DESCRIPTION
The PD40 series of DC/DC converters provide up to 40 watts of continuous output power. Available in three standard input ranges of 10-30 VDC, 20-60 VDC and 30-90 VDC, they are ideal for a variety of applications including telecoms, process control, portable equipment and vehicle mounted instrumentation. All units are available in compact “open PCB” or “enclosed” mechanical formats.

FEATURES
- Low cost
- Small size, light weight
- 100% burn-in
- Overvoltage protection
- Overcurrent protection
- Three wide input ranges:
  - 10-30 VDC
  - 20-60 VDC
  - 30-90 VDC

INPUT SPECIFICATIONS
Input voltage:
- 10 to 30 VDC (PD40 “L” series)
- 20 to 60 VDC (PD40 “M” series)
- 30 to 90 VDC (PD40 “H” series)

Input current:
- 2.5A (rms) for 24 VDC
- 1.3A (rms) for 48 VDC
- 0.84A (rms) for 72 VDC

OUTPUT SPECIFICATIONS
Output voltage/current: See rating chart
Total output power: 40 watts maximum
Ripple and noise: 1% peak to peak max.
Overvoltage protection: set at 112 - 132% of its nominal output voltage
Overcurrent protection: All outputs protected to short circuit conditions
Temperature coefficient: All outputs ±0.04% /°C maximum
Transient response: Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500us after a 25% step load change

ENVIRONMENTAL SPECIFICATIONS
Operating temperature: 0°C to +70°C
Storage temperature: -40°C to +85°C
Relative humidity: 5% to 95% non-condensing
Derating: Derate from 100% at +50°C linearly to 50% at +70°C

GENERAL SPECIFICATIONS
Switching frequency: 36KHz ±5KHz
Efficiency: 70% minimum at full load
Line regulation: ±0.5% maximum at full load
Withstand voltage: 1000VDC from input to output
MTBF: 600,000 hours minimum at full load at 25°C ambient, calculated per MIL-HDBK-217F
## OUTPUT VOLTAGE/CURRENT RATING CHART

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>PD40-10</td>
<td>5V</td>
<td>0A</td>
<td>8.0A</td>
<td>2%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD40-12</td>
<td>12V</td>
<td>0A</td>
<td>3.5A</td>
<td>1%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD40-13</td>
<td>15V</td>
<td>0A</td>
<td>3.0A</td>
<td>1%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD40-14</td>
<td>24V</td>
<td>0A</td>
<td>2.0A</td>
<td>1%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD40-23</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+12V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
</tr>
<tr>
<td>PD40-24</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+15V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
</tr>
<tr>
<td>PD40-25</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+24V</td>
<td>0.1A</td>
<td>1A</td>
<td>5%</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>40W</td>
<td></td>
</tr>
<tr>
<td>PD40-30</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+12V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>-5V</td>
<td>0A</td>
<td>0.8A</td>
<td>5%</td>
<td>40W</td>
</tr>
<tr>
<td>PD40-31</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+12V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>-12V</td>
<td>0A</td>
<td>0.8A</td>
<td>5%</td>
<td>40W</td>
</tr>
<tr>
<td>PD40-32</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+15V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>-15V</td>
<td>0A</td>
<td>0.8A</td>
<td>5%</td>
<td>40W</td>
</tr>
<tr>
<td>PD40-33</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+15V</td>
<td>0.2A</td>
<td>2A</td>
<td>5%</td>
<td>-12V</td>
<td>0A</td>
<td>0.8A</td>
<td>5%</td>
<td>40W</td>
</tr>
<tr>
<td>PD40-39</td>
<td>+5V</td>
<td>0.5A</td>
<td>3.0A</td>
<td>3%</td>
<td>+24V</td>
<td>0.1A</td>
<td>1A</td>
<td>5%</td>
<td>-12V</td>
<td>0A</td>
<td>0.8A</td>
<td>5%</td>
<td>40W</td>
</tr>
</tbody>
</table>

Notes:
1. All multi-output units may be operated at no-load without damage. At no-load, output tolerance increases to 10%.
2. Suffix codes for mechanical format and input range are as follows. PD40-XXYZ; “XX” is the model code from the above table, “Y” is the input range (L=10-30 VDC, M=20-60 VDC, H=30-90 VDC) and “Z” is the mechanical format (A=open PCB, B=L-bracket, C=enclosed), e.g. PD40-31MC (20-60 VDC input range, enclosed).
3. “L” series is suitable only for 75% of the above stated maximum output power.

## MECHANICAL SPECIFICATIONS

**NOTES:**
1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector mates with Molex housing 09-50-3041 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
5. Weight: 220 grams approx. (PCB format)
6. See the mechanical details of L-bracket and enclosed formats in page 7-1.

## PIN CHART

<table>
<thead>
<tr>
<th>MODEL</th>
<th>PIN</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td>PD40-10</td>
<td>PD40-12</td>
<td>OUTPUT #1</td>
<td>OUTPUT #1</td>
<td></td>
<td>RETURN</td>
<td>RETURN</td>
<td>RETURN</td>
</tr>
<tr>
<td>PD40-13</td>
<td>PD40-14</td>
<td>OUTPUT #1</td>
<td>OUTPUT #1</td>
<td></td>
<td>COMMON RETURN</td>
<td>COMMON RETURN</td>
<td>N.C.</td>
</tr>
<tr>
<td>PD40-23</td>
<td>PD40-24</td>
<td>OUTPUT #2</td>
<td>OUTPUT #1</td>
<td></td>
<td>COMMON RETURN</td>
<td>COMMON RETURN</td>
<td>OUTPUT #3</td>
</tr>
<tr>
<td>PD40-30</td>
<td>PD40-31</td>
<td>OUTPUT #2</td>
<td>OUTPUT #1</td>
<td></td>
<td>COMMON RETURN</td>
<td>COMMON RETURN</td>
<td>OUTPUT #3</td>
</tr>
<tr>
<td>PD40-32</td>
<td>PD40-33</td>
<td>OUTPUT #2</td>
<td>OUTPUT #1</td>
<td></td>
<td>COMMON RETURN</td>
<td>COMMON RETURN</td>
<td>OUTPUT #3</td>
</tr>
<tr>
<td>PD40-39</td>
<td>PD40-39</td>
<td>OUTPUT #2</td>
<td>OUTPUT #1</td>
<td></td>
<td>COMMON RETURN</td>
<td>COMMON RETURN</td>
<td>OUTPUT #3</td>
</tr>
</tbody>
</table>

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