

## **PART 1 - GENERAL**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 26 29 01 - Contactors.

### **1.2 REFERENCES**

- .1 CSA International
  - .1 CSA C22.2 No.14-13, Industrial Control Equipment.
- .2 National Electrical Manufacturers Association (NEMA)
  - .1 NEMA ICS 1-2000(R2008), Industrial Control and Systems: General Requirements.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for control devices and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings for review.
  - .2 Include schematic, wiring, interconnection diagrams.

### **1.4 QUALITY ASSURANCE**

- .1 Conduct tests in accordance with Section 26 05 00 - Common Work Results for Electrical.

### **1.5 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
  - .2 Operation and Maintenance Data: submit operation and maintenance data for control devices for incorporation into manual.
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## **1.6 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect control devices from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and return of packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/ Demolition Waste Management and Disposal.

## **1.7 MEASUREMENT FOR PAYMENT**

- .1 No separate measurement for payment shall be made for items under this section. Include costs incidental in the Lump Sum Amount of work on the Combined Price Form.

## **PART 2 - PRODUCTS**

### **2.1 SELECTOR SWITCHES**

- .1 Maintained two (2) and three (3) position labelled as indicated heavy duty oil tight, operators knob, contact arrangement as indicated, rated 120 V, 5 A AC.

### **2.2 INDICATING LIGHTS**

- .1 Heavy duty oil tight, full voltage, LED type, push-to-test, lens colour: as indicated, supply voltage: 120 V AC, lamp voltage: 120 V AC, labels as indicated.

### **2.3 THERMOSTAT (LINE VOLTAGE)**

- .1 Wall mounted reverse acting thermostat.
  - .2 Full load rating: 8 A at 120 V AC.
  - .3 Temperature setting range: 5° to 30°C.
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- .4 Markings in 5 degrees increments.

## **2.4 WARNING SIGNS**

- .1 Provide warning signs (where applicable) in accordance with Section 26 05 00 - Common Work Results For Electrical.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- .1 Install control devices and interconnect as indicated.

### **3.2 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Depending upon magnitude and complexity, divide control system into convenient sections, energize one section at time and check out operation of section.
- .3 Upon completion of sectional test, undertake group testing.
- .4 Check out complete system for operational sequencing.

### **3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.