

## Regulated Battery Charger for Railways



### About Regulated Battery Charger

Most of the Battery operated systems in Railways require Battery to remain under charged condition for proper operation of actual load. As the electricity supply utilities cannot be directly given to batteries for charging, converters are employed which will convert the utility supply to required DC voltage and current.

Hitachi Hi-Rel offers latest technology IGBT based Battery Charger system to supply regulated DC for charging batteries in various Railway applications.

### Block Diagram of Regulated Battery Charger



The I/P AC supply is converted to DC by converter. This is fed to inverter, which converts DC voltage to AC voltage. The I/P transformer steps down the Inverted AC voltage to required voltage level. A Bridge rectifier at the secondary side of the Transformer rectifies the AC to DC, used for Battery charging as well as to load also.

This 6.5 KW Regulated Battery Charger was specially developed for AC coaches. The design and development of Regulated Battery Charger was carried out, in house at Hitachi Hi-Rel. These Battery Chargers undergo rigorous tests for vibration, damp heat and dry heat conditions and stand out for their extreme reliability.



## Features

- Fully controlled IGBT based Inverter
- Temperature compensated Battery charging
- Efficiency greater than 90%
- LED indications for fault
- IP 53 degree of protection as per IEC 60529
- Operating temperature range is 0-55° C
- Natural cooling



## Technical Data

### Input Data

Nominal Input Voltage : 3 $\phi$ , 415 Volts  $\pm$  15%

### Output Data

Rated Output Voltage	:	<135 Volts
Battery Charging current	:	20 Amps
Max. Output current	:	50 Amps
Max. O/p power	:	6500 W
Ripple content	:	V < 2%, I < 3%

## Fault Indications

- Shoot through fault
- Over volt fault
- Under volt fault
- Over temperature

## Advantages

- Fast response
- High reliability
- Maintenance friendly device design
- Excellent operator interface

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