

A white quadcopter drone with a camera is flying in the foreground of a warehouse. In the background, a worker wearing a yellow hard hat and a green safety vest is visible, slightly out of focus. The warehouse has high ceilings and yellow structural beams.

WATCH YOUR DESIGN TAKE FLIGHT WITH TE CONNECTIVITY

PRODUCT SOLUTIONS FOR COMMERCIAL DRONES

As commercial drones accelerate to market, design engineers will need to respond with reliable, miniaturized solutions that will enable high performing applications. While flying hundreds of feet in the air, these applications will need to withstand harsh environments and provide data connectivity. See how TE's product solutions are enabling the reliability and connectivity for commercial drone applications.

CONNECTORS



Commercial MATE-N-LOK Connectors

WTW and WTB solution with a 5.08mm centerline, 1 thru 16 positions, up to 19A, 250V. Fully polarized nylon housings. Designed with a locking feature that will hold connector halves together under severe conditions of vibration and shock.



Universal MATE-N-LOK Connectors

Contacts are on a 6.35mm centerline design with WTW, WTP and WTB options rated up to 19A, 600V. Offered in 1 thru 15 positions in WTW and 2 thru 15 positions in WTB. Housings feature positive polarization, positive locking and rear cavity identification for easy, error resistant assembly.



Micro MATE-N-LOK Connectors

Low profile connectors that have a vertical height of less than 4.7mm. Rated up to 5A, 250V. Polarized housings prevent connector mis-mating and positive latching feature prevents un-mating, 2-4 positions available.



Mini-Universal MATE-N-LOK Connectors

Fully polarized housing help to assure proper mating. Splash proof design option for applications that require sealing. Space-saving 4.14mm centerline rated up to 9.5A, 600V. Available in WTW and WTB options.



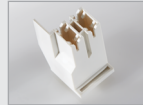
Micro-D Microminiature Connectors

0.050" pitch connectors with a robust design for harsh environments. Products include rectangular, circular, coax and strip connectors for both board mount and cable assemblies.



GRACE INERTIA 2.5mm Connectors

Compact WTW and WTB connectors with a 2.5mm centerline to save space. The inertia locking mechanism helps prevent connectors from being disconnected during movement and prevents defective products caused by half mating.



Power Triple Lock Connectors

WTW solution with a 6.0mm centerline. Rated up to 20A, 600V. Designed for better power and signal applications. Locks in three ways and offers an optional TPA device that helps assure terminals are fully seated and remain that way.



Signal Double Lock Connectors

Compact, 2.5mm centerline, signal circuit solution for use where space is at a premium. Rated up to 3A max. Designed for reliability with a double lock plate that helps to ensure correct loading and mating of contacts in the housing. IP67 rated water and dust proof sealing options available.



Economy Power Connectors

Offers up to 11A, 600V for high power needs in a 3.96mm centerline. Provides reliability with a locking latch that prevents the plug housing and post header from vibrating apart. Optional Terminal Position Assurance (TPA) accessories.



Micro Wildcat Connectors

Extreme temperature, vibration, fluid and corrosion resistance in a high-density lightweight connector.



Power Key Connectors

WTB power circuit connector with a 5.0mm centerline. Built to optimize contact seating and proper mating to the PCB header. Designed to reduce bubbles created by PC board coating process. Rated up to 10A, 300V.



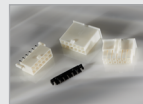
Power Double Lock Connectors

WTW and WTB connectors available on a 3.96mm, 6.5mm, 7.92mm and 13.0mm centerline designed for use in power circuit applications. Offers secondary locking. Rated up to 14A, 300V. Available in 1-12 positions.



MTA Connectors

WTW and WTB connector systems that can reduce labor costs by utilizing insulation displacement contact (IDC) technology to simplify assembly processes. MTA 100 offers a 2.54mm centerline in 2-28 positions, rated up to 5A, 250V. MTA 156 offers a 3.96mm centerline in 2-24 positions.



VAL-U-LOK Connectors

2- 24 position discrete wire interconnect system. Rated up to 13A, 600V in a 4.2mm centerline. Available in WTW or WTB options.



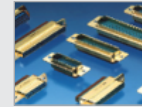
Nanominiature Connectors

025" pitch interconnect devices designed for high reliability applications where reduced size and weight are design parameter. Products include rectangular, circular, coax and strip connectors.



DEUTSCH 38999 Connector

025" pitch interconnect devices designed for high reliability applications where reduced size and weight are design parameter. Products include rectangular, circular, coax and strip connectors.



AMPLIMITE ULTRA-LITE Connectors

Light weight, one-piece aluminum shells for enhanced EMI performance. 15-20% lighter than brass counterparts. Intermates/interchanges with existing designs.



AMPMODU 50/50 Grid

Offer design flexibility with IDC and crimp termination methods. Provide PC board relief-retention with kinked connector design.



AMPMODU MOD IV & V Headers

Discrete Wire to board & board to board rec and hdrs in a variety of configurations on 2.54mm pitch. Shrouded, unshrouded, press fit, reeled breakaway hdrs & polarized rec.



AMPMODU MTE

High reliability discrete wire to board & wire to wire system on 2.54mm pitch for high vibration environments. Latching & polarization with either pre-loaded IDC contacts or std crimp contacts.



AMPMODU System 50

A wide variety of high density (1.27mm x 2.54mm) board to board and wire to board connectors in thru hole and surface mount. Latching with IDC termination is available as well as ribbon cable or flat flex cable.



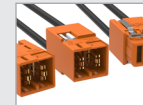
369 Series Connector

For applications requiring fewer contacts per connector, featuring aerospace-grade materials to help meet stringent smoke, toxicity, flammability, and sealing requirements. Offers lightweight composite shells in 3, 6 or 9 positions.



DEUTSCH Autosport Connector

Offers weight and space saving over standard military designs and is available a wide variety of options, with medium and high density arrangements up to 128 ways with four shell styles, and five keyway orientations.



Unmanned Power Connectors

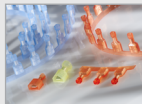
Provides a reliable contact interface that safely delivers power or power/signal. Offers AWG to 14 AWG power, 22 AWG to 24 AWG signal, mixed signal and power available in 3 positions. 80 AMPS per contact continuous (power pins) and 4 AMPS per contact continuous (signal pins).

TERMINALS AND SPLICES



FASTON Terminals

Designed for speed and reliability. Receptacles available insulated and uninsulated, in straight and flag configurations. Options for low insertion force and high temperature requirements available.



Ultra-Fast Terminals

Fully insulated FASTON receptacles offer a completely protected terminal and a closed barrel wire crimp. Terminates 26-10 AWG solid, fused and stranded wire. Each assembly's translucent nylon housing is color-coded to identify wire size.



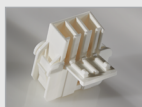
Rings and Spades

Providing versatile mating options that support solid or stranded wire connections and offered in a range of sizes, materials, configurations and plating to meet specific requirements.



Positive Lock Receptacles

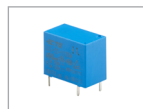
Designed to provide ease of assembly and secure retention to mating tabs. Receptacles lock onto mating tabs and are removable only by deflecting an integral lever lock. High temperature options rated up to 250°C.



FASTIN-FASTON Terminals

Receptacles and tabs available for single and multiple connections. Locking lances help to ensure firm retention of contacts in the housing. Glow Wire approved housings available.

PCB RELAYS



OJ / OJE Miniature PCB Relays

Miniature size in a 1 Form A (NO) contact arrangement. Various models support a range of loads with contact ratings from 3 to 10A. Both sensitive (200mW) and standard (450mW) coil options accommodate various drive circuits.



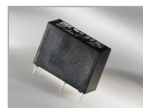
PCH Relays

Compact size in a 1 Form A (NO) and 1 Form C (CO) contact arrangement with ratings from 3 to 10A. Sensitive coil available for 1 Form A-type.



T77 Miniature PCB Relays

Compact size, 3-10A rating, Creepage spacing of 6.5mm between coil and contacts, UL class F approved insulation system.



PCJ Relays

1 pole 3A/5A, 1 form A (NO) contact arrangement. Sensitive coil 200mW and approved for use in ambient temperature up to 105°C.

INPUTS AND OUTPUTS



USB Connectors

Universal and user-friendly, TE offers micro USB, USB 3.0 and the new high-power and reversible USB Type-C.

ANTENNAS AND RF



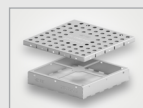
Embedded Antennas

Range of products supporting low profile wireless connectivity for 4G and 5 GHz Wi-Fi applications.



RF Connectors

A wide array of RF and standard coax connectors for any size drone.



Board Level Shielding (BLS)

EMI shields that minimize crosstalk in tightly designed systems.

SENSORS



Pressure Sensors

Includes a portfolio of media isolated and non-media isolated pressure sensor solutions.



Humidity Sensors

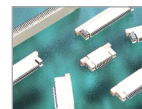
Protect your products with sensors that can warn of high humidity.



Altimeters

Make flight time fun and predictable with reliable altimeter sensors.

WIRE-TO-BOARD & FLEX



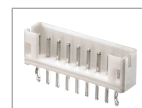
Flexible Printed Circuit (FPC)

Space-saving, angled insertion connectors that can be placed in a wide range of PCB locations.



AMP CT & Mini CT Connectors

With broad industry usage these handy connectors feature both crimp and IDC style interconnects with many header options.



High Performance Interconnects (HPI)

Industry standard square-peg technology in single and dual - row post headers available in various pitches and colors.



Flat Flexible Cable (FFC)

Crimp style flex connection for FFC, FEC and FPC cable. Our reliable designs offer many housing options and leading application tooling.

MEMORY & SOCKETS



SIM and SD Card Connectors

Large array of options including block, tray and combo connectors.



DDR4 DIMM Connectors

Space savings, reduced height, improved power consumption and higher data rates than the DDR3.

BOARD-TO-BOARD



Free Height

These versatile connectors are useful for downsizing applications that require parallel stacked circuit boards.



Board-to-Flex Connectors

Full shielding provides EMI protection for high-speed data transmission.



M.2 NGFF Connectors

Save more than 20% of PCB real estate compared to the PCI Express mini card.



Spring Fingers

Tiny, scalable, surface mountable contacts allow designers to fit grounding solutions almost anywhere.



Mobile Battery Connectors

Balance current carrying capabilities, ensure higher amps and support fast charging times with a range of solutions.



DC Jack Connectors

Our rectangular DC jack connectors offer faster charging 10A in a USB size format.

SINGLE WALL HEAT SHRINK TUBING



SWFR Heat Shrink Tubing

Low shrink temperature for fast installation. Environmentally friendly tubing with no added halogens emits minimal amounts of toxic or acid gasses during combustion. 600V rating. UL 224/CSA VW-1 flame rating.



CGPE-105 Heat Shrink Tubing

2:1 shrink ratio. Bright, shiny appearance; UV resistance; clear offers exceptional clarity. Easily hot stamped. Non-flame retardant polyolefin tubing.



RNF-100 and RNF-3000 Heat Shrink Tubing

Excellent physical, chemical and electrical properties. Abrasion and solvent resistance superior to that of many polyolefin tubings. Wide range of sizes and colors.



VERSAFIT Heat Shrink Tubing

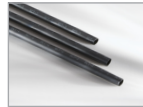
Meets AS23053/5, Cl. 3 as well as UL 224 and CSA C22.2 No. 198.1 standards. UL 224/CSA VW-1 flame rating. Low shrink temperature for fast installation.

DUAL WALL HEAT SHRINK TUBING



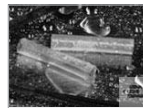
BATTU Heat Shrink Tubing

2:1 shrink ratio semi-rigid, flame retardant, dual wall heat shrink tubing optimized for power cable to terminal applications in harsh environments of industrial and commercial vehicles and equipment.



SCT Heat Shrink Tubing

4:1 shrink ratio allows a few sizes to cover a wide range of splice and component diameters. Flame retardant and mechanically tough. Adhesive wall forms a barrier against fluids and moisture at an extended temperature range.



ES1000 and ES2000 Heat Shrink Tubing

4:1 shrink ratio allows a few sizes to cover a wide range of splice and component diameters. Flame retardant and mechanically tough providing strain relief.



DWFR Heat Shrink Tubing

UL 224 VW-1 flame rating. 3:1 and 4:1 shrink ratios allow for connector-to-cable sealing. Medium wall provides increased mechanical protection. DWFR adhesive bonds to a wide variety of materials.



AP-2000 Heat Shrink Tubing

Sized for use on specific standard sizes of metal pipe. Provides environmental and mechanical protection for automotive brake and fuel lines. Flexibility allows pipes to be bent after tubing has been installed.



RBK Heat Shrink Tubing

4:1 shrink ratio allows a few sizes to cover a wide range of splice and component diameters. Mechanically tough providing strain relief and abrasion protection. Flame retardant.



ATUM Heat Shrink Tubing

3:1 and 4:1 shrink ratios allow for connector-to-cable sealing. Medium wall provides increased mechanical protection. ATUM adhesive bonds to a wide variety of materials.



QSZH Heat Shrink Tubing

4:1 shrink ratio allows a few sizes to cover a wide range of splice and component diameters. Mechanically tough providing strain relief and abrasion protection. Seals quick for efficient installation. No added halogens. Flame retardant.

SPECIALTY HEAT SHRINK TUBING



RayBlock Heat Shrink Tubing

Environmentally seals and provides strain relief to wire bundles of up to 20 wires. Withstands excursions to 120°C [248°F].



HFT5000 Heat Shrink Tubing

Highly flexible for easy installation on a variety of substrates. Outstanding abrasion resistance over a wide temperature range. Heat-shrinkable to grip tightly. Resistant to harsh environments. Halogen-free.



ES Caps

4:1 shrink ratio allows a few sizes to cover a wide range of splice diameters. Mechanically tough jacket provides strain relief and abrasion protection. Flame retardant jacket (black only).



Versaflex Heat Shrink Tubing

Suitable for mechanical protection of wire harnesses where exceptional flexibility combined with superior abrasion and cut-through resistance is required. Will not trap heat or moisture. Expands easily over irregular shapes. Available in non-flame-retardant or flame-retardant versions.

WIRE AND CABLE



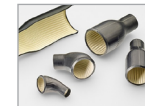
Raychem SPEC 55 Wire and Cable

High performance primary wires and cable, offered in both single - and dual-wall construction, provide small size, light weight, and outstanding chemical resistance. Provides excellent abrasion and cut-through resistance and flexibility, with an extended temperature range from -65°C to +200°C.



Raychem SPEC 44 Wire and Cable

High performance primary wires and cable, offering dual-wall construction, provide small size, light weight, and outstanding chemical resistance. Provides excellent abrasion and cut-through resistance and flexibility, with an extended temperature range from -65°C to +200°C. Available in 600, 1000 and 2500 voltage ratings.



Molded Parts

Heat-shrinkable boots and molded shapes with adhesive coating form a watertight seal, helping protect cable from corrosion and mechanical abuse while providing excellent electrical insulating properties.