TEMPCONTROL®

High Temperature Audio Visual Alarm System

INSTALLATION, OPERATION AND SERVICE INSTRUCTIONS

INSTALLATION

IMPORTANT

All piping should be thoroughly flushed prior to installation to prevent debris from interfering with the solenoid operation

Piping

A qualified technician should make all connections. Slide the Connector nut and ferrule piece over the temperature probe in preparation for installation. Slide the temperature probe into the tee so that probe tip is half way to 2/3 into the tee. Slide the ferrule and connector nut down the probe shaft and tighten in place. If installing the optional 12V DC, 10 watt, normally closed, solenoid valve, install valve directly before the temperature probe in any orientation. When installing the valve make note of the correct direction of the water flow as marked on the valve.

Electrical

A qualified technician should make all connections. Mount the 4" x 4" supplied mounting box in a dry location within wiring reach of the temperature probe and solenoid valve if used. Mount the supplied 120V AC – 12V AC/15VA UL listed, CSA certified class 2 transformer. Connect 120 VAC line voltage to the primary side of the transformer as displayed in figure 1. Connect the low voltage secondary side of the transformer to the low voltage POWER input terminals on the back of the Symmons electronic module as identified in figure 2. Plug the Temperature Probe into the connector on the backside of the electronic module as identified in figure 2. Note that the connectors will mate in only one direction. If the optional 12V DC, 10 watt, normally closed, solenoid valve is used, connector wires from the valve to the VALVE terminals on the back of the electronic module as identified in figure 2. Note that there is no polarity required for the VALVE and POWER connections.

General

The TempControl High Temperature Audio-Visual Alarm System will monitor, alert and alarm when water temperature exceed preset limits. It is ideal for applications where there is a critical need to accurately monitor and control warm or hot water temperature. When specified with an optional solenoid valve, the system when alarmed will provide complete Shutdown of water flow.

The system is designed so that the appropriate agency or personnel can determine an appropriate CAUTION and ALARM set point temperature. The CAUTION is the lower of the two set point temperatures that alerts personnel, when reached, that the output water is approaching an undesirable temperature limit. Once the output temperature reaches the ALARM set point, the system goes into full alarm mode. If furnished with the optional 12V DC, 10 watt, normally closed, solenoid valve, the valve is de-energized and closes to provide complete shut down of the water flow.

Units

Install components as identified in the installation portion of these instructions. Prior to installing the electronic module into the electrical box, select either Fahrenheit or Celsius operating units by setting dip switch 1 on back side of the electronic module. Dip switch 1 in the OFF position sets the system in Fahrenheit units. Dip switch 1 in the ON position sets the system in Celsius units (see figure 2). Secure the electronic module to the electrical box using the two (2) screws provided with the box. These screws should be inserted into the upper right and lower left corners of the electronic module DO NOT remove the screws securing the electronic module together (upper left and lower right screws).

Set Points

Once the electronic module is mounted in the electrical box, prepare to set the CAUTION and ALARM temperature set points. Turn the key from the RUN position to the SET position and depress the SELECT keypad button until an "A" appears in the first field of the LED display. The three (3) digits immediately following the "A" identify the current set point CAUTION temperature in the units previously set in this paragraph. To increase or decrease the CAUTION temperature, depress the up or down keypad arrow buttons located below the display. Once the desired CAUTION temperature has been set, press the SELECT button until an "H" appears in the first field on the LED window. The three (3) digits immediately following the "H" identify the current set point temperature for the ALARM temperature. To increase and decrease the ALARM temperature, depress the up or down keypad arrow buttons located below the display. Please note that the CAUTION set point temperature cannot be set higher than the ALARM set point temperature and the ALARM set point temperature cannot be set lower than the CAUTION temperature. It may be necessary to "move" the opposite set point to achieve the desired setting. Once the desired temperatures are selected, return the key to the RUN position.

Lockout

The board set can be locked to prevent changes to the set points, even with the access key. After establishing the CAUTION and ALARM set points, remove the screws from upper right and lower left corners of front plate and remove the electronic module from the 4" x 4" box. Set dip switch 2 to the on position. This enables the set point lockout feature. Reinstall the electronic module into the 4" x 4" box. If this feature is properly enabled the display will alternate between a set point temperature and the characters "LOC" when the key is placed in the SET position. The user will be able to view the set point temperatures but will be unable to change them.

OPERATION

Normal Mode:

When the water temperature is below the set point temperatures, the green VALVE LED is lit to indicate the solenoid valve is open and water can flow. A flashing red dot (Heart Beat) in the lower right corner of the display indicates that the systems microprocessor is running.

Caution Mode:

When the temperature reaches the CAUTION set point, the amber CAUTION LED will blink and the audible signal will sound briefly every 60 seconds. This signal indicates the output temperature is above the CAUTION setting and attention should be paid to the system. The green VALVE LED will remain lit indicating the valve still remains open.

Alarm Mode:

Should the output temperature reach the ALARM set point, the ALARM LED will blink and the CAUTION LED will go out. A continuous pulsing audible signal will be heard. The green VALVE LED will go out indicating that the valve has closed and no water can flow. These signals mean immediate attention should be given to the system.

Alarm Hysteresis:

If the temperature decreases below the ALARM set point the CAUTION LED will light. This indicates that the temperature is lower than the ALARM setpoint but still greater than the CAUTION set point. The ALARM condition/mode will still be in effect. The system will only reset when the temperature decreases below the CAUTION set point.

Override

Once an ALARM set point temperature has been reached, only personnel with the override key can begin water flowing in the system. Insert the key into the electronics panel and turn the key switch to the OVERRIDE

Symmons®

position. CAUTION: Once in OVERRIDE, The solenoid valve is held open allowing water to flow. All users should be clear of the water flow due to excessive temperature flowing until the system is corrected. The audible signal may be silenced at this point by depressing the SILENCE keypad button located on the panel. The audible signal will only be silenced for 60 Seconds and will resume at the completion of the cycle. The key cannot be removed in the OVERRIDE position. This prevents the solenoid from being held open and left unattended. As the system output temperature is corrected, the above Alarm Hysteresis conditions will occur. An audible signal will be heard and the green VALVE LED will blink regardless of the current mode if the key switch is in the OVERRIDE position and the silence period has expired.

FIGURE 1

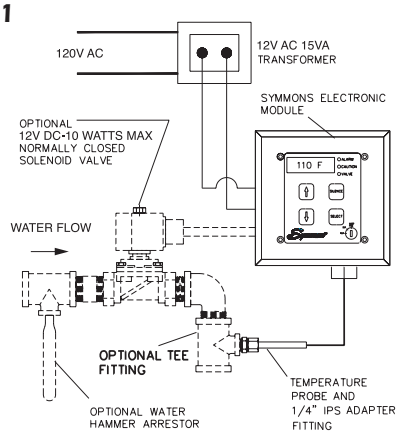
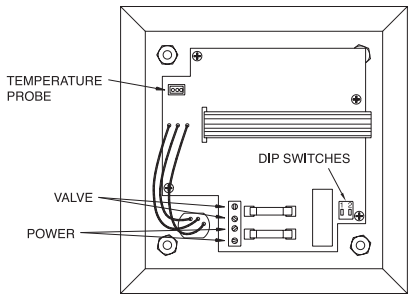


FIGURE 2



BACK VIEW OF ELECTRONICS MODULE

TROUBLE SHOOTING CHART

Problem	Cause	Solution (Follow service instructions)
"ERR 1" displayed on electronics	Memory problem with electronics	Contact factory technical service
"ERR 2" displayed on electronics	"Up arrow" Button shorted or stuck on power up	Ensure button is not depressed; If this does not correct problem contact factory technical assistance
"ERR 3" displayed on electronics	"Down arrow" Button shorted or stuck on power up	Ensure button is not depressed; If this does not correct problem contact factory technical assistance
"ERR 4" displayed on electronics	Key switch in "set" position on power up	Turn key to run position; If this does not correct problem contact factory technical assistance
"ERR 5" displayed on electronics	Key switch in "override" position on power up	Turn key to run position; If this does not correct problem contact factory technical assistance
"CAL" displayed on electronics	Calibration error	Contact factory technical service
"PRB 1" displayed on electronics	Power up with out probe attached or with probe wire broken	Reconnect probe; If this does not correct problem contact factory technical assistance
Set point cannot be adjusted and display flashes "LOC"	Set point lockout enabled	Set dip switch 2 to the off position

5-Year Limited Commercial Warranty

Symmons warrants to the original purchaser that any Symmons product when used in industrial, commercial or business use will be free of defects in material and workmanship during normal use for a period of 5 years from the date of purchase. At our option, we will either have you send the defective part or product prepaid to us for inspection, or we may elect to send you the replacement part or product without investigation. A replacement for any defective part will be supplied FREE OF CHARGE for installation by the purchaser. Defect or damage caused by the use of replacement parts other than Symmons Genuine Replacement Parts will void this warranty. This warranty excludes product damage due to installation error, product abuse, or product misuse whether performed by a contractor, service company or yourself.

Damage to the chrome and/or other decorative finishes on Symmons products may be a result of improper handling or abusive treatment. Finishes should only be cleaned with a soft, damp cloth or sponge. Use of polish, abrasive cleaners, solvents, or acid cleaners will damage the finish and void this warranty.

There are no other express warranties on this product and ALL WARRANTIES OF MERCHANTABILITY AND OTHER IMPLIED WARRANTIES ARE LIMITED IN ACCORDANCE WITH APPLICABLE LAW. SYMMONS INDUSTRIES, INC., EXPRESSLY DISCLAIMS CONTINGENT LIABILITY AND CONSEQUENTIAL DAMAGE OF EVERY KIND. Since some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages the above limitation or exclusion may not be applicable. This warranty gives specific legal rights. Other rights may vary from state to state.

To obtain warranty service, write to Symmons Industries, Inc., 31 Brooks Drive, Braintree, MA 02184-3804 or call our Customer Service Department at 1-800-SYMMONS. If writing to us, please include proof of purchase, the model number of the product with a brief description of the problem, your name, address and phone number.

SYMMONS INDUSTRIES, INC.
31 Brooks Drive, Braintree, MA 02184-3804
TEL: (781) 848-2250, 1-800-SYMMONS FAX: (781) 843-3849, 1-800-961-9621
website: www.symmons.com

ZV-396 3-HOLE
ZV-395 Folded