DC High Voltage Generators

10kW to over 40kW SR Series
From 300V to over 200kV output voltage

Main information

- Compact & industrial design
- Low stored energy
- Low cost per Watt
- Voltage & current outputs continuously adjustable from 0 to 100%
- Voltage setting limitation (locally)
- 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
- 4 ½ digit display with polarity display
- Double resonance technology (ZVC)
- Safety switch key
- Air cooling with high reliability fans
- Fans regulations
- Up to 200 kW with Master / Slave architecture
- 2 years warranty

*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 45 kV generator based on 60 kW model.
In this case, you will get an output voltage adjustable from 0 to 45 kV and an output current from 0 to 1.33 A.

Description

Double resonance technology operating at high frequency (40 kHz) improves reliability by a smooth switching of critical components.

In addition, internal power dissipation, harmonics & ripples are significantly reduced.

Hence, our generators can intensively operate with no failure even in rugged environments.
Many of them are used at full power 24 hours per day, 7 days per week.

Up to 500 kW with Master / Slave architecture.

Above 20KV, HV blocks are in oil.

With its low cost per Watt, this series is particularly well adapted in applications looking for high power and performance at competitive prices.
Electrical specifications

Output Voltage and Output Current
Both Voltage Output and Current Output are continuously adjustable from 0 to 100% (full scale)
Local mode: by using 10 turn potentiometers resolution 0.05%
Remote mode: by external 0 to 10V

Voltage regulation*
Load Regulation: ±0.05% of full voltage (for 0 – 100% load)
Line Regulation: ±0.05% of full load (for Mains Voltage ±10%)

Current regulation*
Load Regulation: ±0.05% of full current (for 0 – 100% load)
Line Regulation: ±0.05% of full load (for Mains Voltage ±10%)

Ripple + Noise
0.1% RMS of full voltage

Settling time
80ms typical for output voltage ≤80kV**, up to 10ms available on request*

Protections
Short circuit
HV arc to ground (Stop time of 100ms)
Shutdown on Over temperature
Open interlock

Stored energy: 1 J/ kW

Stability (after one hour warm-up)
0.01%/hour, operating at constant load and constant ambient temperature

Temperature Coefficient: 100 ppm/°C

Operating Temperature: from 0 to 50°C

Efficiency: > 92% at full load

Air Cooling by air:
Dust filter fans on front panel
Easily removable filters for cleaning

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

Power Factor: ≥0.9 at full load

Inrush current: limited to full power operating current

Calibration: with probes periodically approved by Authorized Measurement Laboratories

CE Certification

Options

- Other voltage and current values available with no extra cost
- Reversibility
- Floating outputs (unipolar or bipolar)
- Non instrumented front panel
- Power regulation
- Other settings for Arc protection
- Arc management
- RS232, Ethernet and Profibus interfaces
- Optical fibre transmission kit with RS232 or Ethernet
- LABVIEW run time for RS232 or Ethernet
- Relay interface 24V DC
- Isolated Remote interface
- Adaptation to Customer’s remote interface
- Emergency stop switch
- Safety signs and devices alerting to hazard
- Industrial dust filters
- Multichannel control unit
- Zero floating
- Adjustable rise time
- Tropicalization
- Transportable “all terrain” container
- Specific AC or DC mains power inputs
- OEM Design on request
- Remote front panel

* For fixed polarity
** 300 ms typical for output voltage ≥81kV

Possible restrictions when multiple options are selected (please contact our sales department for more details)
Physical description

<table>
<thead>
<tr>
<th>Dimensions (HxWxD)</th>
<th>5U – 19” Rack</th>
<th>7U – 19” Rack</th>
<th>10 U – 19” Rack</th>
<th>19” Cabinet</th>
</tr>
</thead>
</table>
|                    | 222x483x600 mm | 311x483x600 mm | 444x483x600 mm | Height: from 12 to 42 HU
|                    |              |              |                | Depth: 800 mm |

<table>
<thead>
<tr>
<th>Voltage</th>
<th>SR 10 kW Series</th>
<th>SR 15 kW Series</th>
<th>SR 20 kW Series</th>
<th>SR 30 kW Series</th>
<th>SR 40 kW Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 V</td>
<td>33.33 A SR300V-10KW</td>
<td>50.00 A SR700V-15KW</td>
<td>66.67 A SR700V-20KW</td>
<td>42.86 A SR700V-30KW</td>
<td>57.14 A SR700V-40KW</td>
</tr>
<tr>
<td>700 V</td>
<td>14.29 A SR700V-10KW</td>
<td>21.43 A SR700V-15KW</td>
<td>28.57 A SR700V-20KW</td>
<td>30.00 A SR1KV-30KW</td>
<td>40.00 A SR1KV-40KW</td>
</tr>
<tr>
<td>1 kV</td>
<td>10.00 A SR1KV-10KW</td>
<td>15.00 A SR1KV-15KW</td>
<td>20.00 A SR1KV-20KW</td>
<td>30.00 A SR1KV-30KW</td>
<td>40.00 A SR1KV-40KW</td>
</tr>
<tr>
<td>2.5 kV</td>
<td>4.00 A SR2.5KV-10KW</td>
<td>6.00 A SR2.5KV-15KW</td>
<td>8.00 A SR2.5KV-20KW</td>
<td>12.00 A SR2.5KV-30KW</td>
<td>16.00 A SR2.5KV-40KW</td>
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<tr>
<td>5 kV</td>
<td>2.00 A SR5KV-10KW</td>
<td>3.00 A SR5KV-15KW</td>
<td>4.00 A SR5KV-20KW</td>
<td>6.00 A SR5KV-30KW</td>
<td>8.00 A SR5KV-40KW</td>
</tr>
<tr>
<td>10 kV</td>
<td>1.00 A SR10KV-10KW</td>
<td>1.50 A SR10KV-15KW</td>
<td>2.00 A SR10KV-20KW</td>
<td>3.00 A SR10KV-30KW</td>
<td>4.00 A SR10KV-40KW</td>
</tr>
<tr>
<td>15 kV</td>
<td>667 mA SR15KV-10KW</td>
<td>1.00 A SR15KV-15KW</td>
<td>1.33 A SR15KV-20KW</td>
<td>2.00 A SR15KV-30KW</td>
<td>2.67 A SR15KV-40KW</td>
</tr>
<tr>
<td>20 kV</td>
<td>500 mA SR20KV-10KW</td>
<td>750 mA SR20KV-15KW</td>
<td>1.00 A SR20KV-20KW</td>
<td>1.50 A SR20KV-30KW</td>
<td>2.00 A SR20KV-40KW</td>
</tr>
<tr>
<td>30 kV</td>
<td>333 mA SR30KV-10KW</td>
<td>500 mA SR30KV-15KW</td>
<td>667 mA SR30KV-20KW</td>
<td>1.00 A SR30KV-30KW</td>
<td>1.33 A SR30KV-40KW</td>
</tr>
<tr>
<td>40 kV</td>
<td>250 mA SR40KV-10KW</td>
<td>375 mA SR40KV-15KW</td>
<td>500 mA SR40KV-20KW</td>
<td>750 mA SR40KV-30KW</td>
<td>1.00 A SR40KV-40KW</td>
</tr>
<tr>
<td>50 kV</td>
<td>200 mA SR50KV-10KW</td>
<td>300 mA SR50KV-15KW</td>
<td>400 mA SR50KV-20KW</td>
<td>600 mA SR50KV-30KW</td>
<td>800 mA SR50KV-40KW</td>
</tr>
<tr>
<td>60 kV</td>
<td>167 mA SR60KV-10KW</td>
<td>250 mA SR60KV-15KW</td>
<td>333 mA SR60KV-20KW</td>
<td>500 mA SR60KV-30KW</td>
<td>667 mA SR60KV-40KW</td>
</tr>
<tr>
<td>80 kV</td>
<td>125 mA SR80KV-10KW</td>
<td>188 mA SR80KV-15KW</td>
<td>250 mA SR80KV-20KW</td>
<td>375 mA SR80KV-30KW</td>
<td>500 mA SR80KV-40KW</td>
</tr>
<tr>
<td>100 kV</td>
<td>100 mA SR100KV-10KW</td>
<td>150 mA SR100KV-15KW</td>
<td>200 mA SR100KV-20KW</td>
<td>300 mA SR100KV-30KW</td>
<td>400 mA SR100KV-40KW</td>
</tr>
<tr>
<td>120 kV</td>
<td>83.3 mA SR120KV-10KW</td>
<td>125 mA SR120KV-15KW</td>
<td>167 mA SR120KV-20KW</td>
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</tr>
</tbody>
</table>

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

Example of reference: **SR 15KV-40KW**

Mode: SR model (generator)
Voltage: Adjustable from 0 to 15 kV
Power: 40 kW

All our generators are delivered with:

- **HV output:** HV connector and 3 meters HV cable
- **Mains input:** 4 pins feed-through terminal

HV connectors and cables available

Contact us