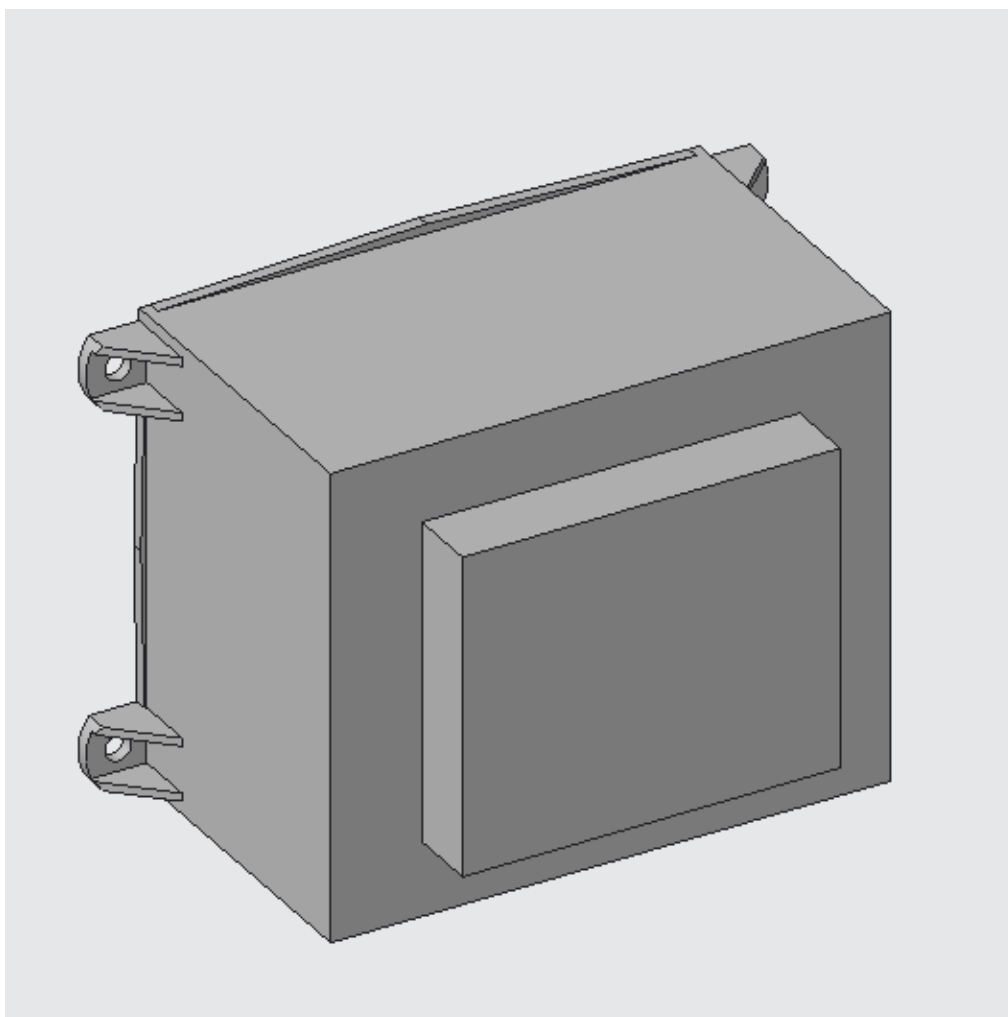


NCT Adapter Installation Manual - AK/AKR/WP Retrofill Breakers

NEUTRAL CURRENT TRANSFORMER ADAPTER

For AK/AKR/WP Emax2 Retrofill Breakers in AKD5/6/8/10 Switchgear



Neutral Current Transformer Adapter

For Emax2 Retrofill Circuit Breaker

Overview

The Emax2 Neutral Current Transformer Adapter (NCTA) is used to convert an iron core Neutral CT secondary current to a scaled Voltage output used by Emax2 Circuit Breakers. The unit's primary wires are 1 meter long; the maximum primary system cable length is 500ft. The unit's secondary wires are 1 meter long twisted pair the maximum secondary system cable length is 3 meters twisted pair.

The Neutral CT Adapter supports iron core Neutral sensors compatible with MicroVersaTrip, MVT RMS-9, EPIC, Power Plus, Pro Trip, MVT Plus, PM and Emax2 rated from 250 to 5000Amps as used in GE switchboards and switchgear with AK, AKR and Wavepro circuit breakers.

Emax2 Retrofill breakers which are rated for 400A and 600A requires tap setting changes on neutral CT inside switchgear. For 400A rated breaker remove wiring from 400A tap and connect it to 800A tap. Similarly for 600A rated breaker remove wiring from 600A tap and connect to 1200A tap. COMM wire should not be modified for any of the above mentioned tap setting.

Below is the image showing the Tap setting for NCTA.



Multi-Source Ground Fault

Retrofills can be used in the following ground fault applications:

Single Source Feeder breakers, 3 wire or 4 wire

Main Circuit breakers, 3 wire or 4 wire

For 4 wire multi-source Ground Fault systems, the Retrofill should be ordered with a neutral CT adapter. These neutral CT adapters are compatible with MVT style neutral sensors. This will allow the new breaker to operate with the existing Neutral CT in most cases.

Please note that these neutral CT adapters are not compatible with Power Sensor or SST style neutral sensors. Replace an SST Neutral CT with a TSVG...BK iron core sensor which will be compatible with the Neutral CT Adapter.

Service and Support

Service and support are available from ABB Inc USA


Email: eppc.support@us.abb.com

Phone: 888-385-1221

Modifying Switchgear Compartment

Cut Power to switchgear

Danger

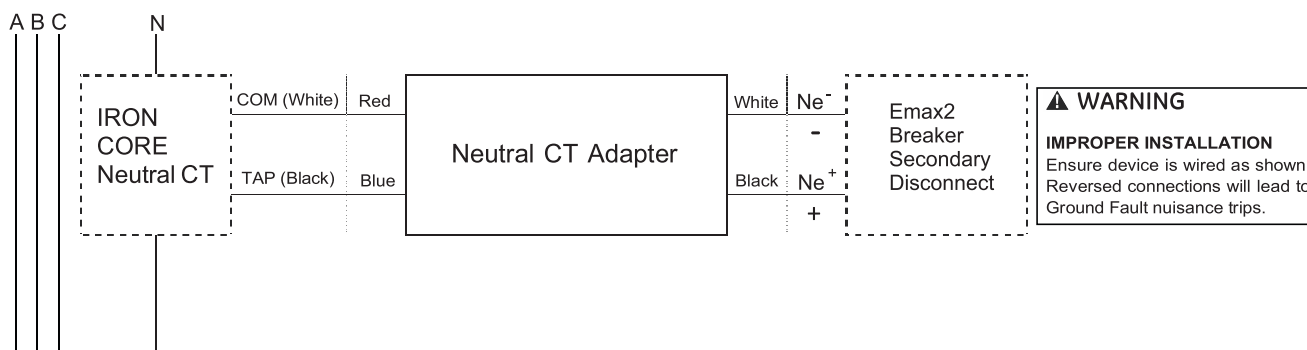


- It must be ensured that the supply power to the compartment is turned off/ compartment is de-energized for all the incoming and outgoing circuits of the LVS prior to any work being conducted on it.
- During the installation and related work on the equipment, it must be ensured that the operator is using the prescribed PPE for the specified tasks.

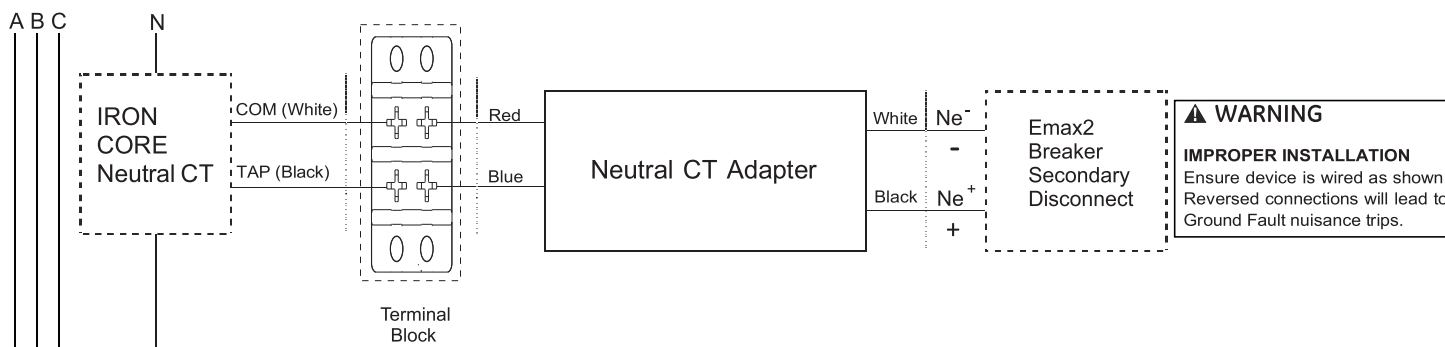
- Ensure only qualified personnel install, operate, service, and maintain all electrical equipment.

Before modifying the switchgear compartment, de-energize/switch off the breaker. If the circuit breaker is ON and the springs are charged, to turn it off, press the OPEN button on the circuit breaker fascia, and ensure that the circuit breaker contacts are open.

Wiring Diagram For AKD6, 8 & 10 All Ratings



Wiring Diagram For AKD5 All Ratings



NOTE: For Trip Unit Configuration and Settings please refer Emax2 UL Installation Manual 1SXU200040C0201.

AKD5 Switchgear Modification

Fig. 1-AK75/100



Fig. 2-AK75/100

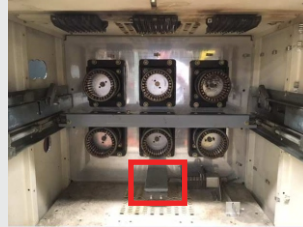


Fig. 3-AK25/50



Fig. 4-AK25

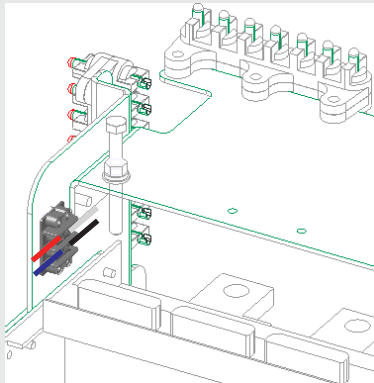


Fig. 5 AK50

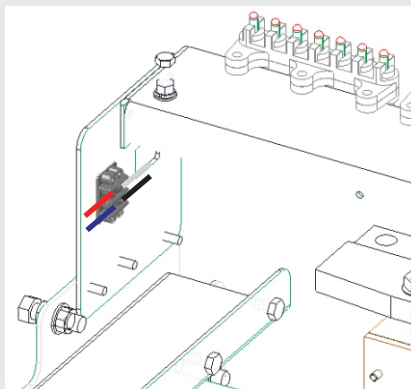


Fig. 6-AKT50

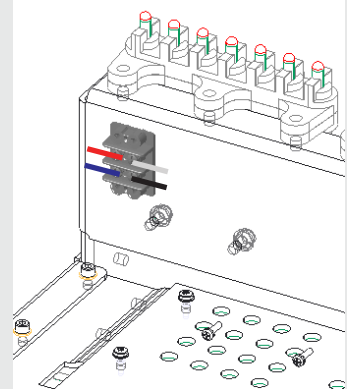


Fig. 7-AK75

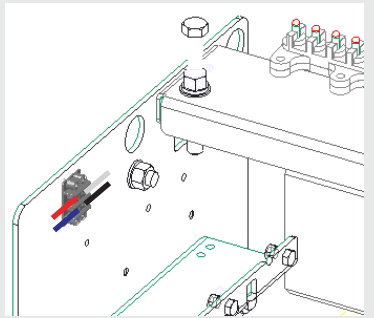
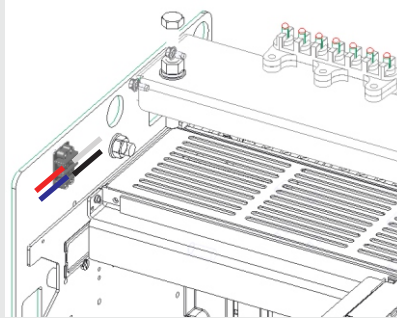


Fig. 8-AK100



— COM (White wire from IRON CORE CT)
 — TAP (Black wire from IRON CORE CT)
 — Red wire from RNCTA (Factory Fitted)
 — Blue wire from RNCTA (Factory Fitted)

Installation Instructions for AKD5 only

1. Verify that the LVS has been de-energized and the breaker in the compartment being retrofitted are switched off and removed.
2. Ensure The cassette is resting on loading rails fully extended out from Switchgear.
3. Make a note of the COM/TAP polarity on existing Neutral Disconnect Assembly in the Switchgear. Refer Figs. 1 - 3.
4. Remove and discard the existing neutral Disconnect assembly from the AKD5 compartment (Switchgear) as located in the Figs. 1-3.
5. Check for the adequacy of the length of existing COM/TAP wires from the Iron Core Transformer on the Neutral Busto be able to reach and connect in the terminal blocks locations shown in Figs. 4-8 on the Retrofit Kit.
6. If the COM/TAP wires are very short, mount the additional terminal block provided in the Kit a suitable location inside the Switchgear and terminate the COM/TAP wires on this terminal Block. Run two additional wires of UL AWM STYLE 1385, XLPE, 600V, 125C 18AWG with White(COM) and BLACK (TAP) colors.
7. Connect the COM and TAP wires from IRON CORE CT or the optional extension wires to the Terminal Block location as shown in wiring diagram and Figs. 4-8.
8. Use only Authorised Personnel for wiring and ensure the copper strands are rotated back by 180 degrees while securing them in the terminal block.
9. The Red and Blue terminals from ENCTA are factory installed on the Terminal Block as per the wiring diagram
10. Check for continuity from the IRON CORE NCT leads to the secondary disconnects on the Emax2 Retrofill ACB.



ABB

Electrification Smart Power

905 Shands Bottom Road,
City: Senatobia, Zip: 38668
United States (US)

You can find the address of your local
sales organisation on the ABB home page.



<http://new.abb.com/low-voltage/service/service-breakers-switches>

We reserve the right to make technical changes or modify the contents of this document without prior notice.
ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2021 ABB - All rights reserved