

# series DSD-2 DIFFERENTIAL THERMOSTAT

## INSTRUCTIONS

### HOW TO START:

The knob on the left hand side operates as the Controller ON/OFF switch. The decimal point in the display above the knob indicates the "controller ON" status and the text "OFF" on the display indicates the "controller OFF" status.

**NOTE:** When the controller is "ON", the position of this knob also sets the "MINIMUM DIFFERENTIAL VALUE" which is the temperature difference below which the load will be always switched OFF.

To see the current Minimum Preset, rotate the knob on the left (within the "ON" range) or the "DIFF" knob and observe the readings. The display on the right will show the "ON" Differential preset value, while the display on the left shows the Minimum "OFF" Differential preset value.

While adjusting the "Minimum Differential", the "ON" Differential will be automatically readjusted to maintain a constant "ON-OFF" OFFSET between the two differentials. To readjust that Offset manually, use the knob on the right ("DIFF").

### DIFFERENTIAL CONTROL OPERATION:

Controller switches the load ON when the temperature difference between IN and OUT sensors exceeds the preset differential value ("DIFF").

The load is switched OFF when the difference becomes lower than the preset "MINIMUM DIFFERENTIAL" value.

During normal operation both IN and OUT temperature readings are displayed. Every several seconds the preset Differential value and the Minimum Differential will be displayed for a few seconds.

### DIFFERENTIAL TEMPERATURE ADJUSTMENT DURING OPERATION:

User may readjust both the Minimum and the "ON" temperature differentials by rotating either or both knobs while the controller is operating.

### HIGH TEMPERATURE WARNING:

When the temperature exceeds the upper limit of the controller range, the message "Hi" is displayed. The load will be switched OFF.

### LOW TEMPERATURE WARNING:

When the temperature is under the lower limit of the controller range, the message "Lo" is displayed. The load will be switched OFF.

### MANUAL STOP:

Turn the knob to "OFF" or activate a REMOTE STOP switch (optional).

### AUTOMATIC STOP:

The controller stops automatically when a malfunction is detected or the maximum temperature limit is exceeded.

### IDLE/MONITORING OPERATION:

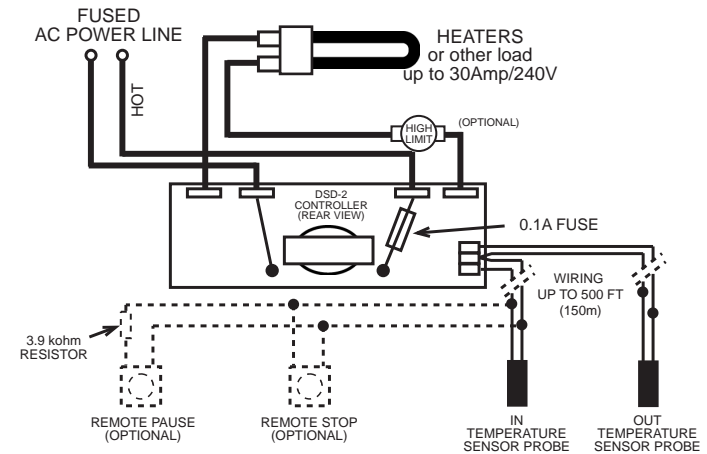
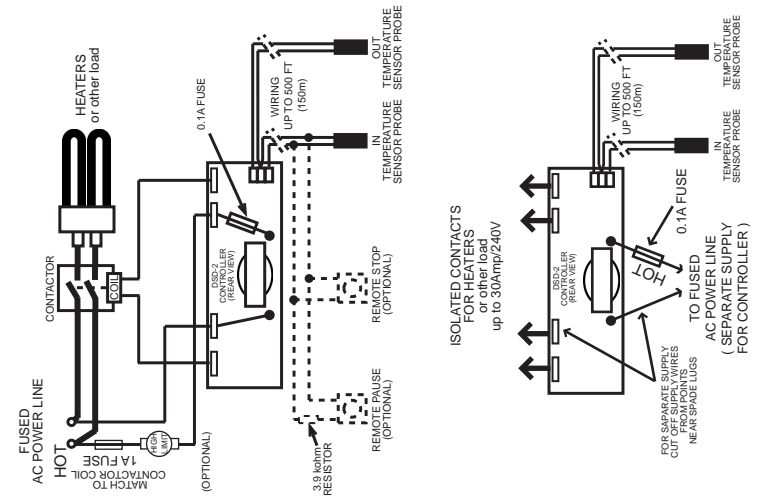
The display shows "OFF" to indicate that the controlled load is switched OFF. The controller continues to monitor and display the temperature readings from both probes.

**CAUTION:** All installation and adjustments of the controller options **MUST** be done **ONLY** when **ALL** POWER to the load and the controller is **disconnected**.

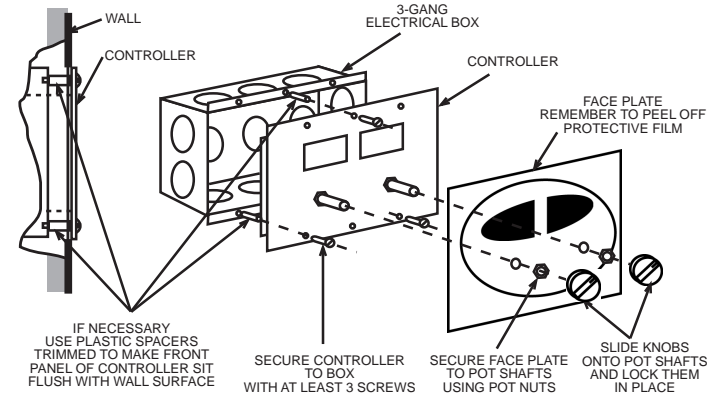
### TROUBLESHOOTING:

The sensor wiring and internal parts are continually checked for proper operation. If a malfunction is detected, the controller will automatically switch OFF the load and deactivate itself. At the same time the display will show text "Err".

The controller cannot be reactivated until all causes of the malfunction are fixed.



WIRING EXAMPLES



Size: Fits in 3-gang masonry box.  
 Dimensions: 5-3/8"x2.75"x2" (136mm x 70mm x 51mm) (WxHxD)  
 Face Plate: Stainless Steel 6-3/8" x 4.5" (162mm x 114mm) with plastic decal (may be customized)