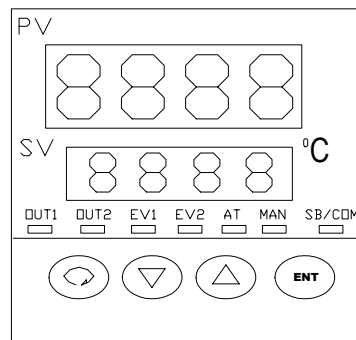


The Series 80 is 1/16 DIN, autotuning, PID controller designed for applications requiring precise temperature control. The unit features bright, 4 digit readouts of both setpoint and process temperature.

The Series 80 can be field programmed for all common thermocouple inputs, 2 or 3 wire 100 ohm RTD inputs, or voltage inputs. Output is controlled by an externally mounted 25 amp solid state relay.

This controller can be equipped with optional high/low, deviation, and heater break alarms.

The temperature mode parameters and setpoint can be pre-set and locked to prevent misoperation in critical applications.



## SERIES 80 SPECIFICATIONS

### THERMOCOUPLE INPUTS

Field Programmable	
Thermocouple Types.....	J,K,T,E,B,R,S,N
Max. T/C Lead Resistance.....	100 Ohms for Rated Accuracy
Cold Junction Compensation.....	Automatic
T/C Break Protection.....	Upscale on open circuit—Standard
Calibration Accuracy.....	±0.5% FS+1 digit excluding cold junction comp.

### RTD INPUTS

RTD Types.....	2 and 3 wire Pt100/JPt100 (DIN)
Max. Sensor Lead Resistance..	5 Ohms / wire (leads should have same resistance)
Sensor Break Protection.....	Automatic Upscale on open circuit—Standard
Calibration Accuracy.....	±0.5% FS+1 digit

### VOLTAGE INPUTS

Control Input .....	0-10 mV DC
(Field Programmable)	10-50 mV DC
	0-100 mV DC for full scale

### CONTROL OUTPUT

Standard Control Output.....	15±3VDC to operate Solid State Relay
Optional Alarm Output.....	1A resistive load
Optional Control Output.....	2.5A 240VAC resistive load
Optional Voltage or Current.....	Contact Unitherm

### DISPLAY

Temperature and Set-Point.....	4 Digit, Bright Green , (Separate Display for each)	7 segment LED.
Control Output.....		Green LED
Auto Tune.....		Green LED
Alarm.....		Red LED
Display Resolution.....	0.1 or 1.0 °C or °F (linked to range)	

### ADJUSTMENTS

Control Mode.....	On/Off, PID, Auto-Tune
PID settings.....	All Field Adjustable
Cycle Time.....	2 sec for SSR output 20 sec for relay
Set-Point.....	Touch Keys

### OPTIONAL ALARMS

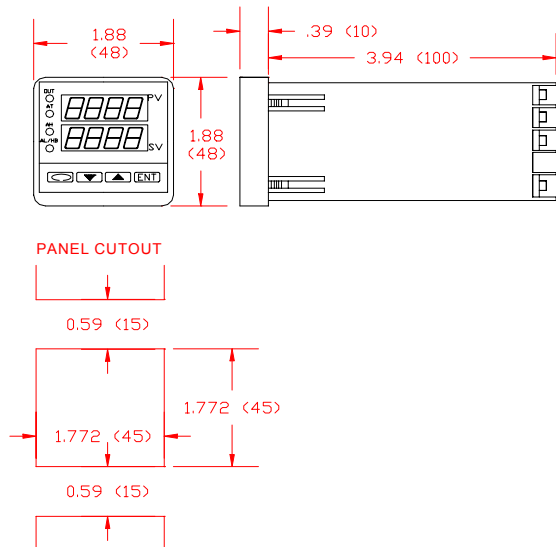
Temperature Alarm.....	Deviation and HI/LO limit (Selectable)
Heater Break Alarm.....	Requires Current sensor

### GENERAL

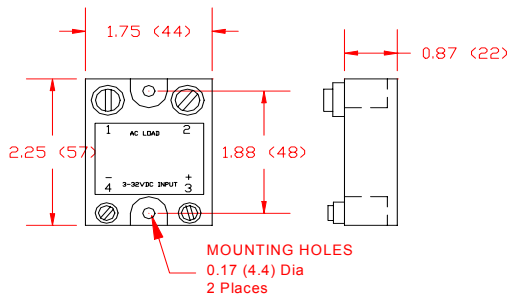
Power.....	100—240 VAC 50/60 Hz
Operating Ambient Range.....	-10 to +50°C 90% RH (no condensation)
Weight.....	0.4 lb
Dimensions.....	1.77" (45mm) square 3.94" (100mm) deep

**Wiring and mounting details as well as ordering information is found on the back page of this data sheet.**

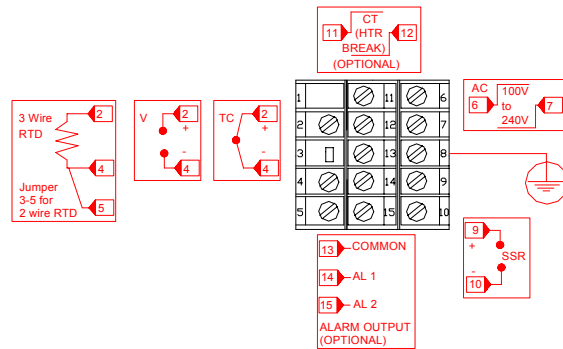
## Dimensions & Panel Cutout



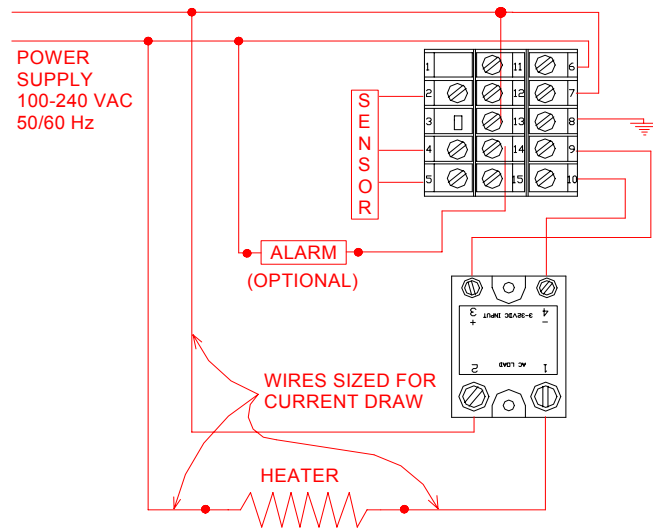
## Solid State Relay Mounting and Dimensions



## Terminal Arrangement



## Typical Wiring Diagram



## ORDERING INFORMATION

Controller Model Number	Sensor Type	Instrument Voltage	Alarms	
			High/Low	Heater Break
C80-25-UI	All Standard Thermocouples Pt100 RTD (DIN curve) DC Voltage Input (User Selectable)	100 VAC to 240 VAC 50/60 Hz	no	no
C81-25-UI-A	↓	↓	yes	no
C81-25-UI-HB	↓	↓	yes	yes

Note: Controllers can be factory programmed, contact your Unitherm Representative.