FIBER LASERS

PowerLine F Series
for Marking and Micro Processing
Lasers for industrial material processing

PowerLine F series lasers are innovative fiber lasers with different power levels. All lasers in this model series deliver 1 mJ of pulse energy with high power output levels across a wide frequency range. The average power of our fiber lasers can be continuously adjusted.

The PowerLine F 50 and F 100 lasers can be operated with pulse frequencies of up to 200 kHz. These lasers are thus particularly suited to high-speed marking, scribing and edge isolation as well as structuring and cutting applications.

**YOUR BENEFITS**
- Low overall operating costs
- A range of power levels
- Dual-head configurations possible to increase the size of the marking area
- High flexibility thanks to different options (camera, positioning axes, etc.)

**PRODUCT FEATURES**
- High repetition rates from a few kHz to MHz
- Extremely flexible as a result of variable pulse widths
- Short rise time
- Dual-head configuration possible

Laser marking for particularly high demands

Thanks to variable pulse widths, the PowerLine F 20 Varia delivers outstanding results in highly demanding applications (e.g. corrosion-free marking). The excellent beam quality ensures the highest levels of precision and exceptional marking results on a consistent basis.

Not only can the PowerLine F 20 Varia deliver outstanding marking results at high speeds in applications where a lot of material (metal, for example) is removed, with its variable pulse widths, it can also handle delicate, high-precision work in high-speed applications.

**ENGRAVING OF STAINLESS STEEL**

**PRECISE MARKING**
### TECHNICAL DATA POWERLINE F 20, F 20 VARIA AND F 30

#### Laser and galvo Powerline F 20

- **Supply unit incl. PC**
- **Powerline F 20**
- **Powerline F 20 Varia**
- **Powerline F 30**

#### Laser head

<table>
<thead>
<tr>
<th></th>
<th>Powerline F 20</th>
<th>Powerline F 20 Varia</th>
<th>Powerline F 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>1064</td>
<td>1064</td>
<td>1064</td>
</tr>
<tr>
<td>Power class (W)</td>
<td>20</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Pulse frequency (kHz)</td>
<td>20 - 100</td>
<td>2 - 1000</td>
<td>30 - 1000</td>
</tr>
<tr>
<td>Pulse width (ns)</td>
<td>100 +/- (20 kHz)</td>
<td>4 - 200, adjustable</td>
<td>100 +/- 20 (30 kHz)</td>
</tr>
<tr>
<td>Power class (w)</td>
<td>20</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Dimensions (length, Ø, mm):</td>
<td>387,90</td>
<td>594,100</td>
<td>387,90</td>
</tr>
<tr>
<td>Weight (kg):</td>
<td>approx. 5.5</td>
<td>approx. 7.5</td>
<td>approx. 5.7</td>
</tr>
<tr>
<td>Ingress protection:</td>
<td>IP 54</td>
<td>IP 54</td>
<td>IP 54</td>
</tr>
</tbody>
</table>

#### Marking unit

<table>
<thead>
<tr>
<th></th>
<th>Powerline F 20</th>
<th>Powerline F 20 Varia</th>
<th>Powerline F 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field size (mm):</td>
<td>120 x 120 [f=160 mm]*</td>
<td>120 x 120 [f=160 mm]*</td>
<td>120 x 120 [f=160 mm]*</td>
</tr>
<tr>
<td>Weight (without objective) (kg):</td>
<td>approx. 3</td>
<td>approx. 3</td>
<td>approx. 3</td>
</tr>
<tr>
<td>Ingress protection:</td>
<td>IP 54</td>
<td>IP 54</td>
<td>IP 54</td>
</tr>
</tbody>
</table>

#### Supply unit (19") and PC

<table>
<thead>
<tr>
<th></th>
<th>Powerline F 20</th>
<th>Powerline F 20 Varia</th>
<th>Powerline F 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply unit dimensions (W x D x H, mm):</td>
<td>19&quot; x 463 x 3 rack units</td>
<td>19&quot; x 463 x 3 rack units</td>
<td>19&quot; x 463 x 3 rack units</td>
</tr>
<tr>
<td>Supply unit weight (kg):</td>
<td>approx. 23.5</td>
<td>approx. 21</td>
<td>approx. 23.5</td>
</tr>
<tr>
<td>PC dimensions (W x D x H, mm):</td>
<td>19&quot; x 479 x 2 rack units</td>
<td>PC integrated in supply unit</td>
<td>19&quot; x 479 x 2 rack units</td>
</tr>
<tr>
<td>Power supply:</td>
<td>115 - 240 VAC, +/-10% VAC, 50/60 Hz</td>
<td>115 - 240 VAC, +/-10% VAC, 50/60 Hz</td>
<td>115 - 240 VAC, +/-10% VAC, 50/60 Hz</td>
</tr>
<tr>
<td>Power consumption supply unit incl. PC [W]:</td>
<td>approx. 330</td>
<td>approx. 300</td>
<td>approx. 390</td>
</tr>
<tr>
<td>Ingress protection:</td>
<td>IP 20</td>
<td>IP 20</td>
<td>IP 20</td>
</tr>
<tr>
<td>Operating temperature [°C]:</td>
<td>15 - 35</td>
<td>15 - 35</td>
<td>15 - 35</td>
</tr>
<tr>
<td>Air flow 19&quot; supply unit (m^3/h):</td>
<td>approx. 130</td>
<td>approx. 180</td>
<td>approx. 130</td>
</tr>
<tr>
<td>Length external cabelling (m):</td>
<td>2.6</td>
<td>1.65</td>
<td>2.6</td>
</tr>
</tbody>
</table>

* Other on request
**TECHNICAL DATA POWERLINE F 50 / F 100**

### Laser head
- **Powerline F 50**
  - Wavelength (nm): 1064
  - Power class (W): 50
  - Pulse frequency (kHz): 50 – 200
  - Pulse width (ns): 120 +/- 20 (50 kHz)
  - Dimensions [length, Ø, mm]: 594, 100
  - Weight (kg): approx. 8.6
  - Ingress protection: IP 54

- **Marking unit**
  - Field size (mm): 120 x 120 [f=160 mm]*
  - Ingress protection: IP 54
  - Weight [without objective] (kg): approx. 3

- **Supply unit (19”) and PC**
  - Supply unit dimensions [W x D x H, mm]: 19” x 463 x 3 rack units
  - Supply unit weight (kg): approx. 28
  - PC dimensions [W x D x H, mm]: 19” x 479 x 2 rack units
  - Power supply: 115 – 240 VAC, +/-10% VAC, 50/60Hz
  - Power consumption supply unit incl. PC (W): approx. 470
  - Operating temperature (°C): 15 – 35
  - Air flow 19” supply unit (m³/h): approx. 130
  - Length external cabelling (m): 2.6

* Other on request

### Laser head
- **Powerline F 100**
  - Wavelength (nm): 1064
  - Power class (W): 100
  - Pulse frequency (kHz): 5.1 – 200
  - Pulse width (ns): 100 +/- 20 (100 kHz)
  - Dimensions [length, Ø, mm]: 594, 100
  - Weight (kg): approx. 8.6
  - Ingress protection: IP 54

- **Marking unit**
  - Field size (mm): 120 x 120 [f=160 mm]*
  - Ingress protection: IP 54
  - Weight [without objective] (kg): approx. 3

- **Supply unit (19”) and PC**
  - Supply unit dimensions [W x D x H, mm]: 19” x 463 x 4 rack units
  - Supply unit weight (kg): approx. 28
  - PC dimensions [W x D x H, mm]: 19” x 479 x 2 rack units
  - Power supply: 115 – 240 VAC, +/-10% VAC, 50/60Hz
  - Power consumption supply unit incl. PC (W): approx. 570
  - Operating temperature (°C): 15 – 35
  - Air flow 19” supply unit (m³/h): approx. 170
  - Length external cabelling (m): 2.6

* Other on request