

## 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 (Vmax and Imax) 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:**  $\pm 0.5\%$  (Frequency < 10 Hz)

**Line Regulation:**  $\pm 0.1\%$  ( for Main Voltage  $\pm 10\%$  )

### • Current regulation:

**Load Regulation:**  $\pm 0.05\%$  (for 0 – 100 % load)

**Line Regulation:**  $\pm 0.05\%$  (for Main Voltage  $\pm 10\%$  )

### • 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 $\pm 10\%$ 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 Certification



## Physical description



non-contractual photos

|            | 5U – 19" Rack     | 7U–19" Rack       | 19" Cabinet                                 |
|------------|-------------------|-------------------|---|
| Dimensions | H222xW483xD600 mm | H311xW483xD600 mm | Height : from 12 to 30 HU<br>Depth : 800 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/R)-7500 | 167 mA             | CCR120-(P/N/R)-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.