INNOVATIVE TECH FOR CHALLENGING ENVIROMENTS

TURBO POWER SYSTEMS
Powering Intelligent Solutions

AUXILIARY POWER EQUIPMENT - METRO

60kVA/12kW TORONTO ROCKET, TORONTO TRANSIT COMMISSION (TTC)

Key Technical Features

- ✓ Distributed power system using separate Intermediate power supplies and Inverter modules
- ✓ Regulated 400Vdc 'Train Wide' Intermediate power bus
- ✓ Distributed HVAC Inverters and Brake Compressor Inverters
- ✓ Regulated LVDC 'Train Wide' Power Bus
- ✓ Emergency Vent Fan Inverter
- ✓ Dead battery start power supply
- ✓ Microprocessor control with fault diagnostics and annunciation
- ✓ Ethernet Vehicle Communications
- ✓ Input filter
- ✓ Output filters and electronic protection
- ✓ Battery temperature sensor input for battery temperature compensation

Key Benefits to Operators and Fleet Owners

- ✓ Continuous operation through Rail Gaps
- ✓ Redundancy capabilities
- ✓ Reliable under extreme weather i.e. -40°C to +50°C and 100% humidity
- ✓ Highly efficient
- ✓ Tailored to operator's requirements
- ✓ Easy maintenance and installation
- ✓ Lower through life costs thanks to naturally cooled design
- ✓ Short circuit and overload protection
- ✓ Designed to last a trains life time
- ✓ Proven to be highly reliable
- ✓ Remote condition & fault monitoring
- ✓ Quiet in operation i.e. <52 dBA at 7.5m

Input Voltage	600Vdc Nominal
Input Voltage Range	400 Vdc to 720 Vdc
Intermediate (distributed) Voltage	400Vdc (non-isolated), 313A per IPS
HVAC Inverter Output	208Vac 60 Hz, 60 kVA
Brake Inverter Output	208Vac 60 Hz, 8 kVA
Single Phase Output	120 Vac 60Hz, 5 kVA
Intermediate Voltage	400Vdc from IV bus capacitor
Rated Power	8kVA continuous
Motor Starts	Direct on line (DOL) motor starts can be used
Overload	1.2 times the maximum rated output for 5 seconds
LVDC Bus (Battery) Voltage	37.5 Vdc, 12 kW
Protection	Electronic over voltage and over current protection
Efficiency	> 93% at full load
Environmental Protection	Magnetic and electronic enclosures rated at IP20 and IP65 respectively
Weight	578kgs (IPS), 296kgs (HVAC Inverter)
Dimensions	1200mm (L) x 750mm (W) x 488mm (H) (IPS) (HVAC Inverter)
Design Life	30 years
Operating temperature and Humidity	-40^0 C to $+50^0$ C and relative humidity at maximum of 100%
Cooling	Natural air-cooled heat sink
Portable Test Equipment (PTE)	Available – remote condition and fault monitoring

For the past two decades, TPS has been providing robust power conversion systems for TTC. Currently TPS equipment is successfully operating in T1, H6 and S1 (Rocket) fleets. TPS was chosen for this project due to its long standing pedigree of delivering high quality power conversion solutions for the North American market. Some of our prestigious projects include power conversion solutions for Montreal Metro, JFK Airport Express, MARTA – Metro Atlanta and Chicago Transit Authority (CTA). There are roughly 2000 units operating across various transit authorities in North America.

We believe that dedicated after sales support is key to the sustainability of rail projects and living to this promise we have deployed a tiered support structure in North America. For first line maintenance our customers can use our after sales representative based in Atlanta, Georgia. Further engineering advisory support is also available either via telephone or onsite support that could be organized within a reasonable time frame.

With over 40 years rail pedigree, a team of highly skilled engineers and technicians and a track record in creating world-class power electronics, why go anywhere else for your auxiliary power supply?

To discuss your project or for any further information please contact your North American, Field Services Engineer - Gordon Ridley on +1-770-271-9223. Alternatively, get in touch with our UK-based head office on +44 (0) 191 482 9201.

Turbo Power Systems Ltd
1 Queens Park | Queensway North | Team Valley Trading Estate | Gateshead | NE11 OQD | United Kingdom
T: +44 (0) 191 482 9200 | F: +44 (0) 191 482 9201
E: marketing@turbopowersystems.com | W: www.turbopowersystems.com