



Aircraft Engines and Power Distribution

Harsh Environment Reliability

Innovative High-Performance Solutions
Designed for Reliable Power in
Extreme High Temperature, Shock
and Vibration Environments

Built to Withstand Challenging Applications

TE Connectivity (TE) has extensive expertise in developing high-reliability connectors, wire and cable, and power distribution solutions that provide high-temperature performance and high-vibration-resistance in packaging that is lighter, smaller, installs easier, and stands up to the stresses of flight.

Powerful Electronics Integration

Work with TE to integrate proven components and systems for improved power system efficiency, increased functionality, and lower total system cost. We offer application-matched heat-shrink tubing and molded parts, adhesives, and cable insulation/jackets that can handle high temperatures, vibrations, fluids, and mechanical abuse of engines and other critical aircraft applications. Our high-performance connectors, relays, contactors, and switches are designed specifically to operate in extremely rigorous environments in military and aerospace applications.

Helping You Reduce Costs

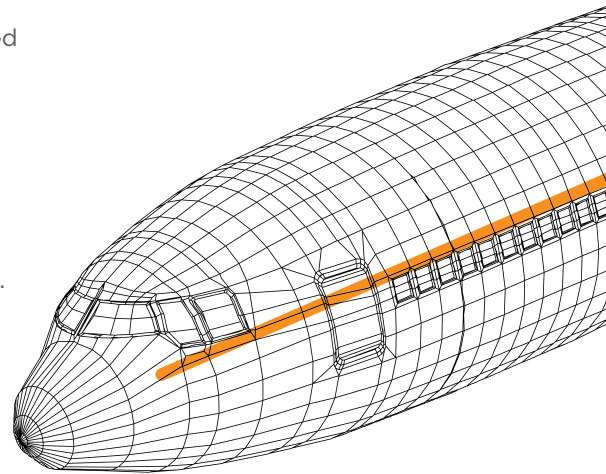
Our products are designed for lower costs, higher performance, and easier installation. Integrated solutions—such as cable harnesses, power distribution panels, and composite enclosures—decrease installation costs by giving you plug-and-go products built and tested to the highest standards.

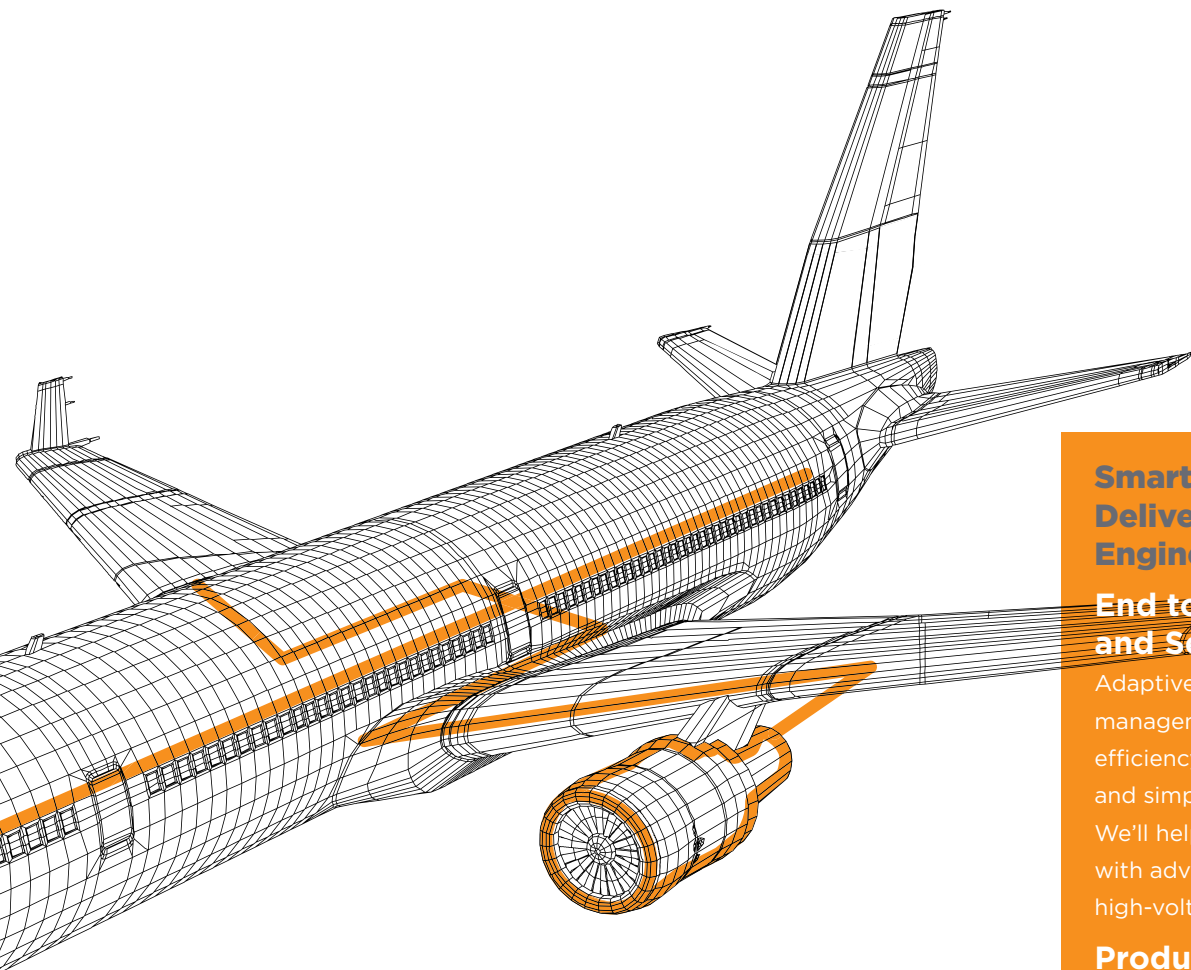
Total Life-Cycle Support

From initial design stages to aftermarket maintenance and upgrades, we will work with you to provide adaptive and intelligent power systems offering robust, reliable performance in the most extreme aircraft environments. Count on TE for innovative solutions to help meet the challenges of the next generation of flight.

Solutions to Withstand Engine Temperatures and Vibration

Interconnection reliability is critical in aircraft engines, where conditions are harsh and vibration levels are high. We evaluate magnetic, thermal, mechanical, and electrical parameters to deliver solutions that are easy to use, reliable over time, and reduce your applied cost. Choose from a full range of extremely rugged wire and cable, connectors, harnessing components, sensors, backshells and heat-shrink tubing and tapes designed for easier use, longer reliability, and lower applied cost.





Smart Solutions to Deliver Power from Engine to Load

End to End: Primary and Secondary Power

Adaptive and intelligent power management helps improve efficiency, increase reliability, and simplify maintenance. We'll help you increase functionality with advanced architectures and high-voltage systems.

Products

- Rugged high-temperature cables and connectors
- High-performance contactors and relays for both primary and secondary power
- Custom power distribution units designed, built, and qualified to meet your specific requirements
- Power cables, with copper or weight-saving aluminum conductors
- Terminals and splices for terminating power cables
- Power connectors rated up to 1000 A
- Harnessing components to seal and protect the wiring system



Flight-critical aircraft engines are subject to the most extreme environmental conditions of high temperatures, vibration and shock, making the reliability of every connector and cable equally critical. Our extensive expertise in the development of high-reliability connectors and cabling components enables us to provide the required performance in smaller, lighter packages to save weight, space and fuel, and make installation easy.

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem
SEACON | Rochester | DEUTSCH

Empower Engineers to Solve Problems, Moving the World Forward.



CONNECTORS

**DEUTSCH 983 Series Connectors**
EN2997, ESC10, BACC63**Durable**

- High-vibration, high-temperature connectors
- Temperatures as high as +260°C

Reliable

- Fine-threaded coupling with secure self-locking

Versatile

- Designed for engine, APU, and pylon applications

**DEUTSCH D-EASY Wire Seals****Convenient**

- Removable
- Allows rework of seal *in situ* without wire removal

Robust

- -55°C to +105°C temperature range
- Withstands 500-hour salt spray

**DEUTSCH 983-15 Series Connectors**
ESC15, EN2997**Saves Space and Weight**

- Extension of 983 Series to include integrated backshell
- Designed for high-vibration, high-temperature areas to +260°C
- Saves space and weight
- Anti-coupling device

**DEUTSCH 984-16 Series Connectors**
ESC16

- Extension of 984 Series to include integrated backshell
- Designed for high-vibration, high-temperature areas to +260°C
- Saves space and weight
- Mechanically and electrically scoop proof

**DEUTSCH DTS-K and DTS-S Series Connectors**
D38999 Classes K and S**Ultra-Rugged**

- Withstands most severe vibration, corrosive, and high-temperature environments
- High-vibration-resistant connector
- Over-travel system
- Anti-fire locking system

**DEUTSCH Firewall Feedthroughs****Safer Reliability**

- Titanium and stainless steel options
- Helps withstand fire without flame crossing
- Fire resistance: +1100°C for 20 min with direct flame
- Up to four 3/0 AWG wires

**DEUTSCH 993 Series Connectors**
MIL-C-5015**Fire Resistant**

- Rated to +350°C
- MIL-C-5015-style screw-threaded connectors
- Stainless steel shells and ceramic inserts
- Used with thermocouple contact for control measurements

**DEUTSCH Contacts****High Vibration Resistance**

- Energy band springs maintain electrical continuity
- Designed for D38999, EN2997, and ESC connectors
- Secures electrical continuity and behavior during vibration



WIRE, CABLE AND ACCESSORIES



Raychem SHF-260 Power Cable

Extremely Flexible

- High flex 6x bend radius
- Tight routing bends without jacket wrinkling or cracking

High Temperature

- +260°C

Robust

- Chemical and fluid resistance
- Arc track resistant
- FAR Part 25 flammability



Raychem CANbus Cable

High Performance

- High performance, 120 ohm twisted pair
- shielded and unshielded variations available

Rugged, Flexible Design

- Constructions available meeting SAE J1939 and SAE J1939-11 and -15 requirements
- Abrasion resistant



Raychem SPEC 55 PC Wire and Cable

Versatile

- Wide range of conductor materials, platings, and sizes
- Variety of shielding options

High Temperature

- -55°C to +200°C

Space and Weight Savings

- Thin-wall cross-linked ETFE insulation and jackets



Raychem Multicore Cables

Light Weight and Highly Durable

- Industry-standard components
- Designed to meet specific application hazards

Versatile

- Signal, power, RF, high-speed digital, and optical conductors
- Wide range of materials and configurations



COPALUM Lite Terminals and Splices

Weight Savings

- 60% vs. copper terminals
- 53% vs. drop-forged aluminum terminals

Convenient

- Grease-free COPALUM dry crimp technology, compatible with existing tooling
- Qualification for use in commercial air



PIDG Terminals and Splices

Versatile

- Variety of tongue styles and platings
- 26 through 10 AWG
- MIL-T-2928 styles

Reliable

- Insulated and noninsulated
- Nylon insulation resists hydrocarbons



Hermetic Connectors

Reliable

- Glass-to-metal sealing in stainless steel shells
- Withstands high pressure and extreme temperatures

High Density

- Size 22 contacts for high contact density in the smallest space
- Reduced weight, same performance
- High vibration resistance



STRATO-THERM Terminals and Splices

High Temperature

- Uninsulated versions up to 650°C
- TFE-insulated versions to 288°C



HARNESSING



Raychem System 25 Harnessing Components

Matched Components for Compatibility

- Tubing, molded parts, and adhesives

High Temperature

- -75°C to +150°C

Rugged

- Fluid resistant
- Flame retarded
- Semi-rigid



Raychem System 200 Harnessing Components

Matched Components for Compatibility

- Tubing, molded parts, tape, adhesives, and conduit

Very High Temperature

- -55°C to +200°C

Rugged

- Fluid-immersion resistant
- Flame retarded
- Flexible



Raychem High-Temperature Terminations

Versatile

- Crimp and controlled-solder splices and shield terminations

High Temperature

- Rated to +200°C or +260°C

Environmentally Sealed

- Heat-shrinkable insulation sleeve for sealing and strain relief



Sensors

Solutions for Every Need

- Pressure and temperature
- Speed and vibration
- Fluid properties

Capable

- Packaged for high-temp harsh environments



DEUTSCH Backshells

High Reliability

- Die-cast or machined stainless steel and aluminum materials
- Internal insulation coating for different temperatures (up to +350°C) to help prevent wire fretting

Versatile

- Full range for strain relief, shield termination, and sealing



POLAMCO Backshells

Approved

- Approved by many engine and aircraft manufacturers

High-Vibration Resistant

- Anti-decoupling locking
- Internal PTFE coating for high-vibration wire protection



Raychem RT-555 Heat-Shrink Repair Tape

High Temperature

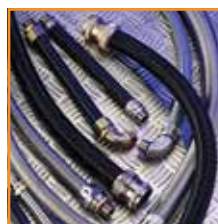
- Rated to 200°C continuous use

Fluid Resistant

- Resists aviation hydraulic fluids

Easy to Use

- Convenient tape form
- 4 standard widths
- Use as a system with RT-555 sealing sleeves



POLAMCO Conduit Systems

Reliable

- Spin-coupling EMC and environmental conduit adaptor
- Integral environmental seal
- 360° shield termination feature for internal shield

Wide Range of Options

- Comprehensive choice of standard conduit materials
- Straight, 45°, 90° and custom angles



RELAYS, CONTACTORS, AND POWER CONTROLLERS

**KILOVAC Lightweight DC Relays and Contactors**

- Make and break current ratings from 5 to 600 A
- For switching from 28 to 1800 VDC
- Small, lightweight, hermetically sealed units have gas or vacuum dielectric
- Wide variety of mounting and termination styles
- Contacts available in Form A, Form B, Form C and latching arrangements
- Versions with current sensing and overcurrent trip capabilities

**Solid-State Relays and Power Controllers**

- Various models have switch ratings from 90 mA up to 100 A and 270 VDC
- AC, DC and bidirectional output
- Available for panel or PC board mounting
- Some types incorporate circuit protection, switch status, and trip status
- Most are qualified to MIL-PRF-28750D or associated DSCC drawings

**KILOVAC Lightweight Contactors Designed to Switch up to 1000 VDC and 1000 A**

- Interrupt currents up to 3300 A
- Voltage isolation from 5 to 1800 VDC
- One- or two-pole models with normally open or normally closed main contacts
- Non-position sensitive, hermetically sealed models for side or bottom mounting
- Available with a variety of auxiliary contact arrangements
- Latching and non-latching types

**HARTMAN Lightweight 28 VDC Contactors**

- Main contact ratings to 1000 A
- Available with a variety of auxiliary contact arrangements
- SPST and SPDT main contact forms
- Standard, reverse current, and automatic dropout types
- Hermetically or gasket-sealed IP67 models in conventional or bus bar mounting versions
- Optional Hall effect current sensing

**HARTMAN and Wilmar Sensors, Monitors and Protective Relays**

- Overcurrent, undercurrent and over/undercurrent sensors and indicators
- Overvoltage, undervoltage and over/undervoltage sensors and monitors
- Overfrequency, under frequency and over/underfrequency sensors
- Phase loss/rotation sensors and ground power monitors
- Time delay versions available
- Smart Contactors—RCCB, RPC & ELCU versions

**HARTMAN AC Contactors**

- Main contact ratings to 800 A; arrangements to 4PDT
- Available with a variety of auxiliary contact arrangements
- Side stable, latching and center off models
- Hermetically or gasket sealed
- More compact, lighter weight models as well as traditional designs
- Bus bar mount versions available

**Customized Lightweight Power Distribution Units**

- For primary and secondary power distribution
- Modular systems consist of various plug-in and bus bar line-replaceable modules (LRMs) installed on a panel mounting system or backplane

**KILOVAC LEV100H Contactor****Hermetically Sealed**

- No contact oxidation over periods of non-use

Versatile

- Not position sensitive; available in side and bottom mount configurations
- 12, 24, and 48 VDC coils available

Efficient

- Small 1000 VDC, 150 A contactor saves weight and space

LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit www.te.com/industrial to chat with a Product Information Specialist.

Technical Support

te.com/support-center

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Innovative High-Performance Solutions Designed for Reliable Power in
Extreme High Temperature, Shock and Vibration Environments



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Consult TE for the latest dimensions and design specifications.

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