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< Rolling Stock & Works Vehicles

Premium PSU

Power Electronics Development: Staying on Track



Power for rolling stock applications was originally all about traction, lighting, and rudimentary signalling with typically 110VDC from the onboard batteries, which connected to everything.

There was no guarantee to always work properly, so individual equipment had to withstand full dropouts and surges.

Nowadays, data monitoring and connectivity are vital to detect possible defaults and

solve problems remotely. Rail vehicles include electronics for communications and users have also increased the needs of power supply for a better passenger experience, which makes power conversion key for all devices to run smoothly.

Electrical and mechanical components for the railway industry need to provide reliable and safe operations while running under wide temperature fluctuations, condensation, electromagnetic interference and shock and vibrations. Premium PSU focuses on innovative high-power

solutions designed to work in trams, light rail, high-speed trains, subways, locomotives and onboard equipment that are present all over the world.

New Products to Be Presented at InnoTrans 2022

The upcoming InnoTrans exhibition has been chosen by Premium PSU to introduce the newest developments in power supplies. You will find us in **Hall 17 Booth 110**. Among the standard product line

and some of the most innovative custom designs, here are some of the newest additions to our profile: The CBS-10K is a single output DC/DC converter that provides a peak power of up to 10kW. With a 6kW power average, this series offers 500VDC output and multiple input-output voltage combinations, which makes it the perfect auxiliary DC/DC converter to feed critical DC link loads in a compact and light design.

As an example of some of the state-of-the-art custom designs, Premium PSU will also be showcasing its latest development to feed HVAC systems: a 40kW three phase DC/AC inverter that has become one of the biggest milestones in terms of product development. This new solution includes a catenary filter, two independent output three-phase lines with VVF control, CAN Open communication and has been designed according to EN 50163. All of it in a device that weighs less than 60kg.

With the aim to offer solutions that meet the needs of the market and based on years of experience with 3 phase DC/AC inverters, Premium PSU has also developed its first standard bidirectional battery charger. The BDS-10K is a 10kW



battery charger that acts as an AC/DC power supply to charge the batteries and also generates alternating current through the DC/AC inverter when the catenary power is not provided.

Premium PSU does not only work on developing higher power devices, but also on providing efficient and cost-effective solutions. Nevertheless, the CLS-120 Series has been conceived to operate with battery voltages that range from 14.4 to 154VDC, becoming an 'all-in-one' solution of universal input. A compact 120W DC/DC converter with high input-output isolation that offers optional embedded Oring and remote sensing.

includes the CVS-280 DC/DC converter with the same main feature, getting power straight from line contact to start the vehicle. Devices for rolling stock require the best protection for electrical devices. Most of them share a combination of higher-than-normal reliability requirements by means of quality standards. Developing robust, safe and reliable solutions that strictly comply with rolling stock regulations is one of the main goals at Premium PSU. Worldwide train manufacturers and suppliers for transportation projects rely on Premium PSU's power conversion systems to reduce failures, maintenance and costs.

“Over 40 years of experience in the railway sector let us offer a flexibility that goes beyond meeting standards.”

As part of the new Spark Series, which includes solutions designed to get power straight from the catenary line, the new OVX-6400 is a 6400VA 3 phase sine wave DC/AC inverter that meets EN 612587-1 and EN 50155 standards among others. In addition, this new Spark Series

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Premium
Powering Your Challenge

Power conversion systems to keep you on track

- DC/DC Converters
- 1 ph DC/AC Inverters
- 3 ph DC/AC Inverters
- Bidirectional converters
- AC/AC Voltage Frequency Drivers
- Power supply custom design



Innovative power conversion systems



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