

iTrac 25 PAT Inverter For Railway AC coach

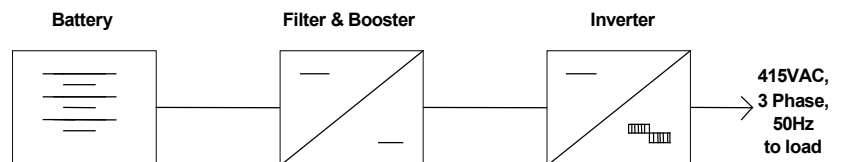
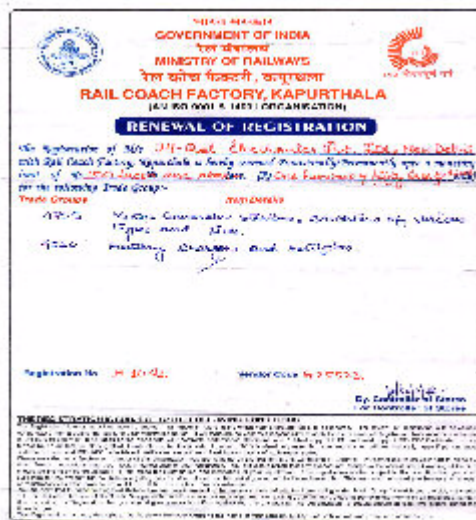
The new IGBT based PWM inverter from Hi-Rel using latest technology 8-bit microcontroller is successful development of energy supply system for Railway application. On Board AC package unit offered by Hirel provides proper air conditioning for AC coaches. The unit consists of the following basic section

- I/p switch gear.
- Booster and Filter
- Inverter
- Protections
- Metering and Indication



25KVA On Board Inverter supplied to RCF, Kapurthala

This 25 KVA On Board inverter has been specially developed for supplying power to Railway AC coaches. The design and development of these compact and rugged power supply units was carried out, in house at Hi-Rel. These units undergo rigorous test for vibration (3 Dimension), damp heat and dry heat conditions and stand out for their extreme reliability under roughest environmental conditions.



Block Diagram of Inverter system

Booster using IGBT & choke boosts the I/P DC supply from battery to required DC voltage. DC is converting to sine coded PWM output by the inverter & is supplied to 25KVA load.

Registration Certificate, RCF, Kapurthala

Features

- Fully controlled, IGBT based inverter
- Efficiency 93%
- LED indications for faults.
- Log facility for last ten faults and RS-232 communication port provided for downloading.
- On board display panel with IP 20 degree of protection and Fault Reset Push button to clear fault
- Input withstanding capacity up to 200 V without any damage
- Operating temperature up to 55° C
- Forced cooling

Specification

Input data

Input voltage : 90 -140VDC
 Max. Input current : 250 Amps.

Output data

Rated O/p Voltage : 415 VAC \pm 5%
 Frequency : 50Hz \pm 3%
 Continuous Output KVA : 25 KVA, (20KW @ 0.8 p.f)
 Overload Capacity : 120 % for 60 sec

Protections

- | | | |
|--------------------------|------------------------------|-------------------------------|
| ▪ Input Reverse Polarity | ▪ Booster O/P Over voltage | ▪ Earth fault |
| ▪ Input Over Voltage | ▪ Booster O/P Over current | ▪ Over temperature(Heat sink) |
| ▪ Input Under Voltage | ▪ Inverter O/P Short circuit | |
| ▪ Pre charge fail | ▪ Inverter Overload | |

Metering and Indications

- | | | |
|----------------------|----------------------|-------------------------------------|
| ▪ Input DC supply ON | ▪ Input Fuse failure | ▪ Input under voltage < 90V DC |
| ▪ Inverter ON | ▪ Earth fault | ▪ Alarm indication for input <100 V |
| ▪ Booster Fault | ▪ Reverse Polarity | ▪ Over temperature |
| ▪ Inverter Fault | ▪ Input over voltage | |

Advantages

- Fast response
- High reliability
- Reduced hardware and maintenance-friendly device design
- Excellent operator interface as well as fault storage