

# Installation Instructions, FBX on a UPE-3

This procedure details the installation of a 60A, 240Vac FBX safety disconnect box on a UPE-3 cabinet.



## **WARNING! HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

This equipment must only be installed and serviced by qualified electrical personnel.

Prior to installation, please verify all components are present. For inquiries about parts, please contact Alpha.

Components	Description	Quantity	Alpha p/n
STFY SW BOX,RAINPROOF,60A,2P,CPS	Safety Disconnect Box (FBX)	1	021-022-10
SCRW,CAP,1/4-20X3/4" HEX HD,SST	1/4-20 Hex Bolt	3	630-317-12
WSHR,LCK,EXT-T,1/4" BOLT,SST	1/4" Tooth Washer	6	633-094-12
NUT,1/4-20 HEX,SST	1/4-20 Hex Nut	3	634-014-12
GSKT, SL, FOR 1/4" BOLT, PORON	1/4" Poron Washer	3	648-020-10-001
WSHR, RDCG, 1-1/4" KO TO 1"	1-1/4" to 1" Reducing Washer	2	650-013-10
BSHG,1"	1" Bushing	1	650-017-10
LKNT, 1"	1" Locknut	3	650-018-10
CONN, RA,1" SZ,4" L	Right Angled Connector	1	650-031-10
BSHG, GND, INSUL, 1", W/LAY-IN-LUG	1" Grounding Bushing	1	650-090-10
LKNT,1",SLG	1" Sealing Lock Nut	1	650-125-10
CND,3.5"L,1" SIZE,GALV,UL	3.5" Galvanized Conduit	2	650-308-19
WR KT,RETRO,100KAIC,240V,FBX TO 70A BBX	Wire Kit	1	876-303-20-001



### **NOTICE:**

Installer to provide their own thread compound. Alpha recommends applying KOPR-Shield® compound to the threads on the galvanized conduit.

Required Tools
Hammer
Drill
.312 (5/16") bit
Center Punch
1/4" Wrench or Driver
1/4" Open-end Wrench
#2 Phillips Screwdriver
Flatblade Screwdriver
Level



## WARNING! ELECTRICAL HAZARD

Verify power is shut off before proceeding and remove existing wiring AC line installed in the breaker box.

### Installing the FBX (Safety Disconnect Box)

1. Using a nut driver and a hammer, remove the 1" knockout on the left side of the FBX.
2. Apply shield compound to one of the threaded ends of the galvanized conduits and insert into the right angled connector. Repeat for the second galvanized conduit.
3. For test fitting and marking the mounting holes for the FBX, temporarily attach the locknut and reducing washer onto the end of the conduit that will be inserted into the breaker box. Temporarily attach the sealing lock nut to the other conduit.
4. Insert conduit ends into the breaker box and FBX and hold up against the enclosure.
5. Level the FBX and mark the top and bottom right drill holes to mount the safety disconnect box. (See Fig. 2)
6. Remove conduit to mark the third drill hole on the bottom left.
7. Remove the FBX.

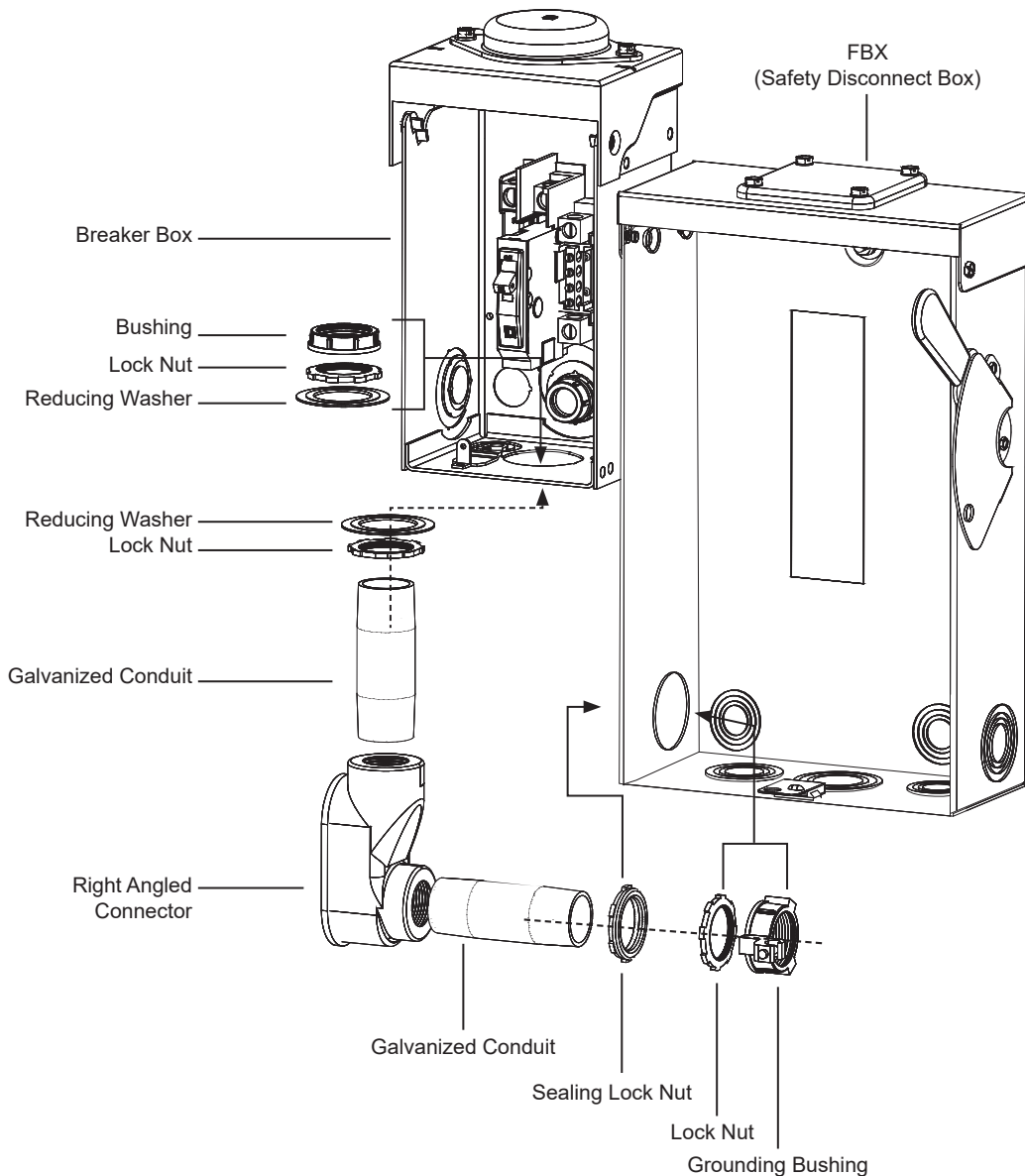


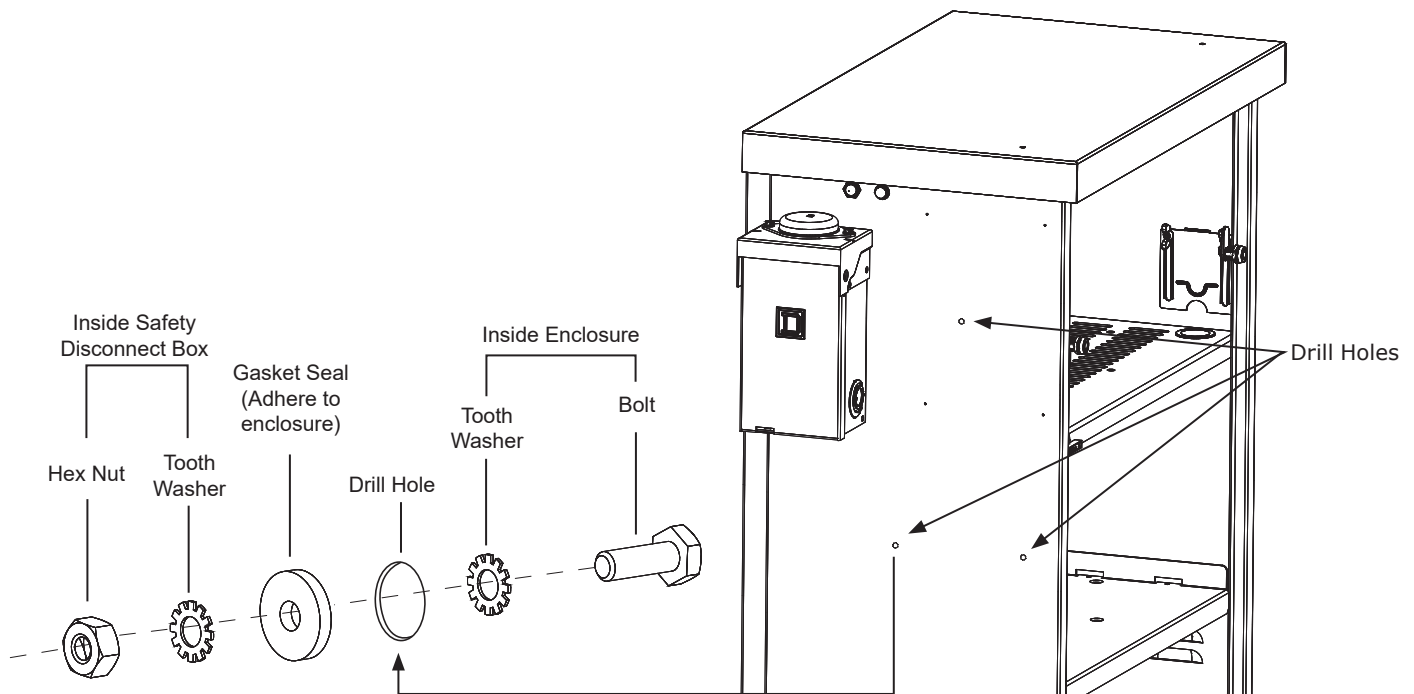
Fig. 1, Installing the FBX



## WARNING! GENERAL HAZARD

Before drilling, make sure the area is unobstructed by batteries or other items. Remove batteries from the enclosure as necessary and shield the terminals from metal shavings.

8. Drill three 5/16" diameter holes in the enclosure.
9. Adhere gasket seals onto the enclosure around the drill holes.
10. Apply shield compound to the exposed threads of both galvanized conduits.
11. For the conduit that will be inserted in the breaker box, attach the lock nut and reducing washer. Attach the sealing lock nut to the end that will be inserted into the safety switch box. (See Fig 1.)
12. Insert conduit ends into the FBX and breaker box and hold in place while attaching the FBX.
13. To attach the FBX, insert the bolt and washer through the top hole of the enclosure and back of the FBX. From the inside of the FBX tighten the gasket seal, washer and hex nut onto the bolt until snug. (See Fig. 2 for hardware stack up.)
14. Attach the reducing washer, lock nut and bushing to the conduit inside the breaker box. (See Fig. 1.)
15. Attach the lock nut and grounding bushing to the conduit in the FBX. The grounding lug on the grounding bushing can be removed to allow for easy installation. Reattach the grounding lug for easiest access.
16. Repeat step 12 for the two remaining mounting holes on the FBX.
17. Installation complete.



**Fig. 2, Hardware Stack Up and Enclosure Drill Holes**

## Alternative Method for Installing the FBX

1. Measure and mark the drill holes according to the diagram below and drill, then proceed to steps 9-16 on page 3.

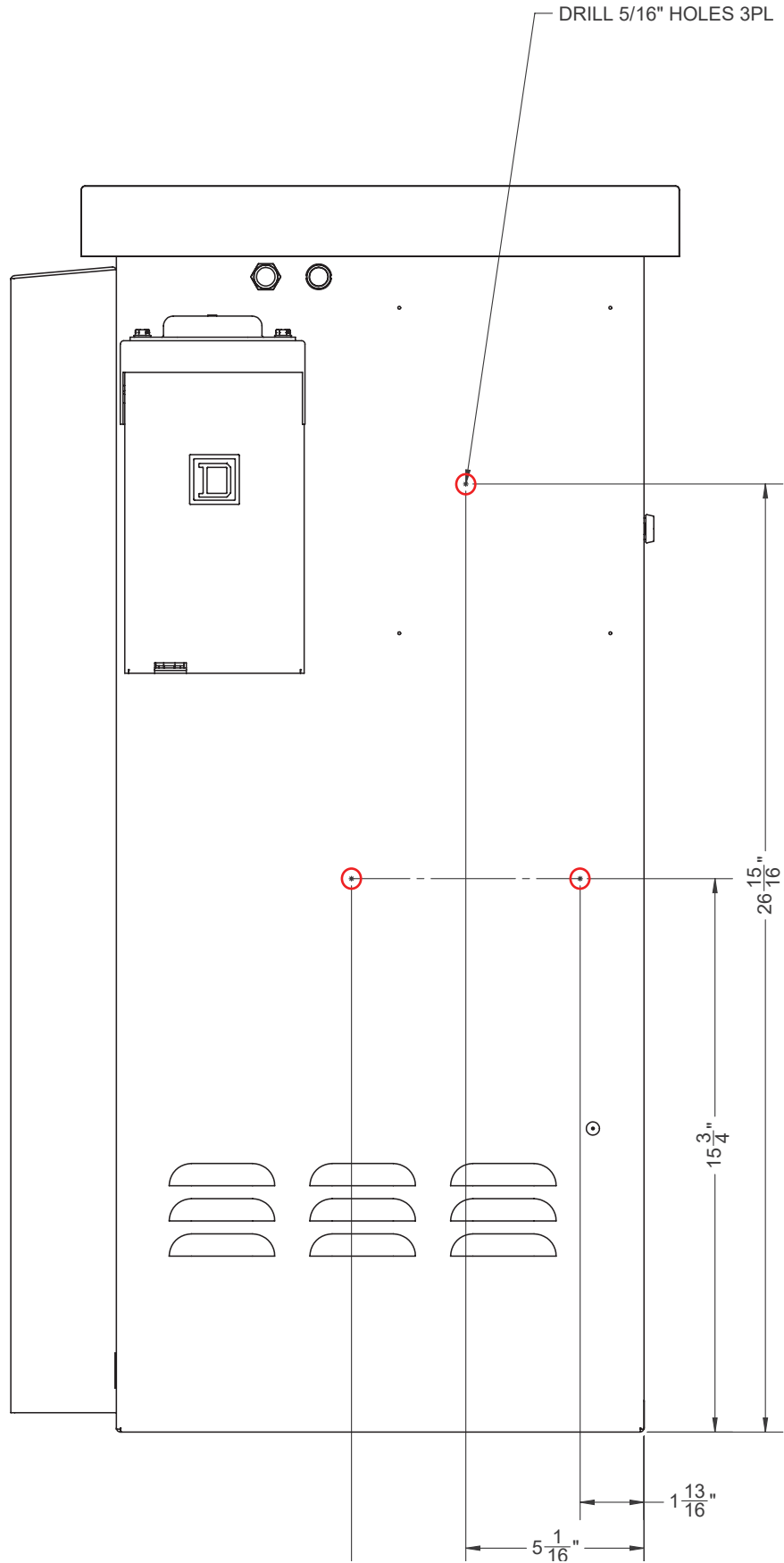
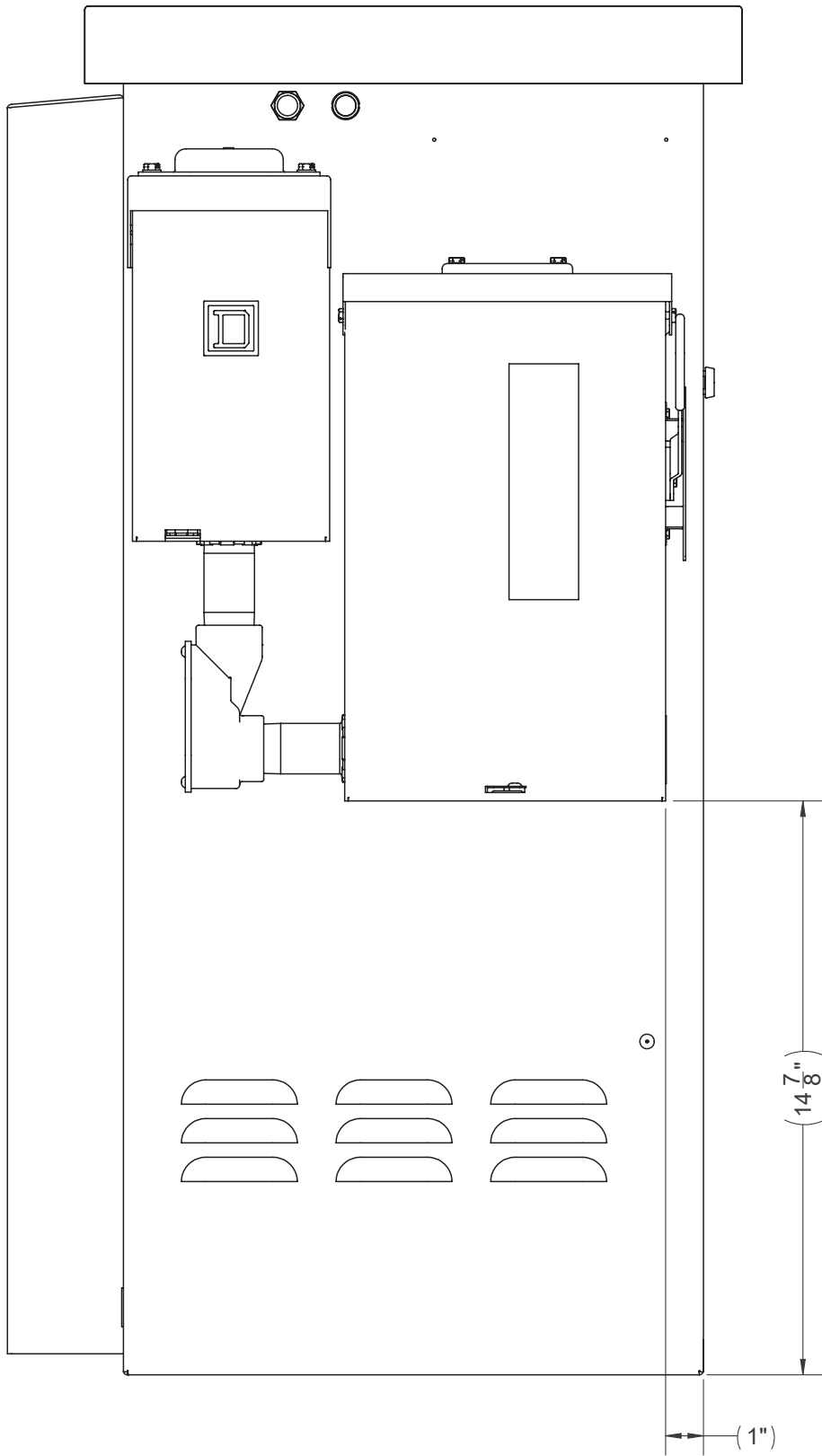


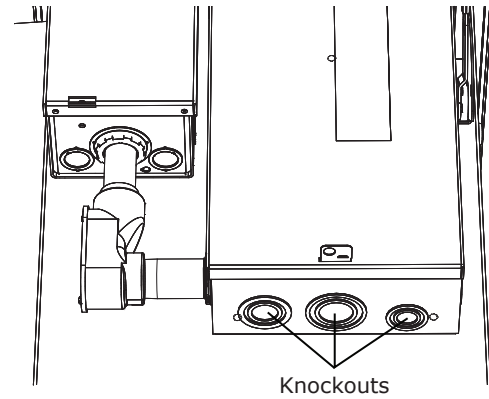
Fig. 3, Measurements for Drill Holes



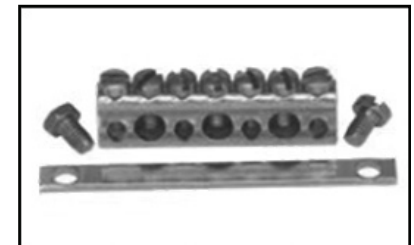
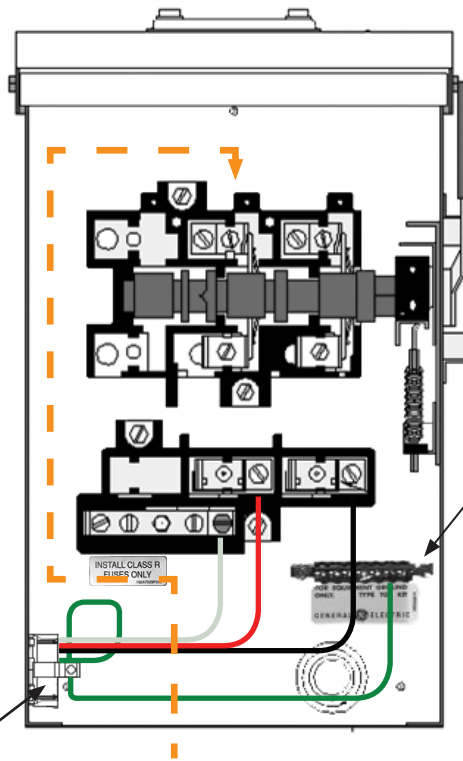
**Fig. 4, Measurements for Drill Holes**

## Wiring

1. Using a nut driver and a hammer, remove a bottom knockout on the FBX that is most convenient for running the utility wires through.

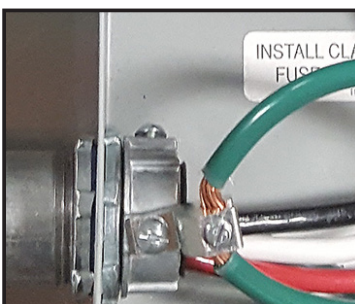


2. Inside the FBX, attach the ground wire to the grounding bar and grounding bushing.
3. Attach the red, black and white wires to the terminals in the FBX as shown in the diagram. (See Fig. 5 for complete installation.)
4. Pull utility wires through the bottom of the FBX and attach at the top terminals.



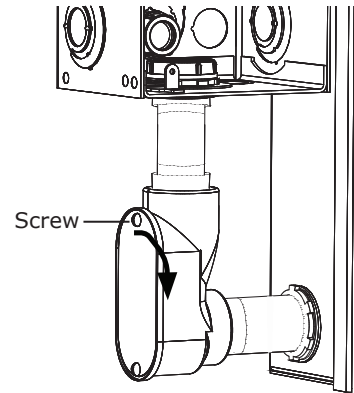
Grounding Bar

- Black: Line 1
- Red: Line 2
- White: Neutral
- Green: Ground
- Orange: Utility Wires

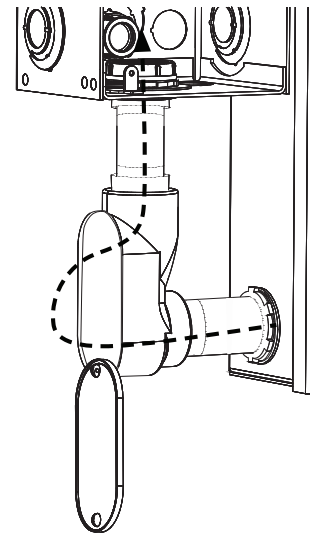


Close up of center-stripped ground wire attached to grounding bushing

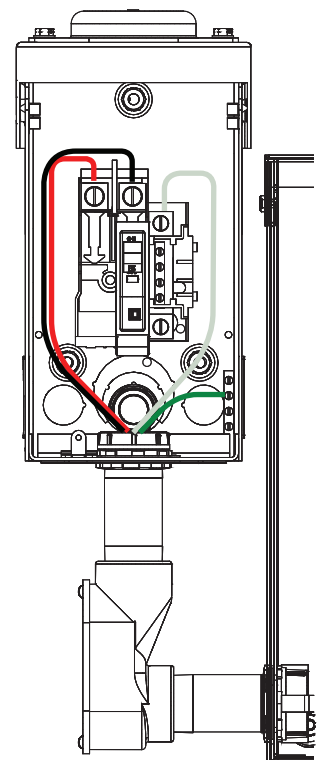
5. Unscrew top screw of the right angled connector. DO NOT lose the screw. Swing the cover down to create an opening to pull the wires through.



6. Route wires from the safety disconnect box (FBX) to the breaker box.



7. Attach the ground (green) wire to the grounding bar located inside the breaker box.
8. Attach the red, black and white wires to the terminals in the breaker box according to the diagram. (See Fig. 5 for complete installation.)



## Completed Installation



**Fig. 5, Complete Wire Installation**

## Technical Support:

For additional instructions and details, please contact the Alpha Technical Support Team at 1-800-863-3364 or email [TechnicalSupport@alpha.com](mailto:TechnicalSupport@alpha.com).

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