

**TECHNICAL SPECIFICATION SMO  
FOR  
SUBSTATION MOTOR OPERATOR**

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**TECHNICAL SPECIFICATION SMO  
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SUBSTATION MOTOR OPERATOR**

**SPECIFICATIONS:**

**1. GENERAL**

- 1.1 The mechanism shall meet all requirements of the above-referenced specifications unless otherwise noted in the Request for Quotation (RFQ).
- 1.2 The disconnect switch voltage and current rating and operating shaft diameter and length shall be specified on the RFQ.

**2. HOUSING**

- 2.1 The motor mechanism housing shall be weather tight heavy gauge aluminum or painted galvanized steel
- 2.2 Provisions shall be made to padlock the housing to prevent unauthorized entry.

**3. MOTOR AND MECHANICAL DRIVE**

- 3.1 The motor voltage shall be: \_\_\_ 115 VAC \_\_\_ 48 \_\_\_ 125 VDC (check one).
- 3.2 The motor shall be high torque design. \_\_\_10,000 \_\_\_ 20,000 in/lbs.
- 3.3 The motor shall be equipped with ball bearings and shall require no lubrication. The motor shall be sealed against moisture and dust.
- 3.4 Motor overload protection shall be provided in the form of a thermal overload relay or fuses.
- 3.5 The mechanism gear train shall be factory lubricated and further lubrication shall not be required.
- 3.6 The mechanism shall be supplied with a braking device to prevent over travel. Mechanically operated brakes shall have provisions for field adjustment. The mechanism shall have an adjustable angle of operation of at least 180° on the vertical operating shaft. Provisions for preventing over travel shall be included.
- 3.7 The mechanism shall be provided with a coupling device to join the mechanism to the disconnect switch operating shaft. The device must not recouple when the motor and the switch are not synchronized.
- 3.8 The coupling shall have provisions to disconnect the mechanism from the switch operating shaft for maintenance and testing purposes without disturbing the position of the disconnect switch.
- 3.9 Provisions shall be made to padlock the disconnect switch in the open and closed position when the mechanism is test operated.

**4. MANUAL OPERATION**

- 4.1 The mechanism shall be furnished with provisions for manual crank operation.
- 4.2 Provisions shall be made either to padlock the hand crank to the mechanism housing or to the hand crank within the housing.

**5. ELECTRICAL**

- 5.1 Knife switches shall be provided for DC and AC isolation.
- 5.2 The motor control and the AC circuit shall be individually fused.
- 5.3 The operator shall have a local/remote switch and open/close pushbuttons.
- 5.4 Terminal blocks shall be provided for all customer connections.
- 5.5 Wiring shall be 600V and 14 gauge minimum.
- 5.6 The mechanism shall be equipped with an 8 stage auxiliary switch with the individual contacts to be adjustable to any position.
- 5.7 The mechanism shall be equipped with a 100-watt thermostatically controlled heater that may be wired for either 115 or 230 VAC.

**6. DRAWINGS**

- 6.1 One (1) set of assembly and operating instructions, outline drawings; connection and schematic diagrams shall be attached to the mechanism in a weather resistant envelope. Three (3) sets of drawings for approval shall be sent to:

\_\_\_\_\_

Contact Person

\_\_\_\_\_

Company Name

\_\_\_\_\_

Address

\_\_\_\_\_

City, State, Zip Code

\_\_\_\_\_

Telephone/Fax number

**7. OPTIONAL ACCESSORIES**

- 7.1 If specified, the mechanism may be provided with the following accessories:
  - 1. Counter
  - 2. Red and green indicating lamp to indicate close and open positions respectively.
  - 3. Cabinet light and duplex switch.