

# **SPECIFICATIONS FOR CAM OUTLET BOX WITH BREAKER**

## **PART 1 – GENERAL REQUIREMENTS**

### **1.01 Scope:**

- A. Contractor shall furnish, deliver, install and test the cam outlet boxes as specified herein and in accordance with the drawings.

### **1.02 Quality Assurance:**

- A. Cam outlet boxes shall be UL listed and labeled under the UL 891 standard with a minimum 22KA withstand rating.
- B. Cam outlet box manufacturer shall provide a complete factory assembled and tested cam outlet box.
- C. Cam outlet box shall be factory Hi-pot tested for a period of not less than 60 seconds.
- D. Cam outlet box installation shall meet all applicable NEC standards.

### **1.03 Submittals:**

- A. Contractor shall submit manufacturer's drawings and data of cam outlet boxes for Engineer's approval prior to start of fabrication. Drawings and data shall include, as a minimum, dimensioned general arrangement drawings, UL listing information including UL control or file number, component data, mounting provisions, conduit entry locations and installation instructions.
- B. Upon installation of the cam outlet box, the 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. Cam outlet boxes 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. Cam outlet box manufacturer must have produced and sold cam outlet boxes as a standard product for a minimum of (2) years.
- C. 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.
- D. Cam outlet boxes shall be OutTap Boxes as manufactured by ESL Power Systems, Inc. or equal as approved by the Engineer.

### 2.02 **Generator Tap Boxes:**

- A. Cam outlet box shall consist of (1) one molded case circuit breakers with a shunt trip (shunt trip voltage to be per the drawings); cam-style female connectors power distribution block and grounding terminals, all housed within a padlockable enclosure.
- B. Cam outlet box enclosure shall be Type 3R, constructed of continuous seam-welded, powder coated galvanized steel. The main access shall be through a hinged door that extends the full height of the enclosure. Access for portable generator cables with female cam-style plugs shall be via cable entry openings in the bottom of the 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. Cam-style female connectors (outlets) shall be UL Listed single-pole separable type and rated 400 amps at 600VAC. Cam-style female connectors shall be color coded. Cam-style female connectors shall be provided for each phase and for ground, and shall also be provided for neutral if required. The ground cam-style female connectors shall be bonded to the enclosure, and a ground lug shall be provided for connection of the facility ground conductor. None of the cam-style female connectors shall be accessible unless the main access door is open.
- D. Molded case circuit breaker shall be UL Listed and the short circuit interrupt rating shall be a minimum of 35kAIC at 480VAC. Trip rating of the molded case circuit breaker shall be as shown on the drawings. Molded case circuit breaker up to 800A shall include UL Listed door-mounted operating mechanism (with provisions for a locking device), preventing the opening of the main access door unless the breaker is in the "OFF" position. Molded case circuit breaker 1200A and higher shall include a shunt device wired to the main access door preventing the circuit breaker from being closed unless the main access door is closed. Molded case circuit breaker shall be mounted

behind a deadfront panel. The molded case circuit breaker cannot be energized unless the main access door is closed.

- E. Generator docking stations shall include permanently affixed operation instructions.

## SECTION 3 - EXECUTION

### 3.01 **Installation:**

- A. Prior to installation of cam outlet boxes, Contractor shall examine the areas and conditions under which the cam outlet box is to be installed and notify the Engineer in writing if unsatisfactory conditions exist.
- B. Cam outlet box 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 cam outlet box shall be by Contractor; Contractor shall furnish and install listed watertight conduit hubs, as manufactured by MYERS or T&B, for each conduit entry on the cam outlet box. The hub size shall match the conduit size for conductors and ground as shown on the drawings. Hubs shall be properly installed and tightened to maintain Type 3R integrity of the cam outlet box.
- D. Contractor shall terminate conductors and ground per the manufacturer's instructions. Use copper wire only for all conductors and grounds. All field wiring terminations in the cam outlet box shall be torqued as required per the instructions on the cam outlet box.

### 3.02 **Field Testing:**

- A. Prior to energizing cam outlet box, 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 phase and ground cables.
  - 5. Verify deadfront is secure.
  - 6. Confirm operation of the cam outlet box ground receptacle by attaching a plug to the cam outlet box ground receptacle and then verify that the plug is grounded to the facility ground.

End of Section