Instructions for replacing ACX controller with CX Plus controller (AutoVAR 300)

Overview

Replacing an ACX controller with the communicating CX Plus controller involves the following steps:

1. Remove the ACX controller and physically install the CX Plus controller.

2. Install the provided DIN rail mounted terminal block beside the location of the existing controller.

3. Connect the wiring to the new controller.

4. Add the Modbus® wiring terminal block on the same DIN rail as the TB1.

5. Program the new controller.

Existing controller removal

1. If the capacitor bank is energized, turn the controller to Manual Mode and switch off all stages one by one.

2. Turn the capacitor bank off by means of the ON/OFF switch.

3. Ensure the upstream feeder breaker feeding to the capacitor bank is turned OFF. Lock it out.

4. Follow all facility lock-out/tag-out procedures. Follow all safety warnings and signs.

5. Ensure no indicating lights are lit on the capacitor bank.

6. Wait 5 minutes before opening the door of the capacitor bank cabinet.

7. Wear appropriate PPE suitable for the arc flash approach boundary. Verify there is no voltage on the capacitor bank bus.

8. Locate terminal block TB1 terminals 1 and 2 on the control panel. The field wiring is from a current transformer located at the main service entrance. Use the provided shorting jumper and short these two terminals.

Figure 1. Terminal block TB1

9. Mount the provided DIN rail mountable terminal strip on the right side of the controller with the provided hardware. The DIN rail should be located toward the hinged end of the enclosure away from the door latch.

Figure 2. ACX controller and suggested new terminal strip location

10. Label each wire at the back end of the existing controller. Labels should identify the name of the terminal on which they were connected. Once labeled, loosen the set screws and disconnect all wires.

11. Terminate all wires from A through 6 on the installed terminal strip labeled 0 through 6. Match the wires A through 6 onto the terminals 0 through 6. The other end of the terminal strip is already prewired to the controller.

12. The controller is held in place by two tabs—one on the top and one on the bottom of the controller. Slide the tabs to remove the controller out of its cutout opening.

New controller installation

1. Position the new controller in place of the old controller.

2. Use the mounting tabs to secure the new controller in place by simply pushing the tabs forward and verify the controller is properly mounted.

3. Pull the tabs back to release the controller if necessary.

4. If the controller is loosely fitted, then add a gradual amount of sealant.

F·T·N

Powering Business Worldwide

Wiring to the new controller

Figure 3. ACX controller

From ACX

1. The BLR-CX+ has the same electrical connections and functionality as the BLR-ACX with exception to a few minor changes in location and terminals.

2. Wires at UM1, UM2, K, and L:

    a. Remove wires and move them to corresponding terminals on the same side of the new CX Plus controller, ensuring the wires are terminated to the exact terminals as their wire markers/labels indicate.

    b. Remove and save the shorting wire from UM2 to terminal A.

3. Wires at A through 6:

    a. Remove wires and terminate them onto the DIN rail mounted terminal strip mounted on the hinge side of the enclosure.

4. Wires at MS, M (if applicable):

    a. This is the customer remote alarm option and if applicable, then the wires should be removed and terminated on the new controller terminals AL1 and AL2.

Figure 4. CX Plus controller

To CX Plus

1. Wires at UM1, UM2, K, and L:

    a. Terminate all the wires marked UM1, UM2, K, and L onto the new controller.

    b. UM1 corresponds to U1.

    c. UM2 corresponds to U2.

    d. K corresponds to S1.

    e. L corresponds to S2.

2. Wires at A through 6:

    a. These wires are already prewired to the controller from the DIN rail terminal strip.

3. Modbus wires at +, –, and GND:

    a. These wires are already prewired to another DIN rail terminal strip that mounts adjacent to terminal block TB1. Terminal markings are 11, 12, and 13.

4. Wires at MS, M (if applicable):

    a. This is the customer remote alarm option and if applicable, then the wires should be removed and terminated on the new controller terminals AL1 and AL2.

Programming the CX Plus controller

The new controller is already preprogrammed from the factory and ready to be energized.

Note: Please refer to the included reference guide and settings for details about the factory default programming.

F·T·N

Powering Business Worldwide