D160- 230/460VAC Three-Phase SCR Power Controller 30A

The IPC D160 is a three-phase SCR power controller which offers variable-voltage phase-angle control for a variety of applications. Fully-isolated all-digital firing is immune to AC line distortions, RF and noise. These rugged controllers feature many standard features such as soft-start, voltage or current control input, AC or DC output, open or closed-loop operation and a variety of AC or DC feedback options. 4-20 ma current input with offset and bias adjustments. Adjustable current limit. 30 A continuous output rating. (Higher currents or other voltages on request) Also available as a trigger-only package (uses customer supplied power section).

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Input Voltage (AC)</th>
<th>230 V</th>
<th>380 V</th>
<th>480 V</th>
<th>575 V</th>
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</thead>
<tbody>
<tr>
<td>Phase</td>
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<tr>
<td>Continuous DC Rating</td>
<td>30 A</td>
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<tr>
<td>Full Load Ambient Temperature</td>
<td>0 to 45 ºC</td>
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<td>Response</td>
<td>16 MSC 0 to 220° conduction-damping specified for closed-loop operation adjustable.</td>
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<tr>
<td>Closed Loop Regulation</td>
<td>± 0.5% from ± 10 volt DC feedback signal. Drift less than 0.1%</td>
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<td>Current Limit</td>
<td>Adjustable 50 to 200%. Overcurrent trip set at 500%. Fixed or Adjustable.</td>
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<tr>
<td>Reference In</td>
<td>0 to ± 10 volts DC into 10K ohms input impedance. Regulated 10V 1mA output available for external 10K potentiometer.</td>
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<tr>
<td>Feedback Input</td>
<td>0 to 10 volts DC into 10K ohms input impedance. Input scaling potentiometer with adjustable range from 10V to 100V input.</td>
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<td>Gate Outputs</td>
<td>Six isolated outputs to hard-fire up to 6 SCRs. Initial pulse rises to 1 amp in less than 500 nanoseconds with a back porch of 150 ma for the remainder of the cycle. 2500V rms isolation.</td>
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<td>Output Ratings</td>
<td>15A, 30A, AC or DC Bridge.</td>
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DESIGN FEATURES
Input
240/480V± 10% or 380/480/575
3-phase 50/60 Hz

Protection
DV-DT network
Voltage transient network
Overcurrent trip
Current limit

Isolation
2500V rms output to output and output to control potential; control circuit isolated by 2500V rms from incoming power line.

Options
Current input -Option CI 0-20 ma with offset, gain and bias
Offset relay -Option-CR2-Trip Relay -Option-CR1-Nonstandard reference input available.

OPERATING FEATURES
• Precision digital design
• 100% integrated circuits for better regulation and control
• Compact single control board, including all options
• Isolated firing board for all high voltage
• Regulated reference output +10.0V for 10K external potentiometer
• Reference input 0 to 10V
• Open or closed loop regulation 0.5% better
• Feedback input for closed loop regulation
• Current limit and overcurrent trip circuit
• Hard SCR firing 1 amp PK with 150 ma back porch
• Full range 0 through 220° for 100% output
• Loss of phase protection