

SPECIFICATIONS FOR AUTOMATIC TRANSFER SWITCH WITH CAMS

PART 1 – GENERAL REQUIREMENTS

1.01 Scope:

- A. Contractor shall furnish, deliver, install and test the automatic transfer switches with cams as specified herein and in accordance with the drawings.

1.02 Quality Assurance:

- A. Automatic transfer switch with cams shall be UL listed and labeled under the UL 1008 standard.
- B. Automatic transfer switch with cams manufacturer shall provide a complete factory assembled, wired and tested automatic transfer switch.
- C. Automatic transfer switch with cams manufacturer shall submit UL 1008 certification of authenticity.
- D. Automatic transfer switch with cams shall be factory Hi-pot tested for a period of not less than 60 seconds.
- E. Automatic transfer switch with cams installation shall meet all applicable NEC standards.

1.03 Submittals:

- A. Contractor shall submit manufacturer's drawings and data of automatic transfer switches with cams for Engineer's approval prior to start of fabrication. Drawings and data shall include, as a minimum, dimensioned general arrangement drawings and wiring diagrams, UL listing information including UL control or file number, short circuit rating or withstand rating, component data, mounting provisions, conduit entry locations and installation instructions.
- B. Upon installation of automatic transfer switches with cams, Contractor shall submit manufacturer's Operating & Maintenance Manual which shall include as a minimum:
 - 1. Certified as-built General Arrangement drawings and Wiring Diagram.
 - 2. Materials / Component List including part numbers.
 - 3. Maintenance and service requirements.
 - 4. Certificate of Compliance and hi-pot test data.

1.04 **Warranty:**

- A. Automatic transfer switches with cams shall be covered by manufacturer's warranty for a minimum period of (1) one year after shipment from manufacturer.

SECTION 2 - PRODUCTS

2.01 **General:**

- A. All equipment shall be new.
- B. Automatic transfer switch with cams manufacturer must have produced and sold UL 1008 Listed transfer switches as a standard product for a minimum of (3) years.
- C. Automatic transfer switch with cams allows emergency manual operation underload to be used as a manual transfer switch. Manual transfer switches shall be molded case circuit breaker or automatic switch with manual transfer function; knife switch or fused switches are not acceptable.
- D. Contractor shall be responsible for the equipment until it has been installed and is finally inspected, tested and accepted in accordance with the requirements of this Specification.
- E. Automatic transfer switches with cams shall be ReadyConnect as manufactured by ESL Power Systems, Inc. or equal as approved by the Engineer.

2.02 **Automatic Transfer Switches with cams:**

- A. Automatic transfer switch with cams shall consist of an automatic transfer switch cam-style male connectors, wire mechanical lugs and grounding terminals, all housed within a padlockable enclosure.
- B. Automatic transfer switch with cams enclosure shall be Type 3R, constructed of continuous seam-welded, powder coated steel. The main access shall be through an interlocked, hinged door that extends the full height of the enclosure. Access for portable generator cables with female cam-style plugs shall be via drawn flanged cable entry openings in the bottom of enclosure. A hinged flap door shall be provided to cover the cable openings when cables are not connected; the hinged flap door shall allow cable entry only after the main access door has been opened. Enclosure shall be powder coated after fabrication; color shall be wrinkle gray RAL 7035.
- C. Number of male input cams shall not exceed the number as shown on the drawings and must be rated for the specified amperage.

- D. Cam-style male connectors (inlets) shall be UL Listed single-pole separable type and rated 400 amps at 600VAC. Cam-style male connectors shall be color coded for neutral and ground connections. Cam-style male connectors shall be provided for each phase and for ground, and shall also be provided for neutral if required. Each of the phase cam-style male connectors within the enclosure shall be factory-wired to the alternate source input of the automatic transfer switch. The ground cam-style male connectors shall be bonded to the enclosure, and a ground lug shall be provided for connection of the facility ground conductor. The neutral cam-style male connectors, if required, shall be factory wired to mechanical lugs. None of the cam-style male connectors shall be accessible unless the main access door is open.

Terminal lugs shall be provided for line and load-side field wiring.

- E. Automatic transfer switch with cams shall be UL Listed and the short circuit interrupt rating shall be 50ka up to 480VAC with ABB circuit breaker type T5H600 or 200ka Class J fuse upstream. Otherwise rating is 30ka up to 480VAC as stated on the drawings. The automatic transfer switch shall be mounted behind a deadfront panel.
- F. Automatic transfer switch with cams shall be suitable for use as service equipment in the USA as defined by the NEC.
- G. Automatic transfer switch with cams shall include permanently affixed operation instructions.

SECTION 3 - EXECUTION

3.01 **Installation:**

- A. Prior to installation of automatic transfer switches with cams, Contractor shall examine the areas and conditions under which the automatic transfer switch with cams is to be installed, and notify the Engineer in writing if unsatisfactory conditions exist.
- B. Automatic transfer switch with cams 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 entry into the automatic transfer switch with cams shall be by Contractor; Contractor shall furnish and install UL listed watertight conduit hubs, as manufactured by MYERS, T&B or other for each conduit entry on the automatic transfer switch with cams. The incoming hub size shall match the conduit size for feeders and ground as shown on the drawings. The outgoing hub size shall match the conduit size for loads and ground as shown on the drawings.
- D. Any conduit penetrations that are above live parts must be properly sealed to prevent moisture intrusion from the conduit. A UL Listed or Classified expanding foam sealant

(such as Rainbow Quick Seal 79547), or other sealing product meeting local codes and NEC requirements should be used to seal the interior of the conduit around the cables. The product selected must be able to permanently seal around all wires and the conduit (common "Duct Seal" is not acceptable for this application). The sealing shall be done at the entry into the enclosure so the seal can be verified and inspected from inside the enclosure. Failure to seal may allow water to drip on live parts and will void warranty. Hubs shall be properly installed and tightened to maintain Type 3R integrity of the automatic transfer switch with cams enclosure.

- E. Contractor shall terminate feeder conductors, load conductors and ground per the manufacturer's instructions. All field wiring terminations shall be torqued as required per the instructions on the automatic transfer switch with cams label information.

3.02 **Field Testing:**

- A. Prior to energizing automatic transfer switch with cams, the Contractor shall perform the following checks and tests as a minimum:
 1. Verify mounting and connections are complete and secure.
 2. Verify internal components and wiring are secure.
 3. Perform continuity check of all circuits.
 4. Perform 1,000 VDC megger test on feeder, load and ground cables.
 5. Verify deadfront is secure.
 6. Confirm operation of the automatic transfer switch with cams ground receptacle by attaching a plug to the automatic transfer switch with cams ground receptacle and then verify that the plug is grounded to the facility ground.
 7. Once utility power has been applied, confirm operation of automatic transfer switch with cams by following directions on main access door.

End of Section