SECTION 16480

MOTOR CONTROL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Combination Magnetic Motor Starters.

1.2 REFERENCES

A. ANSI/NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

B. ANSI/UL 198C - High-Intensity Capacity Fuses; Current-Limiting Types.

C. ANSI/UL 198E - Class R Fuses.

D. FS W-P-115 - Power Distribution Panel.

E. FS W-F-870 - Fuseholders (for plug and enclosed cartridge fuses).

F. FS W-S-865 - Switch, Box, (Enclosed), Surface-Mounted.

G. NEMA AB 1 - Molded Case Circuit Breakers.

H. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.

I. NEMA KS 1 - Enclosed Switches.

J. NEMA PB 1 - Panelboards.

K. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.

1.3 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01300 - Submittals.

B. Provide product data on motor starters and combination motor starters, relays, pilot devices, and switching and overcurrent protective devices.

C. Submit manufacturer's instructions under provisions of Section 01300 - Submittals.

1.4 OPERATION AND MAINTENANCE DATA

A. Submit operation and maintenance data under provisions of Section 01700 – Contract Closeout.

B. Include spare parts data listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Site under provisions of Section 01600 – Material and Equipment.

B. Store and protect products under provisions of Section 01600 – Material and Equipment.

C. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

D. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to motor control center components, enclosure, and finish.

1.6 SPARE PARTS

A. Keys: Furnish two each to Owner.

B. Fuses: Furnish to Owner six spare fuses of each type and rating installed.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - MOTOR STARTERS

A. Square D.

B. Allen-Bradley.

2.2 MAGNETIC MOTOR STARTERS

A. Magnetic Motor Starters: NEMA ICS 2; AC general-purpose Class A magnetic controller for induction motors rated in horsepower.

B. Full Voltage Staring: Non-reversing type.

C. Coil Operating Voltage: 120 volts, 60 Hertz.

D. Size: NEMA ICS 2; size as shown on plans.

E. Overload Relay: NEMA ICS 2; bimetal.

F. Enclosure: NEMA ICS 6; Type 3R or 4X, steel construction, corrosion resistant.

G. Combination Motor Starters: Combine motor starters with fusible switch disconnect in common enclosure.

H. Auxiliary Contacts: NEMA ICS 2; two normally open contacts in addition to seal-in contact.

I. Indicating Lights: NEMA ICS 2; RUN: green in front cover.

J. Selector Switches: NEMA ICS 2; HAND/OFF/AUTO, in front cover.

K. Relays: NEMA ICS 2; one control relay, DPDT; and one timing relay, 0-120 sec, DPDT.

L. Run hour meter: One run hour meter for each starter, in front cover.

2.3 CONTROLLER OVERCURRENT PROTECTION AND DISCONNECTING MEANS

A. Fusible Switch Assemblies: NEMA KS 1; quick-make, quick-break, load interrupter enclosed knife switch with externally operable handle. Provide interlock to prevent opening front cover with switch in ON position. Handle lockable in OFF position. Fuse Clips: Designed to accommodate Class R fuses.

3. PART 3 EXECUTION

3.1 INSTALLATION

A. Install motor control equipment in accordance with manufacturer's instructions.

B. Install fuses in fusible switches.

C. Select and install heater elements in motor starters to match installed motor characteristics.

D. Motor Data: Provide neatly typed label inside each motor starter enclosure door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating.

END OF SECTION