



WHEREVER TECHNOLOGY LIVES,

**WE'RE
THERE**

Radiall ™

INTRO



Over the past seven decades, Radiall has pioneered innovative interconnect solutions that reach every corner of the globe, fly in space and are recognized by leading brands for their enduring performance. With cutting-edge manufacturing facilities on three continents and a footprint in 17 countries, we support nine primary industries and hundreds of applications. You'll find us everywhere technology brings people together, from buses and trains to commercial aircraft and satellites.

Wherever technology lives, we're there.

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VF2

Ground Contacts Connected to a Metal Shell

VF2 is a circular connector solution fully compatible and intermateable with all connectors that comply with MIL-DTL-5015 specs.

The VF2 series meets the requirements of accident-prevention safety. The connectors feature the same materials and the electrical characteristics used for the standard thread coupling series (CVS).

FEATURES & BENEFITS

- *Ground contacts connected to an external metal shell*
- *Increased distance in air and over the insulator between the live contacts and the ground contact*
- *Touch-proof protected live contacts*
- *Pre-mating ground contact*
- *Reliable long-term electrical contacts*
- *Robust shells with threaded coupling nut*

CVS - CVSW

Threaded Circular Connectors

Initially designed for aviation applications, these connectors are often used for industrial applications thanks to their versatility, reliability and ease of supply.

The CVS series derives from MIL-C-5015 specifications. These connectors are manufactured with four synthetic, highly insulated rubber compounds and available in multiple sizes and insert arrangements.

FEATURES & BENEFITS

- *12 different shell sizes with a wide range of backshells and strain relief options for any cable requirement*
- *Inserts and grommets are manufactured with synthetic, highly insulated rubber compounds*
- *Contacts available in crimp, solder and PCB terminals*





CVBS

Bayonet Connectors Protected by a Stainless Steel Stud

Deriving from MIL-DTL-5015 and VG95234 specs, CVBS has become a popular standard due to its bayonet coupling system.

This series consists of three ramps machined on the external side of a receptacle connector and three stainless steel studs mounted inside the plug connector's coupling nut. The coupling point at the end of the ramp is protected by a stainless steel roller that can increase the number of mating cycles.

FEATURES & BENEFITS

- Fast and reliable coupling
- Vibration and impact resistance
- Manufactured in several shell versions as panel connectors
- Accessories for all types of cables and hose protection shields are available
- Crimp contacts are suitable for wires of all sections



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OVERMOLDED TIMBERCON

High-Quality Breakout Cables

We manufacture high-quality breakout cables to customers' exact specifications. Our ruggedized solutions are ideal for applications requiring strong transitions.

When rugged projects require specific cable configurations to connect to a device, Timbercon's overmold transitions provide a solid connection between your devices.

FEATURES & BENEFITS

- Ruggedized transitions for breakouts
- Stronger than conventional heat shrink transitions
- Molded plastic
- Available with OM2, OM3, OM4 or single-mode fiber

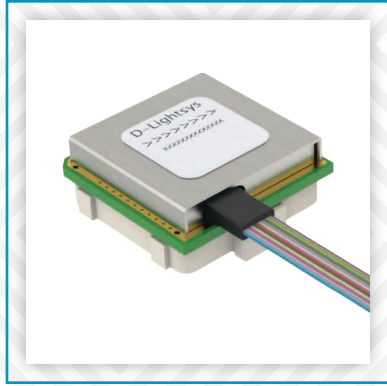
APPLICATIONS

- Harsh environment
- Military
- UAVs
- Data storage equipment
- Automotive



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D-LIGHTSYS® OPTO-ELECTRONIC MODULES

Harsh Environment Active Optics

D-Lightsys® opto-electronic modules feature transparent and protocol-independent optical transmitters, receivers and transceivers designed for demanding applications and markets.

These products operate in a wide temperature range and are available with a variety of options. Packaging options include surface mount, pluggable and custom packages that cover data rates up to 12 Gbps.

FEATURES & BENEFITS

- Bit rate from 10 Mbps, up to 12 Gbps
- GM, LCC and SFF electrical packaging
- Low power consumption
- Large variety of termini/connector options
- 1-channel duplex, 4-channel duplex and 12-channel transmitters or receivers
- Flexible cable
- Custom pigtail length
- Qualified from -40 °C to +90 °C

APPLICATIONS

- Avionics
- Radar
- Space



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EB - LUXCIS®

Mil Aero Fiber Optic Connector

This multipin connector features Expanded Beam technology for high performance and durability.

EB-LuxCis® is the ideal solution for demanding applications in highly contaminated environments where low maintenance is essential. This product range features the commonly used LuxCis ARINC 801 fiber optic contact inserted into a 2 or 4 channel (MM or SM) Expanded Beam insert.

FEATURES & BENEFITS

F746 SERIES

- High optical performance maintained in harsh environments:
 - Singlemode: IL max: 2 dB/RL > 30 dB
 - Multimode: IL max: 1.5 dB/RL > 20 dB
- Temperature range: -55 °C to +125 °C
- Contactless connection increases product life span: 500 mating cycles
- Optimized EB technology provides easy cleaning and resistance to shock and vibration
- Available in circular MIL-DTL-38999 type and rectangular EN4165 connectors



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EVBS 7

Modular Bayonet Connector

VanSystem's modular and data connectors are designed to accept modules for many different applications and provide a flexible solution for data and signal transmissions in harsh railway environments.

EVBS connectors offer Ethernet connection and higher data rates (up to CAT 7A), due to their fully independent shielded electrical lines. The EVBS-C7 Ethernet module can be combined with Expanded Beam fiber modules (RXF module), coaxial modules and high power or signal modules (up to 14 wires).

FEATURES & BENEFITS

- Long life span in harsh industrial and railway environments
- Ideal for indoor and outdoor use
- Resistant to dust, water and corrosion
- Compatible with high-speed data links up to CAT 7A

APPLICATIONS

- Rolling stock
- Signaling



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MM/MB

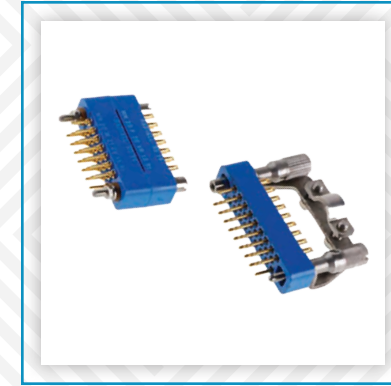
Rectangular Multi-Contact Connector

Radiall's miniature and subminiature series is designed for use in civil and military applications such as in-flight equipment, instrumentation or missiles.

Qualified per MIL-C-28748, these rectangular connectors offer high performance and high contact density. Compatible with a wide range of inserts and contacts, they offer a solution for industrial applications at a competitive cost. We offer a complete range of accessories, such as backshells, rack guides and jackscrews.

FEATURES & BENEFITS

- Rugged
- High performance
- High contact density
- Weight and space saving design
- High vibration and shock resistance



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RAMSES HF (50 & 67 GHz)

High-Frequency Switches

These reliable and high performance switches feature the patented RAMSES design, which enables operation without a decrease in contact resistance reliability over time.

Radiall's complete range of coaxial switches operates up to 67 GHz. These high-frequency switches are ideal for satellite, telecom and Test & Measurement applications.

FEATURES & BENEFITS

- Frequency: DC - 67 GHz
- Excellent RF performance
- Life span: 2 million cycles
- Various options available
- Same electrical length and insertion loss for all RF paths



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SMPM-LOCK

Miniature Connector to Secure Your Connection

SMPM-LOCK is the smallest connector on the market with a locking system. This connector features electrical performance up to 65 GHz and provides a safe connection in shock and strong vibration environments.

Made with the SMPM interface, Radiall has added a locking nut and a locking ring to secure connections in any type of installation, even in the tightest spaces. Radiall has reduced the length of this product by over 40% compared to SMP-LOCK. The right-angle plug version saves even more space.

FEATURES & BENEFITS

- High frequency: 65 GHz
- Reduces SMP-LOCK's size by 42%
- Temperature range: -65 °C to 165 °C
- IP6x sealing option
- EMI shielding option: up to 80 dB @ 40 GHz
- Vibration: MIL-STD-202G Method 204, test condition D
- Shock: MIL-STD-202G Method 213, test condition I
- Cable retention force:
- Semi-rigid cable: .047 F > 45 N

APPLICATIONS

- Missiles
- Electronic warfare
- Drones
- Auto directors
- Military radio

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Earlier this year, a military drone was airborne for 64 days—setting the longest drone flight record and only one day short of the longest flight record ever. With flight times like that, space saving and durability in production are key. SMPM-LOCK is safe in shock and vibration environments and is the smallest connector on the market with a locking system.



SHF4M - TESTPRO 2 & 3

Ultra Low Loss 40 GHz Cable

Radiall's end-to-end TestPro cables and connectors reach high performance requirements to address customer concerns when doing RF measurements.

SHF4M is a best-in-class, 40 GHz, ultra low loss cable suitable for all applications where minimal loss is vital. The TestPro range is the perfect solution for Test & Measurement applications where high precision quality, high flexibility and phase and loss stability with bending is required.

FEATURES & BENEFITS

- Ultra low loss
- Frequency: DC - 40 GHz
- Phase and attenuation stability vs temperature and flexures
- Excellent resistance to environmental hazards
- Mechanical performances: flexibility, high temperature
- Versatile



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M-LOC™

Low PIM RF Cluster Connector

This low PIM, RF multi-coax solution features a patented quick lock mechanism that simplifies installation for a variety of MIMO and multi-frequency band configurations.

Radiall's M-Loc™ series is a robust, lightweight and low PIM RF multi-coax connector series that utilizes NEX10-compatible inserts for excellent intermodulation performances for outdoor telecom applications up to 20 GHz.

FEATURES & BENEFITS

- NEX10-compatible, with excellent electrical performances
- Patented quick lock, easy to install
- Available up to 3/8" cable
- Available in 4 or 5 port configurations
- Lightweight composite body
- Tool-less design
- Densification of connection space on box
- IP68 rated

APPLICATIONS

- Cellular antennas
- RRH/RRUs
- Test & Measurement
- Industrial
- Defense

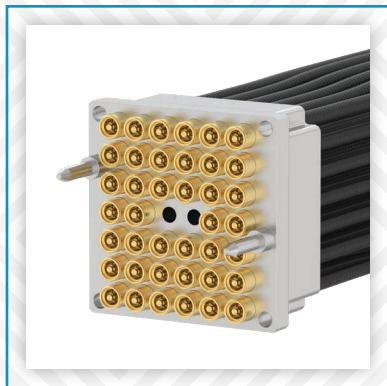


2022 is the 30th anniversary of smart phones. Today, over 80% of the world's population owns a smart phone, and each person touches their phone over 2,000 times a day. Within the wireless telecom infrastructure, M-Loc™ supports all fronthaul technology.



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F2C-40

High-Density, Multi-Coax Solution

Radiall designed a 40-pin multi-coax solution to meet the demands of the commercial quantum computer market.

This cryogenic solution features non-magnetic connectors and flexible cable assemblies, as well as a floating structure that is ideal for quantum computer applications with numerous qubits.

FEATURES & BENEFITS

- Cryogenic
- Non-magnetic
- High density
- RoHS-compliant cable assembly

APPLICATIONS

- Quantum computers



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QUARTZ™

Miniature High-Frequency Switch

Radiall's new generation of SMT micro-SPDT relay with performance up to 26.5 GHz is perfect for high-frequency applications where space is limited.

To overcome the frequency limits of SMT switches, Radiall merged the RAMSES concept with the SLIM LINE technology. Radiall's Quartz series is a major evolution when compared to the previous SMT relay: higher frequency range, excellent reliability, hermeticity, thermal resistance and longer life span (3 million cycles guaranteed, 5 million cycles typical).

FEATURES & BENEFITS

- Compatible with SMT Technology
- High frequency: 26.5 GHz
- Long life span: 5 million typical
- High repeatability
- High power: 80 W @ 3 GHz (cold switching)
- Test fixtures available for customer qualifications

APPLICATIONS

- Instrumentation
- Modular instrumentation
- Military radio
- ECM equipment
- Tower mount amplifier
- Repeaters, radio links
- Remote Radio Unit (RRU)



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The world's railway network spans over 1.3 million route kilometers and includes over 350,000 trains. With respect to rolling stock, and with demand growing for high-speed data connections, Radiall's GM Connector is an all-in-one solution that offers mixed contact configuration.

GM MODULAR CONNECTOR

Power, Signal and Data Transmission

GM modular connectors are designed for modules with different installation requirements: Ethernet and data transmission, coaxial connections, fiber optics, power and signals up to 14 wires.

The GM series is a flexible connection solution for harsh environment applications such as rolling stock. The thermoplastics inserts are compliant with EN45545-2:2013 R22 HL1-R23 HL2, and shock-vibration tests (EN 61373) are classified as category 2 bogie mounted.

FEATURES & BENEFITS

ROBUST CONNECTION

- Fully-protected connectors
- Heavy duty, rubber-covered coupling nut

EASY INSTALLATION

- Fast and reliable coupling
- Wide range of backshell and accessories for fastening cable/conduit

SUITABLE FOR HARSH ENVIRONMENTS

- Waterproof, dust proof and corrosion resistant

HIGH PERFORMANCE

- EMI protection
- Up to CAT 7A Ethernet data transmission and power modular connection from 7.5A to 80A
- Optical fibers with Expanded Beam system or optical SC contacts

APPLICATIONS

- Railway equipment: passenger control, display, internet connection, networking, light control, diagnostic support for brakes, motors and doors
- Energy: power distribution, utilities, mobile generators, loadbanks, back-up power systems
- Naval: military field power
- Industrial: motor controls, automation installation



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QUICKFUSIO™

Miniature Connector for Harsh Environments

Radiall's QuickFusio™ connector offers cost-saving benefits to aerospace and other harsh environment markets with a user-friendly installation approach. The unique QuickFusio design features a lightweight and compact configuration in response to current industry demands.

Radiall's groundbreaking QuickFusio connector series offers many advantages including a design that enables quick mating with the use of only one finger.

FEATURES & BENEFITS

- Small form factor: length to panel < 100 mm
- Cost-effective
- Lightweight: 20 g
- Tool-less and quick mate
- Compact size
- Secure lock
- High performance
- Composite with high-conductive nickel plating
- Uses standard SAE-AS-38999 series 2 contacts
- Uses standard size 11 SAE-AS-38999 rear accessories
- RoHS compliant

APPLICATIONS

- Aerospace and other harsh environments
- Fuselage, cockpit and cabin
- IFE (In-Flight Entertainment)
- Seat wiring
- EWIS
- Harness-to-harness connection
- Harness-to-equipment connection



Nearly 0.1% of the world's population takes flight every day. That means that at any given time there are about 500,000 people estimated to be up in the air. QuickFusio™ weighs only 20g, can mate with just one finger, and is used in virtually every part of an airplane.



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IMP LOW PROFILE

The Ultimate Low Profile Board-to-Board Solution

The IMP-LP product range is the lowest Board-to-Board distance solution with optimized RF performance. This small form factor system features a pressure-contact design to provide a quick and reliable installation without any soldering.

Radiall's new IMP product range is a true coaxial line, providing excellent RF performance in a single package. While standard SMP-type solutions require two receptacles linked by one bullet, IMP provides the same function with only one connector.

FEATURES & BENEFITS

- High frequency: 18 GHz
- Optimized for X-Band
- Smallest B2B distance 1.34 mm
- Axial misalignment: from +/- 0.1 up to +/- 0.2 mm
- Temperature range: -55 to 125 °C
- Sealing option

APPLICATIONS

- Radar
- Electronic warfare
- Military radio
- Antenna
- Weapon systems



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Q-MTITAN™

Ruggedized, High-Density MT Quadrax Contact Solution

Q-MTitan™ ARINC 846 protects an MT ferrule and fits inside size 8 Quadrax cavities to provide high-density optical connectivity in harsh environments.

Q-MTitan ARINC 846 has been designed to allow the mating of a minimum of 12 optical channels in existing size 8 Quadrax cavities of off-the-shelf multipin connectors such as MIL-DTL-38999, QuickFusio™, ARINC 600, EPX EN4644 and EN4165 connectors.

FEATURES & BENEFITS

- Protection of the MT ferrule for a ruggedized and sealed optical multifiber connection
- Easy retrofit of single size 8 Quadrax cavity into 12 or 24 fiber optic channels
- High-density optical contact compatible with ribbon and round cable
- Innovative and user-friendly solution: insertion and extraction using size 8 extraction tool
- Convenient and efficient visual inspection and cleaning kits available

APPLICATIONS

- For all applications requiring high density and/or high count of Fiber Optic channels, such as:
 - Radar
 - IFE (In-Flight Entertainment)
 - Displays
 - UAVs
 - Space

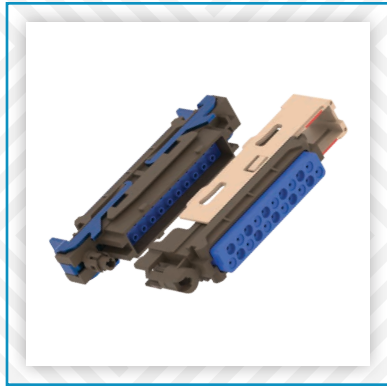


The country with the fastest internet in the world is Jersey, one of the British Isles' islands, clocking in at just over 270 Megabits per second. The all-digital payload satellites, Very High Throughput Satellites, can reach speeds of 200 Gigabits per second—that's 200,000 Megabits per second. Q-MTitan™ meets all demands for Very High Throughput Satellites and was successfully launched into space on October 23, 2021.



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QUICK INSTALL™

A Revolutionary Alternative to EN3545

The Quick Install™ is an incomparable lightweight, quick-install solution that reduces harness integration time.

Suitable to replace the EN3545 without any modification to the panel offering, this new connector provides exceptional performance, weight reduction and tool-less panel mounting and locking.

FEATURES & BENEFITS

- Tool-less panel mount
- Tool-less mating and locking
- 15% weight savings
- 80% installation time savings
- Same panel cutout as EN3545
- FOD-proof
- ROHS by design

APPLICATIONS

- Aircraft and equipment manufacturers
 - Panel mount
- Cable-to-cable connection
 - EWIS

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