StarFiber 100/200/400/600

Fiber Laser for Fine Welding, Cutting, and Drilling

The Coherent StarFiber laser is robust, compact, and satisfies all criteria for optimized industrial laser material processing.

For laser joining, StarFiber allows very small seam geometries at very high welding speeds. The welded joints show maximum strength with minimal heat input to the workpiece.

Laser fine cutting and drilling with StarFiber results in clean cuts with low heat affected zones and high edge qualities.

FEATURES & BENEFITS

• 100 to 600 W
• High efficiency
• Available with scanner and fixed optics
• Coherent SmartWeld™ technology for optimized welding properties
• Easy to integrate
• Convenient operator control through innovative control unit (RCU)

APPLICATIONS

• Fine Welding
• Fine Cutting
• Drilling
### SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>StarFiber 100</th>
<th>StarFiber 200</th>
<th>StarFiber 400</th>
<th>StarFiber 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>1070</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Power (W) (Max.)</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
</tr>
<tr>
<td>Pulse Frequency (kHz)</td>
<td>Single-Shot up to 170</td>
<td>Single-Shot up to 170</td>
<td>Single-Shot up to 50</td>
<td>Single-Shot up to 50</td>
</tr>
<tr>
<td>Pulse Width (µs) (FWHM)</td>
<td>0.5 to CW</td>
<td>0.5 to CW</td>
<td>1.0 to CW</td>
<td>1.0 to CW</td>
</tr>
<tr>
<td>Beam Diameter (mm) (1/e²)</td>
<td>5.0 ±0.5</td>
<td>5.0 ±0.5</td>
<td>Diverging</td>
<td>Diverging</td>
</tr>
<tr>
<td>Beam Divergence (mrad) (full angle)</td>
<td>Collimated</td>
<td>Collimated</td>
<td>&lt;150</td>
<td>&lt;140</td>
</tr>
<tr>
<td>Beam Quality (M²)</td>
<td>&lt;1.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Fiber Length (m)</td>
<td>4.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Connection</td>
<td>QCS</td>
<td>QCS</td>
<td>RQB</td>
<td>QBH</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL AND ELECTRICAL OPERATING CONDITIONS

<table>
<thead>
<tr>
<th></th>
<th>StarFiber 100</th>
<th>StarFiber 200</th>
<th>StarFiber 400</th>
<th>StarFiber 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (VAC)</td>
<td>208 to 240 V</td>
<td>208 to 240 V</td>
<td>440 V</td>
<td>440 V</td>
</tr>
<tr>
<td></td>
<td>1P//N/PE, AC</td>
<td>1P//N/PE, AC</td>
<td>3P//N/PE, AC</td>
<td>3P//N/PE, AC</td>
</tr>
<tr>
<td>Line Frequency (Hz)</td>
<td>50/60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption (kW) (Max.)</td>
<td>1.5</td>
<td>2.25</td>
<td>2.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Cooling</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply Weight</td>
<td>120</td>
<td>120</td>
<td>130</td>
<td>250</td>
</tr>
<tr>
<td>Power Supply Dimensions (L x W x H)</td>
<td>1149.0 x 575.4 x 1114.0 mm (45.24 x 22.65 x 43.86 in.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### STANDARDIZED INTERFACES

- Parameter set via 24 V parallel I/O, communication via Ethernet, analog (0-10 V)
- Safety shutter according to DIN EN 13849-1

### OPTIONS

- Application packages:
  - Fine welding with scanner or fixed optics
  - Fine cutting with fixed optics
- Process visualization via camera
- Pattern recognition
- Remote maintenance
AVAILABLE SCANNER AND FIXED OPTICS

Application Package “Fine Welding” (Scanner Optics)

Application Package “Fine Welding” (Fixed Optics)  Application Package “Fine Cutting”
MECHANICAL SPECIFICATIONS

Space for Air Ventilation (Min.)
150.0 mm (5.91 in.)

Front View

Rear View
575.4 mm (22.65 in.)
582.0 mm (22.125 in.)

Side View
1149.0 mm (45.24 in.)
995.0 mm (39.17 in.)
849.0 mm (33.43 in.)
980.0 mm (38.58 in.)

StarFiber 100/200/400/600

Coherent, Inc.
5100 Patrick Henry Drive Santa Clara, CA 95054
p. (800) 527-3786    |   (408) 764-4983
f.  (408) 764-4646
technical_sales@Coherent.com  
www.coherent.com