



AUXILIARY POWER SUPPLY – MASS TRANSIT (MONORAIL)

30kVA /11kW Sao Paulo Expresso Tiradentes (SPET) & King Abdullah Financial District (KAFD)

Key Technical Features

- ✓ Auxiliary Power Supply (APU) is self-contained unit powered from track supply
- ✓ Aluminium Enclosure
- ✓ An input filter and transient protection stage
- ✓ Pulse Width Modulated (PWM) Inverter for 3 phase output
- ✓ An AC inter-car power transfer stage for redundancy of 3 phase supply
- ✓ Single phase Inverter for utility supply
- ✓ Primary and secondary low voltage power supply (LVPS) stages for battery charging and vehicle control equipment
- ✓ Dead battery start provision
- ✓ Car communication interface via CANbus
- ✓ External hardware signal interface via MIL connectors
- ✓ IP65 standard. Tested for water / dust sealing
- ✓ Event and fault logging via proprietary portable test equipment (PTE) software



Key Benefits to Transit Authorities

- ✓ Light weight and compact (150Kgs)
- ✓ Very high efficiency i.e. > 94%
- ✓ Designed, tested and validated for monorail platform
- ✓ Reliable operation under extreme environments – Thanks to liquid cooled design
- ✓ Modular approach to component placement for efficient maintenance and minimal downtime
- ✓ Battery voltage, temperature and reverse polarity monitoring



Input Voltage	750 Vdc
Input Voltage Range	600 Vdc to 1050 Vdc at full load
Input isolation to earth	3kV rms for 1 minute
Output Voltage 3phase Inverter	380 Vac $\pm 5\%$ at 60Hz $\pm 1\%$
Rated Power	30kVA
Short term overload	150% for 10 seconds
Motor Starts	Direct on line (DOL) motor starts can be used
Single Phase Output	220 Vac $\pm 5\%$ rated at 2.5kVA
Low Voltage DC Output 1	124.5 Vdc $\pm 0.5V$ rated at 8kW
Low Voltage DC Output 2	24 Vdc $\pm 0.25V$ rated at 3.6kW
Protection	Electronic short-circuit, overload and transient protection
Battery Protection and Monitoring	Yes, reverse battery temperature, polarity and voltage monitoring
Efficiency	> 94% at full load
Weight	150 Kgs
Dimensions	1641mm (L) x 470mm (W) x 682mm (H)
Design Life	30 years
Operating temperature and Humidity	-25 ^o C to +65 ^o C and relative humidity at maximum of 100%
Cooling	Liquid-cooled heatsinks
Portable Test Equipment (PTE)	Remote condition and fault monitoring
Car Communication	Yes via CANbus

TPS is a #1 supplier of power conversion equipment for various monorail platforms across the globe. There are more than 400 units successfully operating in Brazil, Saudi Arabia and Malaysia. TPS was chosen for this project due to its long standing pedigree in delivering compact, efficient, reliable and light weight power electronic solutions.

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 our marketing department at marketing@turbopowersystems.com or +44 (0) 191 482 9288/9251/9278.



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