

Heavy Duty Connectors for Railway Applications



Radiall ™

 **VanSystem**

Radiall's & VanSystem's comprehensive product range of connectors are designed for harsh environments in the Railway market (rolling stock, signaling and infrastructures). The range includes innovative multisignal I/O solutions for optical, high speed data signal such as CAT 7, MVB, Ethernet, Power or RF coaxial.



VanSystem is a company founded in Lombardy - Italy, which has been operating since 1985 in the industrial market. **Besides connectors with screw or bayonet coupling complying with the Mil-C-5015 standard, Van System designs and manufactures non-standard products for special applications.**

One of VanSystem's strong points is an agile and dynamic organizational structure which enables direct and constant interaction with customers in order to meet all their requirements and build solid, long-term partnerships. The VanSystem team's professionalism, skill and commitment are at your service to help you achieve the solution you are looking for. VanSystem's Quality System is qualified according to ISO 9001 and IRIS (International Railway Industry Standard).

Since 2015, VanSystem is a Radiall company.

Radiall is a global leader in designing and manufacturing innovative interconnect solutions among which multipin connectors for transportation markets. Headquarters in Paris, France, Radiall is a trusted supplier of leading edge products whose global presence includes nine plants and an international sales network.

As a trusted supplier to leading brands, Radiall provides worldwide coverage with local support.



International Standard

Radiall VanSystem products are developed according to the following standards*:

- IEC 61373: Railway applications - Rolling stock equipment - Shock and vibration tests
- IEC 60077-1: Railway applications - Electric equipment for rolling stock - General service conditions and general rules
- EN 50124-1: Railway applications - Insulation coordination
- EN 50467: Railway applications - Rolling stock - Electrical connectors, requirements and test methods
- EN 45545-2: Railway applications - Fire protection on railway vehicles
- NFPA 130 (ASTME 162, ASTME 662): Standard for Fixed Guideway Transit and Passenger Rail Systems
- UNI CEI 11170-3: Guidelines for railway vehicle protection for tramways and with guided rail
- NFF 16-102: Railway Rolling Stock - Fire Behavior
- NFF 61-030: Railway Rolling Stock Electrical Connectors - Generalities (KVBS series)
- IEC 60529: Degrees of protection provided by enclosures (IP Code)
- Mil-DTL-5015: Circular threaded electrical connectors with solder or removable crimp contacts (both front and rear release)
- VG 95234: Electrical connectors and plug-and-socket devices, connectors with coupling pressure-water tight, up to 245A
- Mil-C-26482 Series 1: Miniature connectors, bayonet coupling, solder or front release crimp removable contacts
- European Directive 2011/65UE: RoHS complying

** According to the products series, please consult our Sales office*

We tailor to suite your needs

CIRCULAR CONNECTORS

VanSystem designs and produces circular connectors for harsh environments. This series, deriving from Mil-DTL-5015 and VG95234 specs, has become a popular standard among railway connection applications.

Its success is mainly due to the bayonet coupling system composed of three ramps machined on the external side of the receptacle connector and 3 stainless steel studs mounted inside the plug connector's coupling nut.

POWER CONNECTORS

Besides connectors with screw or bayonet coupling, VanSystem develop non-standard products for special applications (Railways, Atex Environment and Automation). PWBS Single pole bayonet connector (Size 40 or 32 shells) has been developed for motor connection in Railway application up to 1000A.

CP rectangular power connectors 3, 4 or 5 poles, has been studied for motor to vehicle connection in Railway application.

MODULAR CONNECTORS

VanSystem GM modular connectors are designed for accepting modules for many different applications: Ethernet and data transmission, Coaxial connections, Fiber optic, Power cables, Signals up to 14 wires. It is a flexible solution for data and signals transmission in Railway harsh environment for: passenger control, display, internet connection, networking, light control, diagnostic support for brakes, motors and doors

DATA CONNECTORS

VanSystem completes their product range with data connectors cat. 7A / 7 / 6A. EVBS-C7 bayonet connector for Ethernet category 7A is vibration and shock resistant. EVBS-C7 is the definitive alternative for Ethernet static interconnections inside railways vehicles. Standard EVBS connectors can be applied in Sensors and Ethernet connection cat. 6 / 5E.

OUTDOOR CONNECTORS

Radiall's comprehensive product range of outdoor connectors are designed for severe outdoor conditions, mainly in wireless communication infrastructure applications. The range includes high power RF coaxial connectors to link between microwave, antennas radio units, and innovative multisignal I/O solutions for optical, Ethernet, power or coaxial. Our innovative solutions are based on both Physical Contact (PC) and Expanded Beam (EB) technologies to cover the various types of applications.

MULTIPIN CONNECTORS

Radiall is a global leader in designing and manufacturing high reliability multipin connectors for transportation markets. For more than 40 years, major airframers have entrusted Radiall's historical NSX (Arinc 600) and DSX (Arinc 404) rack and panel connector series, along with its modular solutions such as the EPX™ (EN4644), QuickFusio™ and QM series.



PROTECTED ELECTRICAL AREA:
driver cabin, windscreen wipers, lights

PRODUCT SOLUTIONS:
KVBS Bayonet Connectors



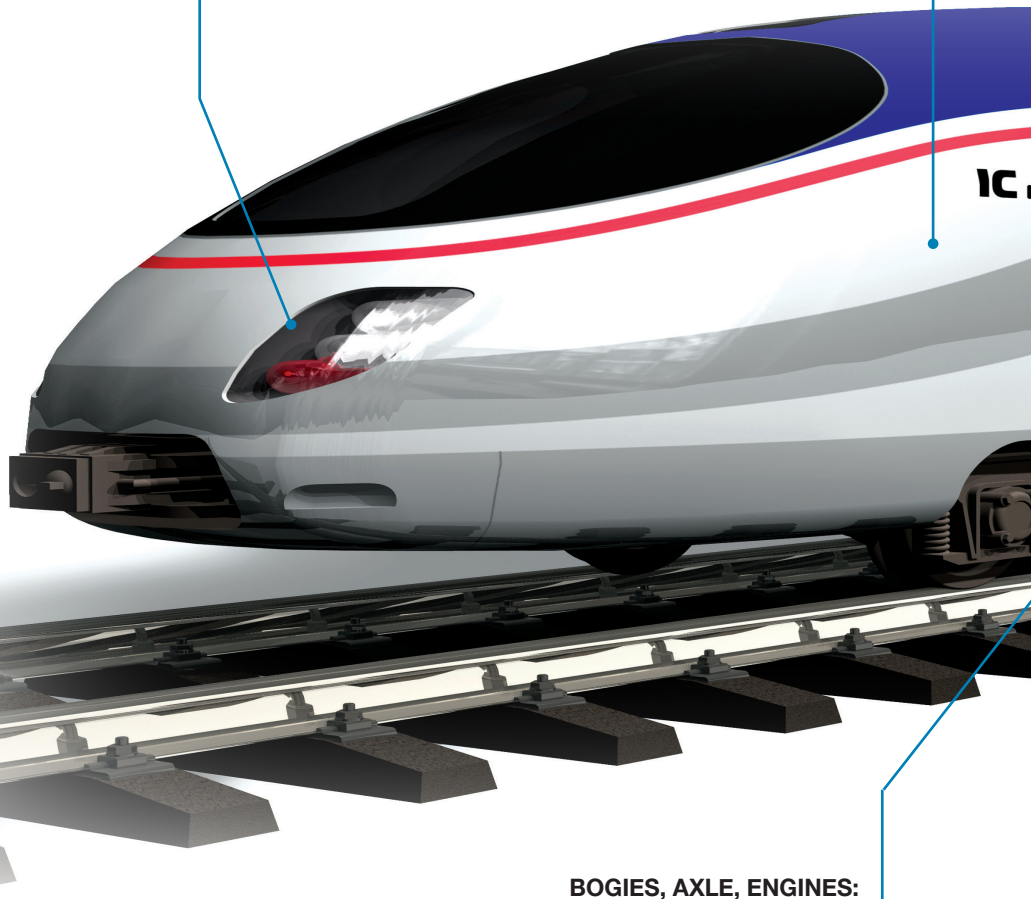
TRAIN CONTROL:
security systems, control cabinets, engine monitoring

PRODUCT SOLUTIONS:
GM Modular Connectors



TRAKS:
train checkpoint, interlocking, signalling,
trackside safety systems, switches heaters

PRODUCT SOLUTIONS:
CT Bayonet Connectors



BOGIES, AXLE, ENGINES:
power installation, highly dynamic applications

PRODUCT SOLUTIONS:
CP Motor Connectors



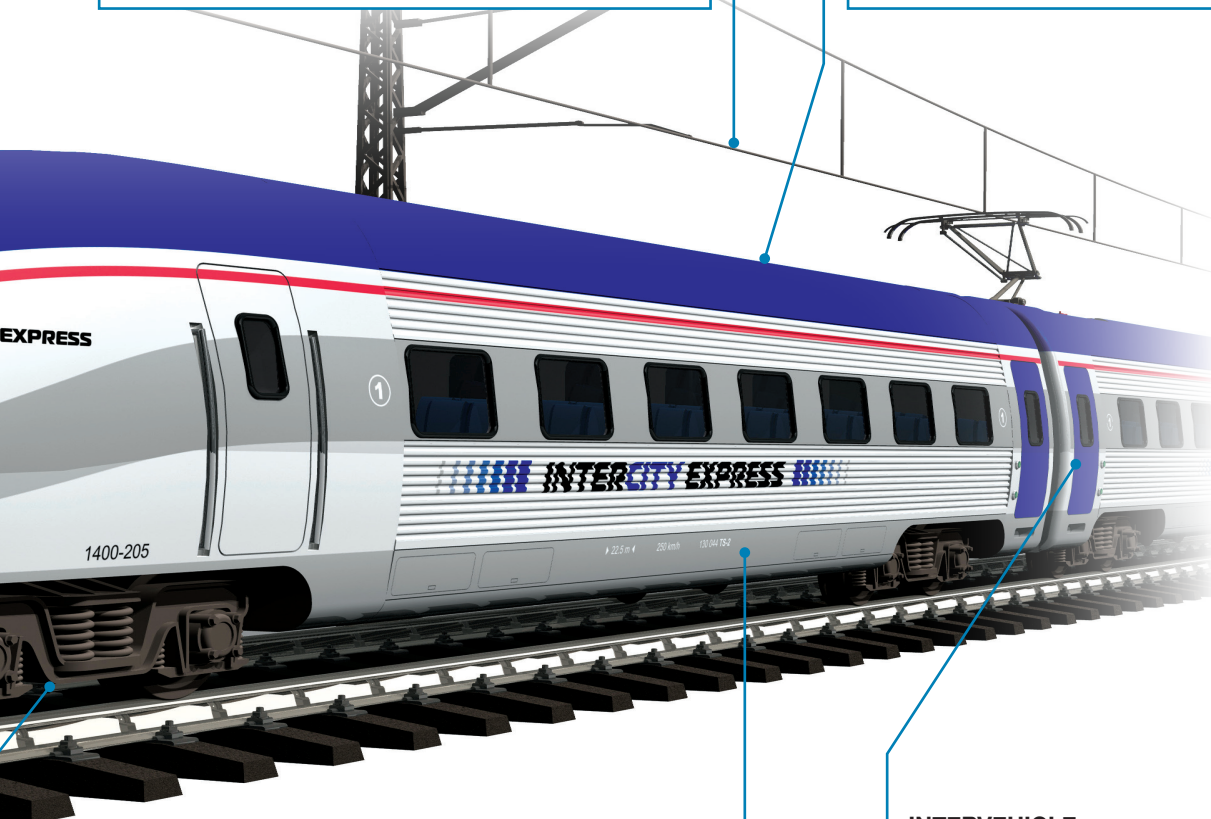
INFRASTRUCTURES:
signalling, communications cabinet

PRODUCT SOLUTIONS:
CVBS Bayonet Connectors



OUTDOOR APPLICATIONS:
roof, pantograph, air conditioning system

PRODUCT SOLUTIONS:
CP Power Connectors



UNDERCAR:
battery chargers, auxiliary converters, inverters,
brake control systems

PRODUCT SOLUTIONS:
GVJ Oversize Connectors



INTERVEHICLE:
wagon connection, door controls, passenger information,
outdoor dynamic applications

PRODUCT SOLUTIONS:
H-Lever Connectors



OUTDOOR APPLICATIONS:

controlling pantograph, air conditioning system,
internal train bus (MVB)

PRODUCT SOLUTIONS:

EVBS Data Connectors and Signals

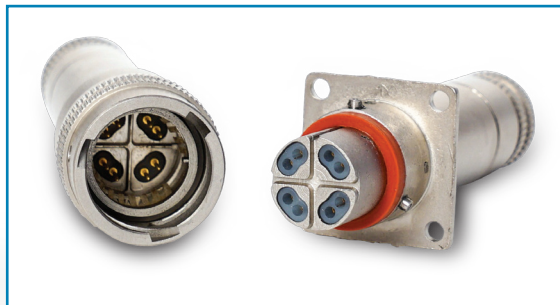


DATA COMMUNICATION:

passenger information and entertainment system,
control unit with Ethernet

PRODUCT SOLUTIONS:

EVBS Data-Connectors up to cat. 7A



INTERVEHICLE:

wagon connection, door controls, passenger
information, outdoor dynamic applications

PRODUCT SOLUTIONS:

GM modular Connectors



BOGIES, AXLE, ENGINES:

measurement and sensor system

PRODUCT SOLUTIONS:

GVJ Oversize Connectors



TRAIN CONTROL:

security systems, control cabinets, engine monitoring, video and other data transmission

PRODUCT SOLUTIONS:

CVB Bayonet Connectors



PROTECTED ELECTRICAL AREA:

driver desk control, current converter, electrical cabinet, low voltage supply and digital signals

PRODUCT SOLUTIONS:

KVBS Bayonet connectors



UNDERCAR:

brake control systems, speed sensor, sub-floor distribution box

PRODUCT SOLUTIONS:

GM modular Connectors



TRAKS:

axle counter system

PRODUCT SOLUTIONS:

Sensor Connectors



TRAIN CONTROL:

security systems, control cabinets, engine monitoring

PRODUCT SOLUTIONS:

I/O RUGGEDIZED INTERCONNECT:
OCTIS™, Quick Install, QuickFusio, RXF, QuickMate, MMC

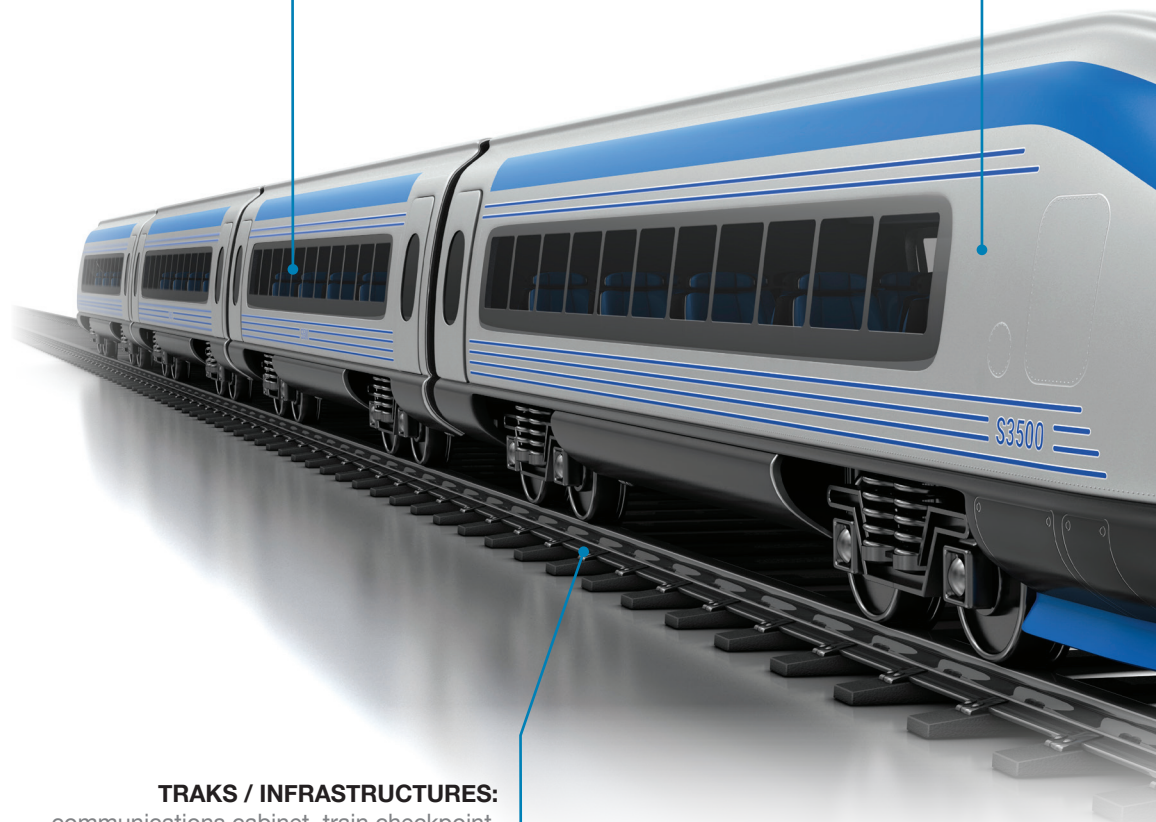


HIGH SPEED DATA & RADIO COMMUNICATION:

passenger information and entertainment system, control unit with Ethernet

PRODUCT SOLUTIONS:

RXF/EB-Luxis/38999, QuickFusio FO, Octis, RF Coaxial cables assemblies



TRAKS / INFRASTRUCTURES:

communications cabinet, train checkpoint, signalling, trackside safety systems

PRODUCT SOLUTIONS:

outdoor FIBER OPTIC cables assemblies & RF Coaxial cables assemblies, OCTIS, Quick Install, QuickFusio, RXF



FIBER OPTIC:

roof, pantograph, digital signal

PRODUCT SOLUTIONS:

EB-Luxis/38999, QuickFusio FO, Octis



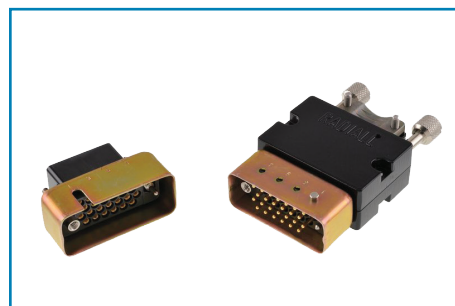
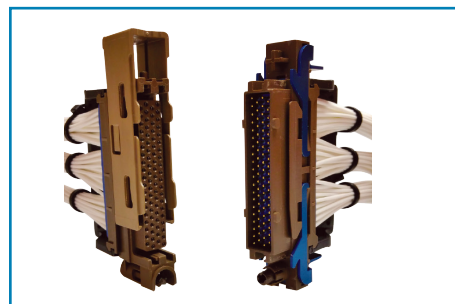
RACK & PANEL SOLUTION

PROTECTED ELECTRICAL AREA:

driver cabin

PRODUCT SOLUTIONS:

Arinc 404, Quick Install, QuickFusio, MMC

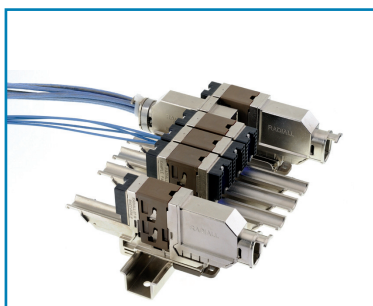


UNDERCAR:

battery chargers, auxiliary converters, inverters, brake control systems

PRODUCT SOLUTIONS:

Arinc 404, MMC, Quick Install, QuickFusio, QMATE,



RF CVBS series



CVBS series success is mainly due to the bayonet coupling system composed of three ramps machined on the external side of the receptacle connector and 3 stainless steel studs mounted inside the plug connector's coupling nut.

RF GVJ series



RF GVJ series have completed the bayonet range with oversize version, bigger shell thicknesses to guarantee resistance against impact and harsh environment. The increased dimension permits to install insulators with bigger number of contacts or bigger contact size.

RF KVBS series



The new bayonet KVBS series is derived from the standard CVBS, in this new series the insert is in thermoplastic resin. Compliant with NFF-61030. The most important advantages are the simpler and faster cable assembly, when mated guarantee a better sealing and creepage distance between the contacts.

GM series



GM modular connectors are designed for accepting modules for many different applications: Ethernet and data transmission, Coaxial connections, Fibre optic, Power cables, Signals up to 14 wires.

H-LEVER series



H-LEVER connectors are derived from GM modular connector, PWBS single pole power connector and CVB standard circular connector. H-LEVER join the advantages of VanSystem circular connectors with the easy closing-opening of lever.

CT series



CT series has been designed according to Mil-C-26482 series 1 and complies its requirements as far as materials and features are concerned. Therefore it is fully inter-mateable with all connectors of the same norm produced by other manufacturers.

CP POWER-BOX series



CP Power Box has been developed for motor connection in railway application. Derivation and connection are the most important features.

CP MOTOR TO BOGIE series



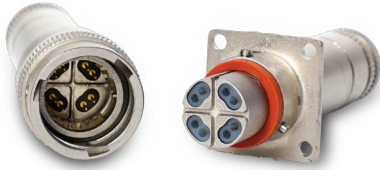
CP rectangular power connectors 3, 4 or 5 poles, has been studied for motor to vehicle connection in Railway application.

PWBS 1000A series



PWBS Single pole bayonet connector (Size 40 or 32 shells) has been developed for motor connection in Railway application up to 1000A.

EVBS-C7 series



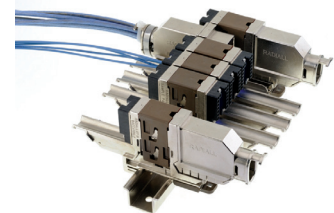
VanSystem completes their product range with data connectors cat. 7A / 7 / 6A. EVBS-C7 bayonet connector for Ethernet category 7A is vibration and shock resistant.

EVBS series



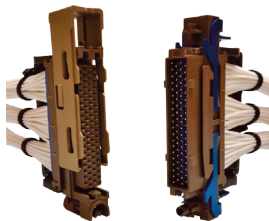
VanSystem EVBS connectors has been developed for Sensors and Ethernet connection cat. 6 / 5E. This series, derived from modular series, is vibration and shock resistant as required in transportation application.

QUICKMATE series



To simplify wiring in cable-to-cable or PCB-to-cable applications, Radiall developed a range of quick mating connectors with a unique slide lock system. Quick installation systems and simplified termination features will make connector installation easier.

QUICK INSTALL series



Designed for through panel mounting disconnect for harsh environments; Quick Install has many functions in one single piece: mating effort reduction thanks to 4 ramps designed to bring a “gearing down” function; specific material with low friction coefficient, various inserts type and screw washer for fixing process.

RXF series



Dedicated to outdoor optical connections, RXF is designed and manufactured by Radiall to provide a secure and sealed connection. RXF connectors are available in 2, 4 and 6 channels, in MultiMode or SingleMode UPC versions.

OCTIS™ series



Specifically designed to address the interconnect challenges associated with the deployment of 4G+, LTE+ and future 5G in the Telecom market, OCTIS™ provides a robust I/O solution that can operate in outdoor and harsh environments.

EXPANDED BEAM series



Radiall offers a wide range of interconnect solutions based on Expanded Beam (EB) technology. The advantages of EB technology will enable reliable, easy to deploy and maintain communication links.

FIBER OPTIC CABLE ASSEMBLIES



Radiall offers high performance and cost effective cable assemblies for outdoor environments. Outdoor cable assemblies can sustain unstable environmental conditions and broad operating temperature ranges, energy distribution networks, smart grids, security and industrial applications.

QUICKFUSIO™ series



QuickFusio™ versatile range covers any wiring system: harness to harness or equipment to harness. The range offers four different shell styles which allow installing the miniature connector in panel mount, box mount, bundle mount or structure mount configurations.



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