



Custom Power Supplies for Laser Applications

High Power Standard Platform



High reliability



Compact, scalable design



Custom-designed



PBF introduces the new standard in industrial power supplies. Compact and cost effective, designed especially for the dynamic behaviour in laser power systems. Easy to adapt to customer requirements.

- Power level: 2 – 21 kW, for a single unit
- Water, base plate or fan cooled options
- Output voltage adjustment range: 5 – 52 V and up to 270 V
- Parallel operation with active current sharing for increase of power levels (up to 168 kW)
- Voltage and/or current controllable
- Current capability up to 4300 A
- Pulse load capability: 0 Hz to 200 kHz, optimized for dynamic response
- Interfaces for monitoring and control
- Universal mains: 1 Phase: 100 – 240 V_{AC}, 3 Phase: 200 – 480 V_{AC}
- SEMI F47, UL/CSA safety approvals

Technical Data

| Technical data | 2.4 kW version | 3.8 kW version | 21 kW version |
|-------------------|---------------------------------|----------------------------------|-----------------------------------|
| Output voltage | 10 ... 50 V _{DC} | 5 ... 52 V _{DC} | 0 ... 45 / 90 / 135 / 180 / 270 V |
| Output current | 48 A | 73 A | 540 / 270 / 180 / 135 / 90 A |
| Input voltage | 90 ... 264 V _{AC} 1 ph | 180 ... 528 V _{AC} 3 ph | 340 ... 528 V _{AC} 3 ph |
| Power factor | > 0.99 | > 0.94 | > 0.93 |
| Efficiency | > 93 % | > 93 % | > 93 % |
| Holdup time | > 20 ms | > 10 ms | > 10 ms |
| Temperature range | 0 ... 50 °C | 0 ... 50 °C | 0 ... 50 °C |
| Dimensions (mm) | 425 x 125 x 65 | 410 x 103 x 85 | 445 x 445 x 133 |
| Cooling type | Baseplate / Fan | Baseplate | Water |
| Aux supply | 24 V / 4 A | | |

Common modular system: Solution 1



4 Single units of 3.8 kW running in parallel. Total output power on system level is 15.2 kW.

PBF can provide the complete solution including water cooling and housings or can provide single units that can be integrated into a customized design.

Modular 19" power system: Solution 2

84 kW system, consists of 4 x a 21 kW power supply. The system can be scaled up to 8 units to have a total output power of 168 kW (4300 A). Integrated water cooling provides optimal usage of the available space.



subject to modifications 1810-v1