

DC High Voltage Capacitor Charging Power Supplies

150 J/s to 1.5 kJ/s Series CCR

From 300 V to 200 kV output voltage

CCR 15kV-1.5kJ
0 to 15 kV, 1.5 kJ/s
Non-contractual photo



Main information

- Compact & industrial design
- Low stored energy
- Voltage & Current outputs continuously adjustable from 0 to 100%
- Voltage & Current Setting & monitoring from front panel or remote interface
- Customized Voltage & Current * with no extra cost
- High reliability & efficiency
- High precision regulation
- Total protection against arc, overload, short circuit & over temperature
- Automatic Regulation crossover
- Over current limitation
- Remote, inhibit & interlock functions
- 3 ½ digit display with polarity display
- Double resonance technology (ZVC)
- Safety switch key
- Air cooling
- 2 years warranty

* 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 3750 V generator based on 750 J/s model.
In this case, you will get an output voltage adjustable from 0 to 3750 V and an output current from 0 to 0.4 A.

Description

High Voltage CCR models are designed to charge high voltage capacitors and Marx generators.
They operate as constant current sources.

The numerous advantages of compactness, robustness, reliability, and saving offered with the double resonance technology are already available on these models which constitute the low end range.

Five series of chargers are offered:
150J/s, 300J/s, 600J/s, 750J/s & 1.5kJ/s.

These chargers are all based on a 3U and 5U height 19" rack presentation.
Using a modular design, our products integrate the latest technology components.

Above 20KV, HV blocks are in resin.



Options

- ✓ Other voltage and current values available with no extra cost
- ✓ Reversibility and floating outputs
- ✓ Non instrumented front panel
- ✓ Automatic inhibit when discharging
- ✓ RS232, GPIB, Ethernet and Profibus interfaces
- ✓ Optic fiber transmission kit with RS232
- ✓ LABVIEW run time RS232 or GPIB or Ethernet
- ✓ Relay interface 24V DC
- ✓ Insulated Remote interface
- ✓ Emergency stop switch
- ✓ Repetition frequency > 10 Hz. No extra cost
- ✓ Adaptation customer to remote interface
- ✓ Multichannel control unit up to 6 chargers
- ✓ Zero floating
- ✓ Tropicalization
- ✓ Transportable "all terrain" container
- ✓ Specific AC or DC mains power inputs
- ✓ OEM Design on request
- ✓ Remote front panel

Any special requests can be considered

Possible restrictions when multiple options (please contact our sales department for more details)

Electrical specifications

Output Voltage and output Current

Both Voltage Output and Current Output are continuously adjustable from 0 to 100 % (full scale)

local mode: with 10 turns potentiometers *resolution 0.05%*

remote mode: by an external 0 to 10 V

Maximum frequency

In standard : **10 Hz**

On request : **up to 1 kHz** depending on the application

Reproducibility* (pulse to pulse voltage variation)

For frequencies ≤ 10 Hz : ± 0.1 % *better on request*

For $\pm 10\%$ mains voltage : ± 0.1 %

Current regulation*

Load regulation: ± 0.05 % (for 0 – 100 % load)

Line regulation: ± 0.05 % (for Mains Voltage ± 10 %)

Voltage holding: **0.25 % p-p** (*better on request*)

Stored energy: **0.2J/kJ**

Protections

Against short circuit & HV arc to ground

Shutdown on Over temperature & 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**

Efficiency: **> 90 % full load**

Air cooling by air

Dust filter fans on front panel

Easily removable filters for cleaning

Mains voltage

Up to 600 J/s: 170 V to 255 VAC 47-63 Hz Single Phase + Earth

Power factor correction Input: ≥ 0.98

From 750 J/s : **400 VAC** $\pm 10\%$ 47-63 Hz 3 Phase + Earth

Power factor: ≥ 0.98

Inrush current: limited to full power operating current

Calibration: with probes periodically approved by Authorized Measurement Laboratories

CE Certification

* For fixed polarity

Our chargers are supposed to be used in following conditions :

- Complete discharge
- Max. frequency : 10 Hz
- Capacitor Load
- Reversal Voltage $\leq 10\%$ V_{max} under certain conditions

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



Physical description

Non-contractual photo



19" Rack	3U - 480 mm	3U - 600 mm	5U - 600 mm
Dimensions	H 133 x W 483 x D 480 mm	H 133 x W 483 x D 600 mm	H 222 x W 483 x D 600 mm

Voltage	CCR 150 J/s Series		CCR 300 J/s series		CCR 600 J/s Series		CCR 750 J/s Series		CCR 1.5 kJ/s Series	
	Current	Model	Current	Model	Current	Model	Current	Model	Current	Model
< 1 kV	ON REQUEST									
1 kV	300 mA	CCR1KV-150J	600 mA	CCR1KV-300J	1.2 A	CCR1KV-600J	1.5 A	CCR1KV-750J	3.00 A	CCR1KV-1.5KJ
2.5 kV	120 mA	CCR2.5KV-150J	240 mA	CCR2.5KV-300J	480 mA	CCR2.5KV-600J	600 mA	CCR2.5KV-750J	1.20 A	CCR2.5KV-1.5KJ
5 kV	60.0 mA	CCR5KV-150J	120 mA	CCR5KV-300J	240 mA	CCR5KV-600J	300 mA	CCR5KV-750J	600 mA	CCR5KV-1.5KJ
10 kV	30.0 mA	CCR10KV-150J	60.0 mA	CCR10KV-300J	120 mA	CCR10KV-600J	150 mA	CCR10KV-750J	300 mA	CCR10KV-1.5KJ
15 kV	20.0 mA	CCR15KV-150J	40.0 mA	CCR15KV-300J	80.0 mA	CCR15KV-600J	100 mA	CCR15KV-750J	200 mA	CCR15KV-1.5KJ
20 kV	15.0 mA	CCR20KV-150J	30.0 mA	CCR20KV-300J	60.0 mA	CCR20KV-600J	75 mA	CCR20KV-750J	150 mA	CCR20KV-1.5KJ
30 kV	10.0 mA	CCR30KV-150J	20.0 mA	CCR30KV-300J	40.0 mA	CCR30KV-600J	50 mA	CCR30KV-750J	100 mA	CCR30KV-1.5KJ
40 kV	7.50 mA	CCR40KV-150J	15.0 mA	CCR40KV-300J	30.0 mA	CCR40KV-600J	37.5 mA	CCR40KV-750J	75 mA	CCR40KV-1.5KJ
50 kV	6.00 mA	CCR50KV-150J	12.0 mA	CCR50KV-300J	24.0 mA	CCR50KV-600J	30 mA	CCR50KV-750J	60 mA	CCR50KV-1.5KJ
60 kV	5.00 mA	CCR60KV-150J	10.0 mA	CCR60KV-300J	20.0 mA	CCR60KV-600J	25 mA	CCR60KV-750J	50 mA	CCR60KV-1.5KJ
80 kV	3.75 mA	CCR80KV-150J	7.50 mA	CCR80KV-300J	15.0 mA	CCR80KV-600J	18.7 mA	CCR80KV-750J	37.5 mA	CCR80KV-1.5KJ
100 kV	3.00 mA	CCR100KV-150J	6.00 mA	CCR100KV-300J	12.0 mA	CCR100KV-600J	ON REQUEST			
120 kV	2.50 mA	CCR120KV-150J	5.00 mA	CCR120KV-300J						
150 kV	2.00 mA	CCR150KV-150J	4.00 mA	CCR150KV-300J						
200 kV	ON REQUEST									

Polarity can be positive, negative, floating (option), or reversible (option)
 Floating or reversibility options can modify the size of the unit

Higher Voltage: Contact Us

Example of reference : CCR 15KV-150J

Mode : CCR model (capacitor charger)
 Voltage : Adjustable from 0 to 15 kV
 J/s : 150 J/s charging power

HV connectors and cables available



All our chargers are delivered with :

HV output:
 HV connector and 3 meters HV cable

Mains input:
 230 VAC models: 2 meters CE22 cable
 400 VAC models: 4 pins female connector

