

PART 1 - GENERAL

- 1.1 REFERENCES .1 International Electrotechnical Commission (IEC)
.1 IEC 947-4-1-2002, Part 4: Electromechanical contactors and motor-starters.
- 1.2 ACTION AND INFORMATIONAL SUBMITTALS .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.
- 1.3 CLOSEOUT SUBMITTALS .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.