

## ***Electronic Tempering Valve (ETV) SPECIFICATIONS***

### **AS MANUFACTURED BY HEAT-TIMER CORPORATION**

### **A TEMPERATURE CONTROL FOR DOMESTIC HOT WATER OR HEATING AND COOLING SYSTEMS**

The contractor shall furnish and install a microprocessor based electronic tempering valve control system. The control shall operate on 120VAC, with a maximum power of 16 VA. The control shall be pre-engineered and programmed for the direct valve actuator operation of a domestic hot water heating system or the regulation of system water in heating or cooling applications. It shall incorporate the following components:

1. A microprocessor Electronic Tempering Valve control with PID-type logic, built-in transformer, digital display, and LED indicator. It shall be capable of controlling a Setpoint range from 60°F to 180°F.
2. Valve Motor and linkage capable of traveling the complete valve stroke in less than 40 seconds and powered and controlled by the Electronic Tempering Valve control. No external transformer is required to power the motor.
3. NPT threaded 2-Way Globe valve with Bronze body and trim.
4. Temperature sensor of the thermistor type that can measure from -30°F to 250°F.

It shall include the following features:

#### **CALIBRATION AND SEQUENCE OF OPERATION**

On a power up, the motor shall automatically calibrate itself to the valve attached. The control shall monitor the system temperature after the valve. It shall modulate the motor using PID-type logic to maintain an adjustable set point.

#### **SETBACK**

On a call for setback by shorting Setback terminals, the system shall reduce the set point temperature by number of degrees in the setback adjustable setting. This Setback setting shall be adjustable from 1°F to 50°F.

#### **DISPLAY AND OUTPUT LIGHTS**

The control shall have three-digit seven-segment display capable of displaying both numbers and characters. The display shall be visible with no ambient light. All control operation information shall be available for display. The control shall have an LED light that will indicate control operation. When ON it shall indicate the modulation of the valve motor operation, and when OFF shall indicate no valve movement is called for.

#### **MEMORY & BACKUP**

The control shall store all configuration and settings on EE Prom. In case of power failure, the control shall be able to retrieve all of its latest settings when power is restored.

#### **SENSORS**

The sensor circuitry shall be capable of one standard sensor input. Standard sensor input shall be of the thermistor type. Thermistor operating temperature range shall be -30° to 250°F. Should the sensor go to fault condition, control shall automatically close hot port of valve until sensor is restored.

#### **REGULATORY APPROVALS**

The control shall be UL Listed tested per standard 916, Energy Management Equipment.