

PART 1 - GENERAL

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| <u>1.1 REFERENCES</u> | .1 | International Electrotechnical Commission (IEC)
.1 IEC 947-4-1-2002, Part 4: Electromechanical contactors and motor-starters. |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Provide submittals in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Product Data:
.1 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations. |
| | .3 | Shop Drawings:
.1 Provide shop drawings: in accordance with Section 01 33 00 - Submittal Procedures.
.1 Provide shop drawings for each type of starter to indicate:
.1 Mounting method and dimensions.
.2 Starter size and type.
.3 Layout and components.
.4 Enclosure types.
.5 Wiring diagram.
.6 Interconnection diagrams. |
| <u>1.3 CLOSEOUT SUBMITTALS</u> | .1 | Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals. |
| | .2 | Submit operation and maintenance data for each type and style of motorstarter for incorporation into maintenance manual. |
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- 1.4 DELIVERY,
STORAGE AND
HANDLING
- .1 Deliver, store and handle in accordance with Section 01 61 00 - Common Product Requirements.
 - .2 Packaging Waste Management: remove for reuse or return of pallets, crates, padding, banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Starters: to IEC 947-4 with AC4 utilization category.
- 2.2 MANUAL MOTOR
STARTERS
- .1 Single or Three phase manual motor starters of size, type, rating, and enclosure type as indicated, with components as follows:
 - .1 Switching mechanism, quick make and break.
 - .2 One and Three overload heaters, manual reset, trip indicating handle.
 - .2 Accessories:
 - .1 Toggle switch or pushbutton: heavy duty labelled as indicated.
 - .2 Indicating light: heavy duty type and colour as indicated.
 - .3 Locking tab to permit padlocking in "ON" or "OFF" position.
- 2.3 FULL VOLTAGE
MAGNETIC STARTERS
- .1 Magnetic and combination magnetic starters of size, type, rating and enclosure type as indicated with components as follows:
 - .1 Contactor solenoid operated, rapid action type.
 - .2 Motor overload protective device in each phase, manually reset from outside enclosure.
 - .3 Wiring and schematic diagram inside starter enclosure in visible location.
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- 2.3 FULL VOLTAGE
MAGNETIC STARTERS
(Cont'd)
- .1 (Cont'd)
 - .4 Identify each wire and terminal for external connections, within starter, with permanent number marking identical to diagram.
 - .2 Combination type starters to include fused disconnect switch with operating lever on outside of enclosure to control disconnect and provision for:
 - .1 Locking in "OFF" position with up to 3 padlocks.
 - .2 Independent locking of enclosure door.
 - .3 Provision for preventing switching to "ON" position while enclosure door open.
 - .3 Accessories:
 - .1 Pushbuttons and selector switches: heavy duty labelled as indicated.
 - .2 Indicating lights: heavy duty type and color as indicated.
 - .3 1-N/O and 1-N/C spare auxiliary contacts unless otherwise indicated.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- .1 Install starters and control devices in accordance with manufacturer's instructions.
 - .2 Install and wire starters and controls as indicated.
 - .3 Ensure correct fuses installed.
 - .4 Confirm motor nameplate and adjust overload device to suit.
- 3.2 FIELD QUALITY
CONTROL
- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical and manufacturer's instructions.
 - .2 Operate switches and contactors to verify correct functioning.
 - .3 Perform starting and stopping sequences of contactors and relays.

3.2 FIELD QUALITY CONTROL
(Cont'd) .4 Check that sequence controls, interlocking with other separate related starters, equipment, control devices, operate as indicated.

3.3 CLEANING .1 Clean in accordance with Section 01 74 11 - Cleaning.
.1 Remove surplus materials, excess materials, rubbish, tools and equipment.
.2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.