

**RICHDEL** Inc.  
SOLAR  
PRODUCTS

**MODEL R409**  
DOMESTIC HOT WATER  
DIFFERENTIAL THERMOSTAT  
CONTROL

### GENERAL DESCRIPTION

The R409 Solar Domestic Hot Water Differential Temperature Controller provides control of a valve used for collector drainage during freezing or power outage, and the "on-off" control of a recirculation pump dependent on availability of solar energy. On signal from a collector sensor that freezing is eminent, the control will remove electrical power from a control valve which thereby initiates collector drain-down. When the difference in indicated temperatures between a storage tank sensor and a collector sensor indicates solar energy is available electrical power is supplied to a recirculation pump. When the temperature in storage reaches a predetermined maximum value the control removes electrical power from both the recirculation pump and the drain valve, which causes recirculation to cease and collector drain down to occur.

### FEATURES OF THE R409 HOT WATER CONTROL

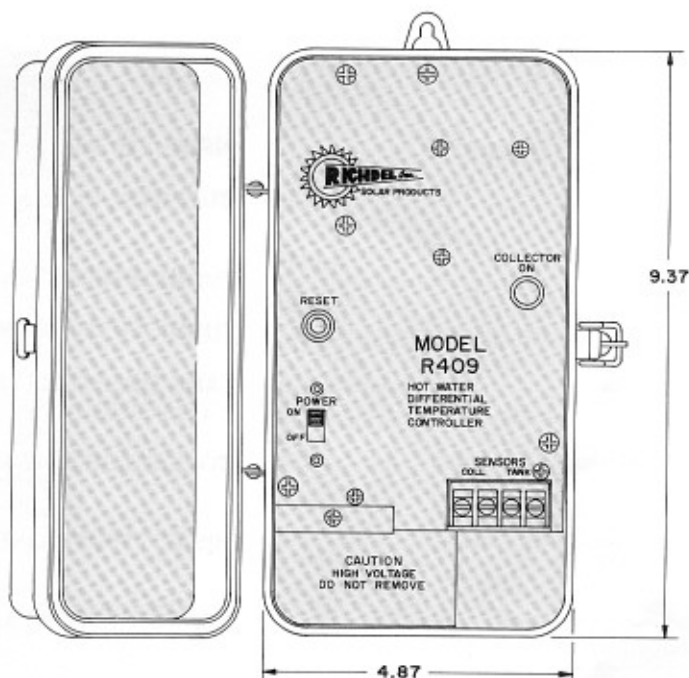
**SOLID STATE CIRCUITRY.** With Relay Switching of High Voltage Pump/Valve Outputs.

**CIRCUIT BREAKER PROTECTED WITH RESET BUTTON.** Protects control from shorts in wiring or motors of both the valve and pump.

**INDICATOR LIGHT.** This light comes on whenever the recirculation pump comes on.

**ON-OFF SWITCH.** This switch removes or applies input power to the control.

**WEATHERPROOF CASE WITH LOCKABLE LID.** Heavy 18 gauge steel case with hinged lid for easy access to inside controls.



Specifications  
See Back Side

**SIMPLICITY      DEPENDABILITY      ECONOMY**

**RICHDEL, INC.**

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**MODEL R409**  
**DOMESTIC HOT WATER**  
**DIFFERENTIAL THERMOSTAT**  
**CONTROL**



**SPECIFICATIONS:**

**INPUT:** 120 VAC 60 Hz

**OUTPUTS:** Pump & Valve 120VAC 60 Hz  
 Protected at 2.00 Amps

**TURN ON DIFFERENTIAL:** 15°F±1°F

**TURN OFF DIFFERENTIAL:** 5°F±1°F

**TANK OVERTEMP LIMIT:** On 160°F  
 (Typical System) Off 156°F

**COLLECTOR LOW TEMP LIMIT:** On 40°F  
 Off 44°F

**105 TO 125VAC LINE CHANGE:** ½°F Maximum  
 Differential change

**SENSOR COMPATABILITY:** Thermistor type  
 10K@25°C

