



Field Installation of Capacitor Bank Potential Transformer T6 - TVPT Kit AK00018-000-01

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Field Installation of Capacitor Bank Potential Transformer T6 - TVPT Kit

1. Introduction

This service bulletin provides instructions for installing a potential transformer for monitoring the capacitor bank voltage of ferroresonant regulators. This modification is suggested for ferroresonant regulators manufactured between April 2018 and November 2020.

The kit includes the following items:

- (1) URC4 CCR Control Board, rev W or higher (44A7693)
- (1) Potential Transformer (35A0796)
- (4) 8-32 x 5/8 Pan Head Phillips Screws (64A0191/10)
- (8) #8 Internal Lockwashers (66A0038/4)
- (4) 8-32 Nylon Insert Nut Stainless Steel (65A0347/2)
- (2) 1/4 Internal Lockwashers (66A0038/6)
- (2) 1/4-20 Hex Nut, Stainless Steel (65A0015/24)



WARNING: Only personnel qualified to work on high voltage systems should attempt to make any adjustments on the equipment being modified.



WARNING: De-energize and lock-out the equipment being modified before servicing.

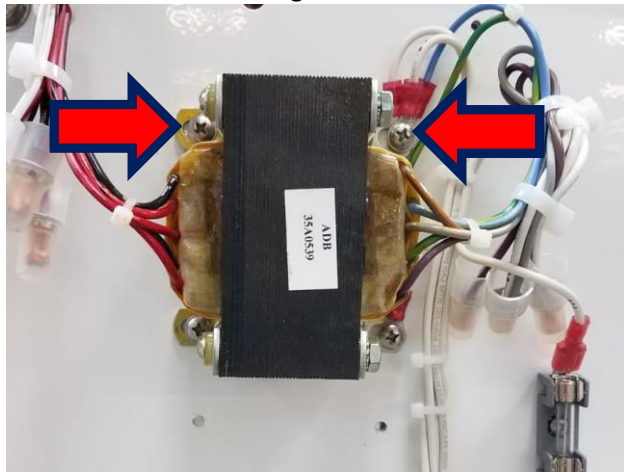


WARNING: HIGH VOLTAGES may be present. SERIOUS INJURY OR DEATH MAY OCCUR.

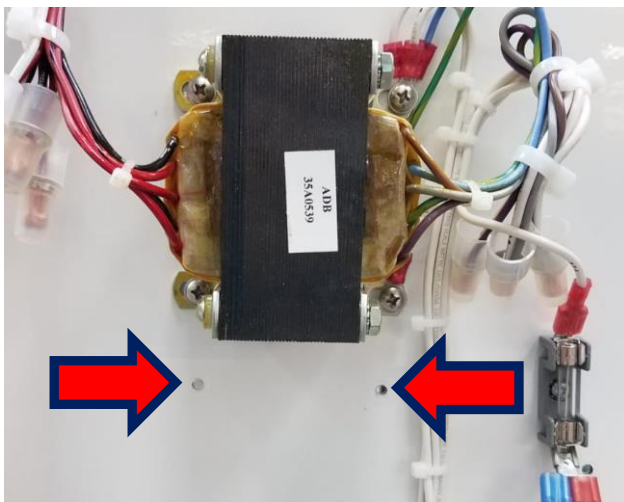
2. General Instructions

Read and understand the service bulletin before working on the equipment. Remove power, lock-out, and de-energize the equipment before performing this modification.

1. Remove power to the CCR, following all applicable regulations and safety procedures.
2. Remove top panel of the CCR, or left side panel for stacked CCRs.
3. Locate transformer T4 on the component plate. There are two different procedures, depending on the T4 transformer:
 - a. For Small T4 on 2.5-10 kW CCRs (ADBSG part number 35A0539)
 - i. Locate and remove the two (2) **TOP** retaining screws of T4.



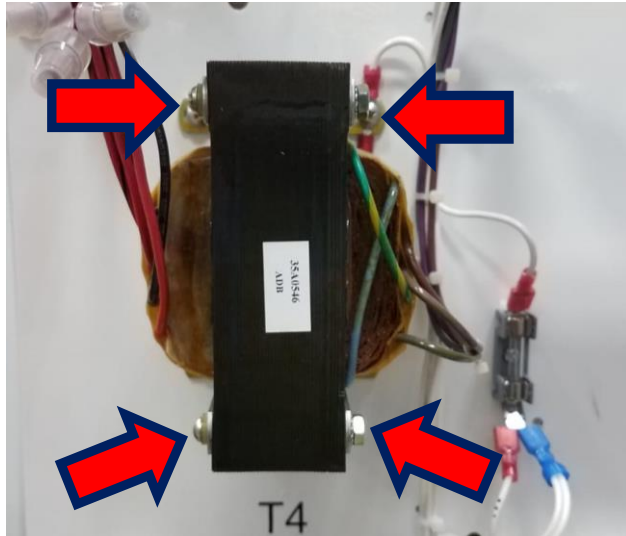
- ii. Replace these screws with the ones provided in the kit (64A0191/10).
 - iii. Locate the two (2) additional threaded holes below T4.



- iv. Insert the remaining screws provided in the kit (64A0191/10) into these holes.

b. For Large T4 on 15-30 kW CCRs (ADBSG part number 35A0546)

i. Locate the four (4) retaining screws of T4.



ii. One by one, replace them with the ones provided in the kit (64A0191/10).

4. Verify all grounding wires are attached as they were before.
5. On the back side of the component plate, locate the screws that were installed on step 3.

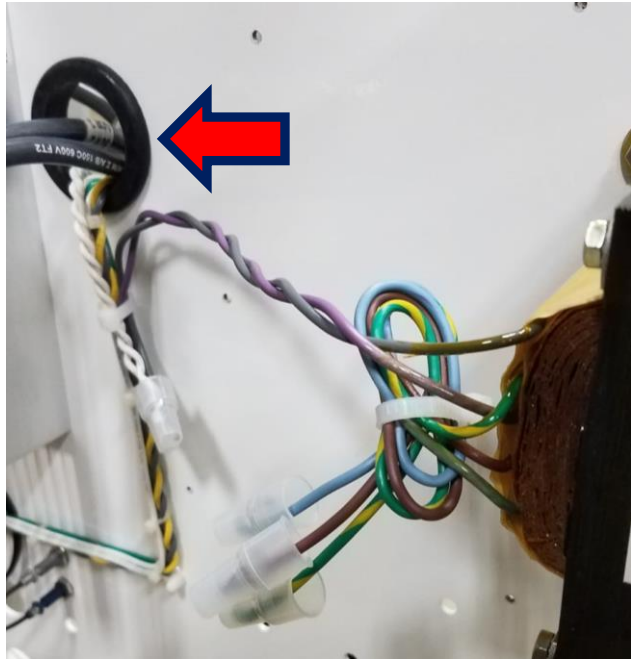


6. Mount the potential transformer (35A0796) on these screws and attach with provided lock-washers (66A0038/4) and nuts (65A0347/2).

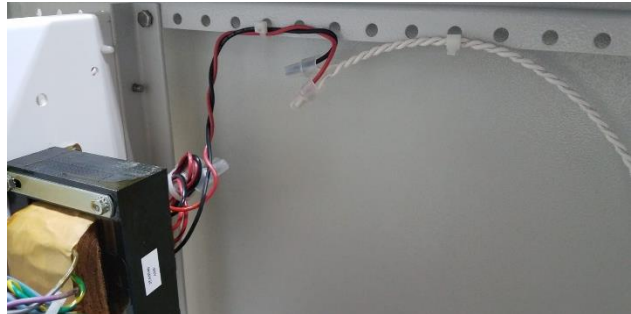
- a. Make sure all lock-washers (66A0038/4) are used to avoid PT from becoming loose from CCRs vibration.
- b. Make sure RED and BLACK wires are oriented towards the edge of the component plate as shown below.



7. Route VIOLET/GRAY extension wiring from the back of the component plate towards the front through the component plate's hole.

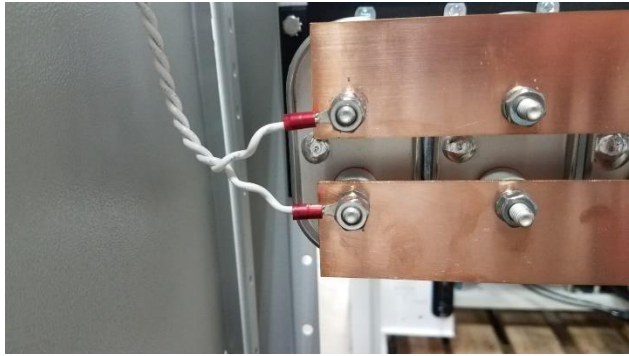


8. Route RED/BLACK extension wiring towards the capacitor bank on the back of the CCR.



Connect ring terminals to the capacitor bank using the provided 1/4 hardware (65A0015/24 and 66A0038/6). Make sure not to overtighten the nuts as damage may occur to the capacitor. The use of a counter wrench to hold the existing nut is recommended.

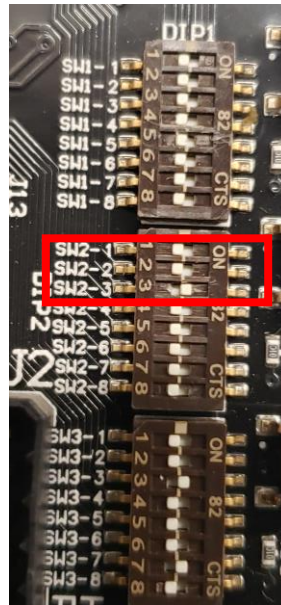




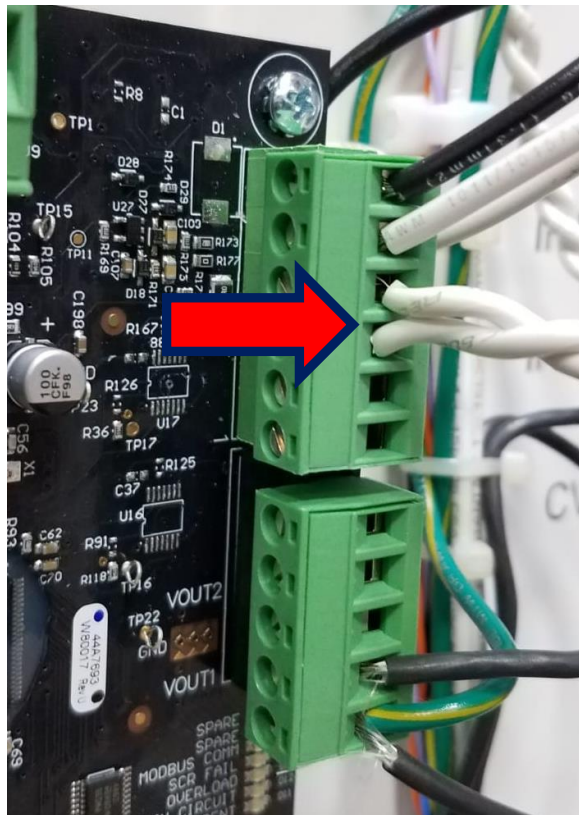
9. Replace existing URC4 control PCB with the one provided in the kit (44A7693).



- a. Configure DIP switch settings according to the type, size and specifications of the CCR. Make sure to enable the PT feature by turning ON Dip switch **2-3**, and turning off **2-1** and **2-2**.



10. Connect the potential transformer's VIOLET/GRAY extension wires on terminals J7-3 and J7-4 of the URC4 board using the provided connector. If URC4 already has a connector and wiring on J7 just add the VIOLET/GRAY extension wires to terminals 3 and 4 of the existing J7 connector (polarity insensitive). In this case, discard the connector provided in the kit.



11. Dress-up all wires properly using cable ties as needed.
12. Verify all connections and replace top/side panel.
13. Re-energize CCR and calibrate output current.