



SCR ELEKTRONIKS

Leading Manufacturer of Industrial Electronic Products since 1975

Dombivli: W-188(B), Phase II, M.I.D.C., Dombivli (E), Dist. Thane-421 204, Maharashtra, INDIA.

Tel. : 91-251-287 1778 / 287 1790, Fax : 91-251-287 1538

Mumbai: 113/3751, Nehru Nagar, Kurla(E), Mumbai-400 024, Maharashtra, INDIA.

Tel. : 91-22-2522 7356.

Email : scr@vsnl.com, **Website :** www.screlektroniks.com

Constant Current Source Dc

Constant Voltage / Constant Current Power Supply 30 V / 200 Amp

Introduction

SCR ELEKTRONIKS make Constant Voltage / Constant Current Power Supply is precision constant Voltage /Constant Current DC Power source. The basic design is very rugged & reliable. The system is based on Preregulator / Series Regulator Principle. Preregulator consists of a thyristorised circuit. The Input AC Voltage supply is given to Thyristorised preregulator which in turn is given to primary of the power transformer. Secondary of the transformer is rectified and filtered with LC filter to give lower ripple. The filtered output is given to series pass transistor bank. To minimise the power dissipation in series pass transistor bank, the Voltage across the transistors is sensed and kept at 5 volt with the help of preregulator module. When the output voltage is changed, the input to series pass regulated is adjusted automatically (set voltage + 5 volt) so that voltage across transistor bank is maintained so as to give required output voltage with minimum dissipation in series pass transistor bank.

In Constant Voltage Mode, the voltage feedback (with + ve output as reference & feedback from negative output) is used for maintaining the output voltage constant. The output voltage can be set with a potmeter provided on front panel. In case there is a change in Input Supply voltage or drop due to loading the corrective action is taken by series pass elements with help of high gain amplifier. This voltage will be maintained constant till the set current is more than the load current. When the set current limit is exceeded the voltage starts falling & the system goes into constant current source.

In Constant Current Mode the feedback is taken from shunt and it is compared with the set limit. The current Limit can be set with the help of potmeter provided on front panel.

In case the current taken by the load exceeds this limit the power supply goes into constant current mode and the voltage drops down and the current is kept constant even if the output is short circuited.

As the final control is through series pass element the regulation in both voltage and current is better than 0.2% and the ripple is negligible. Sufficient heat sinks are provided to avoid excessive temperature rise.

