

Premium PSU

Innovative Power Electronics: Driving the Future of Railways

The evolution of power electronics in the railway industry has seen remarkable progress from its early days when power systems were primarily focused on basic traction lighting and signalling using 110VDC from onboard batteries.

Today, the integration of advanced power electronics is crucial for ensuring efficient and reliable railway operations, meeting the increasing demands for better passenger experiences, and maintaining high standards of safety and performance.

Initially, power systems in rolling stock applications were rudimentary, with onboard batteries providing power for traction lighting and basic signalling. These systems lacked reliability, requiring equipment to endure complete dropouts and surges. This inconsistency in operation posed significant challenges for railway operators.

The modern railway industry has transformed, with data monitoring and connectivity playing pivotal roles in detecting potential faults and resolving issues remotely. Rail vehicles now incorporate sophisticated electronics for communication and passenger amenities, necessitating efficient power conversion to ensure the smooth operation of all onboard devices.

Premium PSU, with over 40 years of experience in the railway sector, has been at the forefront of developing innovative high-power solutions designed for various railway applications, including trams, light rail, high-speed trains, subways, locomotives and onboard

equipment. Their commitment to flexibility and meeting stringent standards has made them a trusted name in the industry.

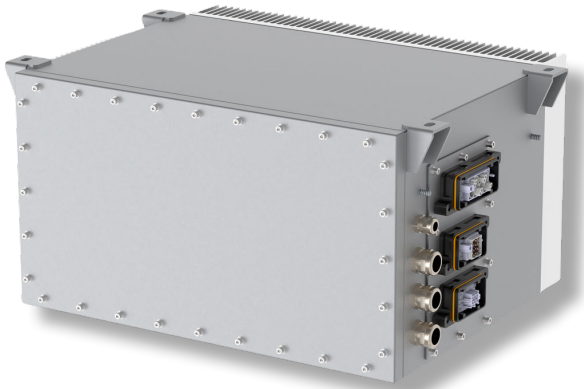
Featured at InnoTrans 2024

The big reveal of the newest power conversion systems from Premium PSU is set for the Innotrans exhibition (Hall 17 – Booth 425). Among the new products are:

- **TDX-3300 & TDS-3300:** These models feature a step-up converter stage ensuring exceptional stability in power output even amidst input voltage fluctuations. The TDX-3300 is ideal for powering electric motors and essential equipment, while the TDS-3300 provides stable voltage to passenger car sockets and locomotives.
- **VDX-10K:** A powerful and cost-effective solution for diesel-electric trains, the VDX-10K efficiently powers components like cooling fans for diesel engines without requiring a step-up converter.
- **40kW Three-Phase DC/AC Inverter:** Designed for HVAC systems, this inverter includes a catenary filter and two independent output three-phase lines with VVF control and CAN Open communication, housed in a device weighing less than 60kg.

Key Features and Benefits of TDS/TDX-3300

- **Unmatched Output Stability:** Ensuring reliability of onboard electronics and systems
- **Enhanced Safety:** Maintaining operational equipment during power disturbances



New AC/DC Battery Charger IP65



TDS-3300



VDX-10K

- **Versatile Application:** Suitable for a wide range of railway applications
- **Operational Efficiency:** Reducing wear and tear on motors, extending the lifespan of critical components

Meet the New AC/DC Battery Charger

Premium PSU is proud to introduce a new AC/DC battery charger with an IP65 protection rating, specifically designed to cover all three-phase nominal supply voltages on the market, i.e. 400VAC, 440VAC, and 480VAC, with a single product. Key features of this new battery charger include:

- Input Range: 360 to 528VAC
- Output Range: 16.8 to 30V and 250A, tailored for 24VDC NiCd batteries, specifically the NiCd 20 cells 220Ah SAFT SRX 220 FR or NiCd 20 cells 160Ah SAFT MRX 120
- Durability: IP65 protection rating, ensuring robust performance in harsh environments

In addition, Premium PSU plans to expand this range with a 10kW model for 110Vdc batteries soon.

Introducing the Spark Series

The Spark Series includes solutions designed to draw

power directly from the catenary line. Key products in this series are:

- OVX-6400: A 6400VA three-phase sine wave DC/AC inverter meeting EN612587-1 and EN50155 standards
- CVS-280 DC/DC Converter: Draws power directly from the line contact to start the vehicle

Premium PSU's commitment to innovation and engineering excellence continues to drive the evolution of power electronics in the railway industry. Their latest products highlight their dedication to providing efficient, reliable and cost-effective power solutions that meet the highest standards of safety and performance. As the railway industry evolves, Premium PSU's advanced power solutions play a crucial role in shaping the future of railway power management, ensuring smoother, safer and more efficient operations for railway operators worldwide.

For more information visit premiumpsu.com.



Premium
Powering Your Challenge



Premium
Powering Your Challenge

EVERYTHING IS READY TO RAISE THE BARRIER AND START THE RIDE



Solutions conceived to work under demanding environmental conditions



Long life solutions: designed to last



All processes, from design to testing and manufacturing, are carried out in Barcelona



Custom made products to fit the needs of each application



The largest range of DC/AC inverters on the market for the railway sector



Premium PSU is a trusted technological partner



2KW 3PH DC/AC INVERTER, PARALLELIZABLE UP TO 4 UNITS
RAILWAY INTEGRATED TRACK MANOEUVRING SYSTEM



35KW+5KW V/F 3PH INVERTER 750VIN
RAILWAY HVAC COMPRESSOR AND FANS POWER SOURCE



DC/DC CONVERTER, MULTIPLE REDUNDANT OUTPUT
RAILWAY SIGNALING (ERTMS)