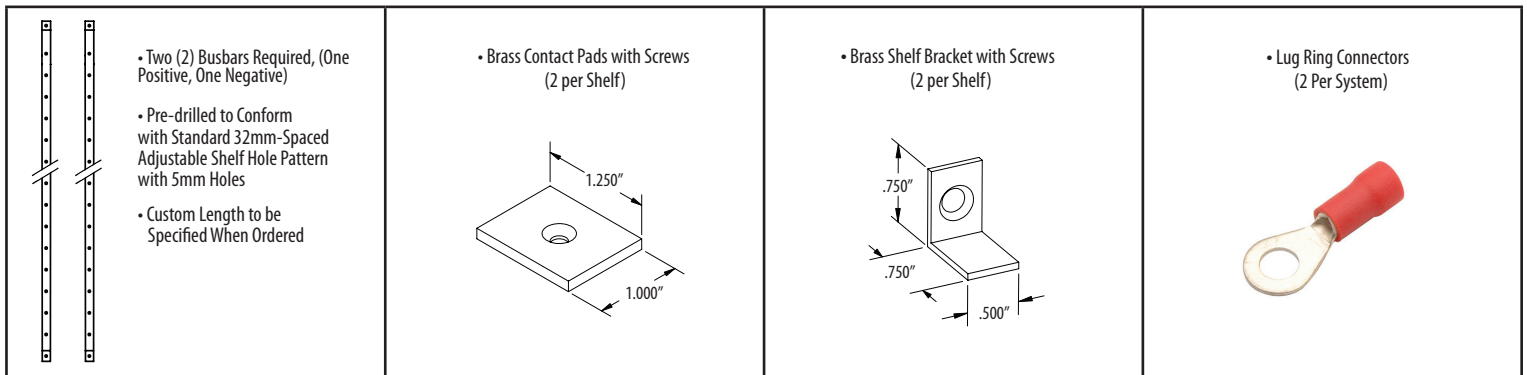


**INSTALLATION OR USE OF FIXTURES WITH DRIVERS OTHER THAN UNITS PROVIDED BY VLT MAY CAUSE ELECTRICAL SHOCK, FIRE OR PERMANENT PRODUCT DAMAGE.**  
Product Must Be Installed in Accordance with Applicable Installation Codes by a Person Familiar with the Construction and Operation of the Product and the Hazards Involved.

1. Fixtures are shipped in protective plastic sleeves; to prevent damage or scratching, products should remain in packaging until installation.
2. LEDs are static-sensitive devices; observe static sensitivity handling precautions, such as wearing a grounded/anti-static wrist strap when handling.
3. Study layout and circuit structure as specified in application plans and insure that each circuit is assigned to an appropriately-sized driver.
4. Using drivers or power supplies other than those supplied by VLT will VOID PRODUCT WARRANTY.
5. Exceeding driver capacity will void driver warranty and cause the system to deliver less-than-specified light output.
6. Before connecting EssentialLEDs fixtures to power supply, insure correct polarity of wiring to avoid damage to the LED board: Red = +, Black = -.
7. EssentialLEDs fixtures must be installed only in locations that conform with the stated IP rating and within the Operating Ambient Temperature range of -22° to 95° F [-30° to 35° C].

See EssentialLEDs® Catalog or VLT Website ([www.vltcorp.com/Downloads/1043.pdf](http://www.vltcorp.com/Downloads/1043.pdf)) for Details of **EssentialLEDs® 5 Year Limited Warranty**

### EssentialEdge Adjustable Shelf Lighting System Kit Consists of Four Components:



**EssentialEdge Adjustable Shelf Lighting System is intended for installation in new cabinetry or millwork. Each cabinet requires milling out symmetrical channels (depth of 0.150") on each side of the unit for the installation of a conductive busbar on each side. Within this milled channel, in areas of the cabinet where adjustable shelves are desired, holes must be drilled through to exactly match the size of holes (8-32 or .180"/#8 screw) and spacing of holes (32mm OC) on the busbar. (Fig A)**

**For stand-alone shelving units, the busbar can be covered by wood or a veneer.**

**1. Determine driver requirements:** Wattage per foot will vary based on fixture lengths and LED board selected. See wattage tables in EssentialLEDs catalog to determine wattage for each fixture and total wattage for all fixtures in the system. Wattage may not exceed 96 watts per busbar (if total wattage for cabinet exceeds 96 watts, please contact factory for guidance.)

**2. Determine driver location:** The driver and the wire connection to the busbars are the only parts of the system that must remain accessible. The driver can be placed in base of unit, on top of unit, or in adjacent attic or storage area. For remotely located drivers, calculate voltage drop to determine if larger gauge wire is needed.

**3. Install busbars:** Install busbars in milled channels on each side of cabinet, aligning holes in busbar with pre-drilled shelf bracket holes. Busbars should align with the contact pad placement, i.e. if contact pads are to be placed at the front of the shelf, busbars should be placed adjacent to the front bracket position; if they are to be placed at the back of the shelf, busbars should be placed adjacent to the rear bracket position. If desired, an optional horizontal busbar can be added at any point along the vertical busbar (**Fig B**) to facilitate connection to the power source. **DO NOT use busbar as template to drill shelf support holes as this will strip threads from busbar.**

#### 4. To connect the busbars to the driver (See Fig. C)

- a. Attach a lug ring connector to the positive (+) (left side) wire and to the negative (-) (right side) wire from the driver.
- b. Lug ring connectors must screw into a threaded hole in the busbar, positive on the left side, negative on the right. Using the brass screws provided, thread screw through the positive (+) lug ring connector and insert screw into hole on left side of cabinet; thread brass screw through the negative (-) lug ring connector and screw into hole on right side of cabinet. **Screws must go through the side wall and thread into the busbar to carry the current.**

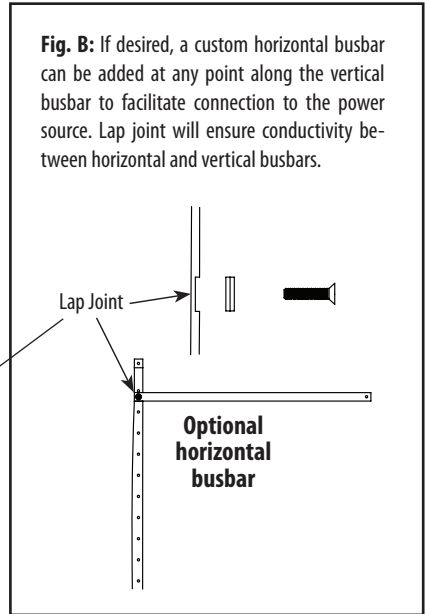
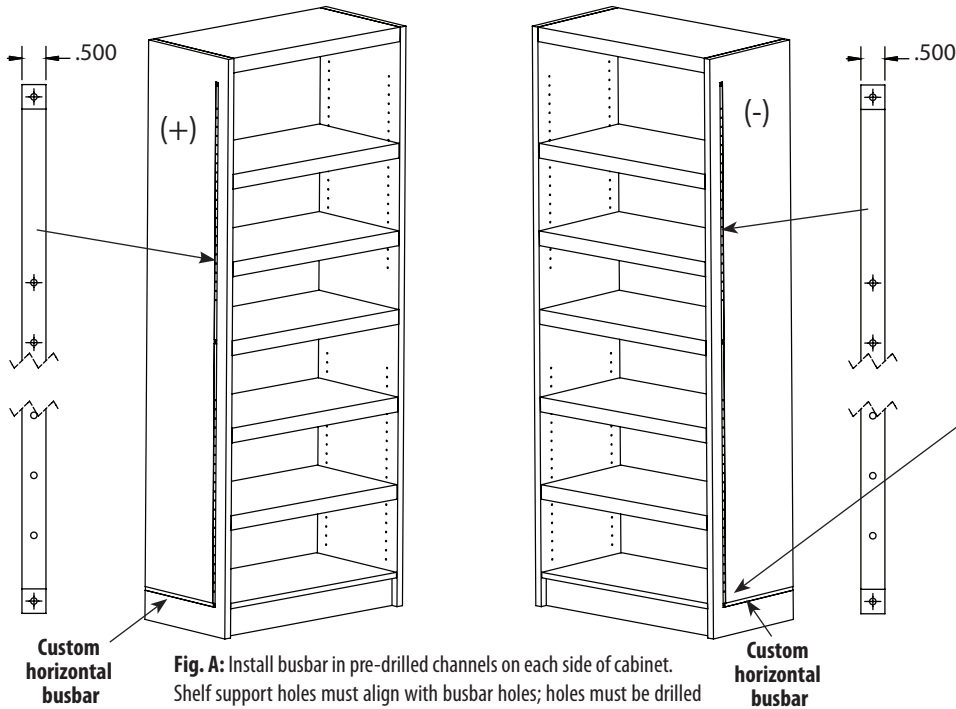
#### 5. Preparing the shelves:

- a. EssentialLEDs lighting fixtures must be installed to match the polarity of the cabinet, with the positive wire (+) on the left, negative wire (-) on the right. All fixtures/shelves must maintain this polarity.
- b. You will need two contact pads for each shelf, one for the positive (+) side of the shelf, one for the negative (-) side of the shelf. Contact pads are 1.250" x 1.000"; and pocket should be milled to depth of .120" to ensure flush mount on underside of shelf. (**Fig D**)
- c. Each contact pad includes an attached single pole wago connector. Install contact pads on shelves with open end of wago connector inward toward fixture. To connect fixture to the contact pads, install EssentialLEDs fixture on underside of shelf using mounting method appropriate to fixture; insert wire ends from the EssentialLEDs lighting fixture into wago connectors (positive wire (+) on left, negative wire (-) on right). (**Fig E**)

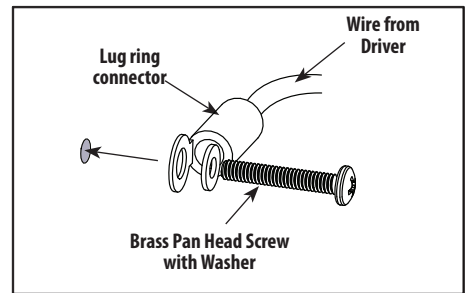
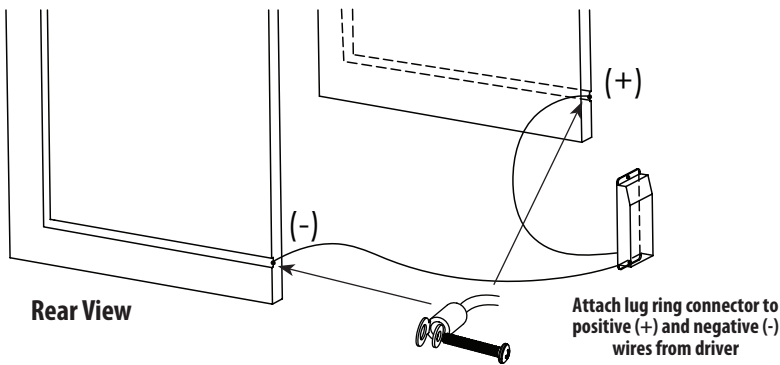
## 6. Shelf placement:

a. Shelves may be placed at any location in the cabinet where the shelf bracket hole is drilled through to the busbar. Brass brackets and screws provided must be screwed into the busbar at both sides at the desired height. Brass brackets and screws are required only in the holes that are connected to the busbar; ordinary shelf brackets can be used for the other supports. **For multiple side-by-side units, provide 1/8" gap between busbars so that adjacent busbars and support screws do not touch, or cover busbar(s) with laminate to prevent contact.** (Fig. F)

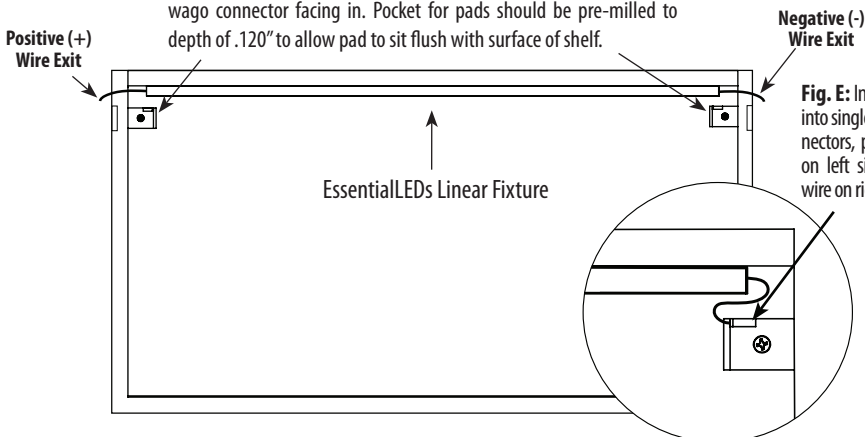
b. When shelf is placed so that contact pads on shelf rest on the brass shelf brackets, low-voltage electrical circuit will be complete and the fixture will light up.



**Fig. C:** Attach lug ring connectors to positive (+) and negative (-) driver wires. Pass brass screw through ring of lug ring connector of positive (+) wire and screw through hole on left side of cabinet and into busbar. Pass brass screw through ring of lug ring connector of negative (-) wire and screw through hole on right side of cabinet and into busbar.



**Fig. D:** Install conductive brass contact pads on underside at each end of shelf; pads must align with busbar with open end of single pole wago connector facing in. Pocket for pads should be pre-milled to depth of .120" to allow pad to sit flush with surface of shelf.



**Fig. F:** It is important that busbars from adjacent units do not touch; either maintain 1/8" separation between neighboring busbars and screws, or cover busbar(s) with laminate to prevent contact.

