

DIVISION 26 - ELECTRICAL

SECTION 26 24 19 – MOTOR-CONTROL CENTERS

PART 1: GENERAL

1.01 Scope of Standard

- A. This standard provides general guidance concerning the specific preferences of Texas State University-San Marcos for Motor-Control Centers.
- B. Texas State University-San Marcos recognizes that project conditions and requirements vary, thus precluding the absolute adherence to the items identified herein in all cases. However, unless there is adequate written justification, it is expected that these guidelines will govern the design and specifications for Texas State University-San Marcos projects.

1.02 Scope of Work

- A. This section includes electric motors and their accessories that are normally supplied as part of equipment assemblies.
- B. For specific motor types for each application refer to those equipment sections.
- C. This is a design standard and is not intended to be used as a construction specification.

PART 2: PRODUCTS

- A. Specific motors are not generally specified within this section. Refer to appropriate mechanical design requirements for specifics on motors.
- B. Coordinate with mechanical designer to require that only high efficiency motors with guaranteed efficiency at least equal to NEMA standards.
- C. Motors 5 HP or smaller shall have sealed, lubricated-for-life bearings. Motors 7-½ HP or larger shall have antifriction ball or roller bearings, oil or grease lubricated.
- D. All motors 1 hp and larger shall be 3 phase.
 - 1. Building Design should dictate voltages/motors/loads.
- E. Motor Starters: Motor starters shall contain a NEMA integer sized contactor; one (1) overload relay per phase; 120 Volt coil for external control power; interlock on disconnect switch to de-energize external voltage control. Where external control power is not provided, include a fused control power transformer, 120 Volt secondary mounted in the starter cabinet only. Starter shall provide for the field installation of up to 3 NO and 4 NC interlocks in addition to the hold-in interlock. Fan starters are to have safety switches on the line side of the motor and/or Variable Frequency Drive. The safety switch is to be located inside large air handler units and close to the air handler unit on small units. Where start/stop functions are controlled through FCMS, provide a relay in the automatic circuit of the control coil such that a 24V signal will actuate the starter.

PART 3: EXECUTION

3.01 Design/Drawing Requirements

- A. Variable speed drives shall be installed on the load side of the motor starter with a manual transfer switch to allow manual bypass of the drive. Provide a safety switch directly ahead of the drive if not furnished as part of the drive itself. In addition, provide a safety switch at the motor location for safety of maintenance personnel.
- B. Single-line diagram shall indicate motor and motor starter size information. If motor starter information is shown on mechanical coordinate such that no discrepancies will exist.
- C. Circuit information for motors may be shown either on panel schedules or the floor plan, but not both to eliminate potential for discrepancies.
- D. Fan motors and associated equipment shall be sized to operate at 110% of calculated loads and capacities. Equipment shall be designed and installed to operate continuously under all actual site conditions and variations (i.e. typical voltages of 125/208 and 277/480). Motor controls (i.e. starters) shall be properly identified, labeled and located in a sheltered and secure location (mechanical room when possible).

END OF SECTION 26 24 19