LPL Series - Long Life Standby

LPL2-400M (2V400Ah)

Specifications

**Rated Voltage**
2V

**Nominal Capacity**
400.0Ah

**Dimension**
- Length: 158x2mm (6.22 inches)
- Width: 181x2mm (7.13 inches)
- Container Height: 350x2mm (13.78 inches)
- Total Height: 365x2mm (14.37 inches)

**Approx Weight**
22.7 Kg (50.04 lbs)

**Terminal**
M8

**Container Material**
ABS

**Rated Capacity (25°C)**
- 424.0Ah (20hr, 21.2A, 1.80V/cell)
- 400.0Ah (10hr, 40.0A, 1.80V/cell)
- 350.0 Ah (5hr, 70.0A, 1.75V/cell)
- 312.0 Ah (3hr, 104.0A, 1.75V/cell)
- 244.2Ah (1hr, 244.2A, 1.67V/cell)

**Max. Discharge Current**
3200A (5s)

**Internal Resistance (25°C)**
Approx 0.50mΩ

**Operating Temp. Range**
- Discharge: -15 ~ 50°C (5 ~ 122°F)
- Charge: 0 ~ 40°C (32 ~ 104°F)
- Storage: -15 ~ 40°C (5 ~ 104°F)

**Nominal Operating Temp. Range**
25±3°C (77±5°F)

**Cycle Use**
Initial Charging Current less than 120.0A. Voltage 2.40V~2.50V at 25°C (77°F) Temp. Coefficient -5mV/°C

**Standby Use**
Initial Charging Current less than 120.0A. Voltage 2.25V~2.30V at 25°C (77°F) Temp. Coefficient -3mV/°C

**Effect of temp. to Capacity**
- 40°C (104°F): 103%
- 25°C (77°F): 100%
- 0°C (32°F): 86%

**Self Discharge**
LPL series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.

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**Constant Current Discharge (Amperes) at 25°C (77°F)**

<table>
<thead>
<tr>
<th>F.V/Time</th>
<th>30min</th>
<th>1h</th>
<th>1.5h</th>
<th>2h</th>
<th>3h</th>
<th>4h</th>
<th>5h</th>
<th>6h</th>
<th>8h</th>
<th>10h</th>
<th>20h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85V/cell</td>
<td>252.6</td>
<td>178.6</td>
<td>169.0</td>
<td>112.4</td>
<td>93.6</td>
<td>75.3</td>
<td>63.5</td>
<td>55.2</td>
<td>44.8</td>
<td>37.5</td>
<td>20.1</td>
</tr>
<tr>
<td>1.80V/cell</td>
<td>278.2</td>
<td>195.0</td>
<td>173.8</td>
<td>122.9</td>
<td>101.3</td>
<td>81.2</td>
<td>68.4</td>
<td>59.2</td>
<td>48.0</td>
<td>40.0</td>
<td>21.2</td>
</tr>
<tr>
<td>1.75V/cell</td>
<td>322.7</td>
<td>216.1</td>
<td>182.5</td>
<td>135.4</td>
<td>104.0</td>
<td>83.2</td>
<td>70.0</td>
<td>60.4</td>
<td>48.9</td>
<td>40.6</td>
<td>21.5</td>
</tr>
<tr>
<td>1.70V/cell</td>
<td>348.2</td>
<td>242.0</td>
<td>187.5</td>
<td>139.8</td>
<td>107.0</td>
<td>85.3</td>
<td>71.6</td>
<td>61.7</td>
<td>49.7</td>
<td>41.3</td>
<td>21.7</td>
</tr>
<tr>
<td>1.67V/cell</td>
<td>358.3</td>
<td>244.2</td>
<td>189.3</td>
<td>142.9</td>
<td>108.7</td>
<td>86.5</td>
<td>72.5</td>
<td>62.4</td>
<td>50.3</td>
<td>41.6</td>
<td>21.9</td>
</tr>
<tr>
<td>1.60V/cell</td>
<td>378.0</td>
<td>246.5</td>
<td>192.0</td>
<td>146.3</td>
<td>112.7</td>
<td>89.4</td>
<td>74.7</td>
<td>64.2</td>
<td>51.4</td>
<td>42.5</td>
<td>22.3</td>
</tr>
</tbody>
</table>

**Constant Power Discharge (Watts/cell) at 25°C (77°F)**

<table>
<thead>
<tr>
<th>F.V/Time</th>
<th>30min</th>
<th>1h</th>
<th>1.5h</th>
<th>2h</th>
<th>3h</th>
<th>4h</th>
<th>5h</th>
<th>6h</th>
<th>8h</th>
<th>10h</th>
<th>20h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85V/cell</td>
<td>480.7</td>
<td>379.4</td>
<td>307.5</td>
<td>230.9</td>
<td>183.6</td>
<td>148.0</td>
<td>125.1</td>
<td>108.8</td>
<td>88.6</td>
<td>74.2</td>
<td>40.0</td>
</tr>
<tr>
<td>1.80V/cell</td>
<td>517.6</td>
<td>398.3</td>
<td>314.1</td>
<td>243.2</td>
<td>197.8</td>
<td>159.0</td>
<td>134.3</td>
<td>116.4</td>
<td>94.6</td>
<td>79.0</td>
<td>42.1</td>
</tr>
<tr>
<td>1.75V/cell</td>
<td>593.3</td>
<td>418.2</td>
<td>326.4</td>
<td>252.6</td>
<td>202.2</td>
<td>162.3</td>
<td>137.0</td>
<td>118.5</td>
<td>96.2</td>
<td>80.1</td>
<td>42.6</td>
</tr>
<tr>
<td>1.70V/cell</td>
<td>630.2</td>
<td>424.8</td>
<td>336.4</td>
<td>254.2</td>
<td>207.8</td>
<td>165.8</td>
<td>139.7</td>
<td>120.7</td>
<td>97.7</td>
<td>81.3</td>
<td>43.1</td>
</tr>
<tr>
<td>1.67V/cell</td>
<td>641.8</td>
<td>429.2</td>
<td>337.2</td>
<td>258.6</td>
<td>209.7</td>
<td>167.7</td>
<td>141.1</td>
<td>121.9</td>
<td>98.6</td>
<td>81.9</td>
<td>43.4</td>
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<tr>
<td>1.60V/cell</td>
<td>698.8</td>
<td>458.3</td>
<td>346.7</td>
<td>278.4</td>
<td>216.1</td>
<td>172.4</td>
<td>144.8</td>
<td>124.8</td>
<td>100.6</td>
<td>83.4</td>
<td>44.2</td>
</tr>
</tbody>
</table>
Applications

• Tele-communication central station (wired or cellular)
• Power system communication, military communication, etc.
• Network communication including: data transmission, television signal transmission, etc.
• Uninterruptable Power System (UPS- for Telecom)
• EPS

General Features

• 16 years design life(25°C)
• Grid refining technology and the thicker plates are used to extend the battery standby life and reduce the plate grid corrosion speed
• Using oxygen recombination technology: maintenance-free
• Unique vent valve design: control water losing, prevent air and spark going inside

Discharge Characteristics

Temperature: 25°C

Terminal Voltage (V) vs. Discharge Time (h)

Float Charging Characteristics

Charge Voltage (V/cell) vs. Charging Time (h)

Temperature Effects in Relation to Battery Capacity

Capacity (%) vs. Battery Temperature

Effect of Temperature on Long Term Float Life

Float Life (Years) vs. Battery Temperature

Standards

• Compliance with IEC 60896 standards, EU Battery Directive
• UL, CE Certified
• Manufactured in Leoch®IATF 16949, OHSAS 18001,ISO 9001 and ISO 14001 certified production facilities

Sales Offices Worldwide

China Sales Office

6th Floor, Xinxinwa Bldg., Nanshan Blvd., Nanshan, Shenzhen, China. 518052
Tel: +86-755-86036600(100 lines)
Fax: +86-755-26667260
E-mail: export@leoch.com

North America Sales Office

5th Floor, Xinxinwa Bldg., Nanshan Blvd., Nanshan, Shenzhen, China. 518052
Tel: +86-755-86036600(100 lines)
Fax: +86-755-26667260
E-mail: export@leoch.com

Hong Kong Sales Office

Workshop C, 3/F, T&F Tower, No. 3 Hui Shing Road, Taun Wan, New Territories, Hong Kong
Tel: +852 35786666
Fax: +852 4452 5901
E-mail: sales.hk@leoch.com

UK Sales Office

98 Wheatstone Court, Waterwells, Business Park, Gloucester, GL2-2AQ, UK United Kingdom
Tel: +44(0) 1452 729428/1452 729366
Fax: +44(0) 1452 690125
E-mail: Sales.Europe@leoch.com
Http://www.leoch.eu

Singapore Sales Office

No. 1 Tech Park Crescent, Singapore 638131
Tel: +65 6863 6078
Fax: +65 6863 6079
E-mail: sales.sg@leoch.com

EMEA Sales Office

1 Dolongiri St., 121 31 Athens, Greece
Tel: +30 210 5760318 (2 lines)
E-mail: support_EMEA@leoch.com
Http://www.leoch.eu

Australia Sales Office

2/39 Tarlington Place, Smithfield. NSW 2164 Australia
Tel: 02 9756 0950
E-mail: sales.au@leoch.com

India Sales Office

Shed no.A-53(b), 2nd Stage of Pernay Industrial Area, Bangalore North Taluk, Bangalore-560058, India
Tel: +91-80-23440019
Fax: +91-80-23440017
E-mail: indiasales@leoch.com

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