

This guide describes how to retrofit a new Fuelink 5 controller into DM-100 FL-3000/4500 fuel price display systems. The displays will then be controlled using a customer-provided device (laptop/tablet/smart phone) via the Fuelink 5 software interface.

## Wireless Communication to Sign

The FL-3000 product line had two radio control options:

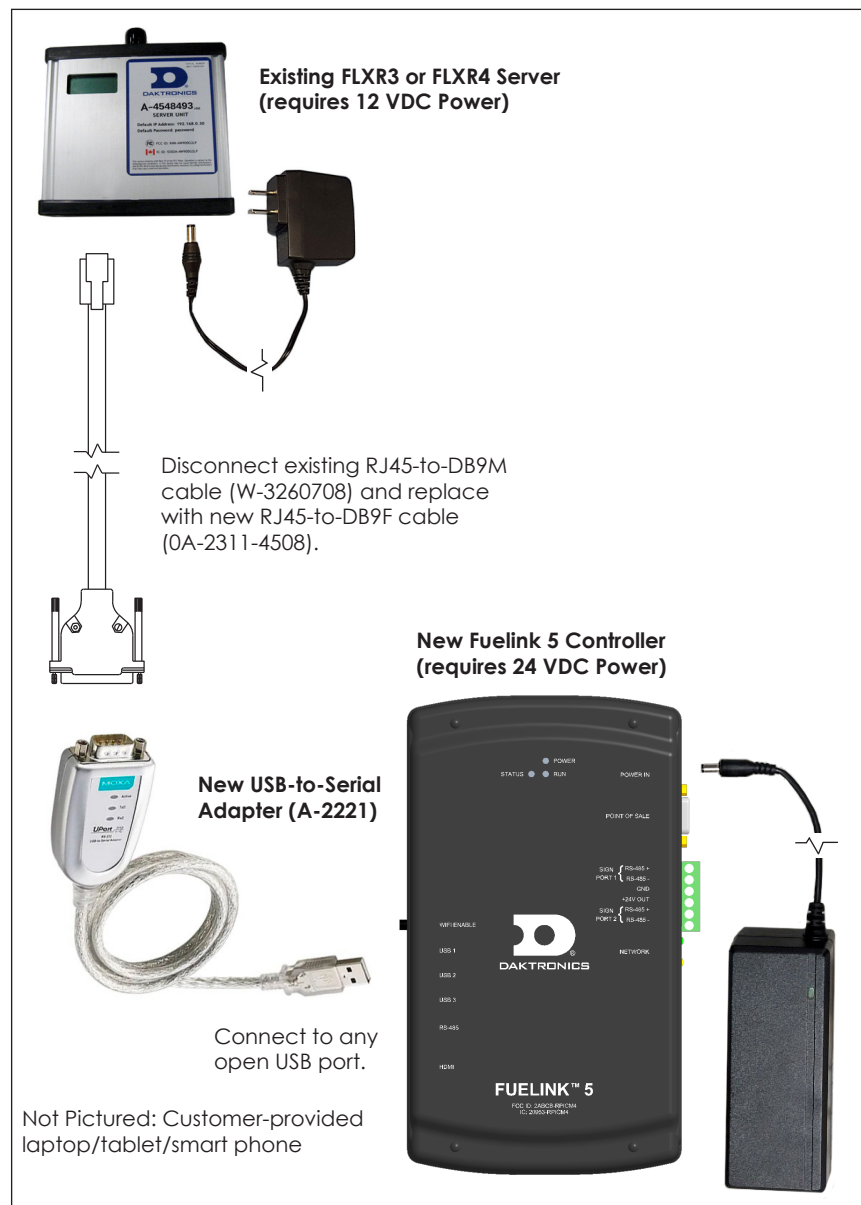
- FLXR3 (and later FLXR4) for long range applications
- FLR3-1500 for standard range applications

This guide applies to both systems. Refer to the figures below to determine the existing system in use.

### FLXR3/FLXR4

Refer to **Figure 1** for a diagram of the FLXR3/FLXR4 retrofit process.

1. Disconnect the existing DM-100 handheld controller as well as the RJ45-to-DB9M cable (W-3260708) that connects it to the FLXR server.
2. Connect the new 6' RJ45-to-DB9F cable (0A-2311-4508) between the FLXR server and the new USB-to-serial adapter (A-2221).
3. Connect the USB-to-serial adapter into any open USB port on the new Fuelink 5 controller.
4. Skip ahead to **Install Fuelink 5 Controller (p.4)** followed by **Detect and Configure (p.5)** to set up the new Fuelink 5 controller.

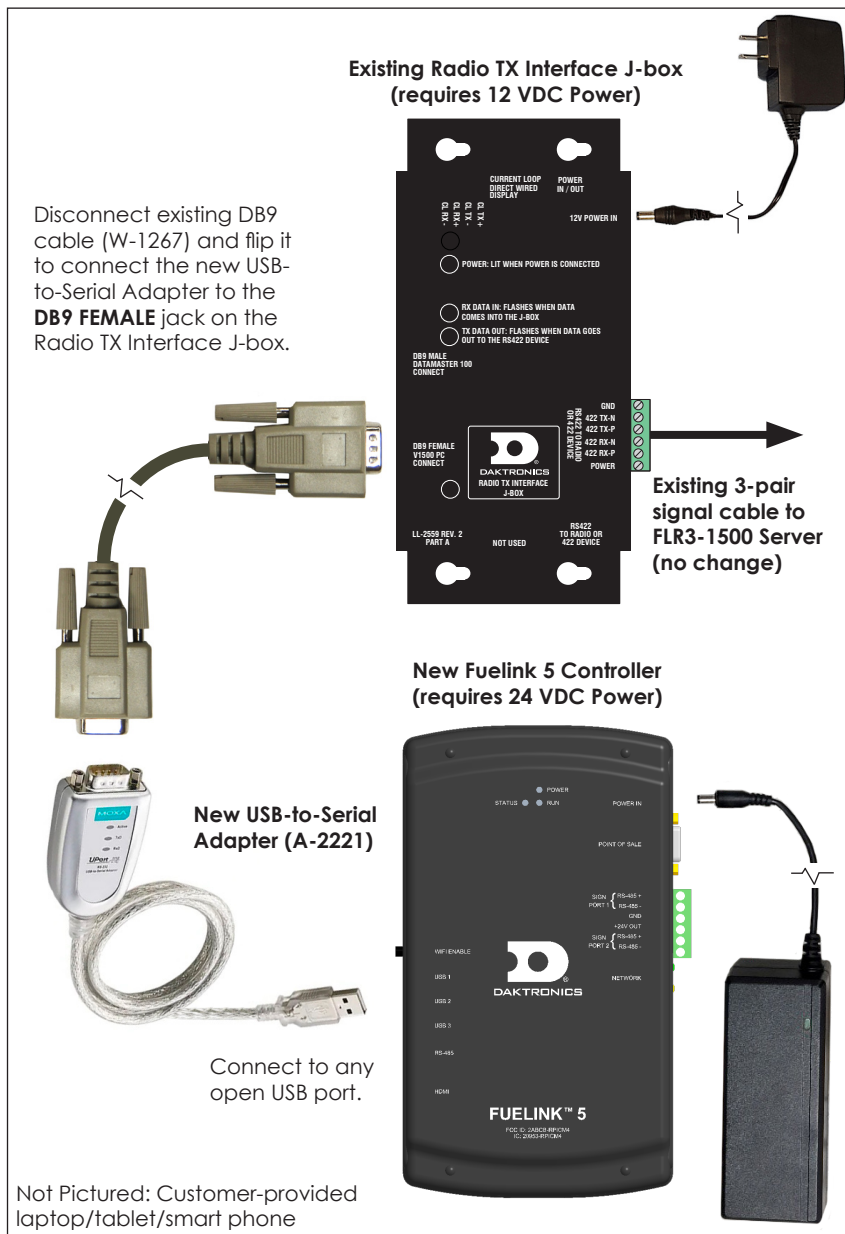


**Figure 1: FLXR3/FLXR4 Retrofit**

## FLR3-1500

Refer to **Figure 2** for a diagram of the FLR3-1500 retrofit process.

1. Disconnect the existing DM-100 handheld controller.
2. Disconnect the existing DB9 cable (part #W-1267) from the **DB9 MALE** port on the Radio TX Interface J-box (0A-1279-0161).
3. Flip the DB9 cable to connect the male end to the **DB9 FEMALE** port on the Radio TX Interface J-box.
4. Connect the female end of the DB9 cable to the new USB-to-serial adapter (A-2221).
5. Connect the USB-to-serial adapter into any open USB port on the new Fuelink 5 controller.
6. Skip ahead to **Install Fuelink 5 Controller (p.4)** followed by **Detect and Configure (p.5)** to set up the new Fuelink 5 controller.



**Figure 2: FLR3-1500 Retrofit**

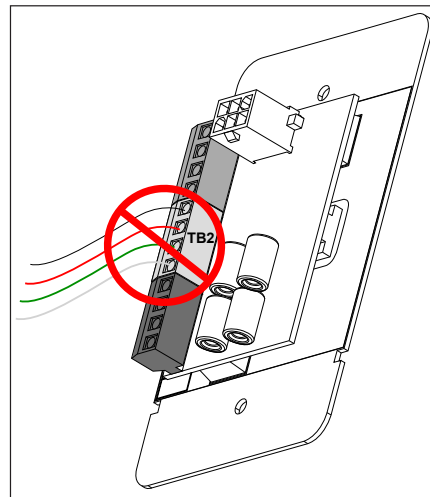
## Wired Communication to Sign (FLD3-2000)

This retrofit kit replaces the FL-3000 indoor J-box to allow a Fuelink 5 controller to control FL-3000 displays.

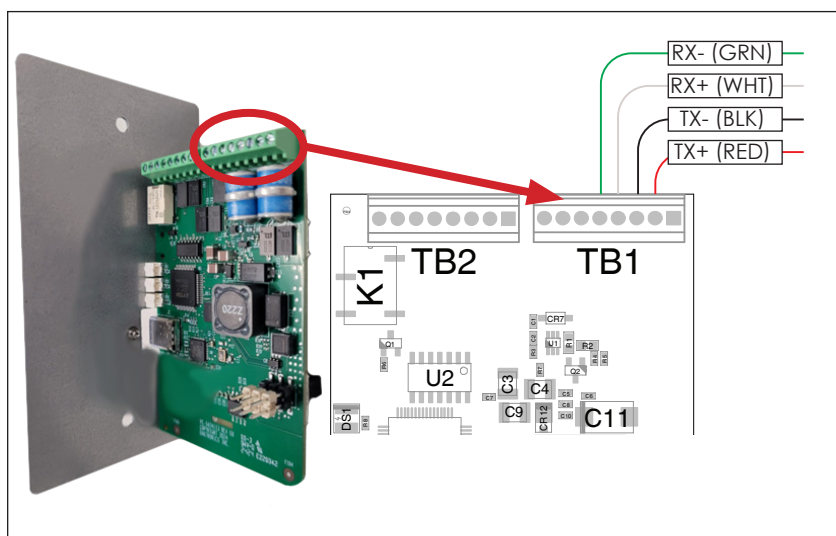
**Note:** Keep the handheld DM-100 and 9-pin cable for control from the base of the sign if needed.

1. Remove the existing J-box face plate, and disconnect the existing signal cable from the old comm card as shown in **Figure 3**.
2. Terminate the existing signal cable to pins 2, 3, 4, and 5 of **TB1** on the new comm card as shown in **Figure 4** and the table below. Notice that the wire colors will go in a different order on the new comm card compared to the old comm card.

Wire Color	Function	NEW Comm Card Termination
Green	RX-	TB1-5
White	RX+	TB1-4
Black	TX-	TB1-3
Red	TX+	TB1-2



**Figure 3:** Disconnect Existing Comm Card Wiring



**Figure 4:** Terminate New Comm Card Wiring



**Figure 5:** New Face Plate w/ J-box

3. Attach the new face plate to the existing J-box. Refer to **Figure 5**. Note that the **TX-A** and **RX-A** LEDs indicate activity to and from the FL-3000 sign.
4. Connect the USB cable (part # W-5581565) from the J-box into any open USB port on the new Fuelink 5 controller. Use the screw lock to secure the USB cable to the J-box.
5. Skip ahead to **Install Fuelink 5 Controller (p.4)** followed by **Detect and Configure (p.5)** to set up the new Fuelink 5 controller.

## Install Fuelink 5 Controller

### Power & Mounting

1. Plug the power cable into a standard 120 VAC wall outlet or power strip, making sure to use the strain relief feature on the back of the controller enclosure.
2. Mount the controller enclosure to a wall using the keyholes on the back (preferred), or place on a flat table/counter with adequate space so that cables will not be bumped or pulled out.

**Note:** Refer to the **Fuelink 5 Installation Quick Guide (DD5403694)** shipped with the new controller for additional mounting recommendations.

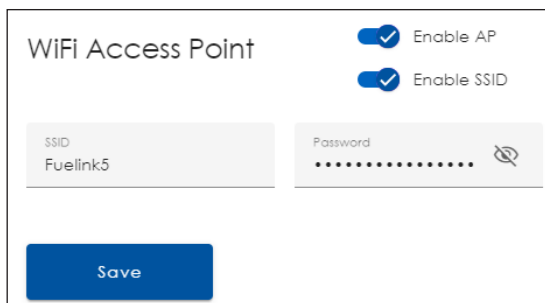
## Connect to Fuelink Software

Connect a customer-provided laptop/tablet/smart phone to the software user interface through one of these options:

- **Wired (network):** Plug a customer-provided CAT5 cable from the customer's network into the **NETWORK** jack on the controller and go to <http://fuelink5> from a device on the same network.
- **Wired (direct):** Plug a customer-provided CAT5 cable from a computer directly to the **NETWORK** jack on the controller and go to <http://fuelink5.local>
- **Wireless (Wi-Fi):**
  - Each controller features a unique default Wi-Fi password. For initial setup, press and hold the **WIFI ENABLE** button on the left side of the controller for about five seconds until the **STATUS** LED blinks twice. The Wi-Fi password will then be removed for five minutes, allowing temporary connection without a password.

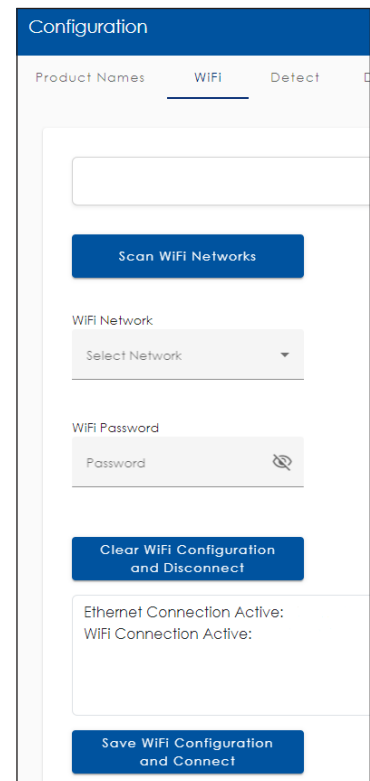
From any Wi-Fi enabled smart device, connect to the Wi-Fi access point named "Fuelink 5", then open a web browser and navigate to <http://fuelink5>

**Note:** Go to **Configuration > Device** to change the Wi-Fi Access Point password and **Save**. Refer to **Figure 6**.



**Figure 6:** Wi-Fi Access Point Credentials

- **If connecting to customer Wi-Fi:** After connecting to the Wi-Fi access point as described above, go to **Configuration > WiFi** and click **Scan WiFi Networks**. Refer to **Figure 7**. Select the desired network from the drop-down list, enter the password, and click **Save WiFi Configuration and Connect**. Disconnect the device from the "Fuelink 5" access point, and then verify the device(s) can still access <http://fuelink5> over the chosen Wi-Fi network.



**Figure 7:** Wi-Fi Configuration

## Detect and Configure

1. Once a device has been connected to the Fuelink 5 software, navigate to **Configuration > Detect** and select **Detect System**. The new communication interface(s) as well as the connected displays will appear in the detected components list.
2. Navigate to the **System** page and configure each FL-3000/4500 display to show the proper prices. Refer to the **Fuelink 5 Installation Quick Guide (DD5403694)** shipped with the new controller for further details regarding setup, operation, and troubleshooting.

**Note:** If using a POS interface kit, refer also to the instructions included in the kit for connection and configuration details.

## Reference Guides

The guides below would have been shipped with the original control equipment but are also available for download from [www.daktronics.com/manuals](http://www.daktronics.com/manuals)

- **Petroleum Display Installation With FLD3-2000 Communication Kit Quick Guide (DD2291480)**
- **Petroleum Display Installation With FLR3-1500 Communication Kit Quick Guide (DD2552313)**
- **FLXR3 Server and Client Radio Installation Procedure Quick Guide (DD3306966)**
- **FLXR4 Server and Client Radio Installation Procedure Quick Guide (DD4601945)**