

Premium PSU

Bridging the Communication Gap: Premium PSU Launches the Premium Vision Gateway for Railway Applications



A new modular solution designed to bring modern communication capabilities to legacy railway systems.

In today's fast-evolving railway industry, the demand for real-time data, secure communications and interoperable systems is driving a technological shift across the sector. Yet, a significant portion of legacy equipment still operates on outdated or single-protocol communication architectures, limiting the potential for integrated, intelligent transport networks.

With its new Premium Vision gateway, Premium PSU offers a breakthrough solution: a modular

communication module that brings modern connectivity to legacy railway systems. By enabling data exchange across multiple protocols and interfacing with both old and new infrastructure, Premium Vision acts as a powerful bridge between the past and the future of railway technology.

This hardware platform has been specifically developed for railway environments, offering a rugged, reliable and highly adaptable solution. Designed around a System on Module (SoM) running embedded Linux, Premium Vision provides the flexibility required for integration into a wide range of railway projects. It allows system architects and engineers to gather, process and transmit data using both legacy serial



The modular communication solution designed by Premium PSU to modernise legacy railway systems

protocols like RS232, RS485 and CAN, and modern Ethernet-based standards such as REST API, SNMP and MODBUS.

Dual Ethernet ports ensure seamless communication with existing IT infrastructures and transport management systems. In addition to protocol translation and communication management, the module also offers optional capabilities for reading analog inputs, monitoring digital signals and actuating external outputs – making it a complete solution for both passive monitoring and active system control.

Built for railway-specific challenges, Premium Vision operates within a wide temperature range of -40 °C to +70 °C and meets all relevant certifications including EN 50155:2021, EN 50121-3-2:2016, IEC 62236-3-2:2018, EN 50121-4:2016 and IEC 62236-4:2018. These standards ensure electromagnetic compatibility, safety and robustness in environments where failure is not an option, including high-vibration scenarios, voltage fluctuations and electromagnetic interference. Its compact and modular design simplifies integration and maintenance while delivering maximum scalability. Equipped with eight status LEDs, four digital inputs, and four relay outputs, Premium Vision is ideal for diverse railway applications ranging from rolling stock upgrades to wayside monitoring systems. This versatility makes it an excellent choice for projects where space, power and compatibility are at a premium.

In addition to its technical strengths, Premium Vision helps railway operators align with broader trends in smart mobility, edge computing and predictive

maintenance. By enabling the digitalisation of analogue systems and unifying disparate data streams, the module opens the door to advanced diagnostics, remote monitoring and centralised fleet management. This is particularly valuable in scenarios where modernising entire fleets is cost-prohibitive, but upgrading select subsystems can deliver significant returns in terms of operational efficiency, safety and uptime.

Another key advantage lies in the open and programmable architecture. The embedded Linux platform allows integrators and OEMs to develop custom applications, automate local decision-making, or integrate securely with cloud platforms and central systems. This not only accelerates deployment but also empowers long-term adaptability – future firmware updates or protocol expansions can be implemented without the need for hardware changes.

Technical Highlights:

- Power supply: 12–36VDC
- Protocols: Ethernet, CAN, RS232, RS485
- Dual Ethernet interfaces
- Digital inputs: 4
- Relay outputs: 4
- Status LEDs: 8
- Operating temperature: -40 °C to 70 °C
- Certifications: EN45545, EN50155
- Warranty: 5 years

The Premium Vision gateway is more than a connectivity device – it's a strategic enabler for railway digitalisation. By extending the life and utility of existing assets, operators can avoid costly overhauls while still achieving the performance and integration needed for modern railway operations. It enables incremental, modular upgrades that minimise service disruptions and maximise return on investment.

With this new solution, Premium PSU reaffirms its role as a trusted technology partner in the railway sector. Premium Vision exemplifies the company's values: innovation, reliability and long-term commitment to helping operators meet the challenges of a connected, data-driven future.

Click [here](#) for more details about Premium Vision and other railway solutions from Premium PSU.



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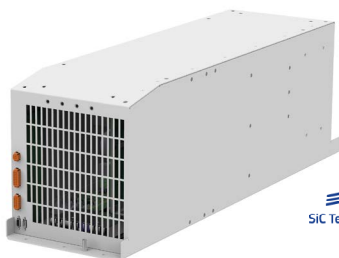
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TDS-3300



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