General Description

The AT card (Watlow P/N 08-5422) provides a delayed SCR turn ON, providing an infinitely variable voltage and current from full OFF to full ON. The AT card can be used on resistive, inductive, or Tungsten lamp loads. It includes a 2-4 second soft start on power up, and a one second soft start on input signal step change. The AT also includes a missing half cycle detector to put it into emergency shutdown (ESD), and retrigger the soft start. A low signal on the ESD terminals puts the unit into ESD. The input is factory set for 4-20mA into 250Ω. It can be converted to a voltage input by removing R2 and readjusting the bias and gain potentiometers for any voltage from 0-3V (dc) to 0-15V (dc). Without R2, it is a 5K input impedance. See the illustration on the reverse side.

AT card power supply requirements are 24V~ (ac) center tap transformer secondary. Transformer primary must be connected to the same line phase as the heater load. For example, is the heater is powered by L1 and L2, then the power transformer must also be connected to L1 and L2. See the illustration on the reverse side.

Specifications

Input
• Process input factory set @ 4-20mA = (dc)
• Input impedance 250Ω (clip resistor for 5KΩ voltage input), or manual control input
• Soft start approximately 2-4 seconds upon power-up, 1 second upon set point change

Output
• Phase angle control
• TTL compatible (5V logic) at about 5mA @ 5V. Will drive one industry standard 3-32V= (dc) input random fire SSR. For single phase only.

Line Voltage Power
• 50/60 Hz V~ (ac) line frequency
• Voltage ±10%, 120, 208, 240, 277, 380, 415, 480V~ (ac). Power transformer is supplied with the AT card. When ordering, specify power supply voltage and line frequency.

Line Voltage Compensation
• 10%Δ in line, 2%Δ in load in the 30% to 70% power region.

Input to Output Linearity
• 2%, 30% to 70% power region

Operating Environment
• 32 to 122°F (0 to 50°C)

Storage Temperature
• -40 to 185°F (-40 to 85°C)

Options
• Manual control kit for voltage input cards (1KΩ potentiometer) #08-5362. Includes dial, knob, 1KΩ pot and wiring.

Ordering Information
• Watlow P/N 08-5422
Note:
The controls transformer must be on the same phase as the load. See wiring diagram. All hot lines to the transformer should be fused at 1 amp with the proper line voltage.

For manual control, a 1KΩ potentiometer may be connected to the AT card input terminals. Watlow offers a Manual Control Kit, P/N 08-5362. Using this potentiometer requires removing the 5KΩ, R2 resistor for higher impedance.

Bias and gain adjustment is required when changing from 4-20mA input to a manual control input or a voltage input.