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## Method of Procedure

# Install an AlphaCap BDFB capacitor module or kit assembly in an Alpha® BDFB 8x800 or PowerBay+ BDFB Distribution System

### Summary

This procedure outlines how to install an AlphaCap BDFB capacitor module or kit assembly in an Alpha® BDFB 8x800 or PowerBay+ BDFB distribution system. This includes the capacitor module or kit assembly, mounting hardware, and a modified breaker with thermistor assembly. The AlphaCap BDFB capacitor helps minimize power quality issues coming from various sources.

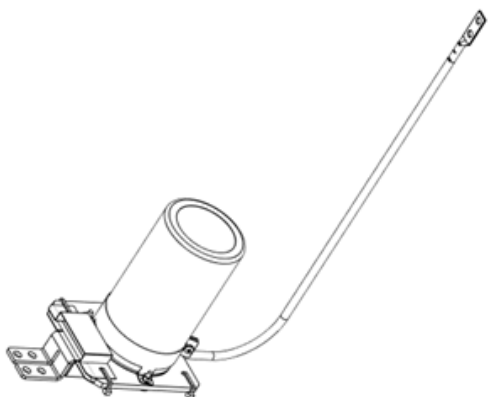


Figure 1: AlphaCap BDFB capacitor module (internal)

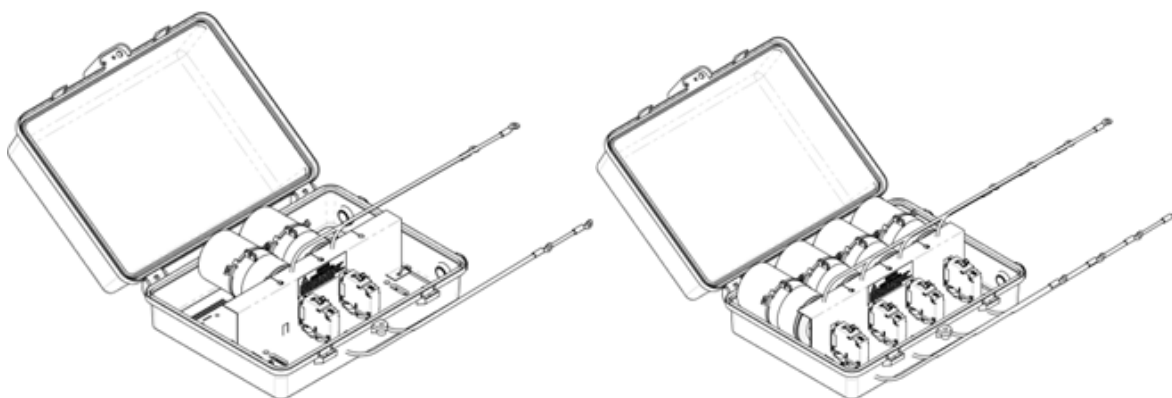
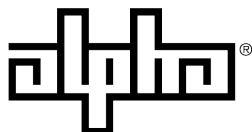


Figure 2: AlphaCap BDFB capacitor kit assembly (external) with two or four capacitor modules



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### Equipment or tools necessary

- Insulated nut driver
- Personal protective equipment including gloves and eye protection

### Safety notes



#### WARNING!

Use insulated tools during installation and lockout may be required.



#### NOTICE

If the distribution bay does not have internal return, the capacitor return wire may need to be replaced with a longer cable. Take out the capacitor, disconnect the return wire, prepare a new longer cable, and connect it back to the capacitor.



#### CAUTION

Some edges can be sharp. Wear cut resistant gloves during the installation of the capacitor module or kit assembly.



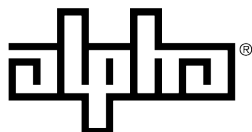
#### WARNING!

The capacitor holds a lot of energy. Ensure you follow the removal procedure before removing the capacitor from the distribution bay.

### Procedure

#### Installation wiring setup

1. **Capacitor module (internal):** Place the capacitor module on any two adjacent circuit breaker positions by aligning the mounting brackets to the distribution bay output landing studs, use ¼ inch nuts, and torque to 65 in-lb (7.3 Nm).  
**Capacitor kit assembly (external):** Find a suitable place at the base of the distribution bay or using the optional cable rack mounting bracket, hang and secure the enclosure with the supplied screws. Prepare the wires by routing them to the BDFB hot and return connections. Cut to length and terminate with the supplied ring terminal connector or similar connectors.  
**Note:** Ensure the breakers are in the **OFF** position.
2. Attach the capacitor module or capacitor kit assembly return wire to the distribution bay return bar.
3. **Capacitor module (internal):** Access the corresponding breaker panel and install the modified 30 A breaker with thermistor that is included with the capacitor module. This modified breaker will require two circuit breaker positions due to its width.  
**Capacitor kit assembly (external):** In the AlphaCap capacitor kit assembly, the modified 30 A breakers with thermistor that are included with the capacitor kit assembly. Ensure that the breakers are seated in their positions correctly. Connect the hot wires to each of the input connection of the BDFB.
4. Append the supplied Caution/Warning label at the front of the BDFB (before turning breakers on).



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5. Turn the breaker to the **ON** position.

### Removal procedure

1. **Capacitor module (internal):** Access the corresponding breaker panel where the modified 30 A breaker was installed and turn the breaker to the **OFF** position.  
**Capacitor kit assembly (external):** In the AlphaCap capacitor kit assembly, open the case and turn the breakers to the **OFF** position.
2. Wait one to five minutes for the energy in the capacitors to be discharged.
3. Verify with a voltmeter that there is very little voltage between the hot and return connections.
4. Remove the capacitor module or capacitor kit assembly's return wire connection.
5. **Capacitor module (internal):** Remove the nuts that hold the capacitor kit assembly's mounting bracket.  
**Capacitor kit assembly (external):** Remove the hot wire connection.

### Alpha BDFB input feeder fuse upgrade procedure

1. Access the corresponding breaker panel where the modified 30 A breaker was installed and turn the breaker to the **OFF** position.
2. Wait one to five minutes for the energy in the capacitor to be discharged.
3. Verify with a voltmeter that there is very little voltage between the hot and return connections.
4. Replace the BDFB input feeder fuse and after replacement, power up the BDFB distribution system.
5. Access the corresponding breaker panel that corresponds to the capacitor kit modified 30 A breaker.
6. Turn the breaker to the **ON** position.

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End of Method of Procedure

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For assistance, contact Alpha Technical Support:  
Toll Free North America: +1-888-462-7487  
International: +1-604-436-5547  
Monday to Friday, 5:00 AM to 5:00 PM Pacific Time for regular inquiries  
24/7 for emergency support  
[Click here to report a problem](#)

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