

# SERVICE CENTER MINI-UNIT SUBSTATION

## INSTRUCTION AND INSTALLATION SHEET

(Three-Phase - 30 kVA Models)

### RECEIVING

Upon receipt of shipment, examine the package for any damage that may have occurred in transit. While unpacking, examine the unit for broken, bent, loose parts, or other damage. If injury from outside sources is evident, file a damage claim with the Transportation Company and notify the nearest Sales Office.

### STORAGE AND HANDLING

The storage area should be clean. Before placing the unit in service after a period of storage, be sure it is clean and dry by observing the instruction under "INSTALLATION". The unit may be fork truck lifted or raised by the lifting holes located on the top core clamps under the transformer cover.

### INSTALLATION

#### PREPARATION AND MOUNTING

If the interior moisture is evident by the appearance of rust, the unit should be dried. Megger readings of 10 Megohms minimum should be obtained before installation. Free circulation of air is essential for proper operation of the unit. The service center will perform at its rated output when surrounding air does not exceed 40C (105F) and adjacent structures permit free movement of cooling air. The unit must be mounted upright.

### CONNECTIONS

#### DO NOT MAKE OR CHANGE CONNECTIONS WHILE UNIT IS ENERGIZED !!!

The unit must be mounted upright. Reference should be made to the wiring diagram (Figure 1) when making connections.

A new grounding electrode conductor is to be connected to the neutral bar of the secondary in accordance with the National Electrical Code.

If a primary terminal strip is bonded to the enclosure by means of the neutral bonding screw, it may be removed for special applications.

Make certain that all connections are electrically tight to prevent joint heating. If aluminum cable is used, adequate preparation of the aluminum cable and protection of the joint is essential.

Secondary branch circuit breaker ampere ratings and branch circuit conductor sizes must be selected in accordance with the National Electrical Code.

The service center is factory connected on the primary side for the nominal rated three-phase delta connected input voltage. If the primary input voltage is other than nominal, the transformer taps may be adjusted in accordance with instructions provided with the transformer.

The primary main breaker and the secondary main breaker may be changed using breakers of equal voltage ratings and "equal to" or "lower" current ratings. However, the use of primary breakers with current ratings lower than those supplied may result in nuisance tripping. This is due to in-rush currents in the primary winding which occur when the transformer is energized.

#### PRIMARY AND SECONDARY BREAKERS WITH CURRENT RATINGS HIGHER THAN THOSE SUPPLIED MUST NOT BE USED.

After all electrical connections have been made and the required branch circuit breakers installed, the inside metal cover plate must have the corresponding branch circuit breaker knockouts removed and the cover-plate reinstalled. Fasten the cover-plate in place being sure that no cables are caught between the cover-plate and the framework. Also, ensure that all breakers are aligned with the knock-out holes in the cover-plate. Branch circuit positions should be recorded on the identification labels provided.

After the inner cover is in place, the unit should be energized and breaker operation checked out by operating the circuit breakers. Verify correct output voltage and polarity.

The outer cover should then be closed and secured. Padlock mounting holes are provided and may be used to secure the outer cover of the unit.

### LOADING

Loads may be applied either from line-to-line or from line-to-neutral. Care should be taken to balance the loads, if possible. Do not exceed the rated current on any transformer phase where:

$$\text{Current} = \frac{\text{Nameplate kVA}}{208 \times \sqrt{3}} \text{ OR } \text{Current} = \frac{\text{kVA}}{120 \times 3}$$

### PREVENTIVE MAINTENANCE

The only preventive maintenance required is periodic inspection of connections, operation of circuit breakers, and removal of accumulated interior dust, dirt and lint.

### RENEWAL PARTS

Field repairs are usually uneconomical except for replacement of the circuit breakers. No spare parts or renewal parts are recommended. If conditions of operation dictate the need for standby equipment, a complete spare unit is recommended.

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**FIGURE 1 - TYPICAL WIRING DIAGRAM**  
**DO NOT MAKE OR CHANGE CONNECTIONS**  
**WHILE UNIT IS ENERGIZED !!**

