

## **SECTION 263300 – DOCKING STATION**

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(Engineer shall edit specifications and blue text in header to meet project requirements. This includes but is not limited to updating Equipment and/or Material Model Numbers indicated in the specifications and adding any additional specifications that may be required by the project. Also turn off all “Underlines”.)

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this section and all other sections of Division 26.

#### **1.2 SUMMARY**

- A. Section Includes:

- 1. Docking Station

#### **1.3 SUBMITTALS**

- A. Product Data: For each Docking Station and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
  - 1. Enclosure types and details for types other than NEMA 250, Type 1.
  - 2. Current and voltage ratings.
  - 3. Short-circuit current ratings (interrupting and withstand, as appropriate).
  - 4. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
  - 5. UMB Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device.
- B. Shop Drawings: For circuit breakers. Include plans, elevations, sections, details, and attachments to other work.
  - 1. Wiring Diagrams: For power, signal, and control wiring.
- C. Qualification Data: For qualified testing agency.
- D. Field quality-control reports.
  - 1. Test procedures used.
  - 2. Test results that comply with requirements.
  - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

- E. Manufacturer's field service report.
- F. Operation and Maintenance Data: For enclosed circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
  - 1. Manufacturer's written instructions for testing and adjusting enclosed circuit breakers.
- G. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device.

#### 1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
  - 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.
- B. Source Limitations: Obtain enclosed circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single source from single manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NFPA 70.
- E. ETL/UL Listed to 1008 Standards.
- F. UL 50 Listed.

#### 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
  - 1. Ambient Temperature: Not less than minus 22<sup>0</sup>F and not exceeding 104<sup>0</sup>F.
  - 2. Altitude: Not exceeding six thousand six hundred (6,600) feet.
- B. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by UMB or others unless permitted under the following conditions and then

only after arranging to provide temporary electric service according to requirements indicated:

1. Notify UMB no fewer than ten (10) days in advance of proposed interruption of electric service.
2. Indicate method of providing temporary electric service.
3. Do not proceed with interruption of electric service without UMB's written permission.
4. Comply with NFPA 70E.

#### 1.7 COORDINATION

- A. Coordinate layout and installation of Docking Station with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

#### 1.8 WARRANTY/GUARANTEE

- A. See Division 26 Specification Section "Basic Electrical Requirements" for warranty and guarantee requirements.

### **PART 2 - PRODUCTS**

#### 2.1 GENERATOR DOCKING STATION:

##### A. Enclosure:

1. NEMA 4X Metallic Enclosure.
2. Pad-lockable front door shall include a hinged access plate at the bottom for entry of temporary cabling that prevents unauthorized tampering while in use.
3. NEMA 3R Integrity shall be maintained while temporary cabling is connected during use.
4. Front and Side shall be accessible for maintenance.
5. Top, Side, and Bottom shall be accessible for permanent cabling.
6. Life Safety Load Breaker shall be in separate compartment.
7. Pad Mounted.

##### B. Powder Coat

1. Paint after fabrication shall be Hammer tone Gray.

##### C. Phase, Neutral, and Ground Busbar:

1. Material: Silver-plated Copper
2. Equipment Ground Bus: bonded to box.
3. Ground Bus: 100% of phase size

4. Neutral Bus: Neutral bus rated 100 % of phase bus.
- D. Temporary generator and Load Bank connectors shall be Camlok style mounted on gland plate.
1. Camlok shall be 16 Series model and color coded according to system voltage requirements.
  2. Camlok connections shall be Bus Bar Style, Cabling or Double Set Screw is not acceptable.
  3. Camlok connections shall be protected against accidental contact while not in use.
  4. Camlok shall be suitable for wire size and quantities indicated on the drawings.
- E. Permanent Connection shall be factory installed board range set-screw mechanical type, located behind a physical barrier. Mechanical connectors shall be suitable for the wire size and quantities indicated on the drawings.
- F. Short Circuit & Withstanding Rating
1. Shall be minimum 65 KAIC unless otherwise indicated on drawings.
- G. Voltage & Amperage
1. 480/277V and 200A, 3 Phase, 4 Wire + Ground
- H. Factory Installed Phase Rotation Monitor Device:
1. Phase monitoring relay to be Siemens 3U4512-1AR20 or equal and factory installed.
  2. Must be UL 489 Listed Breaker – See drawings for additional information.
  3. Breaker shall be removable for service and maintenance.
  4. Breaker shall be equipped with LSI trip unit.
  5. Breaker shall be key interlocked with permanent generator system.
- I. Additional Accessories shall be included in submittal drawing as follows:
1. A: Two Wire Auto Start
  2. C: Battery Charger Receptacle 20A GFCI 125V
  3. G: 100% Ground
  4. M: Phase Monitor Relay
  5. N: Strip heater
  6. Q: Load Dump Receptacle
- J. Approved Manufacture's: Subject to compliance with requirements, provide products by the following:
1. TRYSTAR: Docking Station or approved equal.

2. TRYSTAR: Model No.: SBDS-08-5-P-L-ML-FL-ACMNQ

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine elements and surfaces to receive Docking Stations for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. Provide housekeeping Pad for mounting Docking Station
- B. Install Pad Mounted Docking Station utilizing properly secured channels anchored to housekeeping pad.
- C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- D. Comply with NECA 1.

#### **3.3 IDENTIFICATION**

- A. Comply with requirements in Division 26 Section "Identification for Electrical Systems."
  - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
  - 2. Label each enclosure with engraved metal or laminated-plastic nameplate.

#### **3.4 FIELD QUALITY CONTROL**

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
  - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Acceptance Testing Preparation:

1. Test insulation resistance for each enclosed switch and circuit breaker, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

D. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
  2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
  3. Perform the following infrared scan tests and inspections and prepare reports:
    - a. Initial Infrared Scanning: After Substantial Completion, but not more than sixty (60) days after Final Acceptance, perform an infrared scan of each enclosed circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
    - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each enclosed circuit breaker eleven (11) months after date of Substantial Completion.
    - c. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
  4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.
  5. Verify Phase Rotation
- E. Enclosed circuit breakers will be considered defective if they do not pass tests and inspections.
- F. Prepare test and inspection reports including a certified report that identifies enclosed circuit breakers and that describes scanning results. Include notation of deficiencies detected, remedial action taken and observations after remedial action.

### 3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges as specified in Division 26 Section "Overcurrent Protective Device Coordination Study".

END OF SECTION 263300