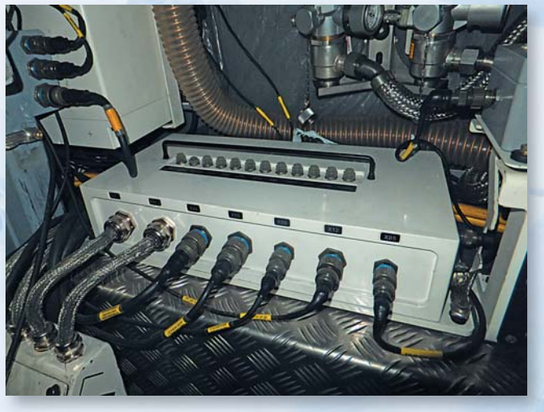
VEHICLE POWER SUPPLY & CONTROL SYSTEM

Power supply system for military automotive electronics seems to have been the last concern of the vehicle designers, although it proved to deserve far more attention. Considering the presence of a power supply, as something obvious, was a mistaken assumption of many designers. As it will inevitably affect the project, deteriorating its financial viability and hindering the performance of the power supply system. Such a negligent approach would usually result in underestimation of the capacity of power sources, malfunctioning of the on-board electronics or cross interference of installed devices. A growing number of problems concerning the quality of power supply have forced many manufacturers to redesign their final products by incorporating specialized supply units governing the power regulation of the device. This solution however, brings about concealed costs to be borne by the vehicle integrator without an actual guarantee that once the overall system is completed its units will not fail to function.



We have been recognized as an experienced and trustworthy partner to the military vehicle production companies. Based on our extended participation in automotive electronics production, we have developed a vehicle power supply & control system. It consists of joint devices that complement each other, through the application of various supply, switching and control units, connected by Raychem technology cable harnesses. Designed and produced by RM with MIL-DTL-38999 Series 1, 2 and the VG95234 connectors (AMPHENOL), being thoroughly tested for EMC compliance at each stage of the system development, production and installation. The system meets MIL-STD-1275 and can be successfully applied in both wheeled and tracked vehicles, ensuring ultimate supply conditions for electronic devices of an utmost sensitivity. Cooperating with unquestionable leaders of domestic and military industries such as Huta Stalowa Wola S.A. and Wojskowe Zakłady Mechaniczne S.A. in Siemianowice Śląskie we have successfully implemented our system in military vehicles under special purpose programs "REGINA" (CV, 155mm self-propelled howitzer KRAB) and RAK (wheeled and tracked CV, 120mm self-propelled mortar).

The application of energy-efficient technologies and the 100% passive cooling system implementation have become the branded features of our products. Every single product and component made by Radiotechnika Marketing is thoroughly tested in our Electromagnetic Compatibility Laboratory at each development and production stage, being thus EMC compliant under MIL-STD-461.

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MILITARY VEHICLE
POWER SUPPLY & CONTROL SYSTEMS

Radiotechnika marketing sp. z o.o.

MILITARY VEHICLE POWER SUPPLY & CONTROL SYSTEMS

Inverters (IRM)

– Inverters from IRM series are dedicated to military vehicle's on-board electrical systems and intended to power 230V/50Hz AC devices when access to AC mains is not available but, there is access to the vehicle's on-board 24V DC supply. IRM01 inverter is characterised by a true sine wave output, which is very important parameter, considering the lifetime of a powered device.

Power Distribution Units (SRM)

– distributes power of required parameters and control signals to separate and grouped devices. Our PDU has been equipped with short circuit and overload protection devices.

Control Unit (SK)

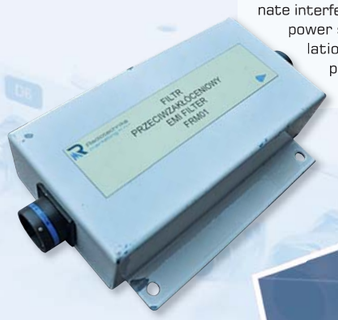
– incorporated into power supply system, the unit controls the actuators (such as electric engines, boosters, etc.) based on signals received from on-board control system of any producer. Our boxes have been designed and manufactured as products dedicated to particular application (vehicle).

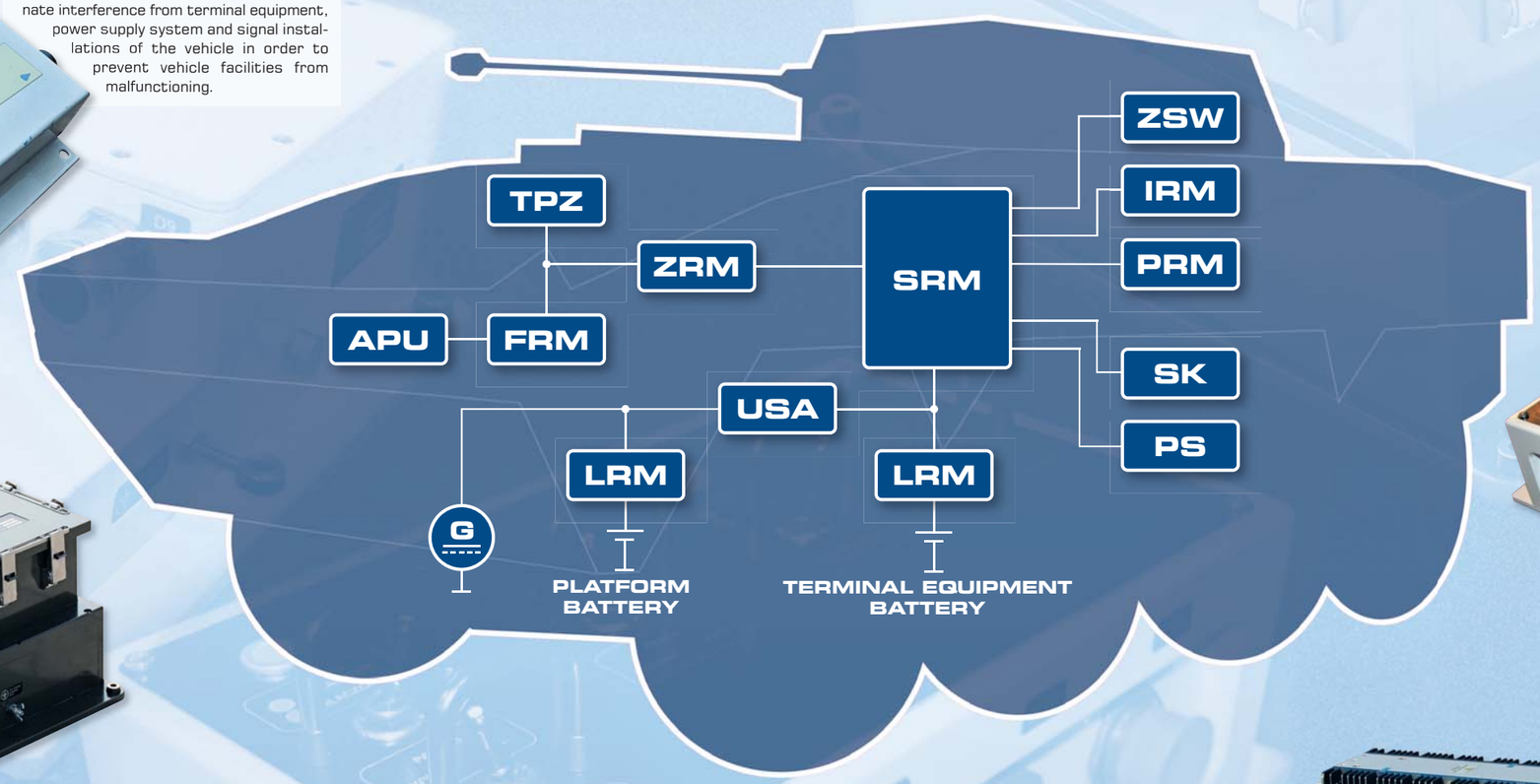
DC/DC Converters (PRM)

- supply 24V DC (12V DC) power to the terminal equipment while providing galvanic isolation of power sources and stabilizing output voltage. Family of converters may prove an useful alternative to converters that ceased to be produced but remain needed for older vehicles and to new projects to ensure functioning of voltage sensitive electronic devices. The step-down converters allow connecting 12V DC terminals to standard 24V DC vehicle electrical power system. Converters without galvanic isolation are also available.

EMI filters (FRM)

– our dedicated EMI filters serve to eliminate interference from terminal equipment, power supply system and signal installations of the vehicle in order to prevent vehicle facilities from malfunctioning.





Control Panel (PS)

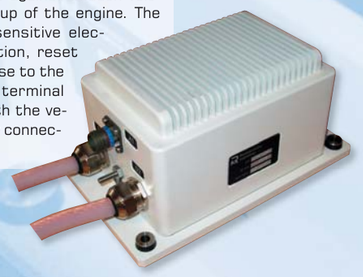
– this vehicle-dedicated panel provides control over automotive power consumers (such as: cabin lightening, bilge pumps, ramps, manholes, AC/CBRN control units and others). Our PS has been adjusted not only to practical and technical needs of a modern user but also to the growing demand for ergonomics.

External Power Entry Unit (TPZ)

– enable connection of external one or three-phase source of power. Our TPZ has been equipped with all required protection against overvoltage, overload, lightening threats and others.

Battery Coupling Unit (USA)

– protects vehicle's electronics against sudden voltage drop caused by the start-up of the engine. The application of USA prevents sensitive electronic devices from disconnection, reset or any other unexpected response to the voltage drop. It also enables terminal equipment battery charging with the vehicle's alternator or emergency connection of two sets of batteries.

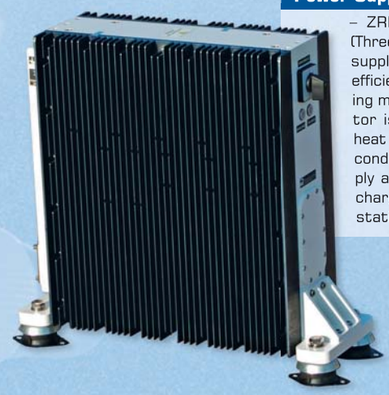


Turret Control Unit (ZSW)

- provides electric control and monitoring facilities for the turret of the 155mm self-propelled howitzer KRAB (polish version of BAE AS90). It ensures DC/DC power conversion and distribution in the turret, supply lines protection, signal conversion etc.

Power Supplies (ZRM)

– ZRM01 (One-phase, 4.0kW) and ZRM02 (Three-phase, 6.5kW) are sophisticated power supplies. They are characterised by their high efficiency which allows the use of passive cooling method instead of a fan. The efficiency factor is particularly important for a vehicle's heat balance, necessary while designing its air conditioning system. ZRM's are used to supply all on–board electronic equipment and to charge batteries while there is an access to stationary AC mains.



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