



SR-- 300 W Series  
SR-- 600 W Series  
SR-- 1200 W Series  
SR-- 1500 W Series

High Voltage Power Supplies  
1 KV – 160 KV

## User Facilities

**Double Resonance Technique**  
**IGBT power conversion technique**  
**Compact design**  
**Protected against overload, short circuit and arcs**  
**Automatic crossover**  
**Low stored energy**  
**Positive, negative or reversible polarity**  
**Easy to use front panel**



SR – 5 – P – 600 ---- 5 kV / 120mA

## Specifications on request

- Blank front panel
- Other voltage & current on request
- Other colour & logo on request
- Fibre optic
- Sequences programming (electronics or computing)
- Additional electronics on request
  - Isolated relay interface
  - Electric arcs detection

## Applications

- Electrostatics environments
- Ion Implantation
- Characterisation of semiconductors
- Electron Beam Processing
- Chemistry & Nuclear instrumentation
- R&D Laboratory

## Description

Soft resonant switching, in particular double resonance switching, allows to reach very high performance and offers innovative solution to remove linearity problems.

A non-constant duty cycle PWM guaranties a closed-loop control . This is very efficient for low ripple & noise specifications.

Modern semiconductors, especially IGBT, are designed for double resonance switching converters as a successor of turn-off circuits for thyristors. The driving and blocking losses are insignificant with this new technology.

High voltage transformer and low-pass filter (HV diode + capacitance) are used for the voltage ranging up to 20 kV while a multiplier is used for the power ranging up to 1 kW.

## Electrical Specifications

- **Output voltage and current :**

From 0 to 100 % adjustable in local mode by using potentiometer

From 0 to 100 % adjustable in remote control mode by an external voltage 0 to 10 V

- **Voltage regulation :**

Load Regulation < 0.05 % (0 – 100 %)

Line Regulation < 0.05 % (Main Voltage +/- 10 %)

- **Current regulation :**

Load Regulation < 0.1 % (0 – 100 %)

Line Regulation < 0.05 % (Main Voltage +/- 10 %)

- **Ripple + Noise:** < 0.1 %

- **Setting Time:** < 300 mS typical, < 10 mS available

- **Temperature Drift:** 0.01 % RMS after ¼hr. warm-up, 0.05 % RMS after 8 hours of functioning with constant load and ambient temperature.

- **Temperature Coefficient:** < 0.01 %/°C

- **Efficiency:** > 88 % full load

- **Recovery Time After Arc:** < 1 mS

- **Main Voltage:** 230 VAC 47 – 63 Hz + earth for power < 1000 W  
400 VAC 47 – 63 Hz 3 phases + earth for power > 1200 W

## Physical Specifications

- **Size :** 19" rack with 3 HU, H133 x W483 x D480

- **Output Connector :** 3 meters, appropriately rated high voltage shielded cable

- **Input Connector:** CE22 model with female cable

- **Front panel programming and control :**

-Light on main input network

-Voltage & current control by 10 turn potentiometers resolution < 0.05 %

-3 ½digit display for voltage & current setting / read-out value, with 0.2 % accuracy

-HV on push button with green led indicator

-HV off push button with red led indicator

-OCL/OCP (over-current limitation, over-current protection) push button with 2 green led indicators

-Push button for reading voltage & current setting

-Main input voltage red led indicator

-Voltage mode green led indicator, current mode green led indicator

-Default red led indicator

-Open loop red led indicator

-Local / Remote green led indicator

## Available functions in Remote Control Mode

**Output Voltage Prog. :** adjustable 0–100 % with 0-10V

**Output Current Prog. :** adjustable 0-100 % with 0-10V

**Voltage Monitor:** 0 to 10V = 0 to 100 % output voltage

**Current Monitor:** 0 to 10V = 0 to 100 % output current

**HV on/off Status:** 0V = HV off, 15V - 1mA = HV on

**Regulation Mode:** 0V = Reg I, 15V – 1mA = Reg U

**Local/Remote Mode:** 0V = remote, open collector = local

**Inhibit:** activated by TTL or CMOS signal (3.3V to 18V)

**HV ON:** closed to earth dry-contact

**HV OFF:** opened to earth dry-contact

**Interlock:** 0V = opened, 15V – 1mA = closed

**Default:** 0V = Default, 15V – 1mA = normal mode

**+10V Reference:** + 10V – 2mA

## Remote Connector

1. Local/Remote Mode
2. Inhibit
3. Current Monitor
4. Voltage Monitor
5. HV ON
6. Interlock
7. Default
8. HV OFF
9. Common
10. HV on/off Status
11. Regulation Mode
12. Output Voltage Programming
13. Common
14. +10V Reference
15. Output Current Programming

## Options

- RS232, GPIB Interfaces
- LabVIEW software driving
- Regulation of the power
- 4 ½digit display

## EXAMPLE OF REFERENCE

**SR – 100 – N – 300 –RS**

**Model**

**SR** model ( *Supply Regulation* )

**Voltage**

Adjustable Voltage from 0V to **100** kVolts

**Polarity**

Negative polarity

**Power**

**300** W power

**Option**

**RS232** option