## Mechanical Installation

1. Mount the display into the sign structure using the provided holes in the mounting flange. Refer to **Figure 1** and **Figure 2**.

   **Note:** Do not drill into the display face. This will void the warranty.

2. Use appropriate hardware for site conditions to secure the sign to the structure.

   **Note:** The display is front ventilated. Do not block the display face. This may void the display warranty.

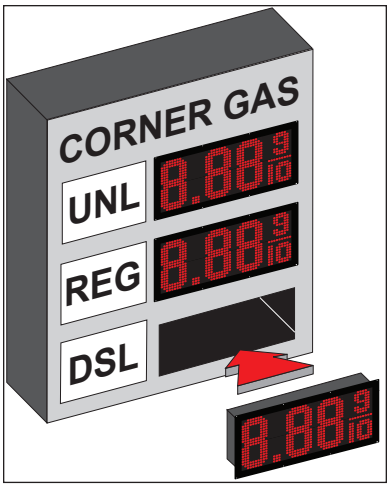


***Figure 1:*** *Insert Display into Sign Structure*

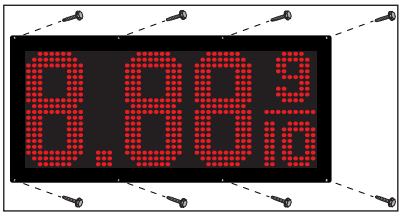

***Figure 2:*** *Secure Display Cabinet*

## Grounding

**FL-5000 series displays do not require a local earth ground electrode.**

The displays still require a safety ground from the electrical service panel for the primary power wires to comply with national electric codes.

## Electrical Installation

Install Daktronics FL-5000 series displays using a two wire plus ground circuit. Do not connect neutral to ground at the disconnect or at the display; this would violate electrical codes and void the warranty. Use a disconnect so that all ungrounded conductors can be disconnected.

To connect power to the display:

1. Remove the top-left module by inserting a 1/8" Allen wrench into the latch access hole toward the top-center of the module and gently turning counter-clockwise. Refer to **Figure 3**.
2. Carefully tilt the module away from the cabinet and lift up and out.
3. Disconnect the power and signal out plugs from the module and carefully set it out of the way.
4. Use a 5/16" nut driver to loosen the nut securing the power termination cover shown in **Figure 4**. Slide the cover to the right, and lift it off the keyhole.

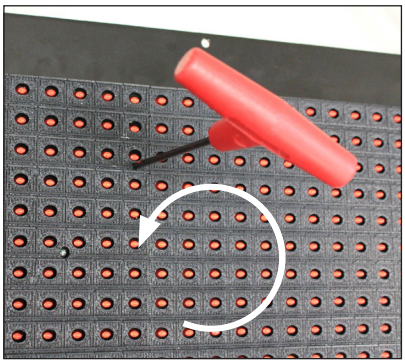

***Figure 3:*** *Module Access*

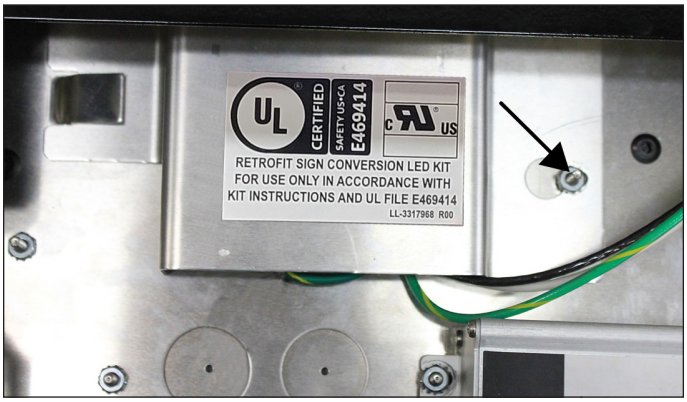


***Figure 4:*** *Power Termination Cover*



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5. Locate the rear pilot holes next to the **SIGNAL IN/POWER IN** label. Refer to **Figure 5**. Drill out the power entrance location for conduit connection and wire routing.

6. Use wire nuts or other appropriate hardware to connect incoming power wires – hot (black), neutral (white), and ground (green) – to the wires coming from the power supply. Refer to **Figure 6**.

> **Note:** Smaller 6-16" displays use a power supply wire color scheme of hot (brown) and neutral (blue).


***Figure 5:*** *Rear Power/Signal Knockouts*

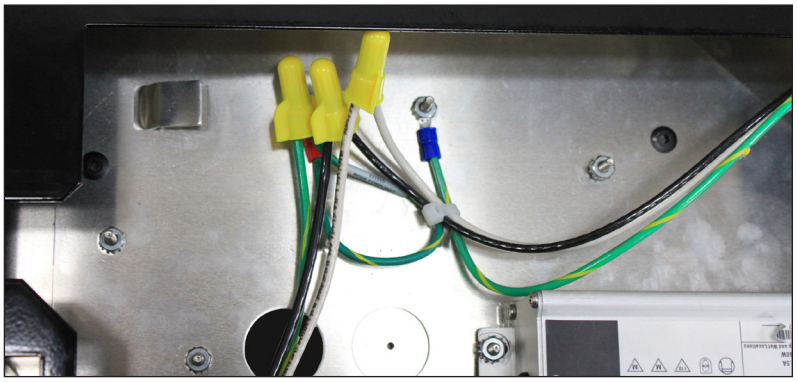

***Figure 6:*** *Power Termination*

> **Note:** Power may be daisy-chained out from the first display termination location to the second display, and from the second to the third, and so on.

7. Replace the power termination cover and use a 5/16" nut driver to tighten the nut.

8. Reinstall the top-left module.

## Line-to-Line Cable Installation

### Replacing FL-3000/4500 Displays

**WARNING!**

**When upgrading a sign structure from FL-3000/4500 to FL-5000 displays, DO NOT reuse the existing line-to-line cables! The older cables have different connector pinouts that will damage new FL-5000 modules and void the display warranty. Follow the instruction as shown in Figure 7.**

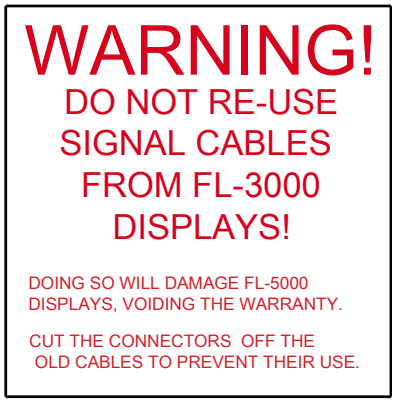


***Figure 7:*** *Cable Warning*

### Display Interconnect Wiring

Signal travels from the last module in the signal chain of the first display cabinet to the first module in the second display cabinet.

1. Locate and remove the last module in the signal chain of the first display. Look for the **SIGNAL OUT** label on the rear of the cabinet. Refer to **Figure 8**.

> **Note:** For displays with an **even** number of columns of modules, the last module in the signal chain is in the **upper-left** corner (as viewed from the rear). For displays with an **odd** number of columns, the last module is in the **lower-left** corner.

2. Drill out the rear entrance location for conduit connection and line-to-line cable routing.


***Figure 8:*** *Signal Out Knockout*

3. Connect the provided line-to-line cable shown in **Figure 9** to **PORT B SIGNAL** on the last module in the signal chain of the first cabinet.
4. Route the provided line-to-line cable from the last module of the first cabinet to **PORT A SIGNAL** on the first module of the next cabinet.
5. Repeat **Steps 1–4** until all displays are connected.

> **Note:** The last display will have an open **PORT B SIGNAL** jack on its last module.

6. Reinstall all removed modules.

***Figure 9:*** *Line-to-Line Cable*

Refer to **Figure 10** for an example wiring diagram showing internal and on-site connections of a 2x2 display with two prices and two faces. Note that there is an even number of columns of modules, so the last module in the signal chain is in the upper-right corner (as viewed from the front). This would be similar for 2x4 displays.

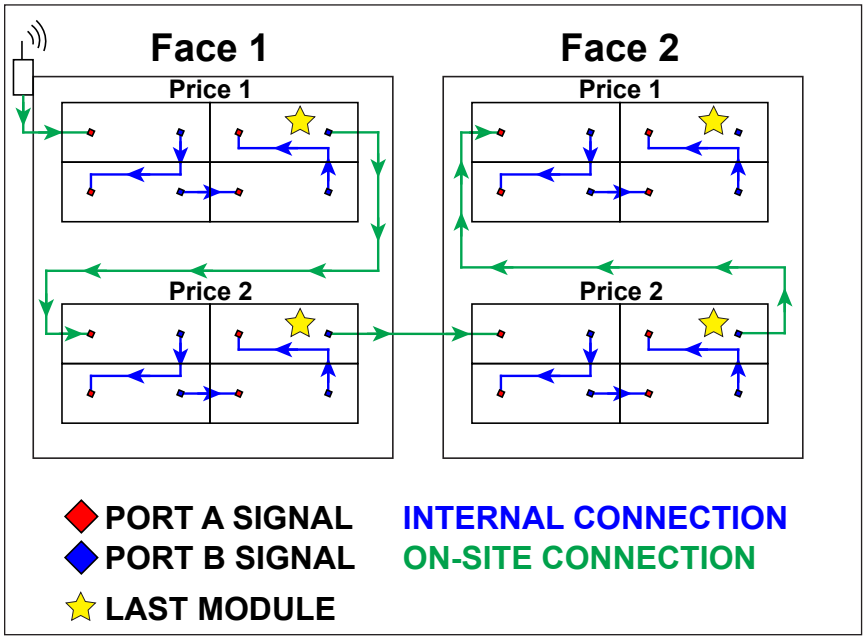


***Figure 10:*** *Line-to-Line Connection - Even Columns Wide (Front View)*



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Refer to **Figure 11** for an example wiring diagram showing internal and on-site connections of a 3x3 display with two prices and two faces. Note that there is an odd number of columns of modules, so the last module in the signal chain is in the lower-right corner (as viewed from the front). This would be similar for 3x5 and 6x5 displays.

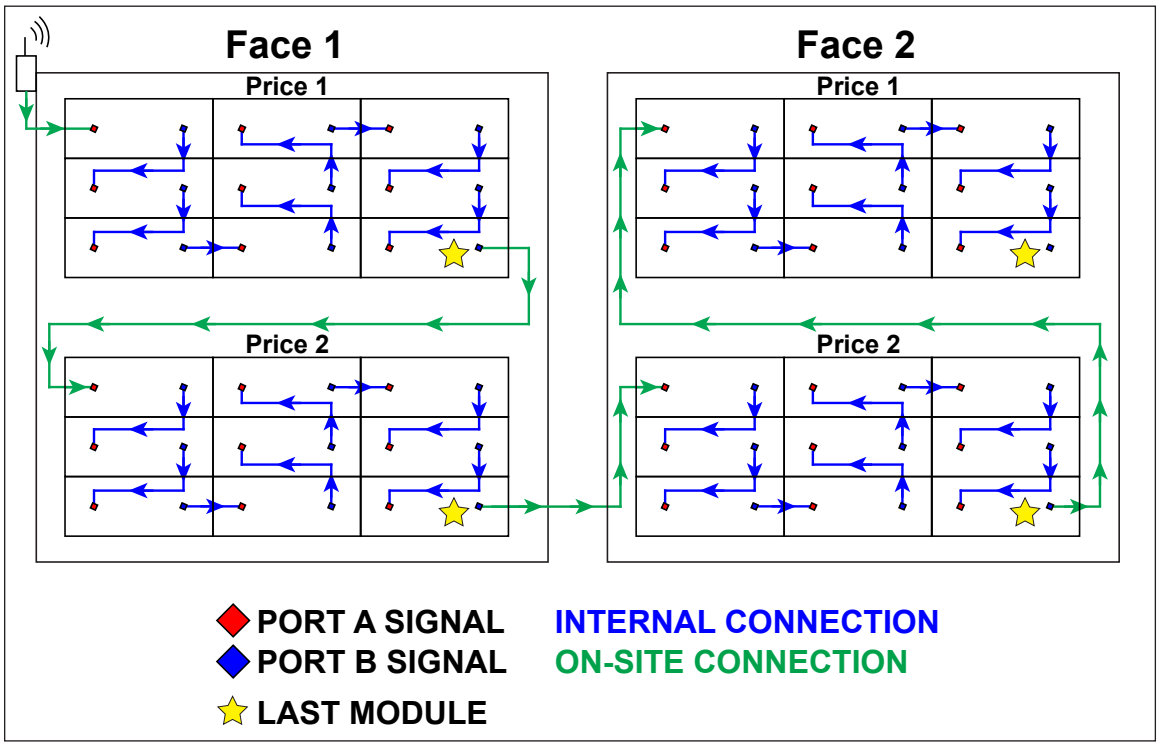


***Figure 11:*** *Line-to-Line Connection - Odd Columns Wide (Front View)*

**Notes:**

- Route cables at least 6" (152 mm) away from interfering sources like ballasts, florescent light bulbs, power sources, any type of motor, etc.
- Pull excess cable into the display cabinet, coil cable, zip tie it together, and carefully place coil inside the display cabinet.

## Additional Information

For additional support or communications installation information, visit www.daktronics.com/support.