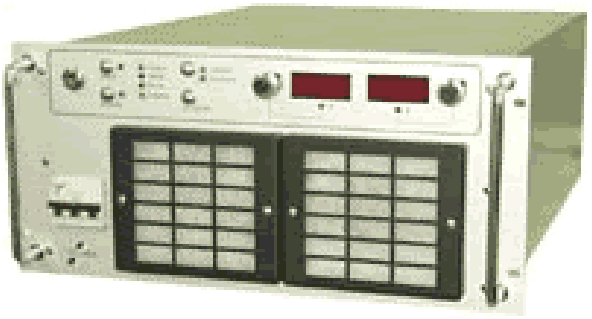
TECHNIX

SR--6 kW Series
SR--8 kW Series
SR--12 kW Series
SR--15 kW Series

High Voltage Power Supply
1 KV - 160 KV

User Facilities

High frequency, series & parallel resonant converter
Voltage/current regulation with automatic transition
Over voltage, over current, short circuit & arc protected
Low ripple & noise
High stability and low temperature drift
Low EMI
Coloured industrial cabinet equipped with casters
Air outlet with fan air cooling



SR – 20 – N – 12.000 – RS232

Specifications on request

- Blank front panel
- Other voltage & current on request
- Other colour & logo on request
- Fibre optic
- Additional electronics on request
  - Isolated relay interface
  - Electric arcs detection
  - Electric arcs counting
  - …

Applications

- Plasma, laser & x-ray
- Passive components fabrication
- Military instrumentation
- Soldering by electron guns
- Magnetrons
- R&D Laboratory
- High energy physics

Description

Series & parallel resonant converter, combined with Insulated Gate Bipolar Transistors working at high frequencies provides significant improvements in terms of reliability and efficiency.
Internal power dissipation, harmonics & ripple are reduced in this soft resonant switching method.

This series of high voltage power supplies offers low stored energy suitable for many applications such as the X- ray tubes and limits the discharged energy when an electrical arc occurs at the output.

For the voltage ranging up to 15 kV, a simple output high voltage transformer is used while multiple outputs high power transformer with rectifier boards are immersed in an oil tank for the higher voltages from 20 kV up to 160 kV.

Electrical Specifications

- **Output voltage and current :**

From 0 to 100 % adjustable in local mode by using potentiomter
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 ½ hr. warm -up, 0.05 % RMS after 8 hours of functionment with constant load and ambiant temperature.

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

- **Efficiency:** > 92 % full load

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

- **Main Voltage:** 400 VAC 47 – 63 Hz 3 phases + earth

Physical Specifications

- **Size :**
  - 19" rack with 5 HU, H222 x W483 x D580 up to 15 kV.
  - 19" rack with 5 HU, H222 x W483 x D580 + oil tank 7 HU - 19", H311 x W483 x D580 for higher voltages

- **Output Connector :** Appropriately rated high voltage shielded cable

- **Input connector :** 4 points Socapex model with female plug.

- **Front panel programming and control :**

- Main power general breaker
- Key switch
- 3 ½ digit 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. Ground Reference
10. HV on/off Status
11. Regulation Mode
12. Output Voltage Programming
13. Ground Reference
14. +10V Reference
15. Output Current Programming

Options

- RS232, GPIB Interfaces
- LabVIEW softwra driving
- Regulation of the power
- 4 ½ digit display
- Floating output Voltage

EXAMPLE OF REFERENCE

SR – 20 – N – 12000 –RS

Model	***SR*** model (***S****ource* ***R****egulation* ***)***
Voltage	Adjustable Voltage from 0V to ***20*** kVolts
Polarity	**N**egative polarity
Power	***12000*** W power
Option	***RS***232 option