

Design Standard

Pneumatic and Electric Control System for HVAC

Revisions Log:

Version	Date	Description of changes/updates
3	August 30, 2015	<ul style="list-style-type: none">• Clarified temperature program requirements. Added cooling and heating set points.
2	April 28, 2015	<ul style="list-style-type: none">• Changed 6-hour interval timer to 2-hour interval timer for code compliance and energy efficiency

Purpose:

This design standard has the purpose of creating a consistent application of HVAC controls throughout the East Side Union High School District, therefore achieving a standard of quality for maintenance, energy efficiency, and reliability throughout all renovation and new building projects.

ESUHSD controls HVAC equipment either locally, or centrally through an enterprise level DDC EMS. This design standard provides information about the specific applications, thermostats, locking covers, and program requirements for local control.

Design Standard:

1. Applications

- a. Code permitting, provide local controls for HVAC equipment in spaces that typically have a single adult providing consistent and continuous supervision. The spaces with consistent and continuous adult supervision include but are not limited to:
 - Dedicated offices
 - Classrooms
- b. Coordinate the equipment to be locally controlled no later than midway through the design development phase.

2. Program Requirements

- a. Time Schedule: not applicable. Occupants activate HVAC equipment via the 2-hour spring wound interval timer.
- b. Temperature
 - i. Cooling range: 72 - 76°F; set point 74°F
 - ii. Heating range: 68 - 72°F; set point 68°F

3. Control Devices and Configuration

- a. Thermostat: Venstar T2700 Commercial Thermostat
 - i. Non-programmable, 2-stage heat, 2-stage cool
 - ii. (Formerly Total Line P374-2700)
- b. Locking cover over Thermostat: Venstar ACC0620
- c. Spring Wound Interval Timer: Intermatic FF2H
 - i. Direct the contractor to interrupt the “R Terminals”.
 - ii. Do not wire to the dry contact, as this will allow the thermostat to go into “Unoccupied Mode”.
 - iii. HVAC unit is to be completely de-energized when the timer is off.

Approved Manufacturers:

- Venstar
- Intermatic

Substitutes Allowed:

No substitutes allowed.

Pursuant to Section 3400 of the Public Contract Code: Venstar thermostats are now in use on the particular public improvement described as East Side Union High School District. At each instance in these specifications that a thermostat is designated by the brand name “Venstar”, that product is designated to support the existing HVAC control systems that are in place at East Side Union High School District. The Contractor will furnish and apply only “Venstar” thermostats as required, and no substitutions shall be deemed to be “or equal” or allowed.

Pursuant to Section 3400 of the Public Contract Code: Intermatic timers are now in use on the particular public improvement described as East Side Union High School District. At each instance in these specifications that a timer is designated by the brand name “Intermatic”, that product is designated to support the existing HVAC control systems that are in place at East Side Union High School District. The Contractor will furnish and

apply only “Intermatic” timers as required, and no substitutions shall be deemed to be “or equal” or allowed.

Associated Design Standards and Construction Specifications

- Division 23 HVAC Design Standards

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