Vari-Watt

Power Controller
0113-10237

- Allows Automatic or Manual Control of Heater Loads Using Chromalox SSR Series Solid State Relays
  - Demand Oriented Transfer (DOT) Firing for Analog Inputs
  - 50 or 60 Hz (Jumper Selectable)
  - Load Management Feature for Multiple SSR's

- Analog Inputs
  - 4-20 mAdc
  - 0-5 Vdc
  - 0-10 Vdc

- 50 or 60 Hz Operation, (Jumper Selectable)

- Open Board Design

- DIN Rail Mounting

Description

The Chromalox Vari-Watt Controller accepts an analog control signal input and produces a proportional output signal to drive Solid State Relays such as the Chromalox SSR series. Demand Oriented Transfer (DOT) firing for each SSR provides precise control with resolution to 3 cycles (select 50 or 60 Hz operation). In a typical application the Vari-watt is used to convert temperature/process control signal (4-20 mA) to a Zero Crossing SSR power control. When using multiple SSR’s the Load Management feature automatically offsets the turn-on signal for each SSR output to limit inrush current.

Manual control provides open loop control of the output from 0 to 100% with input from a 10K Potentiometer. Auto/Manual Control allows a single pole switch to select between Manual Control or Automatic Control from any of the analog signal inputs.

Specifications

- Instrument power
  - 95 to 250 Vac power, less than 15VA

- Operating Environment:
  - 32-150 °F ambient temperature
  - Relative humidity less than 95% non-condensing.

- Analog Input types:
  - 4-20 mAdc into 250 Ohm
  - 0-5 Vdc into 10K Ohm
  - 0-10 Vdc into 20K Ohm
  - 10K potentiometer

- Outputs (Up to 4 total)
  - SSR drive (12 Vdc at 100 mAdc (total current for outputs))

- DOT timing
  - 3 cycle, 50 or 60 Hz (jumper selectable)
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Application Diagrams ( Typical )

Single Phase Application

3-Phase Application

Multiple Output Applications Load Management
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Board Dimensions

End View of DIN Rail Enclosure

- 3.5x5.1” (90x130) Overall Dimensions
- Allow 2” (51) for circuit Board Height Above DIN Rail Enclosure

Input Connections

4-20 mAdc Input

Variwatt (J1)
1 2 3 4 5 6 7 8

(-) (+)
4-20 mA

0-5 Vdc, 0-10Vdc Inputs

Variwatt (J1)
1 2 3 4 5 6 7 8

(-) (+)
0-5 Vdc 0-10Vdc

Manual Input 10K Potentiometer

Variwatt (J1)
1 2 3 4 5 6 7 8

Jumper (4-5) 10K Potentiometer

Auto/Manual Selection

Variwatt (J1)
1 2 3 4 5 6 7 8

Open = Auto
Closed = Manual

Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
<th>PCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vari-Watt Controller</td>
<td>0113-10237</td>
<td>339768</td>
</tr>
<tr>
<td>Potentionmeter (10K)</td>
<td>0135-27000</td>
<td>313947</td>
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### Jumper Selection Table

<table>
<thead>
<tr>
<th>Input Type</th>
<th>J10</th>
<th>J11</th>
<th>J12</th>
<th>J13</th>
<th>J7</th>
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<tbody>
<tr>
<td>4 - 20 mA DC</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N/A</td>
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<tr>
<td>0 - 5 Vdc</td>
<td>0</td>
<td>0</td>
<td>X</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>0 - 10 Vdc</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>50 Hz</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
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<tr>
<td>60 Hz</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>X</td>
</tr>
</tbody>
</table>

See Table
Remove J7 for 50 Hz Operation

### Customer Outputs

- **Customer Outputs**
  - [Diagram of Customer Outputs]

### Customer Inputs

- **Customer Inputs**
  - [Diagram of Customer Inputs]

### Ac Power

- **Ac Power**
  - (90-250Vac, 50 or 60 Hz Selectable)

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Vari-Watt 0113-10237 PDS
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