



Medical Lasers



Diode Pump Lasers

## Capacitor Charging Power Supplies



EV Charging Systems



Laser Welders

Your contact:



**Schulz Electronic**  
Professional Power Supplies

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## Why Lumina Power?

Lumina is the largest supplier of OEM laser power supplies  
Our excellent pricing and fast delivery services earn us lifelong customers  
We offer the most complete line of high power Laser Diode Drivers  
Capacitor Charging power supplies with all popular options  
Xenon & Mercury Arc Lamp power supplies and “short pulse” ignitors  
Innovative custom products from prototype to volume manufacturing  
Reliable sales & technical support worldwide.

With experience in high voltage (>300kV) and high power (>150kW), our R&D department can adapt configurations from our library of power supply topologies to meet any requirement imaginable.

Lumina Power, Inc. manufactures a complete line of Capacitor Charging Power Supplies, Capacitor Chargers, laser diode drivers, laser power supplies and Xenon arc lamp power supplies. With over twenty-five years of cumulative power supply design and manufacturing expertise, Lumina Power is able to offer standard and custom laser power designs that solve challenging OEM applications and meet stringent agency safety and emission requirements. Lumina Power's products include high power laser diode drivers, capacitor charging power supplies and Xenon & Mercury arc lamp power supplies.

**CCPF**



### CCPF Capacitor Charging Power Supplies

The CCPF family of capacitor charging power supplies utilizes the latest innovations in power electronics to deliver clean and efficient power for pulsed laser applications. A high power resonant inverter insures reliability during all modes of operating conditions. A soft switching power factor circuit ensures near unity power factor with low EMI. CCPF models can drive both PF loads and reservoir charging circuits.

Leakage current is less than 300uA, power factor is greater than 0.99 and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN EN55011 emission requirements.

The CCPF family has been designed with the knowledge that a high power pulsed laser is a rugged high voltage environment.

<b>ADVANTAGES</b>	• Power factor correction	• Low EMI
• Ideal for OEM applications	• Compact size	• Low leakage for medical apps

**CCHP**



## CCHP Capacitor Charging Power Supplies

The CCHP capacitor charging power supplies utilize the latest innovations in power electronics to deliver clean and efficient energy for pulsed power applications. A high power resonant inverter ensures reliable operation in harsh environments and operating conditions. The CCHP power supply can drive traditional pulse forming networks and reservoir partial discharge circuits. The CCHP is the first commercially available 3 Ø capacitor charger designed as a low cost module for high volume OEM use. Available in 208VAC and 400VAC input voltages the power supply can be used worldwide in medical and industrial applications. We also offer single phase versions of this power supply. Please visit our website for more information.

<b>ADVANTAGES</b>	<ul style="list-style-type: none"> <li>• 3500j/sec or 6000j/sec</li> </ul>	<ul style="list-style-type: none"> <li>• Output Voltages to 4kV</li> </ul>
<ul style="list-style-type: none"> <li>• 200 to 240VAC, 3 Ø Input</li> <li>• 380 to 480VAC, 3 Ø Input</li> </ul>	<ul style="list-style-type: none"> <li>• 24V, 3amp Auxiliary</li> <li>• Compact Design</li> </ul>	<ul style="list-style-type: none"> <li>• Universal Compatible Inter- face</li> </ul>

# CCPF CAPACITOR CHARGING POWER SUPPLIES

Shoebox Style	Poutmax	Voutmax	Input Voltage	Input Current	Size (L x W x H)	Wt
CCPF-500-XX	500J/sec	500V to 4kV	90-264VAC	5.5A @115VAC	9.13" x 6" x 3.7" 23.2 x 15.2 x 9.4 cm	4.5 lbs
CCPF-1500-XX	1500J/sec	500V to 4kV	90-264VAC	15A @115VAC	12.7" x 5.75" x 4.1" 32.3 x 14.6 x 10.4 cm	8 lbs
CCPF-2000-XX	2000J/sec	500V to 4kV	180-264VAC	11A @220VAC	12.7" x 5.75" x 4.1" 32.2 x 14.6 x 10.4 cm	8 lbs
CCPF-3500-XX	4000J/sec	500V to 4kV	180-264VAC	20A @220VAC	14.2" x 5.5" x 6" 36 x 13.4 x 15.2 cm	15 lbs
CCPF-1500-XX-SYS*	1500J/sec	500V to 4kV	180-264VAC	15A@220VAC	12.7" x 5.75" x 4.1" 32.3 x 14.6 x 10.4 cm	8 lbs

\* Includes internal 150mA simmer supply and +24 auxiliary output

Chassis Style	Poutmax	Voutmax	Input Voltage	Input Current	Size	Wt
CCPF-2000-XX	2000J/sec	500V to 15kV	180-264VAC	11A @220VAC	16.5" x 17.3" x 3.7" 41.9 x 43.9 x 9.4 cm	20 lbs
CCPF-6000-XX	6000J/sec	500V to 4kV	180-264VAC	36A @220VAC	16.5" x 17.3" x 3.7" 41.9 x 43.9 x 9.4 cm	25 lbs

## INPUT

Voltage: See table above  
Current: See table above  
Power Factor: >.98

## OUTPUT

Power: See table above  
Output Voltage: Configurable from 500V to 15kV.  
Output Current: 2 \* Poutmax/Voutmax  
Polarity: Positive or Negative  
Efficiency: >80% at full output  
Regulation: 0.5% @100Hz

## INTERFACE

Connector: 15 Pin "D" Sub Female  
Voltage Program: 0-10V for 0-Max Voltage  
Voltage Monitor: 0-10V for 0-Max Voltage  
Inhibit/Reset  
End of Charge Indication  
Temperature Fault  
Over-voltage Indication

## REGULATORY

Leakage Current: <300uA  
Isolation: 4000VAC/5700VDC  
EMI: EN55011  
(depending upon Model)

## ENVIRONMENT

Operating Temp: 0 to 40°C  
Storage: -20 to 85°C  
Humidity: 0 to 90% non-condensing  
Cooling: Forced air



Also available: CCHP-3800/6000  
3Ø capacitor charging power supplies



## Your contact:



# IGBT Driver Board



The IGBT Driver Board is designed to work with the CCPF series capacitor charging power supplies in partial discharge pulsed high voltage applications. With an output capability of up to 800 amps this board offers the designer a proven building block to drive flashlamps, pulsed UV, lasers or plasma devices. For a complete easy to implement system, combine the IGBT Board with a CCPF series capacitor charger and the SM series simmer.

## Specifications

### Performance

Maximum Current: 800 amps \*  
Maximum output voltage: 1200 volts \*  
Pulsewidth Range: 100 $\mu$ s through 10ms.  
Rise/ fall time: 10 $\mu$ s @ 800 amps

### Input/Output Voltages

Input Voltage: 15 Volts DC @ 500mA  
Fire Control: 5 to 15 V to run  
Fan Voltage: 15 Volts DC, 250mA max.

### Connections:

Interface: (J1) 15 pin female D-Sub  
Pin 2, Fire Control: 5 to 15V to run  
Pins, 4, 12, 14 Ground  
All other pins: No Connection

Capacitor Connector: 4 pin Molex: mating connector # 19-09-2048  
Molex pin # 02-09-1102

Lamp Connector: 3 pin Molex: mating connector # 19-09-1039  
Molex pin # 02-09-1102

Input Connector: (J3) 2 Pin Molex # 156

Fan Connection: (J2, J4) .25 male Quick Connects

\* Note: The IGBT board can be configured for different output current and voltage requirements. Contact Customer Service with your requirements.





# CCHP 3 PHASE CAPACITOR CHARGING POWER SUPPLIES

## Specifications

### Input

Voltage: 200 to 240 VAC, +/- 10%. 3Ø 50-60 Hz or  
380 to 480 VAC, +/- 10%, 3Ø 50-60 Hz (Factory Set)

Current: CCHP-3500: 13.7A/Phase, 200V; 7.2A/Phase @380V  
CCHP-6000: 23.5A/Phase, 200V; 11.6A/Phase @380V

Power Factor: PF=0.85

### Output

Power: CCHP-3500: 3500j/sec. avg.  
CCHP-6000: 6000j/sec. avg.

Output Voltage: Configurable from 250V to 4kV  
Output Current:  $2 * P_{outmax}/V_{outmax}$   
Polarity: Positive or Negative (Factory Set)  
Efficiency: >85% at full output  
Regulation: >0.5% @ 100Hz

### Interface

Connector: 15 Pin "D" Sub Female  
Voltage Program: 0 to 10 V for 0 to Max Voltage  
Voltage Monitor: 0 to 10 V for 0 to Max Voltage  
Inhibit/Reset Note: Interface is compatible with CCPF interface or it  
End of Charge Indication can be modified to work with all popular analog interface  
configuratio

### Environment

Operating Temp: 0 to 40° C  
Storage: -20 to 85°C  
Humidity: 0 to 90% non-condensing  
Cooling: Forced air

Dimensions: 17.3 inch (439mm) X 16.6 (422mm) X 3.7 (94mm)

### Regulatory

UL 60950 Safety  
CISPR 11 Conducted and Radiated Emissions  
IEC 61000 Immunity



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