

SECTION 26 29 37

LOW-VOLTAGE COMBINATION MAGNETIC MOTOR STARTERS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install low-voltage combination magnetic motor starters.
 2. Provide testing, troubleshooting and startup for the furnished equipment.
- B. Related Sections:
1. Section 26 05 05, General Provisions for Electrical Systems.
 2. Section 26 05 53, Identification for Electrical Systems.
 3. Section 26 29 33, Control Stations.

1.2 REFERENCES

- A. Standards referenced in this Section are:
1. NEMA ICS 2, Controllers, Contactors and Overload Relays Rated 600 Volts.
 2. NEMA 250, Enclosures for Electrical Equipment (1000 Volts Maximum).

1.3 SUBMITTALS

- A. Action Submittals: Submit the following:
1. Shop Drawings:
 - a. Listing of low-voltage combination magnetic motor starters to be furnished, listing for each the installation location, NEMA rating and enclosure size, and equipment to be controlled.
 - b. Customized wiring diagrams for low-voltage combination magnetic motor starters.
 2. Product Data:
 - a. Manufacturer's technical information, specifications, and standardized wiring diagrams for low-voltage combination magnetic motor starters proposed.

PART 2 – PRODUCTS

2.1 EQUIPMENT

- A. Manufacturers: Provide products of one of the following:
1. Square D Company.

2. Allen Bradley Company.
 3. General Electric Company.
 4. Eaton / Cutler-Hammer.
 5. ABB.
- B. Design, fabricate, and test low-voltage combination magnetic motor starters in accordance with NEMA ICS 2 and NEMA 250.
- C. General:
1. Type: Combination type with magnetic-only motor circuit protector with interrupting rating of not less than 42,000 ampere RMS symmetrical for 480V, 10,000 ampere RMS for all others, unless otherwise indicated on the Drawings. Magnetic coil operated, NEMA horsepower rated, with thermal overload protection. Coil shall be rated 120 VAC.
 2. Enclosures: Panel enclosures shall be as required for area classifications specified in Section 26 05 05, General Provisions for Electrical Systems, unless otherwise indicated on the Drawings.
 3. Functional Type: Full-voltage, single speed, non-reversing, unless otherwise shown or indicated on the Drawings.
 4. Control power transformer fused and grounded on low-voltage (120 VAC) side for each starter.
 5. Auxiliary contacts for motor space heaters, remote status signals, and interlocks as shown or indicated on the Drawings and as required.
 6. Overload Relays: Provide an overload relay for each motor starter. Overload relays shall be in accordance with:
 - a. Thermal Overload Relays: Relays shall be thermal, bimetallic type, direct or current sensing. Relays shall include ambient compensation and be equipped with separate heater elements sized for full load amperes and service factor of actual motors furnished.
 - b. Each overload relay shall be manual-reset type and include provisions for resetting by an insulating button on front of starter unit door.
 - c. Overload relay shall include normally-open auxiliary contact for remote alarm purposes.
 - d. Size overload relay for full-load amperes and service factor of actual motors installed.
 7. Pushbuttons, selector switches, pilot lights, and other devices shall be as shown on the Drawings and in accordance with Section 26 29 33, Control Stations.
 8. Provide nameplate identifying equipment controlled in accordance with Section 26 05 53, Identification for Electrical Systems.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine conditions under which Work will be installed and notify ENGINEER in writing of conditions detrimental to proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. General:
 - 1. Install equipment in accordance with the Contract Documents, Laws and Regulations, and manufacturer's installation instructions.
 - 2. Install equipment so that sufficient access and working space is provided for ready and safe operation and maintenance.
 - 3. Securely fasten equipment to walls or other surfaces on which equipment is mounted. Provide suitable 1/4-inch spacers so that enclosure is not installed directly against walls. Provide supports to rigidly support equipment reasonably close to motor where no wall or surface capable of supporting equipment exists.

++ END OF SECTION ++