Premium PSU

Increasing Power in Railway Solutions

In the world of power electronics for the railway sector, Premium PSU has established itself as a manufacturer of reliable and efficient solutions in the low-power range.

Here are the reasons behind Premium PSU's decision to increase the power of its equipment and how this strategy has led to an increase in revenue and customer satisfaction.

Reasons for Increasing Power

Confidence in reliability: Premium PSU has earned an enviable reputation for the reliability of its products in the low-power range. Customers trust the quality and durability of their devices, which led Premium PSU to consider expanding into high-power solutions.

Customer demand: The demand for high-power solutions in the railway sector is undeniable. Premium PSU's customers, satisfied with the quality of its low-power products, encouraged the company to explore this market and offer more powerful solutions.

Less competitive market: As the company moves towards higher-power solutions, the railway market has less competition compared to low-power solutions. The manufacture and design of high-power devices are inherently more complex, providing opportunities to stand out in a less crowded niche.

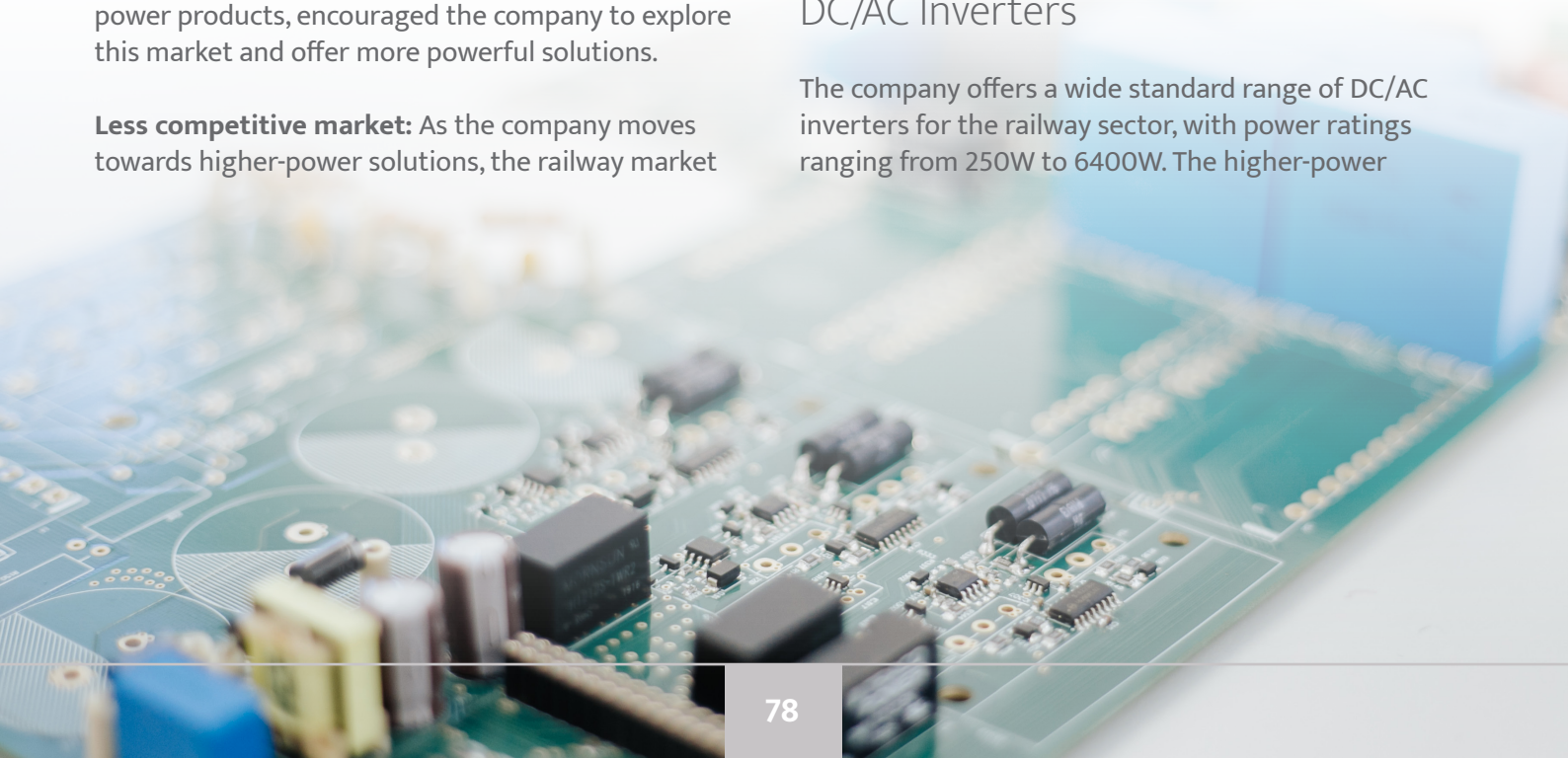
Increased revenue: It is a well-known fact that as the power of a product increases, so does its price. This increase in unit value directly translates into higher revenue for the company.

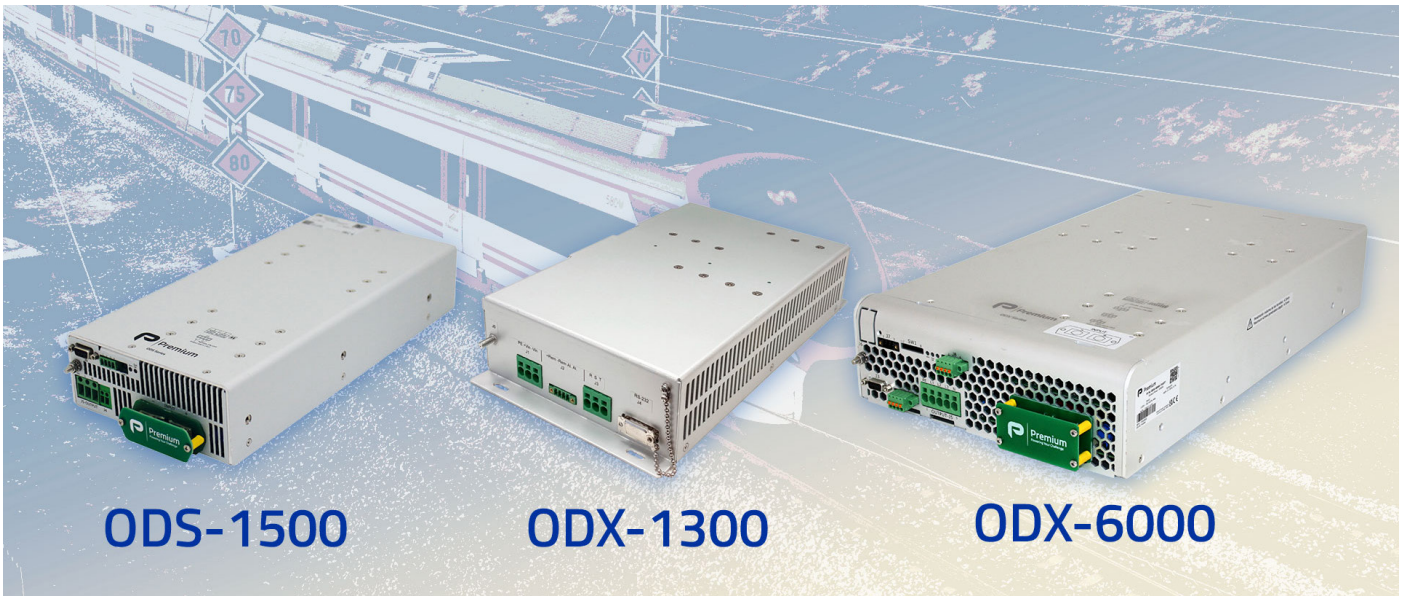
DC/DC Converters

Premium PSU began its foray into the DC/DC converter segment with 100W models and has since followed a gradual strategy of power increment. Today, the CRS-1000 DC/DC series is its 1000W standard, and it has also launched the CRS-2000 DC/DC series, both of which are parallelisable. Finally, the newest series that stands out for the railway market is the CBS-10K model, a single-output DC/DC converter offering a peak power of up to 10kW for 40 seconds.

DC/AC Inverters

The company offers a wide standard range of DC/AC inverters for the railway sector, with power ratings ranging from 250W to 6400W. The higher-power





models have the additional advantage of being able to be connected in parallel to increase total power.

They stand out for their compact design and high power density.

- Single-phase inverters: Starting from 250W, Premium PSU has gradually scaled up to 3000W with the ODS-1500 DC/AC and ODS-3000 DC/AC models.

- Three-phase inverters: The company offers models from 1100W up to 35kW. It often customizes catalogue models to modify the cooling system, adding heat sinks and/or liquid cooling. The ODX-6000 DC/AC series has the capability to be connected in parallel, achieving up to 24kW.

Premium PSU has undertaken a challenging custom design project, developing a 35kW + 5kW three-phase inverter. This innovative inverter, designed for the HVAC system of a tram, includes an active filter that allows compliance with the EN 50163 catenary standard (400VDC to 900VDC) in a very compact size.

AC/DC Battery Chargers

Another product range includes battery chargers, in which Premium PSU also has increased power. An example is a battery charger developed for a project that required an IP65 protection rating (input 360...528VAC and output 16.8...30V and 250A).

With a single product, it aims to cover all nominal three-phase supply voltages in the market, namely 400VAC, 440VAC and 480VAC. The output is for 24VDC NiCd batteries. SiC technology has been used for battery charger's design and manufacture, achieving an efficiency of up to 94%.

This battery charger is versatile, modern and efficient, with a power factor of 0.94 that allows for adjustment of both cable size and thermal protection device gauge. All of this comes with a more than reasonable MTBF of 91kh at 40˚C and an MTBFS of 102kh at 40˚C, with a lifespan of 30 years.

In the future, Premium PSU plans to create a modular standard range of 10kW for 110VDC batteries or 6kW for 24VDC batteries. This modular system can be connected in parallel to increase power and also can be mounted in enclosures with a higher IP rating when the project demands it.

Premium PSU's decision to increase the power in its power electronics solutions for the railway sector has proven to be a successful strategic move. With reliable and high-quality products in its portfolio, Premium PSU is well-positioned to meet the growing demand for high-power solutions in the railway market. Its commitment to innovative design and flexibility to meet customer needs makes the company a leading choice in this ever-evolving sector.

Premium
Powering Your Challenge

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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)

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