

LOW VOLTAGE



LOW VOLTAGE APPLICATION FOR RAILWAY VEHICLES

Interoperability of control, monitoring and signalling systems, safety and security, passenger information and public communication are factors which lead to an increased demand for low voltage application for railway vehicles. Next generation trains provide operators with the ability to meet requirements for increased efficiency savings and new consumer loads including first class office equipment, entertainment and passenger information.

Ever increasing data rates and miniaturisation are driving new developments towards compact, robust high-speed communication solutions. The ability to easily upgrade system components and transfer or collect data is necessary to maintain technology leadership. On-board intelligence is networked together to provide a high degree of interoperability while maintaining consistent predictability and safety standards.

We offer solutions for a variety of applications ranging from tough environmental conditions, extended runs due to industry regulations through to intelligent wireless systems. Our products are safe and reliable with the added benefit of low power consumption and leading optical performance.

Amongst a wide range of general interconnection and passive components



- 1 Heavy Duty Connectors (HTS series)
- 2 Dynamic Series Connectors
- 3 Circular Plastic Connectors
- 4 MATE-N-LOK Connectors
- 5 AMPLIMATE D-Sub Connectors
- 6 Distribution Box
- 7 M8/M12 Sensor Connectors
- 8 Lighting Connectors
- 9 LED Light Pipe
- 10 Relays
- 11 Industrial Ethernet Products
- 12 Fibre Optic Solutions
- 13 Z-PACK Connectors
- 14 Eurocard Connectors
- 15 EMI Filters
- 16 Identification and Labelling

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NGC Series

Circular signal connector for main outside equipment connections. Has an aluminium housing with a reverse bayonet locking system, derived from MIL DTL 5015 and VG 95234 standard. Available in 9 shell sizes with 11 arrangements from 6 to 60 crimp contacts - which are AWG16, 12 and 8 silver or gold plated. Removable and interchangeable inserts, plug and receptacle can be male or female. Accessories and backshells are also available.

Product Features

- Withstanding voltage - 2550v according NF F 61-030 or 3500v according to EN 50124-1/A2 (OV3-PD2)
- Temperature range - from -40°C to +100°C
- Nominal current - up to 20 A
- Service voltage - 220v AC or DC according to NF F 61-030 or 500v AC or DC according EN 50124-1/A2 (OV3-PD2)
- Salt spray resistance - 250 hours
- Endurance - 500 mating cycles
- Fluid resistance - gasoil, mineral oil, acid, base and cutting fluid
- Protection Index - IP66 mated according to EN60529
- Fire behaviour - requirement 2 according to NF F 16-101 and NF F 16-102UL94V0
- RoHS compliance



SRC Series

Circular signal connector for main outside equipment connections. Has an aluminium housing with a reverse bayonet locking system, derived from MIL DTL 5015 and VG 95234 standard. Available in 9 shell sizes with 11 arrangements from 6 to 60 crimp contacts - which are AWG16, 12 and 8 silver or gold plated. Removable and interchangeable inserts, plug and receptacle can be male or female. Accessories and backshells are also available.

Product Features

- Nominal current - up to 45A (with 6mm² cable)
- Service voltage - 700v or 1250v according to VG95234
- Service voltage - 220v or 500v according to NF F 61-030
- Test voltage - 2800v or 3600v according to VG95234
- Test voltage - 2550v or 3250v according to NF F 61-030
- Protection index - IP66 mated with suitable backshell according to EN 60 529
- Salt spray resistance - 250 or 500 hours depending on the shell plating
- Temperature range - from -40°C to +100°C
- RoHS compliance
- Fire behaviour - requirement 2 following NF F 16-101 & NF F 16-102 and UL94V0
- Hard thermoplastic insert - self extinguishing, halogen and phosphorous free
- Can be supplied fully assembled or in spare parts

Standards & Quality Approvals

- RATP and SNCF approval
- NF F 61-030 standard compliance

Technology/Coupling System

- Environmentally sealed
- Bayonet locking



UIC 552 Series

High power single pole connector with automatic cover locking. Includes one each of:

- plug with crimp contact for UIC 552 cable 185mm²
- distribution box with lateral or back cable outlets
- junction box with automatic cover, safety lock, lateral or back cable outlets
- intermediate derivation box
- dummy socket with cover

Product Features

- Nominal current - up to 800A (with 185mm² cable)
- Nominal voltage - 1500v or 3000v DC or AC
- Protection index - IP56 according to EN 60 529
- Temperature range - from -50°C to +120°C
- Salt spray resistance - 96 hours (more on request)
- Endurance - > 500 coupling cycles
- Fire behaviour - following NF F 16-101 & NF F 16-102
- Connection of the main line on railway rolling stock (UIC)

Standards & Quality Approvals

- DB approval
- SNCF approval
- UIC 552 standard compliance
- SNCB / NMBS approval
- TRENITALIA approval

Technology/Coupling System

- High power



UIC 568 Series

Pull apart circular connector with painted aluminium socket, plus automatic cover and composite plug. Audio coupler connection for rolling stock. Includes one receptacle shell with removable insert, equipped with 13 or 18 crimp contacts for UIC 568 or UIC 558 cables. Also includes one plug with removable insert and one dummy socket.

Product Features

- Nominal current - 5A
- Service voltage - 110v
- Test voltage - 2000v
- Salt spray resistance - 96 hours (more on request)
- Temperature range - from -40°C to +120°C
- Protection Index - IP67 according to EN 60 529
- Endurance - > 500 coupling cycles
- Pull apart connector
- Fire behaviour - following NF F 16-101 & NF F 16-102
- RoHS compliance

Standards & Quality Approvals

- DB approval
- SNCF approval
- TRENITALIA approval
- UIC 568 and UIC 558 standard compliance
- SNCB / NMBS approval

Technology/Coupling System

- Environmentally Sealed



UIC541 Series

Product Features

- Test voltage - 1500v
- Temperature range - from -40°C to +100°C
- Service voltage - 72v
- Salt spray resistance - 96 hours (more on request)
- Endurance - 500 mating cycles
- Fire behaviour - requirement 2 following NF F 16-101 and NF F 16-102
- RoHS compliance

Standards & Quality Approvals

- DB approval
- SNCF approval
- UIC 541-5 standard compliance
- SNCB / NMBS approval
- TRENITALIA approval

HEADING



CLN Series

Circular water tight connector in nickel plated brass. Different keyways available, with screw locking. 11 arrangements from 5 to 49 contacts, with crimp contacts for cable cross sections from 0.6mm² to 70mm².

Product Features

- Temperature range - from -40°C to +80°C
- Nominal current - from 5A to 50A
- Nominal voltage - up to 380v
- Endurance - 500 mating cycles
- Robust - suitable for harsh environment use

Standards & Quality Approvals

- ALSTOM approval
- RATP approval

Technology/Coupling System

- Environmentally sealed
- Screw thread



DTX Series

High power single pole connector with 100% shielding continuity, and aluminium housing for outside locations. Available in two sizes, for cable cross sections from 50mm² to 240mm².

Product Features

- Nominal current - up to 800A (with 240mm² cable)
- Nominal voltage - 3000v (OV2-PD2 following EN 50-124) or 1500v (OV2-PD3 following EN 50-124)
- Test voltage - 9500v
- Temperature range - from -40°C to +100°C
- Salt spray resistance - 96 hours (more on request)
- Protection index - IP66 according to EN 60 529
- Keying system - 11 positions
- Endurance - 500 mating cycles
- Locking system by 2 screws or 2 forks
- Fire behaviour - requirement 2 following NF F 16-101 & NF F 16-102 and UL94V0
- RoHS compliance

Standards & Quality Approvals

- BOMBARDIER approval
- SNCF approval

Technology/Coupling System

- High power
- Screw thread



CSR 31000 Series

Rectangular connector with 2 poles and 7 pilots that has been specially designed for battery racks. Rackable type with one floating part and one fixed part.

Product Features

- Nominal current for main contacts - 350A and 500A
- Nominal current for pilots - 30A
- Service voltage - 700v
- Test voltage - 3500v
- Temperature range - from -40°C to +100°C
- Fire behaviour - requirement 2 following NF F 16-101 & NF F 16-102 and UL94V0
- RoHS compliance

Standards & Quality Approvals

- NF-F 16-101 standard compliance
- NF-F 16-102 standard compliance
- UL94V0 standard compliance

Technology/Coupling System

- High power
- Rack and panel

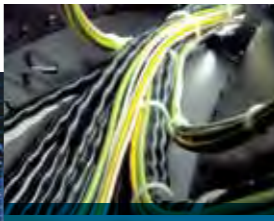


MCM Series

Composite rectangular connector for inside installation, including locking system with clip or handle. Available in six shell sizes, from 14 to 90 contacts. Has silver or gold plated contacts (AWG16, AWG12 and AWG8) and a Din panel cut out.

Product Features

- Nominal current - up to 32A (with 6mm² cable)
- Service voltage - up to 1000v (OV2 PD2 according to EN 50-124)
- Protection index - IP55 (with watertight hood) and IP43 (with grommet)
- Salt spray resistance - 240 hours
- Temperature range - from -40°C to +100°C
- Fire behaviour - requirement 2 following NF F 16-101 & NF F 16-102 and UL94V0
- RoHS compliance
- High density of contacts
- Monobloc and evolutive arrangements



LOW VOLTAGES



HTS Industrial Connector Housing

TE Connectivity offers a broad range of aluminium die cast housings with a high variety of sizes and shapes, various locking systems and specific surface treatments.

Product Features

- Extremely impact-resistant due to powder coating
- EMI protected housing
- Excellent corrosion protection due to hard coating
- Cable thread up to size M63
- Angled cable entry for optimised cable management up to IP68
- Locking systems for highest vibration and shock protection



HTS Industrial Connector Inserts

TE Connectivity offers a broad range of standard inserts for power and signal applications as well as combination inserts.

Product Features

- Laser-printed inserts for a permanent and a clear marking
- VDE, UL and CSA
- Flame-retardant materials according to UL94-V0
- Combination inserts for signal and power contacts in one insert
- Inserts for up to 3000v; 420A; 216 contacts or up to 150mm² wire cross section
- Silver or gold-plated contacts with crimp or screw as well as spring clamp termination
- Machine turned, stamped contacts



HTS Industrial Connector Modular

With HVS and MDL, two modular systems are available to create unrestricted combinations of different inserts to build application specific connectors.

Product Features

- Single piece zinc die-cast frames with in-moulded ground contacts
- Laser printing, twist locking on frames and on inserts
- Up to 6 single module inserts per frame
- Up to 150 contacts; 5000v; 250A or 70mm² wire cross section
- RJ45, USB, Fire Wire, fibre, D-Sub, coax, 4 and 8-way twisted pair, power, signal and pneumatic
- Quadrax up to 1GHz
- Tool-less handling



HTS Coach to Coach (MD) Connectors

Professional moulding processes enable the production of aluminium casting for ambitious products with great dimensions. This range of connectors has been developed by the requirements of the railway market.

Product Features

- Corrosion protected aluminum die-cast housing for 8 inserts of size 8 [LxWxH 350mm x 230mm x 160mm]
- Central locking screw for improved protection (IP67) and to support mating process
- Safe earth connection via housing
- Corrosion protected with cable gland up to M63 or conduit adaptors



Dynamic Series Connectors

The Dynamic Series offers solutions for both signal and power. Wire-to-wire, wire-to-board, and board-to-board options are available for tough, industrial environments.

Product Features

- 2mm through to 10.16mm centreline spacing
- 125v AC, 3A to 630v AC, 45A power rating
- Wire range AWG 30 [0,5mm²] to AWG 8 [8mm²]
- Polarised and Latching housings
- Audible click during mate cycle
- “Lance-less” contact design prevents back-out issues
- Markings identify housing cavities and contact size
- PCB connectors in 90° and 180° configurations

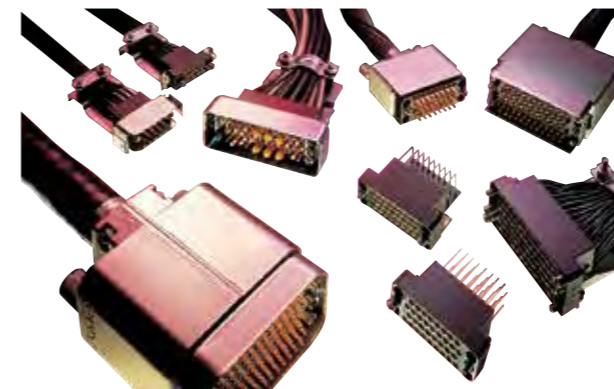


Circular Plastic Connectors CPC

The CPC family consists of four sizes of pin and socket connectors arranged in six different series for flexibility of different contact types. These connectors are used as a rugged power input/output connector solution. Rapid connect and disconnect is achieved with the use of a coupling ring.

Product Features

- Lightweight, all-plastic circular connectors
- Comprises signal, power and combination signal/power configurations
- Overall position range of 3 to 63 and current capacity up to 50A
- Operating temperature -55 to +125°C
- Some versions sealable to IEC IP65 or IP67



M-Series Connectors

The AMP M-Series connector is one of the most versatile pin and socket connector lines. A connector can be built with a wide choice of contacts and hardware to serve in applications ranging from Signalling and Monitoring Systems and Safety Equipment to Control Systems and Distribution Boxes.

Product Features

- 50 and 75 way connectors meet requirements for Solid State Interlocking signalling installations
- Intermateable with connectors made to MIL-C-28748
- Accessory hardware for fastening, protecting, guiding, shielding, strain relief and keying
- Variety of contacts: signal, power, coaxial, posted

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MATE-N-LOK Connector

Universal MATE-N-LOK provides a highly reliable, economical and integrated system for multiple connections in subsystems, lighting and passenger information. The connector system with crimp poke contacts is available in strip or loose piece.

Product Features

- Standard density, wire-to-wire and wire-to-board connectors
- 1-16 positions with 5.08mm centreline
- Free hanging, panel mount and wire-to-board connections
- Ratings 19A, 250v AC
- Fully polarised nylon housings
- Hosing materials halogen free UL94V-0, UL94V-2 and GWT 750°C No Flame
- Univ. MNL-T connector and Bulkhead mount Univ. MNL available

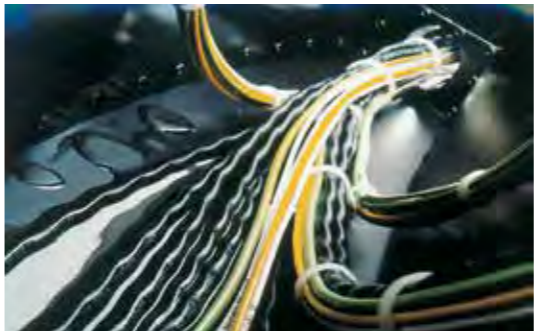


AMPLIMITE D-Subminiature Connectors

The AMPLIMITE family of Subminiature D connectors are one of the industry's most extensive and versatile connectors. They have become the most popular type of input/output (I/O) connectors in use today. Established and proven, they are rugged and easily used.

Product Features

- Qualified to MIL-DTL-24308
- Standard density (9-50 positions) and high density (15-104) positions
- Blindmate shell for improved alignment solutions
- Combination power/RF insert arrangements
- Sealed versions available
- Space qualified versions
- ULTRA-LITE non-magnetic connectors provide 15-20% weight savings and enhanced EMI/RFI performance

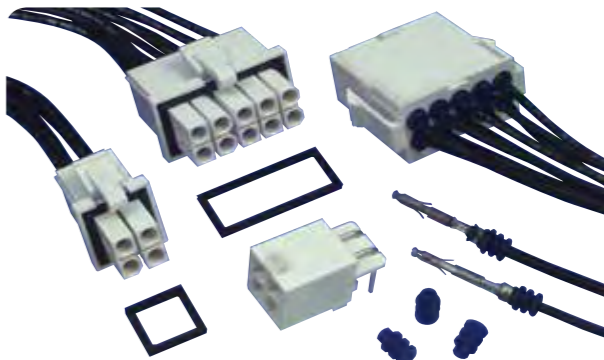


Signal Wire & Cables

A range of high performance signal cables that meet the demanding requirements of various standards including EN50306. Extremely flexible, tough and resistant to a variety of fluids, meeting the limited fire hazard requirements. Insulation materials are mechanically strong and durable whilst being smaller and lighter.

Product Features

- Zero halogen, thin wall, high temperature
- From 0.15 to 4.0mm² available as single wires braided and jacketed multi-cores [750/1350v AC max]
- Range from 1.0mm² to 400mm² [750/1300v AC]
- Databus, Coaxial and Fibre Optic
- Jumper cables
- Compliant to various standards



Mini-Universal MATE-N-LOK

The Mini-Universal MATE-N-LOK connector was developed for low voltage halogen lamp termination, offering ease of use and low assembly cost with high operating reliability. The compact design can be easily used for installation in narrow spaces. Integrated strain relief assures a reliable connection.

Product Features

- High density, 4.14mm centreline plus 1-24 and 2-24 positions respectively
- Wire-to-wire and wire-to-board capability
- Ratings: 600v AC or v DC, 9.5A and 10.5A respectively
- Contacts are protected in the housings
- Seals available for splash protection
- Markings identify housing cavities and contact size
- PCB connectors in 90° and 180° configurations



SIGNALLING



SIGNALLING

Capacity and speed demands on strategic railway routes are driving a move away from analogue systems and towards digital technology for signalling equipment. The introduction of digital transmission networks on railways brings to manufacturers the challenge of developing system concepts and equipment interfaces, which are suitable for complex data communication.

The European Railway Traffic Management System (ERTMS) is the newly agreed EU standard for train control systems. The liberation of the European railway system creates new basic conditions for railway operational traffic management. System integrators must adapt existing control systems to meet these new requirements. This includes connecting new interlockings to the control system through the development of innovative interface systems.

Amongst a wide range of general interconnection and passive components

- 1 AMPOWER Terminals and Splices
- 2 HTS Industrial Connectors
- 3 Dynamic Series Connectors
- 4 Circular Plastic Connectors (CPC)
- 5 M-Series Connectors
- 6 Amplimite D-Subminiature Connectors
- 7 Light-N-LOK Connectors
- 8 LED Light Pipe
- 9 General Purpose Relays
- 10 Safety Relays
- 11 AMPMODU Connectors
- 12 Industrial Ethernet Products
- 13 Industrial Mini I/O Connectors
- 14 Rugged Fibre Optic Solutions
- 15 Coax Connectors
- 16 Terminal Blocks
- 17 Eurocard Connectors
- 18 Z-PACK Connectors
- 19 EMI Filters



SIGNALLING



General Purpose Relays

A wide range, and ongoing development of innovative products, has made TE Connectivity a leading relays supplier. Internationally renowned products such as RT, MSR and SNR have set the standard.

Product Features

- Panel mount, plug-in and PC mount relays for sub system and control equipment
- Compact design
- Relays for high ambient temperature and high inrush currents
- PCB relays for control applications and high power relays suited to heavy current switching up to 30 Amps
- DIN railway sockets with screwless terminals for PT, XT and RT series



Safety Relays

Safety Relays with forcibly guided contacts play a decisive role in avoiding accidents in systems. Safety control circuits ensure switching into a fail-safe condition. Forcibly guided contacts monitor the function of the safety control circuits.

Product Features

- A range of safety relays to EN50205
- Includes the innovative SR6 low profile 6 pole safety relay
- Suitable for signalling where safety is paramount
- Mechanically-linked contacts prevent normally open and closed contacts from being closed simultaneously,
- PC board and DIN mount models
- 2, 4 and 6-pole configurations

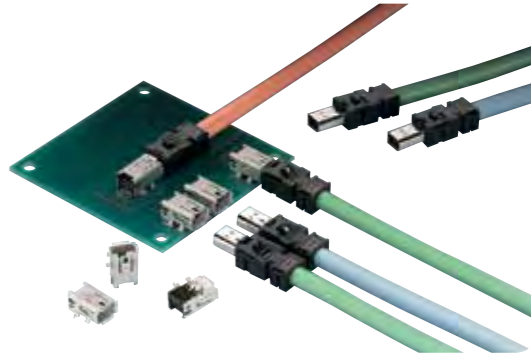


Industrial Ethernet Products

TE Connectivity offers a variety of connectors and active products for Industrial Ethernet applications. From ruggedised RJ45 connectors to Ethernet switches, media converters and device servers, solutions for both IP20 and IP67 applications are available.

Product Features

- Tool-less, field terminable, IP20 RJ45 plug - 4 and 8 position
- Field-installable IP67 plug and receptacle kits
- Industrial Ethernet cable and cable assemblies
- IP67 connectors meet the Ethernet/IP and Open DeviceNet specification
- 10/100MB Ethernet switches
- 10/100/1000MB Ethernet switch
- Media converter • Device Server

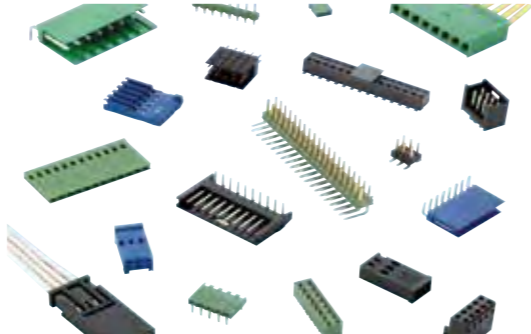
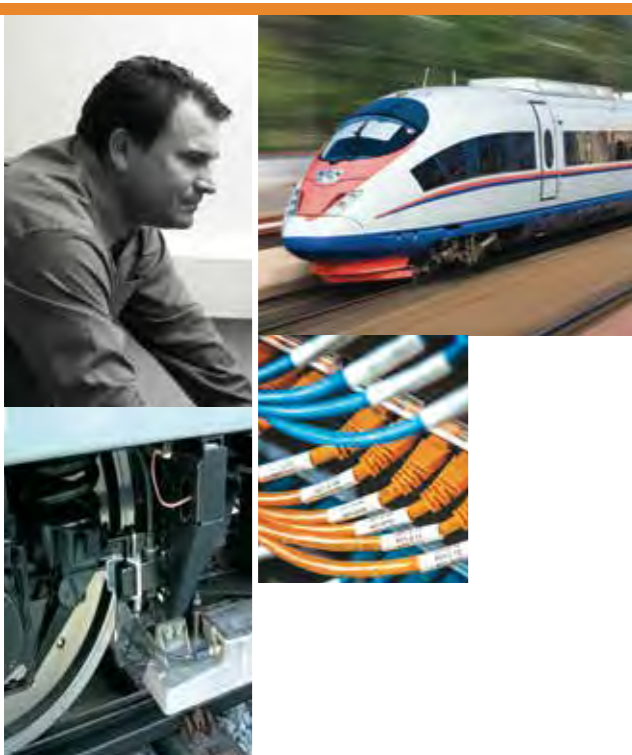


Industrial Mini I/O Connector

Ethernet connectivity at a quarter of the size. TE Connectivity Industrial Mini I/O connector is 1/4 the size of standard RJ45 connectors. At 1GB per second speed, it can be used in a variety of applications. Two points of contact and a metallic latch make this ideal for high vibration industrial applications.

Product Features

- Two points of contact
- 0.5A per contact
- Latching
- Utilises standard Cat 5e industrial cable
- Two keying options prevent mis-mating
- Cable assemblies available upon request



AMPMODU Connectors

From fine pitch signal to rugged power connection, the AMPMODU system provides innovative solutions for the railway industry. Board-to-board, wire-to-board and wire-to-wire applications are reliably facilitated through a comprehensive family of interconnect components in a choice of packaging densities, to suit your application.

Product Features

- Signal or power connection
- Centrelines from 1.27mm to 3.96mm
- Gold or tin plated contacts
- Through hold solder, press fit and surface mount termination
- Product styles and functionality to suit all applications



Rugged Fibre Optic Solutions for Harsh Environments

Built to survive - TE Connectivity offers a broad range of fibre optic products, that meet the demanding requirements of the rugged environment. TE Connectivity also offers fibre management systems, packaged solutions, subsystems and sealed connectors and cable assemblies for less demanding applications.

Product Features

- Protection against contamination
- Easy to clean
- Low thermal sensitivity
- 3000 mating cycles
- Hermaphroditic connection
- High shock and vibration resistance due to no physical contact
- Flexibility in design



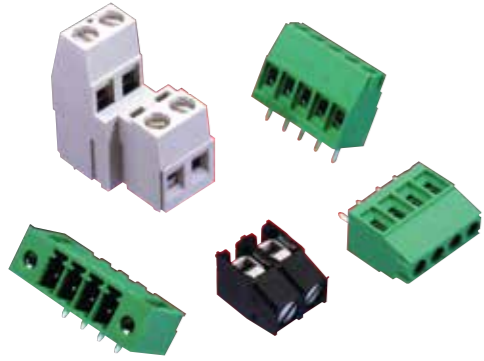
Coax Connectors

The RF coax connectors range comprises a variety of styles and configurations. The combination of connectors and associated tooling ensures trouble free termination at the lowest applied cost.

Product Features

- Available in 50 and 75 Ohm impedance
- Connectors to suit from DC to high frequency operation
- Mounting style of PCB, panel and bulkhead available
- Multiple plating options
- Wide selection of connector types and interfaces including:
 - MIL-C-39012, MIL-C-55339, MIL-A-83517
 - BNC, TNC, UHF, SMB, SMC, MCX, MMCX
 - FME, ISA, N Series, SMA, SSMA

MULTIPLE APPLICATION PRODUCTS

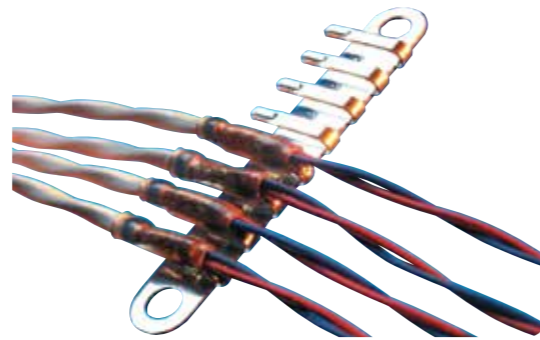


Terminal Blocks

TE Connectivity offers an extremely wide range of terminal blocks, and also features the special rising cage clamp design. The modular design of terminal block connectors consists of one-piece board-mount terminal blocks and plug connectors, with mating straight and right angle shrouded headers.

Product Features

- IR reflow compatible
- Rising cage clamp with open screws which minimizes installation effort
- Captive screws
- Non-magnetic metal parts
- Halogen-free Polyamide 6.6 housings according to UL 94V-0
- Operating temperature -40°C to +105°C
- End-to-end stackable without loss of centreline space



SolderSleeve

SolderSleeve shield grounding termination provides an environmentally sealed, transparent, insulated and encapsulated solder connection for a variety of applications.

Product Features

- Wire-to-wire, shield, coaxial cable termination
- One piece design offers easy installation and lower installed cost
- Immersion resistant
- Prefluxed solder preform provides a controlled soldering process
- Some parts meet MIL-S-83519 or NAS 1744
- Bus Bar Devices suitable for cable screen termination
- Multiple coax terminations



Heat Shrinkable Tubing

With a top performance and a low total installed cost, shrink products make it possible to accomplish lasting, safe mechanical and electrical protection and sealing of various parts.

Product Features

- Low recovery temperature
- Highly Flame retardant, Halogen free
- Shrink ratios from 2:1 to 4:1
- High operating temperatures: (-70° to +120°C)
- Flexibility and improved resistance to abrasion and mechanical damage
- Resists most oils, fuels, and other fluids commonly found in mil-aero applications
- Meets SAE-AMS-DTL-23053/ 1 class 1 & 2



MiniSeal Crimp Splices

MIL-S-81824/1 qualified MiniSeal crimp splices are environment-resistant and provide excellent reliability, long-term performance at a low installed cost. MiniSeal crimp splices consist of a tin plated crimp barrel and a separate, heat-shrinkable, transparent sealing sleeve.

Product Features

- Qualified to MIL-S-81824/1
- Immersion-resistant splice with heat-shrinkable sealing sleeve
- Insulation and strain relief
- Small and lightweight



PIDG Terminals & Splices

PIDG pre-insulated diamond grip terminals and splices are designed for complete and uniform reliability. The pre-insulated termination ensures a vibration-safe connection with maximum conductivity, and its tensile strength approaches that of the wire itself.

Product Features

- Made of high conductivity copper
- Electro tin-plated for improved corrosion resistance
- LSF halogen free insulation providing high dielectric strength
- STRATO-THERM high-temperature terminal available
- A variety of PIDG terminals and splices are UL listed file E13288 and certified by CSA file LR7189
- Meets requirements of London Underground and SNCF



Moulded Parts

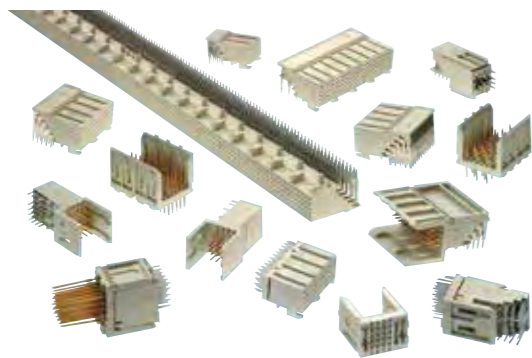
Raychem heat-shrinkable molded parts, with adhesive coating, form a watertight seal, protecting cables and equipment from corrosion and mechanical abuse while providing excellent electrical insulating properties. Meets requirements for most mass transit applications.

Product Features

- Heat-shrinkable, flexible, fluid-resistant modified fluoro-elastomer
- Excellent resistance to long-term fuel immersion
- Optimum waterproofing and environmental protection
- Highly resistant to moisture, fungus, and weathering
- Heat-shrinkable boots and transitions
- Meet numerous specifications



MULTIPLE APPLICATIONS PRODUCTS



Z-PACK Connectors

Z-PACK HM is a two piece 2mm pitch connector family, meeting IEC 1076-4-101/CPCI.

Product Features

- Standard and reverse configurations
- Redundant contact design
- Modular design
- 4, 5, 5+2, 8, 8+2, 12 row versions
- Full family offering - Coax, Fibre, Power, Keying, Cable and Shielding

TE Connectivity Z-PACK 2mm FB is a two-piece connector system.

Product Features

- Four-row, five-row, 2mm x 2mm circuit grid
- Modular design for signal and power connections
- Module assemblies are end-to-end stackable
- Solder leads or compliant press-fit leads
- Flat rock receptacle tooling
- Press peg receptacle retention for low applied cost



Microminiature, Nanominiature & Rectangular Connectors

Suited for applications where high density, reliability and reduced size and weight are serious design parameters. Available in wire-to-wire, wire-to-board and board-to-board.

Product Features

- Microminiature D Connectors per MIL-PRF-83513
 - .050mm centreline; 9-100 positions
- Nanominiature Connectors per MIL-C-83513
 - .025mm centreline; 5-65 positions
- MCEM Rectangular per MIL-C-55302
 - two-row, board-to-board
 - .050mm centreline; 40-184 positions
- HDSM Rectangular per MIL-C-55302
 - Four-row, board-to-board
 - .050mm centreline; 38-400 positions



Eurocard Connectors

Eurocard Connectors provide high reliability and economy in packages compatible with the industry standard for printed circuit board computer backplane bus system application.

Product Features

- Meet Din 41612 and IEC 603-2
- Available in Type B, C, D, F, G, M, R
- ACTION PIN post for reliability and economical assembly

PASSIVE COMPONENTS

Our product range covers a variety of passive components such as SMD and through hole resistors, timmers, potentiometers, PTC and NTC surface mount thermistors and a range of inductive products. Our core markets for resistors are industrial machinery, railway industry and transportation. Here we serve with standard and customised solutions and key technologies from thick film, through thin film, wire-wound to foil technology.

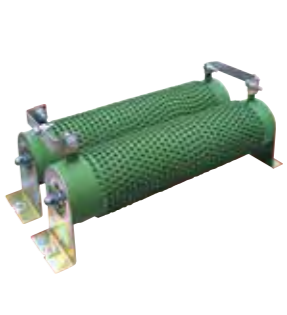
Found in a wide range of applications, they are useful when converting electric power from one frequency to another, and are especially advantageous when a high degree of control over the output is required.



Wirewound Technology



Thick Film Technology



Customised resistor solution with heat sink up to approx. 25kW



Foil Technology

Precision Resistors

- SMD and leaded high reliability and stability products
- Thin Film and Wirewound technologies
- SMD range of products is a market leader
- Flexibility in MOQ and pack size
- Quick Turnaround
- Accuracy to +/- 0.01% and 5ppm

Power Resistors

- Power ratings from 1W to > 1KW
- Range of technologies including – Wirewound, Thick and Thin Film, Foil, Carbon and Ceramic Composition
- In house Design and Test facilities for development of specification driven products
- Capabilities for current Sensing across a wide range of products/ technologies
- Current Sense resistors from 0.5 milliohm, TCRs and Tolerances of 50ppm and 1%

Customised Resistors

- Customisation capabilities of standard products
- Supported by wide range of commodity power resistors
- Optimal thermal solutions with heat sink
- Load Banks up to 300kW
- Cyclic rated power and overload testing
- Adiabatic (single shot and frequency) testing
- Environmental, mechanical and repetitive pulse testing