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**SECTION 262550 – GENERATOR DOCKING STATION**

**PART 1 - GENERAL**

**RELATED DOCUMENTS**

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

**SCOPE**

This section pertains to equipment arranged as a permanent part of the facility electrical distribution system to permit connections to a portable load bank and a temporary generator. The generator docking station shall allow the selection of the permanent generator or the temporary generator by means of a manual transfer switch that is an integrated component of the docking station.

**QUALITY ASSURANCE**

**Manufacturers:** Firms regularly engaged in manufacture of generator docking stations, of types and ratings required in this Section, whose products are Listed and Labeled for the purpose intended. Third party agencies shall be amongst those accredited by the NCBCC (North Carolina Building Code Council) to label electrical and mechanical equipment. Subject to compliance with requirements provide equipment equivalent to that provided by one of the following manufacturers:

Schneider/ASCO Power Technologies (Series 300 MTDQ)  
ESL Power Systems, Inc. (Triple Switch)  
Try-Star LLC (TMTS-5)

**Codes and Standards:**

**Electrical Code Compliance:** Comply with applicable State electrical code requirements of the authority having jurisdiction and NEC as applicable to construction and installation of electrical power transfer switches. Equipment and installation shall meet all applicable requirements of NEC 700.3 (F).

**Testing Laboratory Compliance:** Comply with applicable requirements of UL 1008, "Automatic Transfer Switches". Provide manual transfer switches and components that are Listed and Labeled. Third party agencies shall be amongst those accredited by the NCBCC (North Carolina Building Code Council) to label electrical and mechanical equipment.

**NEMA Compliance:** Comply with applicable requirements of NEMA Stds Pub/No.'s ICS 2, "Industrial Control Devices, Controllers and Assemblies," ICS 6 and 250, pertaining to transfer switches.

**IEEE Compliance:** Comply with applicable requirements of IEEE Standard 446 - Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.

**SUBMITTALS**

Submittals shall be made in strict accordance with the requirements of Section 019913. Specific submittal requirements are defined in each section of this Division.

**Product Data:** Submit manufacturer's data and installation instructions for generator docking station.

**Shop Diagrams:** Submit layout drawings of generator docking station showing accurately scaled equipment locations and spatial relationships to associated electrical equipment in proximity.

Wiring Diagrams: Submit wiring diagrams for generator docking station, and associated control devices showing connections to prime and alternate power sources, electrical load, and equipment components. Differentiate between portions of wiring that are manufacturer-installed and portions that are field-installed.

## **PART 2 - PRODUCTS**

### **DOCKING STATION ENCLOSURE**

Assembly shall be furnished in a free standing, NEMA type 3R enclosure. Provide strip heater with thermostat.

The complete assembly shall be degreased, and thoroughly cleaned. The finish shall be ANSI-61, light gray, electrostatically charged polyester powder paint over a phosphate coating, at a minimum of 2.0 mils in density. Finish shall be suitable for outdoor environments.

Permanent electrical connections shall be factory installed broad range set-screw mechanical type, located behind a physical barrier.

Enclosure doors shall be hinged, gasketed and have latch provisions to accept Owner provided pad-lock.

### **TRANSFER SWITCH**

General: Except as otherwise indicated, provide manufacturer's standard design, materials and components as indicated by published product information, designed and constructed as recommended by manufacturer for duty indicated, and as required for a complete installation.

Transfer switch unit shall be manually operated and mechanically held. The switch shall be mechanically interlocked to ensure only one of three possible positions, Source 1, Source 2, or Center Off.

Transfer switch shall be positively locked and unaffected by momentary outages so that contact pressure is maintained at a constant value and temperature rise at the contacts is minimized for maximum reliability and operating life.

All main contacts shall be silver alloy composition. Switches rated 800 amperes and above shall have blow-on contact design for high withstand current capability and be protected by separate arcing contacts.

Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors.

### **MANUAL OPERATION PROVISIONS**

The transfer switch shall be arranged for manual operation.

The manual operating handle shall be capable of external operation without opening the enclosure door.

There shall be three positions for manual operation:

Connected to Source 1

Connected to Source 2

Connected to Center (OFF)

Switch position when connected to Source 1, or Source 2 shall be lockable with external provisions.

Mechanical interlock may be accomplished using Kirk Key arrangement with molded case switch for the incoming permanent generator connection and the access door to the temporary generator quick connection provisions. Molded case breakers are not desired in this arrangement.

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**ELECTRICAL**

Factory fabricated assembly shall be rated 200 Amperes, 480Y/277 Volts, 3 phase, 4 wire, 60 Hz, 4-pole. Bus assembly shall be silver plated copper. Equipment ground bus shall be bonded to enclosure. Neutral bus shall have the same rating as the phase bus and isolated from the ground bus and enclosure.

Withstand and Closing (WCR) Testing: Transfer switch shall be tested in accordance with UL 1008 to close into and withstand fault currents up to 10,000 RMS Symmetrical Amps.

Quick connect provisions shall have input and output connections rated up to 600 VAC, as required to match voltage characteristics of permanent generator.

Input - Recessed male connectors.

Output - Female connectors with flip covers.

All electrical connectors shall be cam type single pole connectors compatible with Marincor or Leviton 16 Series CAM Locks™ and available color coded as follows:

250V and below: phase 1 = black, phase 2 = red, phase 3 = blue.

480V: phase 1 = brown, phase 2 = orange, phase 3 = yellow.

Ground shall always be green. Neutral shall always be white.

Where molded case circuit breaker is supplied for load bank output, breaker shall be rated to match the overall docking station assembly.

Additional accessories shall be included as follows:

- A. Two Wire Auto Start
- B. Battery Charger Receptacle 20A GFCI 120VAC
- C. Block Heater Receptacle 20A, 120VAC
- D. Contacts to annunciate permanent generator disconnected.
- E. Strip Heater & Thermostat
- F. Phase Rotation Monitor
- G. Shut trip provisions for load bank breaker.

**PART 3 - EXECUTION**

**TESTING AND CERTIFICATION**

Manual Transfer Switch shall be factory tested to ensure proper operation of the individual components and correct overall sequence of operation and to ensure compliance with the specification requirements.

Upon request, the manufacturer shall provide a notarized letter certifying compliance with all of the requirements of this specification including compliance with the above codes and standards and withstand and closing ratings. The certification shall identify, by serial number(s), the equipment involved. No exceptions to the specifications, other than those stipulated at the time of the submittal, shall be included in the certification.

**END OF SECTION 262550**

