sens_logn_1783934115fbd3e8_0005.0005_3eb4044a62c42a48\Firmw...` and the version of the selected firmware file: 4.8.6. The right screenshot shows the 'Connection Setting' and 'Progress' sections. The 'COM Port' is set to COM3. The 'Progress' section shows a warning message: 'Do not turn off power to TD100, disconnect, or exit the program while the upgrade is in progress. Permanent damage to TD100 may occur.' Below the warning, it displays the previous TD100 firmware version and the new TD100 firmware version (4.8.6), with a progress bar at 0%. The 'Upgrade' button is visible at the bottom right of the progress section.

## Firmware Upgrading Compartments 3 to 6

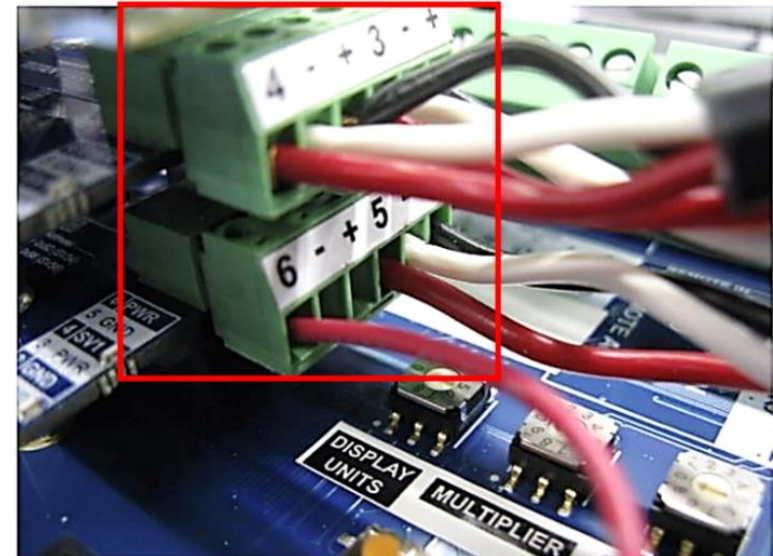
Disconnect the **AC adapter** from the SV Bus converter.

5. **Reconnect** the black, white and red wires to the daughterboard connector.
6. If the transmitter on **compartment 4** requires programming or updating, **repeat** steps **2 to 5** for that transmitter and continue to Step 7.
7. **Plug** the compartment 3 and 4 **connector** back into the daughterboard.

Compartment 3 and 4 Connector Removed for Transmitter Programming or Updating



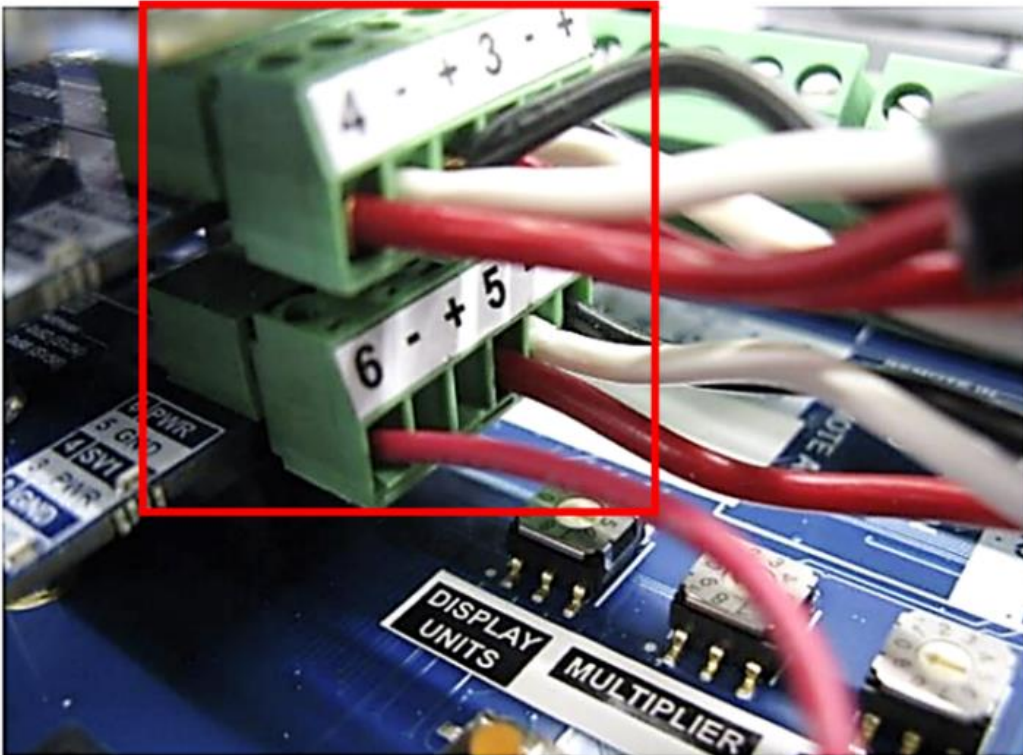
Compartments 3 to 6 Wiring



## Firmware Upgrading Compartments 3 to 6

8. If required, **repeat** steps **1 to 7** for **compartments 5 and 6** by unplugging the compartment 5 and 6 connector.

### Compartments 3 to 6 Wiring





# Firmware Upgrading Compartments 3 to 6

When the **upgrade** process is **complete for all transmitters**, click the **Home** button, and then **disconnect the AC adapter**, **close SensorLink** and **disconnect** the programming kit.

