FL-3000 and FL-4500 Fuelight™ 36- & 48-Inch Petroleum Display Installation Quick Guide

Connecting Display Sections

FL-3000 and FL-4500 36- and 48-inch displays come in two, three, or four sections that must be connected to one another before installation on a sign structure or in a sign cabinet.

1. Open digit doors in each section by gently turning the slotted latches on each door counter-clockwise with a flat-head screwdriver.
2. Join the sections together in the designated locations with 3/8-16 bolt, lock washer, and nut. Refer to **Figure 1**.
3. Route signal interconnect cables using the 1.50" holes in each section. Refer to **Figure 2**.
4. Close and latch the doors of each section securely.

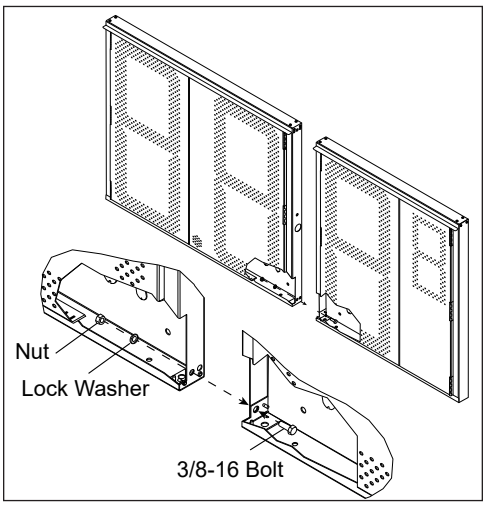

Figure 1: *Secure Display Sections Together*

Installing the Display Inside a Sign Cabinet

Design a space in the sign for the display so that the front of the Fuelight™ display cabinet is flush with the front of the sign, allowing the doors to protrude $^{1}/_{2}$" [12.5 mm].

Consult DWG-1154438 for more detailed information regarding sign cabinet requirements. Use the display shop drawing to locate mounting holes used in this installation type.

1. Lift the display into the support structure. **Figure 3** shows a display being inserted into a support structure.

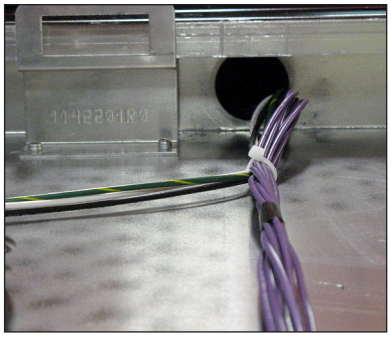

Figure 2: *Route Cables Between Display Sections*

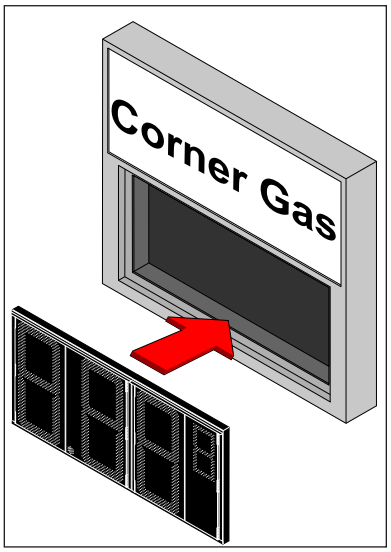

Figure 3: *Inserting Fuelight Display Into Custom Cabinet*

> **Note:** Daktronics assumes no liability for display damage or injury resulting from incorrect setup or incorrect lifting methods.

2. Use 3/8-16 bolts and the four mounting holes in each section to attach the display to the sign cabinet. Actual site demands will dictate variances and appropriate mounting methods.

Installing the Display on Horizontal Beams

See DWG-1154625 for more detailed information regarding this type of installation. Use the display shop drawing to locate the holes used to attach the mounting hardware in this installation type.

Two horizontal beams must be provided to accommodate the Fuelight™ Petroleum Price display for this installation.

1. Attach six clip angles to the back of the display using 3/8-16 hardware kit, shown in **Figure 4**, which includes the following parts:
   - 3/8-16 Threaded Insert

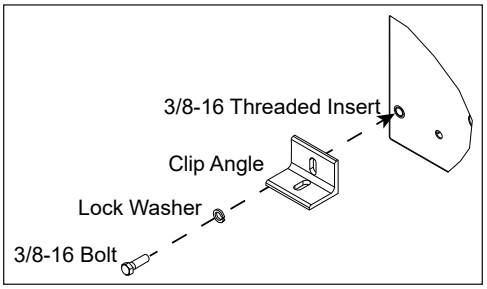

Figure 4: *Install Clip Angles to Back of Fuelight Display*

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- Clip Angle
- Lock Washer
- 3/8-16 Bolt

2. Use lift eyes to lift the display into position on the horizontal beams.
3. Weld or use appropriate hardware to secure the clip angles to the beams. Refer to **Figure 5**.

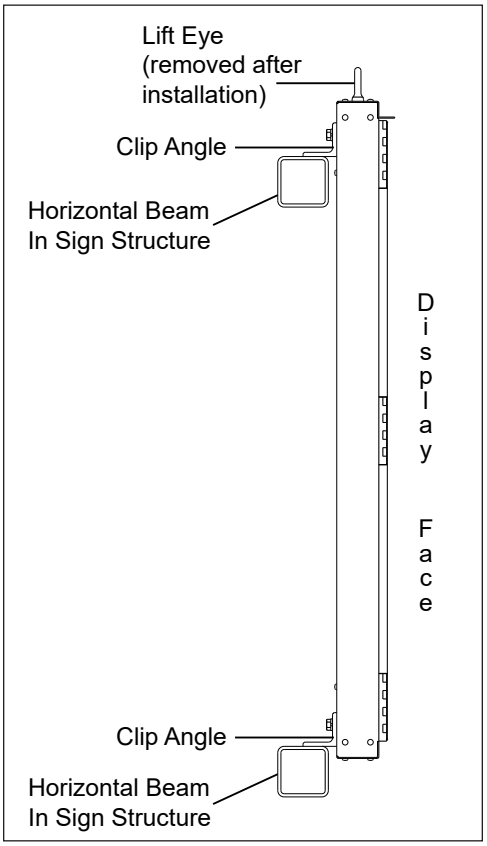

Figure 5: *Side View of Fuelight Display Mounted on Horizontal Beams*

Power Connection

1. Route power cable into the display through one of the knockouts on the display's backsheet.
2. Use wire nuts or other appropriate hardware to connect power wires to the power supply harness or pigtail.
3. Connect supply power ground wire to ground bus bar. Refer to **Figure 6**.

> **Note:** Verify the power supply ground wire is connected to the ground bus bar.

> **Note:** Refer to the display shop drawing for power requirements.

Display Interconnections

Signal travels from the host driver jack J9 to additional display drivers through the Line-to-Line cable. Line-to-line connections are made using jacks J9 and J10 on the driver.

The preferred cable routing has signal leaving each driver from jack J9 and entering the next driver on jack J10

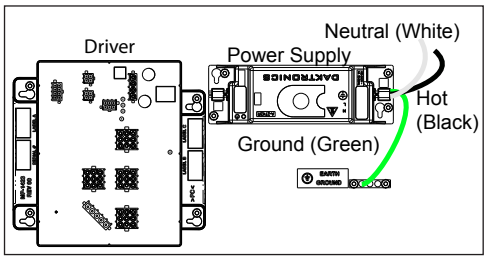

Figure 6: *Power Wiring*

Each time you connect the line-to-line cable to J9, you must also connect the drain wire to the upper-left stud that holds the driver in place.

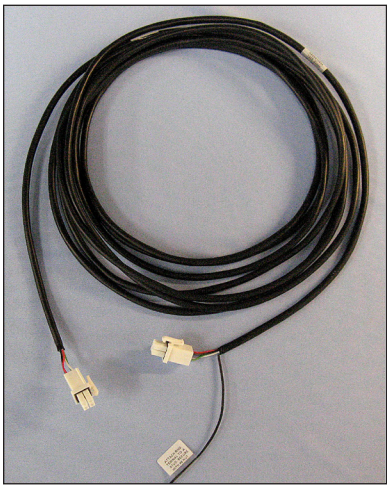

Figure 7: *Line-to-Line Cable*

1. Use provided knockouts on the back of the display for signal entrance and exit.
2. Install the provided bushing at the knockout location.
3. Connect the provided line-to-line cable, shown in **Figure 7**, to host driver jack J9. The host driver can be identified by having the communication option attached to jack J16.

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4. Place the drain wire of the line-to-line cable on the upper-left stud that holds the driver in place. Refer to **Figure 8**.
5. Place the 6-32 nut on the stud and tighten it with a 5/16" nut driver. Refer to **Figure 9**.
6. Route the provided line-to-line cable from the host driver jack J9 to the next client display driver, connecting to jack J10. Refer to **Figure 10**.
7. Run cable through the knockouts located on the display's backsheet and be sure to use the provided cable bushings that snap into place.
8. Repeat until all displays are connected.

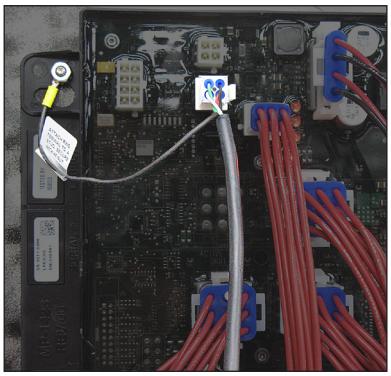

Figure 8: *Installed Line-to-Line Cable With Drain Wire*

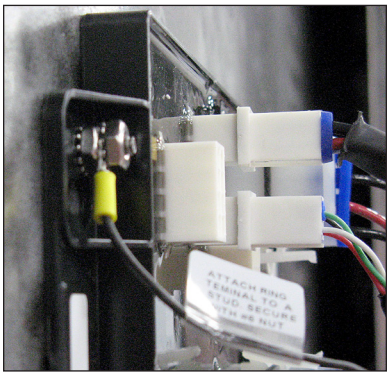

Figure 9: *Installed Drain Wire*

Note: Do not connect the last display driver back to the host driver.

Important Notes:

- Route cables at least 6 inches 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.

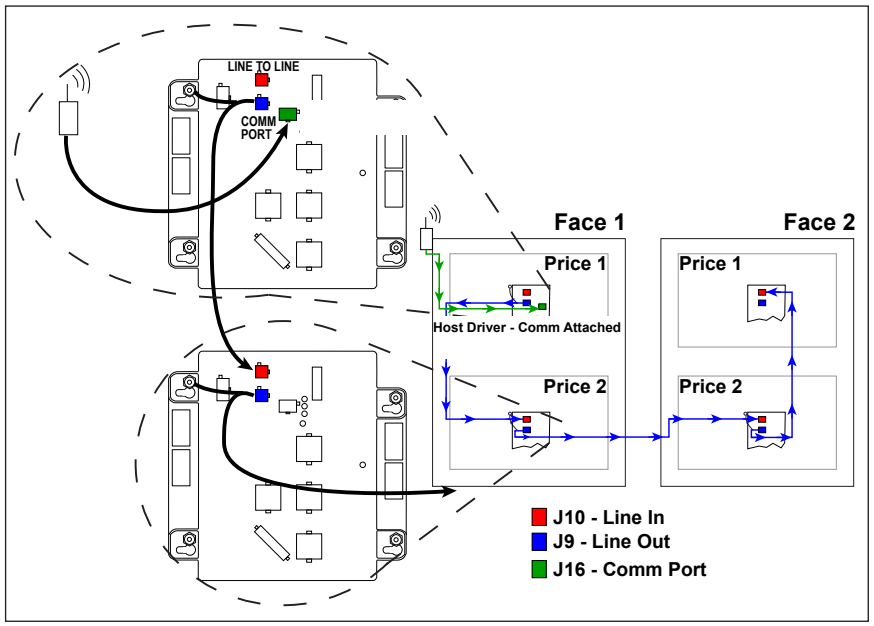

Figure 10: *Line-to-Line Cable Installation*

Additional Information

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

Installing a Cash/Credit Display

A rectangular opening must be provided to accommodate the Cash/Credit™ display. Consult the shop drawing for cutout dimensions.

1. Lift displays into the support structure. **Figure 11** shows a display being inserted into a support structure.

Note: Daktronics assumes no liability for display damage or injury resulting from incorrect setup or incorrect lifting methods.

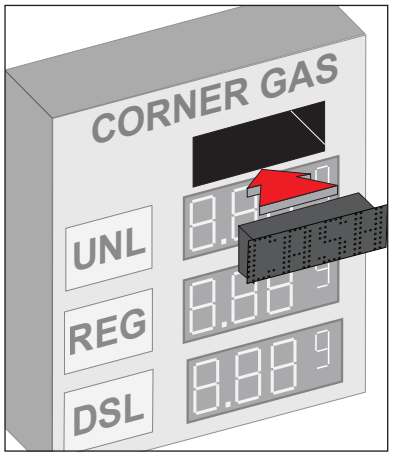

Figure 11: *Inserting Display Into Cabinet*

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2. Drill through the front flanges of the cabinet to attach the display to the base structure using appropriate hardware for site conditions. Refer to **Figure 12**. Actual site demands will dictate variances and appropriate mounting methods.

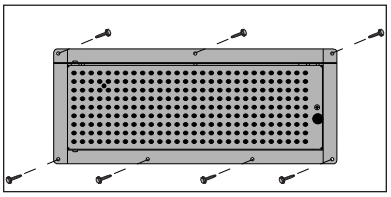

Figure 12: *Secure Display in Sign Structure*

Access Internal Cash/Credit Display Components

The door of Cash/Credit displays is secured by a screw (two screws secure the door on 2H displays).

1. Use a Phillips-head screwdriver to loosen the screw.
2. Open the door using the knob attached to the display face.
3. The power supply is attached inside the cabinet to the display's backsheet, as shown in **Figure 13**, and its location varies between display sizes.

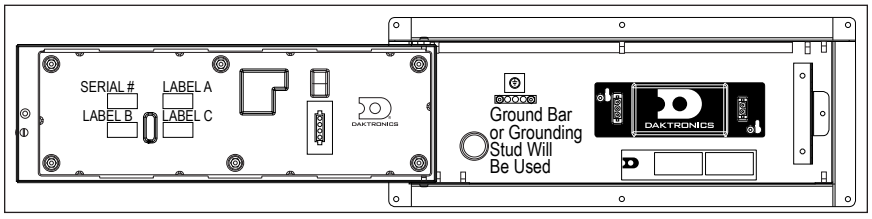

Figure 13: *Internal Component Locations*

Grounding

Like Fuelight displays, Cash/Credit 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.

Cash/Credit Display Power Installation

Install Daktronics Cash/Credit displays using a two-wire plus ground circuit. The ground from the circuit must be connected to the ground bus bar or green wire attached to the grounding stud within each Cash/Credit display. 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.

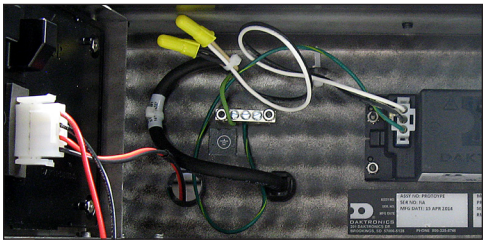

Figure 14: *Power Connection*

To connect power to the display:

1. Route power cable into the display through one of the knockouts on the display's backsheet.
2. Use wire nuts or other appropriate hardware to connect power wires to the power supply harness or pigtail. Refer to **Figure 14**.
3. Connect supply power ground wire to ground bus bar or green wire attached to the grounding stud. Refer to **Figure 14**.

> **Note:** Verify the power supply ground wire is connected to the ground bus bar or green wire attached to the grounding stud.

Connect Cash/Credit Display to the Fuelight Driver

Connect the 8 position Mat-N-Lok plug of harness W-2709 from the cash/credit module to jack J18 on a Fuelight driver. Refer to **Figure 15**.

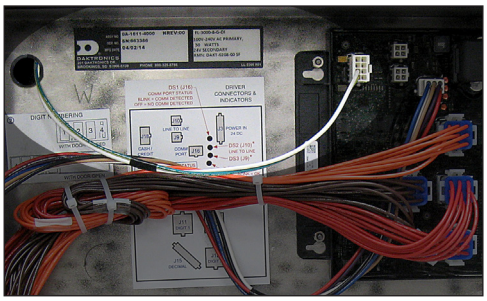

Figure 15: *Cash/Credit Display Connection to Driver*

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