



## AIRCONDITIONING INVERTER – MASS RAPID TRANSIT

### 6kW Inverter for London Underground District Line

#### Key Technical Features

- ✓ High frequency, IGBT based Inverter
- ✓ Modular design
- ✓ Galvanic isolation of the output
- ✓ Cor-ten A, high strength , corrosion resistant steel enclosure
- ✓ 15 Hz input filter cut-off frequency
- ✓ Enclosure rated to IP65
- ✓ EMC compliant to BS/EN 50121 and E1027
- ✓ RS232 based diagnostic serial interface
- ✓ Shock and vibration compliant to BS/EN 61373
- ✓ Compliance with following design specifications
  - LU G6381 'Electrical Supplies'
  - LU G6621 'Rolling Stock Electronic Equipment'
  - LU E6483 'Static Auxiliary Converters for use on Rolling Stock'
  - RIA 13
  - RIA 12



#### Key Benefits to Operators and Fleet Owners

- ✓ High reliability i.e. > 160,000 hrs MTBF
- ✓ Natural convection cooled and no routine maintenance required and hence reduced through life costs
- ✓ Immune to large supply transients 5kV for 1ms
- ✓ Safety features – Independent Monitoring and shutdown
  - Output waveform quality
  - Excessive earth leakage currents
- ✓ Self-checking of electrical performance for safety of the signalling circuits
- ✓ Silent in operation
- ✓ Complete suite of diagnostics features incorporated via portable test equipment software



Input Voltage	600 Vdc
Input Voltage range	400 Vdc to 800 Vdc
Output Voltage 3phase Inverter	415 Vac , 3phase
Output frequency	50 Hz
Rated Power	6kVA continuous
Output voltage THD	< 4%
Protection	Electronic over current protection and independent over voltage trip
Isolation	3.875 kV rms input to output for 1min
Efficiency	>92% at full load
Environmental Protection	Magnetic components IP22 and rest rated at IP66
Weight	220 Kgs
Dimensions	1540mm (l) x 680mm (w) x 330mm (d)
Reliability	> 150,000 hrs MTBF
Design Life	20 years
Operating temperature and Humidity	-25°C to +50°C
Cooling	Natural convection or naturally cooled
Noise	< 62 dBA at 3 meters
Fault diagnostics and Event Monitoring	Portable test equipment (PTE) software incorporated

TPS has expanded its range of auxiliary power units, by designing power supplies for cab air conditioning systems. The unit can produce a power output of up to 6kW. It operates by taking the variable track power supply and converting it into a suitable output, to produce efficient stabilized power for the train's air conditioning system.

The converter is fully protected against voltage surges on the input lines, and the three phase output is protected against overloads, short circuits and earth faults. Mounted under the vehicle the converter has been designed and carefully type tested, to provide consistent performance and reliability in the most difficult mechanical and electrical environments, complying with all safety and EMC standards.

We will be happy to discuss your project or enquiries, please contact our marketing department at [marketing@turbopowersystems.com](mailto:marketing@turbopowersystems.com) to get in touch or ring us on +44 (0) 0191 482 9288/9251/9278.



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