

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 26 09 23.05 - Lighting Control Devices – Astronomical Time Clock.
- .2 Section 26 29 03 - Control Devices.
- .3 Section 26 56 19.02 - Site Lighting.

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 2-2000 (R2005), Controllers, Contactors and Overload Relays Rated 600 V.

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 contactors and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for contactors for incorporation into manual.

1.5 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.
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- .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 contactors 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.

1.6 LEED 2009 REQUIREMENTS

- .1 LEED Documentation:
 - .1 Submit Material Safety Data Sheets (MSDS) or product data sheets, for all site applied interior paints, coatings, adhesives, sealants, sealant primers, concrete curing compounds, etc. to ensure compliance with LEED Requirements for low emitting materials as per Section 01 35 21.

PART 2 - PRODUCTS

2.1 CONTACTORS

- .1 Contactors: to CSA C22.2 No.14.

 - .2 Electrically held controlled by pilot devices as indicated and rated for type of load controlled. Half size contactors not accepted.

 - .3 Breaker combination contactor as indicated.

 - .4 Complete with 2 normally open and 2 normally closed auxiliary contacts unless indicated otherwise.

 - .5 Mount in CSA Enclosure Type 1 unless otherwise indicated.

 - .6 Include following options in cover:
 - .1 Red and Green indicating lamp.
 - .2 Stop-Start pushbutton.
 - .3 Hand-Off-Auto selector switch.

 - .7 Control transformer: in accordance with Section 26 29 03 - Control Devices, factory wired and installed in contactor enclosure.
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2.2 EQUIPMENT IDENTIFICATION

- .1 Identify equipment in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Size 4 nameplate indicating name of load controlled as indicated.

2.3 WARNING SIGNS

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

2.4 LEED 2009 REQUIREMENTS

- .1 All site applied interior paints, coatings, adhesives, sealants, sealant primers, concrete curing compounds, etc. to comply with LEED Requirements for low emitting materials as per Section 01 35 21 - LEED 2009 Requirements.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Install contactors and connect power wires and auxiliary control devices.
- .2 Identify contactors with nameplates or labels indicating panel and circuit number.
- .3 Test contactors in accordance with 26 05 00 - Common Work Results for Electrical.

3.2 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.
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3.3 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by contractor installation.