



**gentec**

## Battery Charger RD Series

***Note: RD Series is a previous model.  
Please choose the RS Series for any new  
project.***

The RD Series battery chargers have been designed to provide a most reliable power source for battery and connected loads. The technology uses thyristors with controlled conduction angle.

Typical clientele are the heavy industry and electricity service companies.



**Battery charger  
125 VDC, 150 A**

A microprocessor control module with a large LCD screen (provides the measurement (voltmeters, ammeters), the monitoring (comprehensive alarm system), remote communication, and battery optimal charge. The battery charger accepts all industrial battery types.

- ✓ Battery optimal charge
- ✓ Battery monitoring and automatic testing
- ✓ Remote monitoring using network access (MODBUS protocol)
- ✓ Life expectancy of more than 25 years
- ✓ Supported by a large team of engineers and technicians

RD Series

## MAIN FEATURES

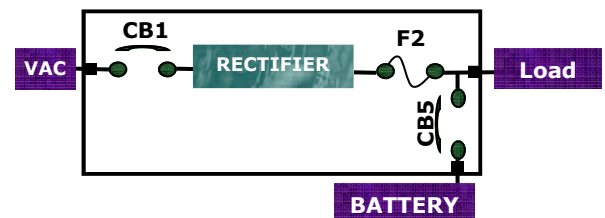
- Output voltage 125 VDC (other output voltages available as option);
- Thyristor rectifiers;
- Redondant chargers available as option (MD Series);
- Can be used with any type of industrial battery;
- Cabinet includes the chargers and the battery can also be shipped inside a single cabinet;
- Interface on a large LCD screen (voltmeters, ammeters, history of last 200 alarms, menus, secure access, etc.);
- c/CSA/us certified by CSA C22.2 No C107.2-01 and listed by UL Std 1012  
Note: Most of our models are certified and listed, contact Gentec to confirm.

## CONFIGURATIONS

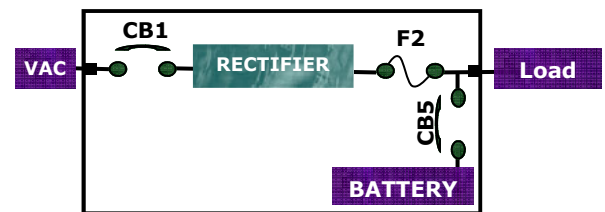
Two (2) configurations are available. They permit optimizing the connections between the charger, the battery, the distribution panel, and the loads.

The **"BX" configuration** allows for the connection of a battery to the charger without requiring an additional panel for the interconnection. This eliminates the cost for labor, material and space related to a new panel installation. Also, this allows for addition of numerous features related to battery monitoring (additional alarms, battery test mode, battery charge current limitation, etc.).

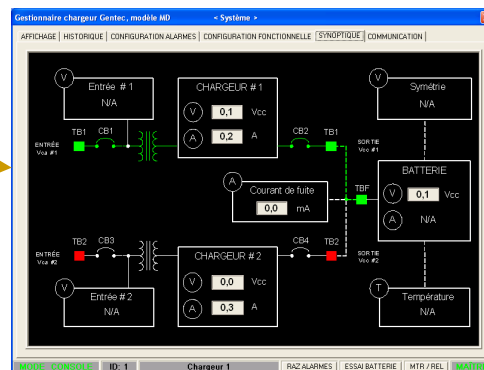
The **"BI" configuration** is identical to the "BX" configuration except that the battery is installed in the same cabinet with the charger. This is ideal for small capacity systems.



"BX" configuration



"BI" configuration"



Optionally, a portable computer can be connected to the **RS-232 local port**. Various tabs provide visualizing the charger status, or changing the configuration parameters.

## ALARMS

The battery charger is equipped with a very efficient alarm system. The alarms and indications appear as lights on the control module. Further, they are connected to alarm contacts (125 VDC, 0.5 A). Additional information is available on the control module display.

## INDICATING LIGHTS

The display module LEDs show the charger operational status:

- Rectifier ON
- Man./Auto Equalize
- Equalize Voltage
- Float Voltage
- Communication mode: Network/Console/Local HMI

ALARMS (s=standard, o=option, na=not available)	
Rectifier failure	s
High/low AC voltage (including VAC voltmeter)	s
High rectifier current	s
High/low battery voltage	s
High/low load voltage (at system output to loads)	o
Ground leakage ( $\pm$ )	s
Battery excessive recharge	s
High battery current	s
"Battery test" fault	o
Battery symmetry fault (defective cell inside the battery)	s
Open circuit breaker(s) (breakers with Aux. contact)	o
Additional alarm inputs (2) for future use	o
CEMF cell connected	o

## CHARACTERISTICS

<b>Input voltage:</b>	120, 208, 220, 240, 277, 480, or 600 VAC, one or three phases, 60 Hz $\pm$ 6 % (50 Hz optional).
<b>Input voltage:</b>	12, 24, 48, 125, or 250 VDC, other output voltages available upon request.
<b>Output current:</b>	10, 20, 30, 40, 50, 60, 80, 100, ..., 600 A (setting range 50 to 100%).
<b>Voltage regulation:</b>	$\pm$ 0.25% for a load variation of 0 to 100% of the nominal output current, combined with a $\pm$ 10% variation of input voltage, combined with a $\pm$ 5% frequency variation. No battery is connected to the system during these measurements.
<b>Ripple:</b>	2% RMS of the output voltage for the same conditions specified in "Voltage regulation".
<b>Efficiency:</b>	90%, at full load.
<b>Protection:</b>	input: thermal magnetic breaker / output: thermal magnetic breaker (2 poles) or fuse / Battery: thermal magnetic breaker.
<b>Ventilation:</b>	natural convection except for the battery section that may be provided with a fan (system with vented battery in the same cabinet as the battery charger).
<b>Acoustical noise:</b>	less than 65 dbA at one meter, nominal power.
<b>Environmental conditions:</b>	operating temperature: $-10^{\circ}\text{C}$ to $50^{\circ}\text{C}$ / storing temperature: $-20^{\circ}\text{C}$ to $70^{\circ}\text{C}$ . Relative humidity: 0 to 95% at $25^{\circ}\text{C}$ .
<b>Quality assurance program:</b>	ISO9001:2008

## TESTS

**Electric strength test:** CEI 60255-5 / **Surge withstand capability test (SWC):** satisfies ANSI/IEEE C37.90.1/ IEC 60255-22-1/-4 / **Dry-heat test:** satisfies IEC 68-2-2 / **Damp-heat test:** satisfies IEC 68-2-3 / **Cold test:** satisfies IEC 68-2-1 / **Radiated electromagnetic field requirement immunity test:** satisfies IEC 801-3 / **Electrostatic discharge:** satisfies IEC 61000-4-2 / **Fire resistance:** satisfies UL94V0 / **Vibration test:** satisfies IEC 255-21-1.

## LCD SCREEN

- Dimensions (pixels): 240 W x 128 H.
- Measurements available on the display:
  - Battery charger: DC Voltmeter, range: 0-120%, precision: 0.1%
  - Battery charger: DC Ammeter, range: 0-120%, precision: 1.0%
  - Battery: DC Voltmeter, range: 0-120%, precision: 0.1%
  - Battery: DC Ammeter, range: 0-120%, precision: 1.0%
  - System output (optional): DC Voltmeter, range: 0-120%, precision: 0.1%
  - System output (optional): DC Ammeter, range: 0-120%, precision: 1.0%
- Other features: configuration menus, battery test mode (optional), event history, alarm related information, etc.

## Automatic equalization cycle

To prevent the battery from premature aging, the equalization cycles should only take place when they are really necessary. The charger offers great flexibility with regard to conditions that may result in automatic equalization cycle:

- The charger is operating at the current limit (rectifier/battery) for more than "x" seconds;
- The battery has reached the minimum voltage threshold for more than "x" seconds;
- A periodic equalization is required every "x" months.

Any of these conditions may easily be configured on site through menus available on the LCD display module.



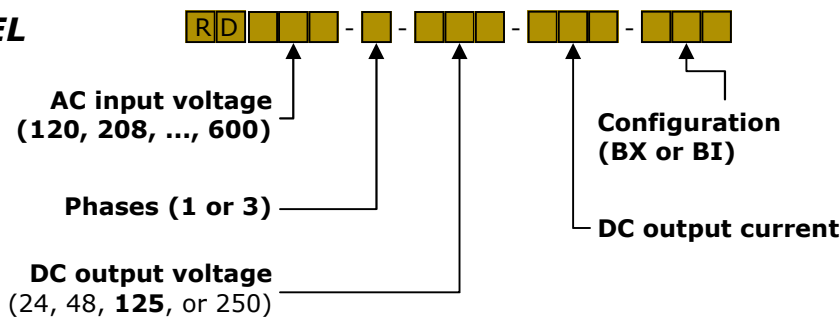
LCD display module

## MODBUS/RTU slave communication protocol (RS-485 serial port) for network remote access

Control the rectifier start and stop, control an equalization cycle, monitor the charger status (voltages, currents, alarms), change the value of many parameters, check history of last 200 alarms, monitor and test the battery (optional). **Thanks to the remote monitoring, the operating costs will be reduced as the number of required visits on-site will be minimized.**

Optionally, a portable computer can be connected to the RS-232 port. Various tabs provide for visualization of the charger status, or change the configuration parameters.

### MODEL



Since 1959, Gentec designs, manufactures, and sells solutions for the electrical industry: energy management, power systems (battery chargers, inverters, UPS), data acquisition and processing. Gentec, a certified ISO9001:2008 manufacturer, maintains its leadership within the electrical industry by paying special attention to good customer relationship and technical support, combined with the reliability and the ruggedness of its products.



Battery charger and battery in a single cabinet ("BI" configuration)

