

# MANUAL TRANSFER SWITCH

## STANDARD SPECIFICATIONS

### SECTION 1 – GENERAL REQUIREMENTS

#### 1.01 **Scope:**

- A. Supply and deliver the indicated quantity of StormSwitch™ manual transfer switches in accordance with these specifications and the engineering drawings, (*insert applicable drawing #s*).

#### 1.02 **Submittal:**

- A. Submit upon delivery of the equipment, and as a requirement before payment is made, complete Operating & Maintenance Manuals (X) XXXX sets which shall include:
  - 1. Construction drawings.
  - 2. Materials / Component List including part numbers.
  - 3. Maintenance, service requirements and methods.

#### 1.03 **Warranty:**

- A. All equipment shall be covered by warranty for a minimum period of (1) one year after shipment from manufacturer.

### SECTION 2 - PRINCIPAL DESIGN CRITERIA

#### 2.01 **General:**

- A. All equipment shall be new.

#### 2.02 **Codes and Quality Assurance:**

- A. The manual transfer switch shall meet all applicable NEC standards.
- B. The manual transfer switch shall be labeled under UL 1008 standard.
- C. A warning label shall be permanently attached to the enclosure, as required by NEC Art. 520-53k3. This label shall specify the proper sequence for connection and removal of cable connectors.

- D. The manual transfer switch shall be Hi-pot tested at 1960VAC for a period of no less than 60 seconds.

2.02 **Codes and Quality Assurance (continued):**

- A. The manufacturer shall provide a completely factory assembled, wired, tested and labeled manual transfer switch.

2.03 **Manual Transfer Switches:**

- A. Manufacturer shall provide manual transfer switches with integral cam-style receptacles as shown on the drawings. Manual transfer switches shall be as manufactured by ESL Power Systems, Inc.
- B. Manual transfer switch is to consist of (2) two mechanically-interlocked molded case circuit breakers or switches, a power distribution block, grounding terminations, and internal cam-style receptacles.
- C. All manual transfer switch enclosures shall be Type 3R, constructed of continuous seam-welded, powder coated CRS. Access shall be through an interlocked, hinged door that extends the full length of the enclosure. Enclosures shall be powder coated after fabrication. All phase cam-style receptacles within the enclosure shall be factory-wired to a UL Listed molded case circuit breaker or switch rated equal to or greater than feeder breaker trip rating. The ground cam-style receptacle shall be bonded to the enclosure; and a UL Listed ground lug shall be provided adjacent to the PDB for connection of the facility ground conductor. Size and location of openings for conduit fittings and the feeder size, phase and ground, shall be as shown on the drawings for each type of manual transfer switch.
- D. Contractor shall furnish UL Listed Hubs, as manufactured by MYERS or T&B, for each conduit entry on the manual transfer switch. The Hub size shall be as specified on drawings.
- E. The manual transfer switch interlocking mechanism shall be integrated with the access door. The mechanism shall prevent connections from being energized unless the access door is closed.
- F. Assembly Specifications
  1. The top of the enclosure shall be blank. Conduit entry through the top of the enclosure shall be the responsibility of the installing contractor.
  2. Service connection shall be through conduit to lugs on the utility breaker. Phase, neutral and ground lugs shall be sized to accept wire sizes as shown on the drawings.
  3. A hinged cover is to be located over the incoming generator cable access openings to prevent entry of debris or unauthorized access. This cover is to be

interlocked with the main access door, such that when no cables are inserted, the hinged cover is in the closed position and the access door is closed, the hinged cover cannot be opened.

F. Assembly Specifications (*continued*)

4. Cam-style outlets shall be mounted inside the enclosure, behind the hinged cover.

2.04 **Cam-style Receptacles:**

- A. Single pole cam-style receptacles shall meet NEC code, be UL Listed, and be rated 400-ampere 600VAC. The cam-style receptacles shall be constructed of santoprene with brass contacts.

2.05 **Installation:**

- A. Prior to installation of manual transfer switches, Contractor shall examine the areas and conditions under which the manual transfer switch is to be installed and notify the Engineer in writing if unsatisfactory conditions exist.
- B. Manual transfer switches shall be installed as shown on the drawings and per the manufacturer's written instructions. In addition, the installation shall meet the requirements of local codes, the National Electrical Code and National Electrical Contractors Association's "Standard of Installation".
- C. Conduit Hubs shall be used at all conduit entries into the manual transfer switch. Hubs shall be properly installed and tightened to maintain Type 3R integrity of the manual transfer switch enclosure.
- D. All manual transfer switch field-wiring connections shall be per the specifications shown on the manual transfer switch power distribution block, circuit breaker & ground lug. This includes size, number, and material of conductors in addition to torque specifications.