

## RDC3000

## Battery Charger/Rectifier Series

Heavy-duty industrial DC rectifier - battery charger Lead acid or Ni-Cd batteries Output voltage 24, 48, 110, 220Vdc and output current from 50A to 2500A RDC3000 model is the SATRON state-of-the art rectifier, specifically designed to ensure the maximum power availability in the most demanding industrial environments.

### HIGHLIGHTS

- SATRON RDC3000 rectifier supplies continuous DC loads and keeps the batteries charged, ensuring the full continuity of the services
- The battery charging cycle is managed in a completely automatic way, as per IEC 478-1
- The batteries are permanently connected to the DC loads, the system therefore can respond immediately to impulsive loads, such as electric motors, MV/HV circuit breaker release coils, etc
- Engineered product, fully customizable and with a wide range of options, the SATRON RDC3000 can be supplied in a single or redundant configuration, with a change-over system designed as per Client technical specifications

### APPLICATIONS

- RDC3000 Compact Battery Charger Rectifier for Industrial applications• Oil & Gas
- Energy production and distribution
  - Process controls
  - Transportation
  - Safety
  - Telecommunications
  - All the industrial & process control applications (chemical, mining, steel, paper, etc.)

### MAIN FEATURES

- Microprocessor control
- Digital control panel
- Serial interface for remote PC control
- Battery Rectifier (BR) for charging Lead-acid, Ni-Cd and Sealed Type Batteries
- 6-12 pulse SCR Bridge
- Natural convection cooling
- Fast dynamic response
- High efficiency
- High reliability
- Easy maintenance/Front access

### STANDARDS

- Quality and management system: ISO 9001 – 2000
- Safety: IEC EN 50178
- CE Conformity: Yes
- EMC: IEC EN 61000-6-1, 61000-6-6-2, 61000-6-4
- Semiconductor Convertors: IEC EN 60146-1-1, 60146-1-3, 60146)

## TECHNICAL CHARACTERISTICS

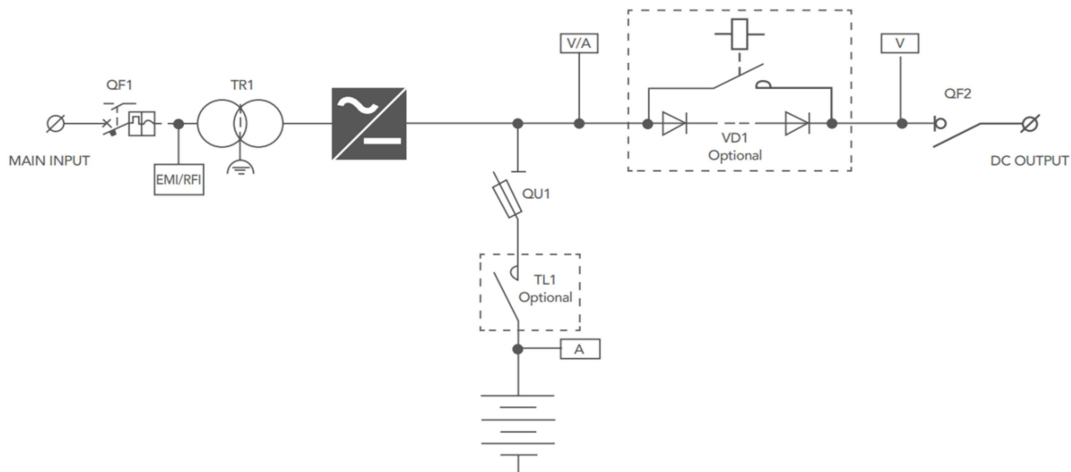
### Construction design

The cabinet is IP20 (Other on request) protection degree with closed door and it is painted with RAL 7035 oven-dried polyester epoxy powder.

The system has a natural ventilated top. The cable inlet is on the bottom and a handy shaft leads to the terminal board. The internal layout is designed to allow an easy connection of power cords and the cables for the remote signals and controls

## OPTIONS

- Battery automatic Circuit Breaker (thermal-magnetic release)
- Blocking Diode on Output for parallel operation
- Surge arresters on Input
- DC Earth Fault monitor with separate positive & negative signalisation
- Relay card with up to #24 remote signals Active load sharing 10% In in parallel operation
- Fan monitor and alarm Base metal plate with removable undrilled plate for installation on site
- Temperature sensor (cable length=10m) for charging voltage compensation
- Communication Port: USB or RS485 or Ethernet TCP/IP with MODBUS Protocol
- DC Distribution Panel
- Dropping Diodes for Load voltage regulation
- Battery (with rack or cabinet)
- Other Input /Output voltages
- Other Cabinet IP/colour/dimensions
- Battery monitoring
- Mod-Bus or Ethernet interface card



Single Line Diagram

## RDC3000 TECHNICAL SPECIFICATIONS

### Input

Rated input voltage	3Ph 400 Vac
Voltage tolerance	±10% (full operating capacity), +15%/-20% (with performances derating)
Frequency	50-60 Hz
Frequency tolerance	±5%

### Output

Rated output voltage	24, 48, 110, 220 Vdc
Rated output current	From 50 A to 2500 A
Ripple on DC voltage	<1% RMS without batteries connected

### Battery

Type	Lead acid and NiCd
Back-up time	As required (from few minutes to several hours)
Charging characteristics	As required by IEC 478-1

### Voltage regulation

Static voltage regulation	±0,5% under the conditions: at floating charge, 0-100% DC load variation, input voltage ±10%, input frequency ±5%, temperature from 0-40°C
Dynamic voltage regulation	As per IEC 62040-5-3

### Rectifier technology

Type	Thyristor 6-pulse/12-pulse total controlled bridge (SCR)
Rectifier bridge cooling	Output current ≤250A: natural; output current ≥250A: force

### THD in input

6-pulse rectifier bridge	<30%
12-pulse rectifier bridge	<10%

### Instrumentation

Display	Backlit graphic LCD for Meters, Alarm/Status messages, History events & Parameters Settings
Visual alarms and indication	Up to 20 signalizations
Relays alarms	4 (standard), up to 8 (optional)
Communication interfaces	Modbus, Ethernet, dry contacts SPDT

### General data

AC/DC efficiency at 100% load	92÷94% (depending on the output power range)
Acoustic noise at 1 m	<60 dBA
Maximum altitude	1000 m
Cabinet cooling	Natural
Cabinet IP degree	IP20 other on request
Metal standard thickness	2.5 mm (frame), 2.0 mm (door)
Humidity range	From 10% to 95% not condensated
Operating temperature	From 0°C up to +55°C
Storing temperature	From -20°C to +70°C (battery excluded)
From -20°C to +70°C (battery excluded)	Overload and short circuit, high voltage, current limitation, thermal protection
Outgoing protection	Overload and short circuit, high voltage, current limitation, thermal protection

### Standards

Quality	ISO 9001 - 2008
CE Conformity	Yes
Safety	IEC EN 60950
EMC	IEC EN 61000-6-2, 61000-6-4
Semiconductor Convertors	IEC EN 60146-1-1, 60146-1-3, 60146-2



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Contact details can be found on:  
[www.satronpower.com](http://www.satronpower.com)