

DC High Voltage Capacitor Charging Power Supplies 2.5 kJ/s to 5 kJ/s Series CCR

From 300 V to 200 kV output voltage

CCR 16kV-4kJ
0 to 16 kV, 4 kJ/s
Non-contractual photo



Main information

- Compact & industrial design
- Voltage & Current Outputs continuously adjustable from 0 to full scale
- Voltage & current setting & monitoring from front panel or remote interface
- High reliability & efficiency
- High precision regulation
- Total protection against arc, overload, short circuit & over temperature
- End of charge signal
- Remote, inhibit & interlock functions
- 3 ½ digit display with polarity display
- Fans regulation on 5 kJ/s models
- Possibility to control 2 to 6 units with control unit
- Double resonance technology (ZVC)
- Safety switch key
- 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 45kV generator based on 3kJ/s model. In this case, you will get an Output Voltage adjustable from 0 to 45kV and Output Current from 0 to 133 mA.

Description

High Voltage CCR models are designed to charge capacitors pulse forming networks (PFN) and Marx generators. They operate as constant current sources.

As they integrate both double resonant technology and efficient components, they offer high reliability and performance.

These units integrate local and remote programming and monitoring, safety interlock, short circuit and overload protection like in all our products.

All the models are air cooled and their presentation can be either 19" racks (5U or 7U) or 19" cabinet with lifting rings and wheels.

Four ranges of charge rates available from 2.5kJ/s to 5kJ/s.

Designed to operate without damage or interruption in rugged environments, they support an intensive use 24 hours per day, 7days per week.

HV block can operate in the air up to 15kV models. It is immersed in an oil tank for 20kV models and above.



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 fibre transmission kit with RS232 only
- ✓ LABVIEW run time RS232 or GPIB or Ethernet
- ✓ Relay interface 24V DC
- ✓ Insulated remote interface
- ✓ Control-Unit: for 2 to 6 chargers
- ✓ Repetition frequency > 10 Hz ; no extra cost
- ✓ Customer remote adaptation
General Atomics compatibility CS Series or other
- ✓ Safety signs and devices alerting to hazard
- ✓ Tropicalization
- ✓ Remote front panel
- ✓ Specific AC or DC mains power inputs
- ✓ OEM design on request

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

400 VAC $\pm 10\%$ 47-63 Hz 3 Phase + Earth

Inrush current: limited to full power operating current

Power factor: **> 0.98**

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



	5U – 19" Rack	7U–19" Rack	19" Cabinet
Dimensions	H 222 x W 483 x D 480 mm or	H 311 x W 483 x D 600 mm	Height : from 12 to 30 HU Depth : 800 mm
	H 222 x W 483 x D 600 mm		

Voltage	CCR 2.5 kJ/s Series		CCR 3 kJ/s Series		CCR 4 kJ/s Series		CCR 5 kJ/s Series	
	Current	Model	Current	Model	Current	Model	Current	Model
< 1kV	ON REQUEST						ON REQUEST	
1 kV	5.00 A	CCR1KV-2.5KJ	6.00 A	CCR1KV-3KJ	8.00 A	CCR1KV-4KJ	10.00 A	CCR1KV-5KJ
2.5 kV	2.00 A	CCR2.5KV-2.5KJ	2.40 A	CCR2.5KV-3KJ	3.20 A	CCR2.5KV-4KJ	4.00 A	CCR2.5KV-5KJ
5 kV	1.00 A	CCR5KV-2.5KJ	1.20 A	CCR5KV-3KJ	1.60 A	CCR5KV-4KJ	2.00 A	CCR5KV-5KJ
10 kV	500 mA	CCR10KV-2.5KJ	600 mA	CCR10KV-3KJ	800 mA	CCR10KV-4KJ	1.00 A	CCR10KV-5KJ
15 kV	330 mA	CCR15KV-2.5KJ	400 mA	CCR15KV-3KJ	530 mA	CCR15KV-4KJ	670 mA	CCR15KV-5KJ
20 kV	250 mA	CCR20KV-2.5KJ	300 mA	CCR20KV-3KJ	400 mA	CCR20KV-4KJ	500 mA	CCR20KV-5KJ
25 kV	200 mA	CCR25KV-2.5KJ	240 mA	CCR25KV-3KJ	360 mA	CCR25KV-4KJ	400 mA	CCR25KV-5KJ
30 kV	170 mA	CCR30KV-2.5KJ	200 mA	CCR30KV-3KJ	270 mA	CCR30KV-4KJ	330 mA	CCR30KV-5KJ
40 kV	130 mA	CCR40KV-2.5KJ	150 mA	CCR40KV-3KJ	200 mA	CCR40KV-4KJ	250 mA	CCR40KV-5KJ
50 kV	100 mA	CCR50KV-2.5KJ	120 mA	CCR50KV-3KJ	160 mA	CCR50KV-4KJ	200 mA	CCR50KV-5KJ
60 kV	80 mA	CCR60KV-2.5KJ	100 mA	CCR60KV-3KJ	130 mA	CCR60KV-4KJ	170 mA	CCR60KV-5KJ
80 kV	60 mA	CCR80KV-2.5KJ	80 mA	CCR80KV-3KJ	100 mA	CCR80KV-4KJ	130 mA	CCR80KV-5KJ
100 kV	50 mA	CCR100KV-2.5KJ	60 mA	CCR100KV-3KJ	80 mA	CCR100KV-4KJ	100 mA	CCR100KV-5KJ
120 kV	40 mA	CCR120KV-2.5KJ	50 mA	CCR120KV-3KJ	70 mA	CCR120KV-4KJ	80 mA	CCR120KV-5KJ
150 kV	ON REQUEST						ON REQUEST	
200 kV	ON REQUEST						ON REQUEST	

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

Example of reference : CCR 80KV- 3KJ

Mode : CCR model (capacitor charger)
Voltage : Adjustable from 0 to 80 kV
J/s : 3 kJ/s charging power

All our chargers are delivered with :

HV output:
HV connector and 3 meters HV cable

Mains input:
400 VAC models: Terminal Block connector

Higher Voltage: Contact Us
HV connectors and cables available

