f201 CO₂ Laser

Robust, reliable laser with more than 200 Watts of average power for high speed cutting and drilling applications

High performance CO₂ laser engineered with excellent power and divergence stability for demanding industrial environments

- Excellent power stability for kiss-cutting multi-layer material, scoring and perforating flexible packaging material, and thin film welding
- Fully integrated laser/RF design minimizes size and weight; perfect for mounting on robotic arms, high speed cutting systems, or full integration onto flatbed cutting systems
- Simple interfaces to water-cooling and control signals, with three point Metric/English mounting system minimizes integration time for OEMs and system integrators
- Standard gas purge to maintain internal optic integrity even in harsh environments, and water cooling for higher electronic component efficiency and longer lifetime

Specifications

<table>
<thead>
<tr>
<th>Output Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
</tr>
<tr>
<td>Output Power¹</td>
</tr>
<tr>
<td>Power Stability (cold start)²</td>
</tr>
<tr>
<td>Power Stability (typical, after 3 min.)</td>
</tr>
<tr>
<td>Beam Quality (M²)</td>
</tr>
<tr>
<td>Beam Diameter³</td>
</tr>
<tr>
<td>Divergence (full angle)</td>
</tr>
<tr>
<td>Ellipticity</td>
</tr>
<tr>
<td>Polarization</td>
</tr>
<tr>
<td>Rise Time</td>
</tr>
<tr>
<td>Operating Frequency</td>
</tr>
</tbody>
</table>

Power Supply

- DC Input Voltage: 96 VDC
- Maximum Current: 36 A

Cooling

- Maximum Heat Load: 4000 W
- Coolant Temperature: 18 - 22°C (water)
- Minimum Flow Rate: 2.0 GPM, <60 PSI

Environmental

- Operating Ambient Temperature: 15 - 40°C
- Maximum Humidity: 95%, non-condensing

Physical

- Dimensions (LxWxH) mm (inches): 1229 x 279 x 165 (48.4 x 11.0 x 6.5)
- Weight: 43.5 kg (96 lbs.)

1 - Power level guaranteed for 2 years from date of shipment, regardless of operation hours, within recommended coolant flow rate and temperature range.
2 - Measured from cold start as (Pmax-Pmin)/(Pmax+Pmin)
3 - Measured 1/e² diameter at laser output.

High Speed Label Kiss-Cutting

The 10.2 µm wavelength configuration expands the range of target materials to include polypropylene based films, commonly used for adhesive labels. The f201 has excellent power output and stability that provide consistently high quality results run after run. The f201 now offers a wider range of laser processing capabilities for OEMs and integrators building high-speed labeling and packaging systems.

Invisible Laser Radiation

Avoid eye or skin exposure to direct or scattered radiation.

SYNRAD

A Novanta Company
**f201 CO₂ Laser**

Outline and Mounting Illustrations dimensions are in mm (inches)

**Recommended Applications**

**Cutting**

The f201 excels at acrylic cutting, delivering smooth, polished edges in a single pass. Digital control, exceptional power and divergence stability enable detailed cuts, with change-on-the-fly capability.

**Scoring**

200 Watts average laser power delivers precise scoring at high speed, perfect for flexible packaging production lines. Digital control enables on-the-fly changes, reducing production downtimes associated with traditional die pattern change-overs.

**Textiles**

Cut and seal edges of the newest high tech fabrics with the f201. Add strategically placed surface treatments for breathability, ventilation, or heat retention, all with the same system.

**Contact Us**

**synrad.com**

**Americas & Asia Pacific**

Synrad  
4600 Campus Place  
Mukilteo, WA 98275  
P (425) 349.3500  
F (425) 349.3667  
synrad@synrad.com

**Europe, Middle East, Africa**

Novanta Europe GmbH  
Division Synrad Europe  
Parking 57-59 D-85748, Garching, Germany  
P +49 (0)89 31707 0  
F +49 (0)89 31707 222  
sales-europe@synrad.com

**China**

Synrad China Sales and Service Center  
Unit C, 5/F, Ting Wei Industrial Park  
Liuang Road, Baoan District, Shenzhen  
Guangdong, PRC 518133  
P +86 (755) 8280 5395  
sales-china@synrad.com

**Japan**

Novanta Japan Co., Ltd.  
4666 Ikebe-cho Tsuzuki-ku  
Yokohama Kanagawa 224-0053 Japan  
P +81 3 5753 2462  
F +81 3 5753 2467  
sales-japan@synrad.com

SYNRAD® is a registered trademark of Novanta Corporation. Copyright ©2018 Novanta Corporation. All rights reserved.