PowerLine Prime Series

Cost-Effective Laser Marking

PowerLine Prime laser markers are entry-level sub-systems designed to meet the requirements of many standard marking applications, delivering an unmatched mix of economy, mark quality and speed. They are based on an air-cooled, diode-pumped solid state laser, and their compact design facilitates system integration. PowerLine Prime can be configured with an f-Theta lens having either a focal length of 160 mm or 347 mm. Two different models are available. PowerLine Prime 12 delivers a fundamental mode beam, while the PowerLine Prime 15 produces a multi-mode beam. The PowerLine Prime 12 PC is specifically optimized for greyscale marking of plastic cards.

FEATURES & BENEFITS

• Excellent control of marking quality
• Compact size
• Laser positioning help
• First-pulse suppression feature
• Powerful VLM marking software
• Greyscale marking software
  (only PL Prime 12 PC)

APPLICATIONS

• Marking of Organic Materials
• Annealing Marking
• Greyscale Marking (PL Prime 12 PC)
## POWERLINE PRIME SERIES Datasheet

<table>
<thead>
<tr>
<th>MODEL</th>
<th>PL Prime 12</th>
<th>PL Prime 12 PC</th>
<th>PL Prime 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Type</td>
<td>YVO₄</td>
<td>YVO₄</td>
<td>YVO₄</td>
</tr>
<tr>
<td>Wavelength (nm)</td>
<td>1064</td>
<td>1064</td>
<td>1064</td>
</tr>
<tr>
<td>Average cw Power (W)</td>
<td>8</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Average Power (W)</td>
<td>8 (40 kHz)</td>
<td>8 (40 kHz)</td>
<td>13 (50 kHz)</td>
</tr>
<tr>
<td>Frequency Range (kHz)</td>
<td>cw, 10 to 200</td>
<td>cw, 20 to 80</td>
<td>cw, 20 to 200</td>
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<tr>
<td>Pulse Width (ns)</td>
<td>7 to 12 (40 kHz)</td>
<td>7 to 12 (20 kHz)</td>
<td>9 to 14 (20 kHz)</td>
</tr>
<tr>
<td>M²</td>
<td>1.3</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Cooling</td>
<td>Air</td>
<td>Air</td>
<td>Air</td>
</tr>
<tr>
<td>Control System</td>
<td>RCU-ITX</td>
<td>RCU-ITX</td>
<td>RCU-ITX</td>
</tr>
<tr>
<td>Marking field (mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-160 mm objective</td>
<td>120 x 120</td>
<td>120 x 120</td>
<td>120 x 120</td>
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<tr>
<td>F-347 mm objective</td>
<td>240 x 240</td>
<td>240 x 240</td>
<td>240 x 240</td>
</tr>
</tbody>
</table>

### MECHANICAL SPECIFICATIONS

#### PowerLine Prime 15

**Bottom View**

- **127.15 mm (5.01 in.)**
- **250.0 mm (9.84 in.)**
- **80.0 mm (3.15 in.)**

**Side View**

- **Exhaust Air**
- **Cooling Air**

**Front View**

- **144.0 mm (5.67 in.)**
- **18.8 mm (0.74 in.)**

**Rear View**

- **Detail A**
- **240 Marking Field**
- **38.5 ± 0.5 mm (1.50 ± 0.06 in.)**
- **18.8 mm (0.74 in.)**
- **181.0 mm (7.125 in.)**
- **9.0 ± 0.5 mm (0.35 ± 0.06 in.)**
- **27.0 ± 1.5 mm (1.06 ± 0.06 in.)**

**Cooling Air**

- **6.0 mm (0.24 in.)**
- **M2** 2.5

- **Exhaust Air**

- **95.0 mm (3.74 in.)**
- **18.8 mm (0.74 in.)**

- **6.5 mm (0.26 in.)**
- **240 Marking Field**
- **18.8 mm (0.74 in.)**
- **27.0 ± 1.5 mm (1.06 ± 0.06 in.)**
- **9.0 ± 1.5 mm (0.35 ± 0.06 in.)**
- **240 Marking Field**

- **MECHANICAL SPECIFICATIONS**

- **PowerLine Prime 15 Bottom View**

- **Side View**

- **Front View**

- **Rear View**

- **Cooling Air**

- **Exhaust Air**

- **M2** 2.5
MECHANICAL SPECIFICATIONS

PowerLine Prime Power Supply

Front View

Side View

Rear View

Top View

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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all PowerLine Prime Series Lasers. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-004-20-0M-0120  Copyright ©2020 Coherent, Inc.