

## **HIGH VOLTAGE CHARGERS** **7500-20000 J/s + Series** **From 300 V to 120 kV Output Voltage**



- ▶ Low stored energy
- ▶ Voltage & Current Outputs continuously adjustable from 0 to full scale
- ▶ High precision regulation
- ▶ Total protection against arcs, overloads and short circuits
- ▶ Over Temperature protection
- ▶ Low cost per J/s
- ▶ High reliability & efficiency
- ▶ Double Resonance Technology (ZVC)
- ▶ V & C Setting and Monitoring from front panel or remote
- ▶ Automatic crossover
- ▶ Remote, Inhibit & Interlock functions
- ▶ 3 ½ digit display with polarity display
- ▶ Safety switch key
- ▶ Master-slaves architecture allowing to go beyond 20 kJ/s

*\*You can choose your own full scales ( $V_{max}$  and  $I_{max}$ ) even if these values are not available in standard. For example, you can get a 15 000 V generator based on 15 000 J/s model. In this case, you will get an Output Voltage adjustable from 0 to 15 000 V and an Output Current from 0 to 2 Amps*



**CCR10 - P- 20000**  
0 to +10kV, 20000 J/s  
*Non- contractual photo*



### Description

Double Resonance Technology operating at high frequencies (50 kHz) offers a smooth switching to all the critical components and provides them a non-stressing behaviour.

Internal power dissipation, harmonics & ripple are significantly reduced.

Hence, our generators can intensively operate with no failure even in rugged environments.

Many of them are used at full power 24h/day, 7days/week with no failure for many years.

Four series of power are offered from 7500 J/s to 20000 J/s.

Above 24KV, High Voltage subassembly is merged in a tank containing mineral oil.

Much higher powers can be reached by using a master/slave architecture or control-unit

With its low cost per J/s, this series is particularly well adapted in applications looking for power and performance at affordable prices.



### Options

- Other Voltage and Current values available with no extracost\*
- Reversibility and Floating outputs
- 4 ½ digit display
- Non instrumented version
- Power regulation
- Arc Detection and counting
- RS232, GPIB and PROFIBUS interfaces
- Optic fibre transmission
- LABVIEW driver
- Relay interface
- Insulated Remote Interface
- Repetition Frequency > 10 Hz
- Customer Remote Adaptation
- Single or multichannel consol unit
- Safety signs and devices alerting to hazard
- Tropicalization
- Transportable "all terrain" container
- Specific AC or DC main power inputs
- OEM version

*Any Special requests can be considered*



# Electrical Specifications

### Output Voltage and Output Current:

Both Voltage Output and Current Output are continuously adjustable from 0 to 100 % (full scale)  
**In local mode:** by using 10 turns potentiometers resolution 0.05%  
**In remote mode:** by an external 0 to 10 V

### Reproducibility (pulse to pulse voltage variation):

**Load Regulation:** ± 0.5 % (Frequency < 10 Hz)  
**Line Regulation:** ± 0.1 % ( for Main Voltage ± 10 %)

### Current regulation:

**Load Regulation:** ± 0.05 % (for 0 – 100 % load)  
**Line Regulation:** ± 0.05 % (for Main Voltage ± 10 %)

### Voltage Holding: 0.25 % p-p (better on request)

### Stored Energy: 0.2J/kJ

### Efficiency: > 92 % full load

• **Protections:** Against short circuit & HV arc to ground  
 Shutdown on Overtemperature, & open interlock

### Stability (after one hour warm-up):

**0.01 % / hour, 0.03 % / 8 hours** of operating with constant load and ambient temperature.

### Temperature Coefficient: 100 ppm/°C

### Operating Temperature: from 0 to 40 °C

### Air Cooling

### Mains Voltage: 400 VAC ± 10 % 47 – 63 Hz 3 Phases + Earth

### Inrush current: limited to full power operating current

### Power factor: > 0.98

• **Calibration:** with probes periodically approved by Authorized Measurement Laboratories

### CE Marking



# Physical description



non-contractual photos

	5U – 19" Rack	7U–19" Rack	19" Cabinet
Dimensions	H222xW483xD600 mm	H222xW483xD600 mm	Height : from 12 to 30 HU Depth : 600 mm

Voltage	CCR 7500 J/s Series		CCR 10 kJ/s Series		CCR 15kJ/s Series		CCR 20kJ/s Series	
	Current	Model	Current	Model	Current	Model	Current	Model
< 1kV	ON REQUEST		ON REQUEST		ON REQUEST		ON REQUEST	
1 kV	15.00 A	CCR1-(P/N/R)-7500	20.00 A	CCR1-(P/N/R)-10000	30.00 A	CCR1-(P/N/R)-15000	40.00 A	CCR1-(P/N/R)-20000
2.5 kV	6.00 A	CCR2,5-(P/N/R)-7500	8.00 A	CCR2,5-(P/N/R)-10000	12.00 A	CCR2,5-(P/N/R)-15000	16.00 A	CCR2,5-(P/N/R)-20000
5 kV	3.00 A	CCR5-(P/N/R)-7500	4.00 A	CCR5-(P/N/R)-10000	6.00 A	CCR5-(P/N/R)-15000	8.00 A	CCR5-(P/N/R)-20000
10 kV	1.50 A	CCR10-(P/N/R)-7500	2.00 A	CCR10-(P/N/R)-10000	3.00 A	CCR10-(P/N/R)-15000	4.00 A	CCR10-(P/N/R)-20000
15 kV	1.00 A	CCR15-(P/N/R)-7500	1.33 A	CCR15-(P/N/R)-10000	2,00 A	CCR15-(P/N/R)-15000	2,67 A	CCR15-(P/N/R)-20000
20 kV	750 mA	CCR20-(P/N/R)-7500	1,00 A	CCR20-(P/N/R)-10000	1,50 A	CCR20-(P/N/R)-15000	2,00 A	CCR20-(P/N/R)-20000
30 kV	500 mA	CCR30-(P/N/R)-7500	667 mA	CCR30-(P/N/R)-10000	1,00 A	CCR30-(P/N/R)-15000	1,33 A	CCR30-(P/N/R)-20000
40 kV	375 mA	CCR40-(P/N/R)-7500	500 mA	CCR40-(P/N/R)-10000	750 mA	CCR40-(P/N/R)-15000	1,00 A	CCR40-(P/N/R)-20000
50 kV	300 mA	CCR50-(P/N/R)-7500	400 mA	CCR50-(P/N/R)-10000	600 mA	CCR50-(P/N/R)-15000	800mA	CCR50-(P/N/R)-20000
60 kV	250 mA	CCR60-(P/N/R)-7500	333 mA	CCR60-(P/N/R)-10000	500 mA	CCR60-(P/N/R)-15000	667 mA	CCR60-(P/N/R)-20000
80 kV	188 mA	CCR80-(P/N/R)-7500	250 mA	CCR80-(P/N/R)-10000	375 mA	CCR80-(P/N/R)-15000	500 mA	CCR80-(P/N/R)-20000
100 kV	150 mA	CCR100-(P/N/R)-7500	200 mA	CCR100-(P/N/R)-10000	ON REQUEST		ON REQUEST	
120 kV	125 mA	CCR120-(P/N)-7500	167 mA	CCR120-(P/N)-10000	ON REQUEST		ON REQUEST	

**Polarity:** P – Positive, N – Negative, (F – Floating outputs & R – Reversibility as option)

**Higher Voltage:** Contact Us

### Example of reference :

CCR 50 N 20000

Mode	CCR model (Capacitor charger Regulation)
Voltage	Adjustable from 0 to 50 kV
Polarity	Negative Polarity
J/s	20000 J/s charging power

Our chargers are supposed to be used in following conditions:

- Complete discharge
- Max. frequency : 10 Hz
- Capacitor Load

If it is used in other conditions, please fill our charger formulary.