EFFICIENT POWER SUPPLIES FOR CRITICAL LOADS

TURBO POWER SYSTEMS
Powering Intelligent Solutions

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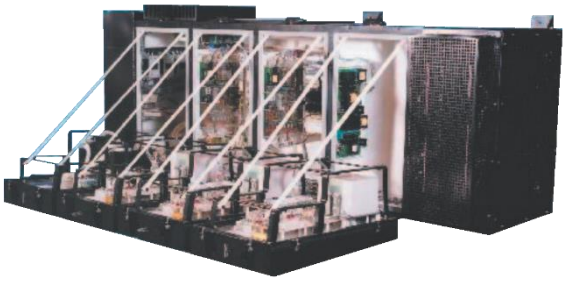
AUXILIARY POWER SUPPLY – METRO

55kVA / 14kW Metropolitan Atlanta Rapid Transit Authority (MARTA)

Key Technical Features

- ✓ High frequency, IGBT based PWM Inverter
- ✓ High frequency, IGBT based LVPS
- ✓ Galvanic isolation on AC outputs
- ✓ LVPS output paralleling to increase availability
- ✓ EMC compliant to IEC 1000-4 / UMTA specifications
- ✓ Communications with vehicle fault monitoring system using RS485
- ✓ Dead battery start facility
- ✓ Natural convection cooled, IP65 enclosure
- ✓ Includes vehicle Low Voltage Cut Out (LVCO) controller
- ✓ Paralleling scheme available to support the car loads through rail gaps



Key Benefits to Transit Authorities

- ✓ High reliability
- ✓ Immune to supply fluctuations
- ✓ Immune to large supply transients 3kV, 30kJ, 20mS half sine
- ✓ No routine maintenance required thanks to naturally cooled design
- ✓ Modular design i.e. mean time to restore is only 1.5hrs
- ✓ Remote condition and fault monitoring
- ✓ Main input filter paralleling to increase availability and offer seamless operation over rail gaps
- ✓ Transfer of essential AC loads between vehicles to increase availability






Input Voltage	750 VDC
Input Voltage Range	500 VDC to 950 VDC at full load
Input Isolation to Earth	3.5kV rms 60Hz
Output Voltage 3phase Inverter	480 VAC 60Hz, sine wave <8% THD, Galvanically isolated
Rated Power 3phase Inverter	55kVA
Short Term Overload	2.5x rated power
Single Phase Output	120 VAC, 60Hz, sine Wave <8% THD, Galvanically isolated
Rated Power	3.5kVA
Low Voltage DC	37.5 VDC ±0.5V, 370A
LVPS Rated Power	14kW
Protection	IP65 Electronic compartment / IP22 Magnetic components
Battery Protection and Monitoring	Dead battery start facility
Efficiency	90% at full load
Weight	835kg (1837 lbs)
Dimensions	2360mm (L) x 900mm (W) x 665mm (H)
Design Life	25 years
Operating Temperature and Humidity	-40^0 C to $+50^0$ C
Cooling	Natural convection cooled
Portable Test Equipment (PTE)	Available – remote condition and fault monitoring

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, Chicago Transit Authority, Toronto Transit Commission – T1, S1, and H6 fleet. There are roughly 2000 units operating across various transit authorities in North America.

The Auxiliary Power Supply (APU) is fitted to the underside of each car and provides all of the auxiliary supply requirements for the car from the 750Vdc traction supply with a 750Vdc paralleling scheme available to support the car loads through rail gaps. The APU is equipped with an AC load shed / Power Transfer scheme so that each inverter output can provide redundancy for the inverter loads of the other car in the event of a fault.

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 9200.

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