



Technical Brochure IGBT based Rectifier

RELIABLE'S make IGBT Rectifiers are designed to meet industrial application requirements. An insulated –Gate Bipolar Transistor (IGBT) uses relatively high frequency switching and pulse width modulation (PWM) technology for voltage and current regulation whilst a silicon controlled rectifier (SCR) uses relatively low frequency switching and phase shift technology.

RELIABLE'S make IGBT based Rectifiers are smaller in size and lighter in weight, more energy efficient and more cost effective compared to SCR & Rolling contact type Technology.



Application Field

The IGBT Rectifier is used for Plating, Anodizing, Electro polishing, Electrolysis, Electro winning, Electro Refining, Tinning, Electronic Cleaning, Pickling, Surface Coloring, Cathode Protection.

Heating

- Inductive Heating
- D.C. Heating
- Single Phase AC Heating

Water Treatment

- Waste Water Treatment
- Sea Water Treatment

Technical Specification

Input Voltage	3 Phase, AC 380V, 480V, 415V, 220V ±10%, 50 -60Hz.
Output DC Voltage	Up to 400V
Output DC Current	Up to 20000Amps.
Protection Class	IP31, on request up to IP44
Efficiency	≥ 90% @ rated output
Power Factor	≥ 0.93 @ rated output



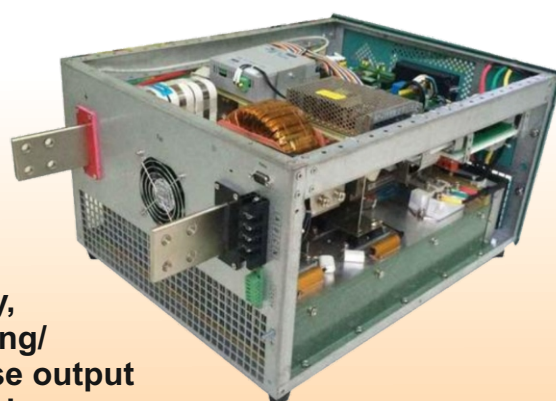
Ambient Temp.	Max. 40°C (Forced Air Cooling)
Cooling	Forced Air Cooling
Regulation Range	Stepless at constant voltage or current 0-100%
Control Precision	Voltage / current less than 0.5%
Duty Ratio	Continuous operation at rated loads up to 2000m altitude
Control Mode	Constant Current / Voltage /Power
Operation Mode	Local/ remote
Relative Humidity	15% -85% RH
Interface	Rs485, RS232, MODBUS TPC, Profibus -DP, Profinet, Analogue 0-10V, Analogue 4-20mA
Parallel Connection	No Limit
HMI	Touch Panel or Digital Meters /buttons

Protection Features

Overheat, Output over voltage / under voltage, Output over current, Output short circuit, Single Phase.

IGBT switch mode rectifier has more advantages compared to Conventional rectifier, such as:

- Lower investment cost
- Energy saving because of higher conversion efficiency, especially at low DC output voltage. Less electroplating/ anodizing time needed because of high frequency pulse output
- High power factor >0.94, avoid government fine due to low power factor
- Compact size, 1/3 size of SCR size
- Light weight, easy to install, transport and maintain



Reliable Power Systems

Regd. Office : 43D, HSIIDC, Sector-31, Faridabad-121003 (Haryana) INDIA, Phone : (O) +91-129-2273512 Telefax : +91-129-4047870

Works : Plot No. 4, Gali No. 5 (W), Sarurpur Indl. Area, Faridabad-121004

E-mail : info@reliable.net.in, rps.arunsharma@gmail.com, Website : www.reliable.net.in / www.reliablepowersystem.com