AVIONICS SOLUTIONS
FOR COMMERCIAL AEROSPACE

More Bandwidth, More Space and Weight Savings . . .
From Components to Integrated Solutions

TE
connectivity

AVIONICS SOLUTIONS
For Commercial Aerospace
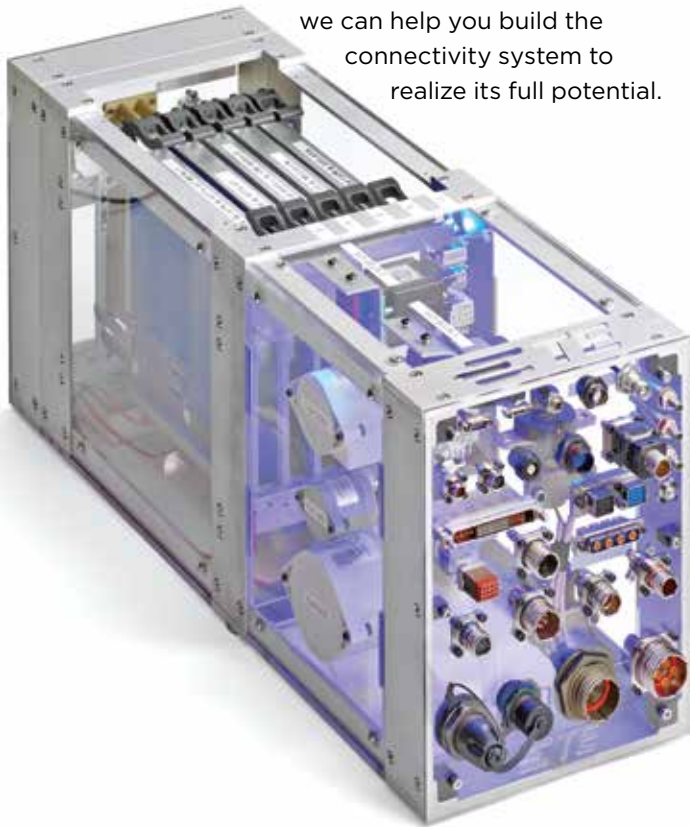
Performance on Board: End-to-End Connectivity

Whether you are looking for better packaging solutions inside the box, sturdy and lightweight enclosures, or high-performance I/O to connect your systems, count on TE Connectivity (TE) for a comprehensive range of solutions.

Today's sophisticated networked aircraft require avionics with the bandwidth to ensure monitoring and control of all flight systems—while offering the size and weight reductions needed to increase efficiency. We can help you keep pace with the higher densities and increased capabilities of electronic systems.

With integrated modular avionics and compact MiniMRP packaging offering new levels of networked sophistication and capabilities, we can help you build the connectivity system to realize its full potential.

At TE, we can help you design and build avionics systems with connectivity solutions that:

- Save weight with advanced materials
- Reduce space requirements with smaller, space-efficient components
- Increase bandwidth with high-speed connectivity
- Decrease complexity with integrated solutions
- Enhance signal integrity with EMI and filter products
- Achieve robust, reliable systems

TE Components . . . TE Technology . . . TE Know-how . . .
AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH
SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.

INTEGRATED SOLUTIONS

Composite Enclosures

Rugged Weight Savings
- Light weight—up to 50% lighter than aluminum
- Extremely rugged and corrosion resistant

Customizable
- Conductive composites and plating options for grounding/EMI shielding
- Highly customizable with integrated wire traces, antennas, and connectors

Antennas

Low-Profile, Form-Fitting Conformal Designs
- Multiband and wideband antennas and arrays
- Rugged embedded antennas in engineered composite enclosures

Cost Effective
- Customized designs with integrated RF and DC traces, cables, and connectors

BACKPLANE AND BOARD-TO-BOARD CONNECTORS

Z-PACK 2 mm HM Connectors

Modular High-Speed Performance
- Modular units in 4, 5, 8, and 12-row configurations
- Open-pin-field connector supporting 2.5 Gb/s data rates

Industry-Standard Configurations
- Versions for VME64 Extensions and CompactPCI
- IEC 917-2-2 and IEC 61076-4-101

Fortis Zd Connectors

High Speed
- 12+ Gb/s data rates

Rugged
- Extreme mechanical and electrical performance

Versatile Application
- Modular, with plastic, shielded, and machined metal shells

Mezalok Mezzanine Connectors (VITA 61)

Compatible
- 114-position, compatible with XMC footprint
- 60-position, half-size versions

Reliable
- Mini-box contacts provide 4 points of contact
- LCP plastic housings for excellent thermal stability

1 mm Free Height Connectors

Space Saving
- High-density packaging on 1.0 mm centerline spacing
- Board stacking heights available from 8 to 15 mm
- Used in IEEE 1386 PMC applications

MULTIGIG RT 2-R Connectors (VITA 41 VXS/VITA 46 VPX)

High Speed
- Data rates up to 10 Gb/s

High-Density Modular Design
- Up to 56 high-speed lines per cm of board space
- Configurable for differential, single-ended, RF, optical, and power

Ultra-Rugged
- Meets VITA 72

Z-PACK HM-Zd Connectors

High Speed
- Designed for differential signals at rates up to 12 Gb/s
- 25.00 mm standard module
- 2, 3, or 4 contact pairs per column

Solderless Application
- Vertical and right-angle press-fit pin headers and receptacles

RACK-AND-PANEL CONNECTORS

ARINC 404 and 600 Connectors

Versatile I/O for LRUs and LRMs
• Signal, Quadrax, RF, power, and optical (ARINC 801 and mini expanded beam)
• Blindmate
• Rugged, high pin count

GPR Connectors

Compact I/O for LRUs and LRMs
• Use 2 to 3x less space than circular connectors
• Flexible
• Signal, Quadrax, RF, optical, power
• Various blindmate and latching designs

Next-Generation ARINC Connectors

Lower Cost
• Monoblock insert and stamped-and-formed contacts
• Applied-cost savings with solderless, press-fit PCB contact

Lower Weight
• Up to 10% weight reduction per connector
• ARINC Qualified
• Meet ARINC 600 performance requirements

I/O CONNECTORS

Nanominiature Connectors

Extreme Weight and Space Savings
• Rectangular, coax, and sealed circular configurations

Robust
• Excellent shock and vibration resistance
• Wide temperature range (-200°C to +200°C)

HIGH-SPEED NETWORKING

CeeLok FAS-T Connectors

Compact 10 GbE Performance
• Compact size 8 shell for space and weight savings
• Rugged
• Excellent shock, vibration, temperature, and sealing performance

Convenient
• Field terminable, with integral backshell for low cost, low-weight strain relief, and EMI protection

Quadrax Connectors, Contacts, and Cable

High Density, High Speed
• Up to 10 Gb/s (over Cat 6A cable)
• 2 differential pairs in a size 8 contact shell

Compatible
• Inserts for many popular aerospace connectors

CeeLok FAS-X Connectors

High Speed
• Supports 10G Ethernet and beyond
• One or four 10G Ethernet channels in size 11 or 25 shells

Compatible
• AS39029 contacts
• Fast field termination and repair, using standard tools
• Available with aluminum or composite shells with a variety of finishes

DEUTSCH Wildcat 38999 Connectors

High Density
• Nearly double the density of equivalent 38999 Series III connectors
• Four housing sizes, 11 to 64 contacts

Reliability
• Robust, triple-start threaded coupling
• Extreme temperature, vibration, and corrosion resistance
• Accepts standard 38999 backshells and accessories

I/O CONNECTORS

Micro-D Connectors

Space-Saving Performance
- Pre-wired per MIL-DTL-83513 or crimp contacts for customization
- Lightweight aluminum shells plated in nickel or cadmium

DEUTSCH Wildcat Micro Connectors

For Size- and Weight-Critical Applications
- 3, 5, or 9 contacts in two shell sizes
- Lightweight aluminum shells
- Bayonet and threaded coupling

Rugged
- Environmentally sealed with rear-removable contacts
- Cable EMI shield and boot termination
- Small, lightweight reliability

DEUTSCH DMC-M Series Multi-Module EN4165 Connectors

Compact Flexibility
- Interchangeable modules for signal and power
- Wide range of configurations, backshells, and accessories for signal and power
- Standard and shielded versions

DEUTSCH 369 Series Connectors

Low-Cost, Space-Saving Design
- Based on ARINC 809/EN4165
- 3, 6, or 9 positions

Reliable
- Fully sealed cable and mating interface
- Aerospace-grade low-smoke and -toxicity materials

D-Subminiature Connectors

Versatility for I/O and Production Breaks
- Ultra-light version—up to 20% lighter with improved EMI performance
- Standard and high-density configurations
- Hybrid versions for coax, Quadrax, and optical

DEUTSCH EN4165/ARINC 809 Connectors

Save Weight, Control EMI
- Wide range of modules for signal and power
- Excellent EMI performance
- Robust composite shell saves weight

FIBER-OPTIC CONNECTORS

Optical Inserts

Full Range of Connector Solutions
- ARINC, GPR, DMC-M, EN4165, and 38999
- Support for ceramic ferrules, expanded beam termini, and MT ferrules

PRO BEAM Expanded-Beam Connectors

Robust
- Physically noncontacting mating of single-mode and multimode fibers

Versatile
- Three sizes: Senior, Junior, and Mini
- Size 16 termini also available

FIBER-OPTIC CONNECTORS

VITA 66.1 Connectors

Rugged
- Robust performance in backplane interconnects
- Locating posts for proper positioning

High Capacity
- One or two MT ferrules to accommodate up to 24 fibers

Optical Termini

Full High-Performance Range
- 1.25- and 2.5-mm precision ceramic ferrules
- MT array ferrules
- Expanded beam

MC5 Series Physical Contact Connectors

Sustained High Performance
- Withstands a wide range of environmental conditions
- Compact 1.25-mm precision zirconia ceramic ferrules
- Extensive range with dimple termination process and tooling

Optical Flex Circuits

Versatile
- Symmetrical and asymmetrical designs
- Very low insertion loss over a broad temperature range
- Range of packaging options for environmental conditions

RF AND HIGH-SPEED DIGITAL

RF Connectors, Cable, and Cable Assemblies

More Choice, More Performance
- Standard, subminiature, and microminiature interfaces and frequencies
- Flexible and semi-rigid cable
- Qualified to MIL-PRF-39012, MIL-DTL-83517, MIL-PRF-55339

Digital Cable Assemblies

More Speed, Less Weight
- Support for high-speed protocols
- Compact, lightweight designs
- Fully tested and documented by TE

HIGH-SPEED CABLE

Fiber-Optic Cable

Complete Selection
- Single mode and multimode
- Tight-buffered and loose-tube constructions
- Low-smoke, zero-halogen versions to support increased safety

High-Speed Copper Cable

Rugged Choices
- Material choices to match application requirements
- Shielded and unshielded
- Low-smoke, zero-halogen versions to support increased safety

High-Speed Protocols
- Configurations to support various Ethernet, Quadrax, IEEE 1394, USB, Fibre Channel, etc.

HARNESSING

Raychem Sealed Harnesses

Lightweight and Tough
- Small, lightweight, rugged, and environmentally sealed

Customized
- Designs are customer specific
- Performance matched to application requirements

Raychem Heat Shrinkable Tubing

Excellent Performance
- Space-grade versions for low outgassing
- With or without adhesive lining
- Wide range of sizes, shrink ratios, and environmental resistance

Raychem Molded Parts

More Choice
- Wide range of size, shapes and materials
- Available to fit TE backshell adapters

Protects
- Provides excellent strain relief at connector cable terminations

Polamco Backshells

Full Range
- Unshielded, shielded, and rugged conduit systems
- Rectangular and circular configurations
- Straight, 45, or 90-degree options

Rugged
- Versions to match most harsh environments

Raychem HexaShield EMI Adapters

High Performance
- 360° shield termination system for shielded wires and cables.
- Excellent mechanical and environmental resistance
- Efficient strain relief

Versatile and Flexible
- Aluminum, stainless steel, and composite versions available
- Simple installation and easy re-entry

Raychem High-Temperature Terminations

Versatile
- Crimp and controlled-solder splices and shield terminations

High Temperature
- Rated to 200°C or 260°C
- Low temperature versions also available

Environmentally Sealed
- Heat-shrinkable insulation sleeve for sealing and strain relief

RELAYS AND CONTACTORS

KILOVAC High-Voltage Relays

Capable
- Voltage isolation to 70 kV
- Current ratings to 110 amps
- Service life to 10 million cycles
- Frequencies to 32 MHz

Versatile
- Various contact forms available
- Flange, panel and PC board mounting styles
- Optional coils, mountings and terminals

CII Low Signal Relays

High Performance
- Miniature hermetically sealed relays
- High-frequency models capable of switching up through 6 GHz
- Excellent isolation, insertion loss, and VSWR

Flexible Packaging
- Non-latching and latching designs
- 1/5, 1/2 and full-size crystal can, TO-5 and .100 grid
- Variety of mounting styles

For More Information

TE Technical Support Center

North America	+1 800 522 6752	Nordic	+46 8 5072 5000
Asia Pacific	+86 0 400 820 6015	Poland	+48 800 702 309
Austria	+43 1 905 601 228	Russia	+7495 790 790 2
Baltic Regions	+46 8 5072 5000	Spain/Portugal	+34 93 2910366
Benelux	+31 73 6246 999	Switzerland	+41 52 633 66 26
Czech Republic	+420 800 701 462	United Kingdom	+44 800 267 666
France	+33 1 34 20 86 86		
Germany	+49 6251 133 1999		
Hungary	+36 809 874 04		
Italy	+39 011 401 2632		

Follow us on Twitter for all the latest product news @TEConnectivity, and on Facebook, TEConnectivity.

Polamco
+44 (0)1225 322500
Email: sales@polamco.com

MORE BANDWIDTH, MORE SPACE AND WEIGHT SAVINGS . . .
FROM COMPONENTS TO INTEGRATED SOLUTIONS

te.com/avionics

AEROSPACE, DEFENSE & MARINE /// AVIONICS

TE connectivity