LAMBDA'S LQ AND LPT SERIES

PURE DC FOR LOW NOISE, HIGH RELIABILITY APPLICATIONS

- Ripple: 150μV  Regulation: .005%
  Temperature Coefficient: .005%
  Pure DC best describes these specifications that make the LQ
  Series ideal for low noise ATE, lab, or any
  application requiring high quality and reliability.

- 21 models available in five package sizes, up to
  500VDC, up to 140 Watts. This breadth of line
  allows an engineer to specify an exact model
  tailoring the output power to the application.

- The LQ Series is designed using a multi-function
  voltage regulator IC with built-in chip temper-
  ature regulation.

- All models feature a digital meter readout,
  constant voltage or constant current operation,
  and packaging designed for bench or rack
  mount use. They provide the versatility for either
  laboratory or ATE test use.

- The LQ and LPT Series are backed with Lambda's
  5 year guarantee. This ensures the product will
  operate to published specifications for the life of
  the product per its guarantee. All models are
  designed using the best quality components,
  designed in margins and overall reliability...
  ideal for industrial and lab type applications.

- Grade 1 design.
**DC OUTPUT**
Refer to the tables. For LQ-530 Series only, refer to figure below.

**Fig. 1**
![Diagram](image)

**REGULATED VOLTAGE**
- Regulation, line: 0.005% + 0.5mV (0.01% + 1mV for LPT) for line variations from 105 to 132VAC (187 to 242VAC for "V" options; 205 to 265VAC for "V1" options).
- Regulation, load: 0.005% + 0.5mV (0.01% + 1mV for LPT) for load variations from 0 to full load.
- Ripple and noise: 1mV pk-pk, 150V RMS (300V on LQ-415 and LQD-425) with plus or minus terminal grounded. (1.5mV pk-pk, 500V RMS for LPT.)
- Temperature coefficient: ± (0.005% Vo + 10μV/°C). (With external programming resistors.) (0.015% + 3mV/°C for LPT.)
- Remote programming resistance: 1000Ω/volt nominal (500Ω/volt nominal on LQ-415 and LQD-425 200Ω/volt for LPT). Downward programming to voltages less than 1 volt must be accomplished in two steps; first, from original voltage value to 1 volt, and then from 1 volt to final desired value.

**CONSTANT CURRENT**
(automatic crossover)
- Range: LQD, LQ-410, LQ-520 Series-1% to I<sub>out</sub> max (min 45mA or 1% for LPT). LQ-530 Series-1% to ≈ 70% I<sub>out</sub> max (refer to Fig. 1).
- Regulation, line: 1mA max for line variations from 105 to 132VAC (187 to 242VAC for "V" options; 205 to 265VAC for "V1" options). (Less than 0.2% or 7.5mA for LPT.)
- Regulation, load: 2.5mA max for load changes from 0 to rated DC voltage. 3.5mA max for LQ-415 and LQD-425 models.

**AC INPUT**
- Line: 105 to 132VAC (47-440Hz) standard input (derate output by 10% at 50Hz). See options. Consult factory for operation above 63Hz.

**OPERATING TEMPERATURE RANGE**
Continuous duty from 0 to 60°C with appropriate deratings above 30°C (see table).

**STORAGE TEMPERATURE**
-55°C to +85°C.

**OVERLOAD PROTECTION THERMAL**
By self-resetting thermostat.

**ELECTRICAL**
External overload protection, adjustable, automatic current limiting circuit limits output current to preset value. Current limiter variable from zero to I<sub>max</sub> or to appropriate max. value at output voltage setting via front panel adjustment (see Fig. 1) for LQ-530 series only.

**INTERNAL FAILURE PROTECTION**
Provided by primary and secondary fuses.

**COOLING**
Convection cooled – no fans or blowers required.

**DC OUTPUT CONTROLS**
Coarse/fine (LQD-421, LQ-410, LQ-411, LQ-530, LQ-531, LQ-520, LQ-521, LPT) or multiturn (LQD-422 through LQD-425, LQ-412, through LQ-415, LQ-532 through LQ-534 and LQ-522-LQ-524) voltage adjust and single turn current adjust on front panel. An adjustable range of 1%-Vo max to Vo max is provided by the internal programming potentiometer; programming over the full 0 to Vo max range can be accomplished by remote programming.

**POWER CONTROL**
On-off switch on front panel.

**METERS**
Digital panel meter standard on all sets. Monitors output voltage/current by means of voltmeter/ammeter selector switch. (Each output on LPT models has a separate analog voltmeter and ammeter.)

**INPUT AND OUTPUT CONNECTIONS**
Heavy duty barrier strip at rear of chassis. Five-way binding posts on front panel for output connections.

**REMOTE SENSING**
Provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

**SERIES/PARALLEL OPERATION**
Provision is made for auto series/auto parallel (master-slave) operation to permit tracking to a common reference.

**PHYSICAL DATA**

<table>
<thead>
<tr>
<th>Package Model</th>
<th>Lbs.</th>
<th>Lbs. Ship</th>
<th>Size</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>LQD-420</td>
<td>12</td>
<td>15</td>
<td>5⅜ x 8⅝ x 10⅜</td>
<td></td>
</tr>
<tr>
<td>LQ-410</td>
<td>9</td>
<td>12</td>
<td>5⅜ x 4⅜ x 10</td>
<td></td>
</tr>
<tr>
<td>LQ-520</td>
<td>14</td>
<td>18</td>
<td>5⅜ x 4⅞ x 15⅜</td>
<td></td>
</tr>
<tr>
<td>LQ-530</td>
<td>25</td>
<td>30</td>
<td>5⅜ x 12⅜ x 11</td>
<td></td>
</tr>
<tr>
<td>LPT</td>
<td>24</td>
<td>29</td>
<td>5⅜ x 12⅜ x 11</td>
<td></td>
</tr>
</tbody>
</table>

**OPTIONS AC INPUT**

<table>
<thead>
<tr>
<th>Add Suffix</th>
<th>For Operation at:</th>
<th>Add to Price</th>
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</thead>
<tbody>
<tr>
<td>- V</td>
<td>187 to 242VAC, 47-440Hz</td>
<td>12%</td>
</tr>
<tr>
<td>- V1</td>
<td>205 to 265VAC, 47-440Hz</td>
<td>12%</td>
</tr>
</tbody>
</table>

Derate output by 10% at 50Hz. Consult factory for operation above 63Hz.

**ACCESSORIES**
For rack adapters and other accessories, see Part IV of this catalog.

**FUNGUS PROOFING**
Add Suffix "-R" to Model Number and add 10% to price.

**GUARANTEED FOR 5 YEARS**
5 yr. guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.
<table>
<thead>
<tr>
<th>VOLTAGE RANGE (VDC)</th>
<th>MAX CURRENT AT AMBIENT OF (AMPS)</th>
<th>COMPLETE ELEC. SPEC. PG.</th>
<th>COMPLETE MECH. SPEC. PG.</th>
<th>DIMENSIONS (inches)</th>
<th>QTY. 1 PRICE</th>
<th>QTY. 10 PRICE</th>
<th>QTY. 25 PRICE</th>
<th>MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>5.0</td>
<td>129</td>
<td>193</td>
<td>5 3/16 x 12 1/2 x 11</td>
<td>$2219</td>
<td>$2114</td>
<td>$2028</td>
<td>LPT-7202-FM</td>
</tr>
<tr>
<td>0-20</td>
<td>1.5</td>
<td>1.5</td>
<td>1.35</td>
<td>1.2</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>0-20</td>
<td>1.5</td>
<td>1.5</td>
<td>1.35</td>
<td>1.2</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
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</tbody>
</table>
PART V—MECHANICAL DRAWINGS

LPT Series—⅜ Rack
LK Series—½ Rack

### TABLE 1

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td>LK ½ Rack Series</td>
<td>16</td>
<td>12 ⅓/16</td>
<td>1⅓/4</td>
<td>6⅙/16</td>
<td>6⅔/16</td>
<td>1⅞/64</td>
</tr>
<tr>
<td>LPT ⅜ Rack Model</td>
<td>6</td>
<td>7⅔/32</td>
<td>2⅓/32</td>
<td>9⅝</td>
<td>10⅓/4</td>
<td>⅛</td>
</tr>
</tbody>
</table>

**TERMINAL STRIP**

Screw Size 5-40 X 1/4

**FRONT VIEW**

LPT MODELS