UNIPOWER
Powering Technology

# Custom High Voltage Power Systems

## A Legacy of Innovation and Reliability

At UNIPOWER LLC, we specialize in advanced built-to-spec custom high power/high voltage power solutions for industrial applications. Our power solutions assure the highest reliability and durability for critical applications.

Customers turn to us when their applications are complex and standard products are inadequate. We have earned our reputation by consistently providing expectation-exceeding custom engineering solutions.

## Meeting Today's Challenges with Custom Solutions

We leverage our vast experience and leading edge technologies to manufacture one-of-a kind high power/high voltage solutions that require demanding performance specifications in extreme environments.

We understand our customers' technical and commercial needs and we can seamlessly function as an extension of an in-house engineering department. Our design teams customize proprietary UNIPOWER LLC conformable platforms to maximize reliability, realize cost effectiveness and maintain critical timeline integrity. Our proven engineering capabilities include:

- High density power
- Innovative power and circuit design
- Thermal and fluid analysis
- Mechanical engineering and packaging
- Electric circuit and field modeling
- Mean Time Between Failure (MTBF) reliability calculations.

Our customization capabilities for 100's of watts through 1000's of watts include:

- AC/DC front end, High Voltage DC/DC converters and power supplies
- Single and multiple outputs
- Continuous or pulsed DC
- Switchmode and linear power topologies
- Conduction, natural convection, forced air and liquid cooling
- Discrete and modular based designs
- Advanced magnetics capabilities
- Solid encapsulation
- Full environmental testing

## UNIPOWER LLC - The Leader in High Power Industrial Solutions

Custom Power for Lasers, Magnetrons and Electron Beam Devices

Our custom designed high power/high voltage solutions have enabled manufacturers in these sectors to deliver the highest quality products. We can work closely with you to tailor a solution for your specific needs.

## Liquid Cooled Design - Lower Operating Costs

Liquid cooling customization provides managed cooling of heat producing components in industrial high power/high voltage applications. Liquid cooling allows the high power/high voltage power supplies to be sealed enabling placement in extreme environments.

## Features and Options

- Low Ripple and fast Transient Response
- Stable output across a wide range of line Voltages and Loads
- Positive, Negative, Reversible or Floating Polarity (factory set)
- Units can be operated in Parallel for Higher Power
- UL, CSA, IEC/CE certifications

## The UNIPOWER LLC Guide to High Power/High Voltage Power Requirements by Industry

| | Industrial | | | | Military | |
|---|---|---|---|---|---|---|
| | Lasers | Advanced Coating | Magnetrons | Electron Beam | Cap Charge | Low Voltage |
| System Power | 5-250kW | | | | 5-250kW | up to 3kW |
| Power Density | 5W/in3 | 25W/in3 | | | 50W/in3 | - |
| Source Mode | Constant Current/Power | | | Const. Voltage/ Power | Constant Current/Power | Single/Multiple Output |
| Cooling | Forced Air or Liquid | | | | Forced Air or Liquid | Forced Air/Convection |
| DC Output | 75-150V Solid State 15-30kV Gas | 400-800V 10-15 kV | 5-50kV | | 5-50kV | 1-2500V |
| DC Mode | Continuous/Pulsed | | | | Single/rep rate | Continuous/Pulsed |
| Input AC | 208/480V 3Ø 50/60HZ | | | | 208/480V 3Ø | 115V 50/60/400HZ 3Ø |
| Input DC | 250/500V | | | | 250/500V | 12-400V |
| Strike Voltage | 30kV | 1500 or 5000V+ | - | | - | |
| Stored Energy | .05mJ/kW | 5mJ/kW | 500mJ/kW | | 0.01mJ/kJ/Sec | |
| RF | - | 40/400kHz | - | | - | |
| Current Min. | 1 mA | 10 mA | | 0 mA (Const. Volt.) | As Required | |
| Pulse Width | 100uSec | | | 500uSec (Voltage) | 50uSec (Off Time) | |
| Rise Time | 30uSec | 100uSec | 50uSec | 500uSec (Voltage) | 1mSec (Voltage) | |
| Rep Rate | 2kHz | | | 1kHz | 1kHz | |
| Regulatory | CE/UL | | | | CE/UL | MIL SPEC |


**HV Design Center**
57 Commerce Drive
Brookfield, CT 06804
Phone: +1-203-740-8555
Email: sales@unipowercorp.com

**Corporate Headquarters**
3900 Coral Ridge Drive
Coral Springs, FL 33065
Phone: +1-954-346-2442
Email: sales@unipowercorp.com