

TE Connectivity's (TE) market-defining technologies and engineering expertise are setting the pace for the future of connectivity. This guide provides a quick view of how TE's newest products provide solutions across a range of market-leading applications.



NEW PRODUCT

Application Guide

November 2014

HANDHELD & PORTABLE
DEVICES

ELECTRICAL SYSTEM
PROTECTION

SOLID STATE LIGHTING

INTELLIGENT BUILDINGS

VALUE ADD ASSEMBLIES

FACTORY AUTOMATION

DATA COMMUNICATION
ARCHITECTURE

HARSH ENVIRONMENTS

HANDHELD & PORTABLE DEVICES

The rapidly growing needs of the electronics industry are trending toward smaller, lighter and thinner devices with improved portability. TE is at the forefront of this trend with the latest technology advancements and a broad portfolio of new compact interconnects that keep engineers in all markets ahead of changing industry needs.



a. Scalable Spring Fingers (Universal Ground Contacts)

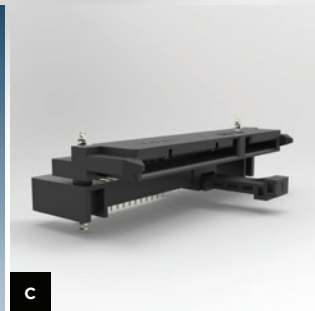
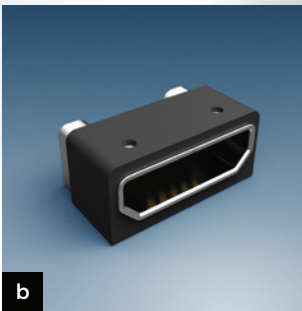
Enable easy design changes with a common footprint used across the family. Offer design versatility with a broad range of available heights.

b. USB 2.0 Splash Proof Connectors

Provide protection rated up to IP54 with splash proof and dust ingress prevention. Conform to the micro USB 2.0 performance specification.

c. Alignment-Free Serial ATA (SATA) Connectors

Simplify hard disk drive installation with self-alignment capability of 0.5mm flexibility. Reduce damage from vibration, drop and shock with anti-shock performance.



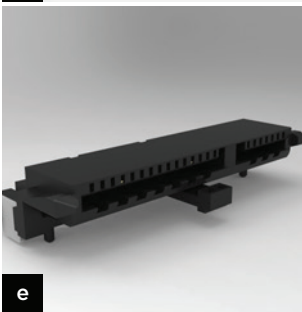
d. M.2 NGFF Connectors

Support enhanced data rates, including PCI Express 3.0, SATA 3.0 and USB 3.0. Save more than 20% of PCB real estate compared to the PCIe Mini Card.



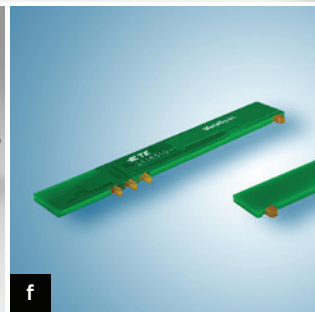
e. Slant-Insertion SATA Connectors

Save assembly sliding space with 15 degree angle insertion. Reduce the need for an adaptor with simplified design.



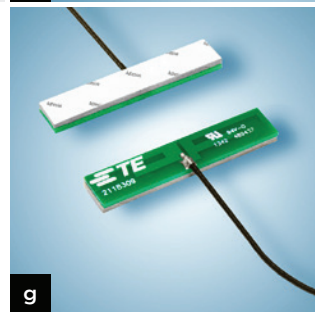
f. Embedded Antennas for LTE Applications

Enable global 4G cellular coverage in a single compact antenna design. Offer a reduced size antenna solution compared to traditional approaches.



g. Embedded Antennas for 5GHz WiFi Applications

Enhance efficiency on media access control meeting IEEE 802.11. Provide 5GHz antenna solutions in a low profile compact design.



ELECTRICAL SYSTEM PROTECTION

TE's innovative products support electronic system protection keeping your devices running longer. Circuit protection devices help prevent overcurrent and overvoltage faults, such as a short, power cross or surge. Power entry modules and power line filters are engineered to resolve EMI/RFI issues associated with conducted emissions and noise susceptibility.

a. Corcom FB Power Line Filters for Lighting Applications

Enable compliance to international EMI standards for lighting devices, fluorescent lamp and related lighting ballasts. Allow for easy installation in light fixtures using industry standard screw mount design and compact size.

b. PolyZen Circuit Protection Devices

Provide a broad range of protection including voltage spikes, incorrect use of power supplies, and reserve bias. Enable resettable protection against damage caused by multi-watt fault events.

c. PolySwitch LVRH (Line-Voltage-Rated High Current) Devices

Reduce downtime and save cost with a resettable PPTC device. Design for harsh chemical and industrial environments with robust epoxy-based yellow coating.

d. Corcom Medium P Series Power Entry Modules

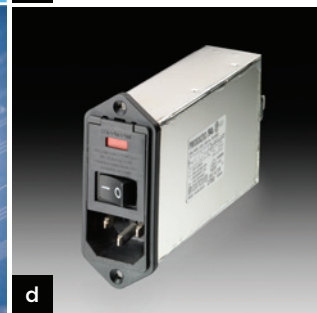
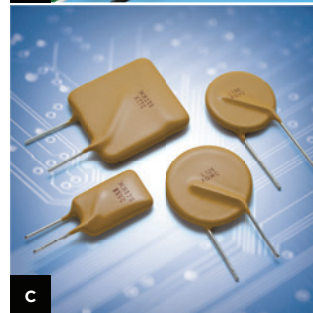
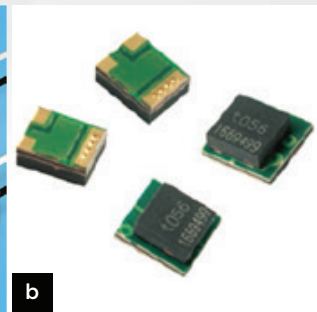
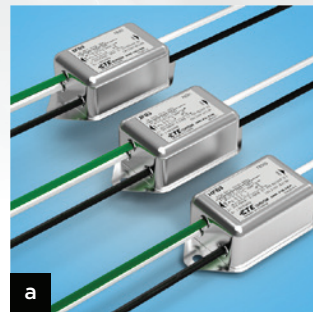
Design for applications with increased attenuation requirements in higher frequencies. Offer versatility with snap-in or flange mounting design and a choice of vertical or horizontal mounting ears.

e. Silicon ESD Circuit Protection Devices

Provide ESD protection up to 20kV contact and air discharge per IEC 61000-4-2. Protect high speed data signals where PCB space is limited.

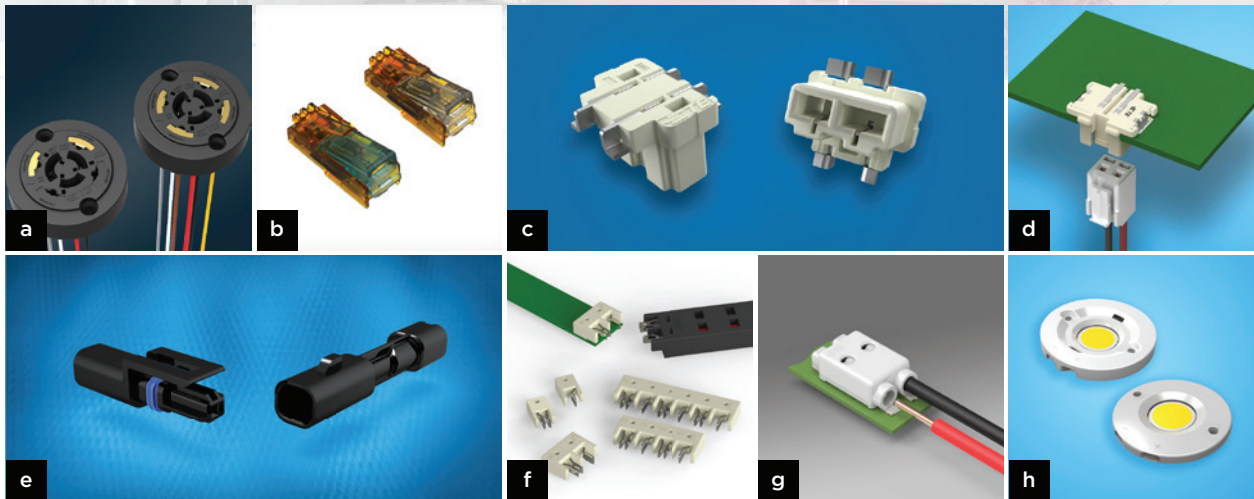
f. Metal Hybrid PPTC Devices with Thermal Activation (MHP-TA)

Manage high voltage and battery discharge rates found in high capacity LiP and prismatic cell applications. Provide resettable over temperature protection in confined spaces.



SOLID STATE LIGHTING

TE is a leader in the development of next generation Solid State Lighting (SSL) solutions. From outdoor luminaires to commercial refrigeration, new technologies drive lighting innovation. Whether you are creating a new system or enhancing an existing design, TE provides a wide range of new energy-saving solutions.



a. Multi-Channel Photocontrol Receptacles

Provide a standardized connection between the photocell and the dimmable luminaire with this ANSI compliant receptacle. Achieve ease of integration into new or existing light fixtures with pre-terminated receptacle and wire leads.

b. Low Voltage Pivot Power RJ45 Connectors

Reduce cable cost by utilizing 2 conductor 18 AWG cable versus 8 conductor cat5 data grade cable. Simplify the wiring process by combining RJ45 positions into two 18 AWG wires.

c. ITB Card Edge Connectors & Inverted Poke-In Platform

Save time and cost by eliminating secondary SMT assembly processes with the ability to process the ITB connectors at the same time as all other PCB components. Minimize LED light obstruction and shadowing with low profile connector design.

d. High Power Inverted Thru Board SMT Connectors

Enable a power connection from the underside of an FR4 or aluminum-clad PCB. Prevent LED light emission interference with a low profile height of 2.00 mm.

e. 1 Position SlimSeal SSL Connectors

Design for various lighting and control applications with 1, 2, 3 and 4 position sizes. Achieve system protection with IP67 seal rating permitting use in outdoor and commercial refrigeration lighting applications.

f. Mini Hermaphroditic Connector System

Enable quick assembly, minimize inventory and lower production costs with connectors that mate and un-mate to themselves horizontally and vertically. Connect data and control signals with 2, 4 and 6 position versions.

g. Low Profile SMT Releasable Poke-In Wire Connectors

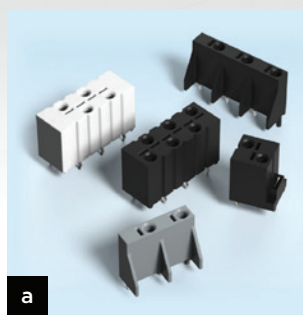
Ensure product reliability during wire insertion and removal with integral robust wire release mechanism. Support higher connection variations, minimize part number inventory and lower production costs with side by side stackable design.

h. LUMAWISE LED Holders Type Z50

Simplify installation with snap-in LED retention, securing the LED to the holder before mounting. Save time with poke-in wire connection, eliminating the need to solder to the LED.

INTELLIGENT BUILDINGS

As today's buildings become increasingly efficient and connected, TE offers many solutions to solve complex connectivity challenges. Our new products seamlessly integrate controls and transmit power and data across multiple building systems, from environmental and illumination controls to people flow, convenience and service equipment, delivering safer and more secure living and working spaces.



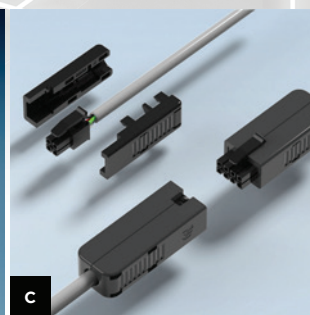
a. Vertical and In-Line Screwless Wire Connectors

Reduce time and cost by eliminating the need to hand solder or fixture and wave-solder wires directly to the PCB. Permit insertion of stripped solid or bonded stranded wire without special tooling.



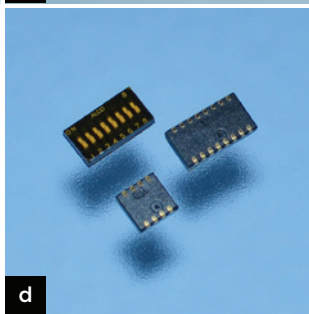
b. CLOUDSPLITTER Connector System

Achieve both Cat5e and DC power in one shielded or unshielded connection. Support easy retrofit with a SMT jack accepting either an RJ45 shielded plug or the CLOUDSPLITTER plug assembly.



c. Micro MATE-N-LOK Strain Relief Covers

Increase cable retention force to a minimum of 60N with jacketed cable strain relief meeting IEC 60598-1. Achieve easy and rapid assembly with screwless and toolless design.



d. GDH-SA Series DIP Switches

Allow for a higher density design with J-banded terminals and a 1.27 mm pitch. Meet design requirements with 2, 4, 6, 8 and 10 position configurations.



e. ALCOSWITCH Blue Series Pushbutton Switches

Save space with miniaturized snap acting pushbutton. Achieve design versatility with SPDT and DPDT, boot seals, and various color and size options.

f. Power PCB RTX Relays

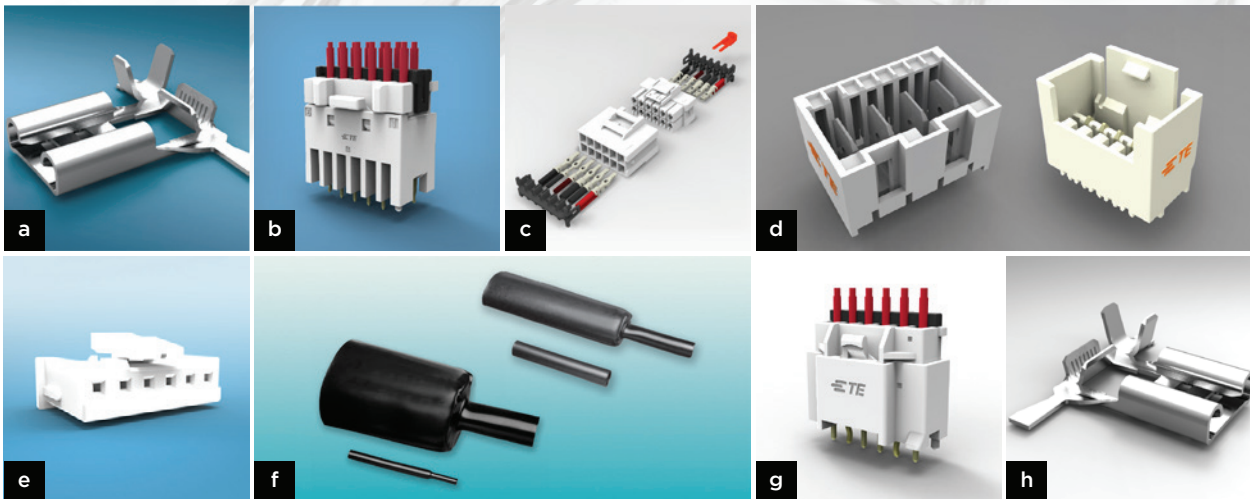
Support energy efficient designs with the bi-stable (latching) DC coil system utilizing either one or two coils. Enable compliance to IEC 60669-1 with 16A / 250VAC make and break capability.



VALUE ADD

ASSEMBLIES

Critical to the performance of system to system connection, TE's design experience supports complete performance, efficiency and applied cost savings. For essentially any subsystem including control boards, power systems, cable assemblies, controllers, timers or sensors, TE products enable a broad range of solutions.



a. AMPLIVAR Terminals with 250 Series FASTON Flag Receptacle

Enable flexibility using TE standard or customized terminals. Reduce human error with precisely controlled crimp termination.

b. Grace Inertia 3.3 Wire-Applied Connectors

Prevent urethane coating from flowing into the housing with 8 mm contact height off of PCB. Protect against improper insertion and pin deformation with superior design.

c. Power Triple Lock Wire-Applied Connector System

Ensure contacts are fully seated and protect against contact backout with Terminal Position Assurance (TPA). Ensure connector engagement in high vibration applications with Connector Position Assurance (CPA).

d. 2.5 & 5.0 Pitch PCB Applied RAST Connectors

Prevent unmating with secure latching feature where high vibration or mechanical shock are prevalent. Eliminate mis-mating during assembly with keyed and polarized housings.

e. Economy Power 2.5 (EP 2.5) Connectors

Save space and deliver power to a PCB with a compact product design. Standardize inventory with a design that mates with both existing EP products and the newly designed EP 2.5 headers.

f. RHW & RMW Heat Shrink Tubing

Increase product reliability with improved impact and abrasion resistance. Provide a moisture-proof seal with adhesive-lined version.

g. Grace Inertia 2.5 Wire-Applied Connectors

Prevent unintentional connector disconnect with inertia locking mechanism. Achieve enhanced durability with dual beam contact design.

h. Combined AMPLIVAR Splice and FASTON Quick Connect Receptacles

Reduce crimp time with a single crimp for up to three magnet wires. Increase efficiency with direct connection to copper or aluminum magnet wire.

FACTORY

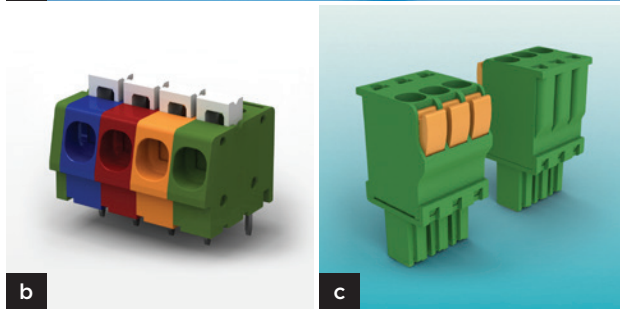
AUTOMATION

As production environments become increasingly automated and decentralized, even the smallest connections are mission critical. TE delivers new innovative solutions to connect, power and control every aspect of production—from machinery to process optimization on the circuit board to the most unforgiving factory floor.



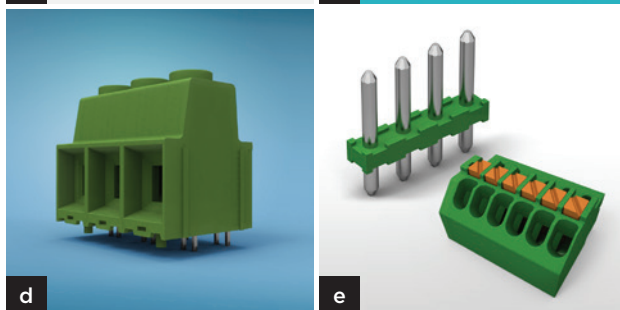
a. Motorman Hybrid I/O Connectors

Satisfy power, signal and communication needs in one compact connector. Minimize effects of impact and vibration with robust contact system design.



b. 5.0 and 5.08 Spring Type Side Wire Entry Terminal Blocks

Improve performance with superior wire retention in high vibration applications. Allow for design flexibility with a variety of position sizes and colors.



c. 3.5mm and 3.81mm Spring Type Straight Plugs

Increase space utilization with end-to-end stacking without loss of centerline spacing. Support fail-safe installation with different housing colors and marking options.

d. 15mm Side Wire Entry Power Terminal Blocks

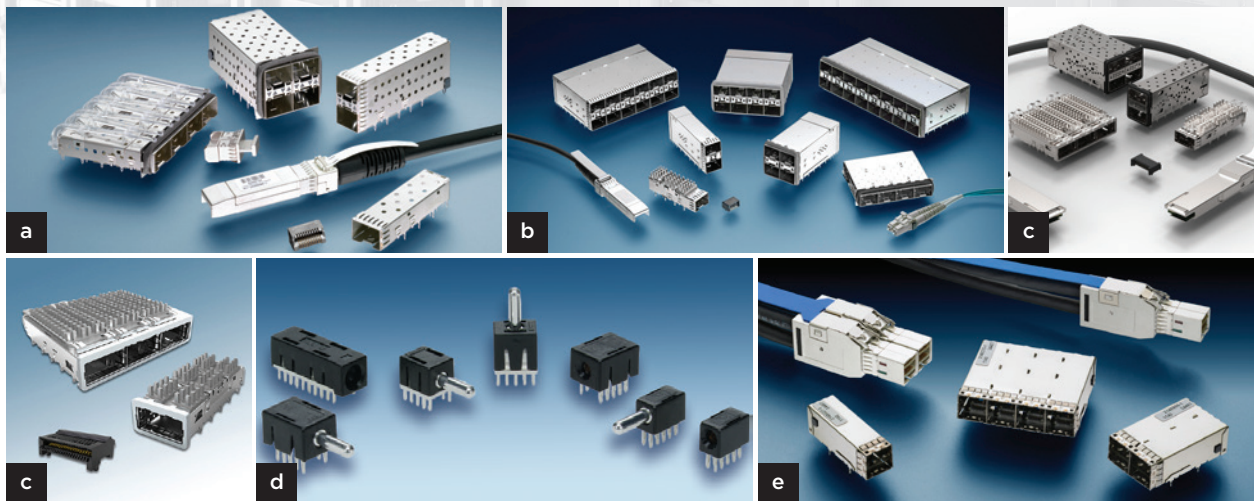
Improve performance with current ratings up to 135A factory and 130A field wiring. Prevent incorrect assembly with polarization pin feature.

e. 3.5mm Spring Type Flush Mount Plugs with Unshrouded Header

Improve performance with superior wire retention in high vibration applications. Save time and money with quick service or change over with screwless design.

DATA COMMUNICATION ARCHITECTURE

The dramatic increase of information flow around the globe has driven the need for communication equipment and architectures that support higher density and faster speeds. As a leader in the industry, TE supports these trends with connectors and cables capable of 10- to 25- Gbps and beyond achieving faster data rates. TE drives standards and protocols, expertise in signal integrity, and a broad portfolio of copper and optic connectivity solutions for every level of data communication.



a. Enhanced SFP+ I/O Connectors

Support Ethernet, Fiber Channel, and InfiniBand standard applications up to 16 Gbps. Improve thermal performance with enhanced side walls, vertical separators, and latch plate.

b. zSFP+ I/O Connectors

Perform at data rates from 28 Gbps up to 40 Gbps. Support easy, one-step placement with press-fit cages and stacked assemblies.

c. Stacked QSFP+ Connector and Cage Assemblies

Support aggregate data speeds of 40 Gbps with channels of 10 Gbps per port. Triple the density of traditional SFP+ ports and increase panel port density with stacked configurations.

c. zQSFP+ I/O Interconnect for Data Rates up to 40 Gbps

Offer four channels of high-speed differential signals with data rates up to 40 Gbps. Support data rates of 100 Gbps Ethernet and 100 Gbps InfiniBand (IB).

d. ICCON Power Connectors

Provide reliable high current power interconnection for space constrained applications. Protect against accidental unmating in harsh conditions with optional locking feature.

e. Mini SAS HD Interconnect

Offer one-step placement to the PCB with pre-assembled connector and cage assembly. Eliminate the need for soldering with press fit termination.



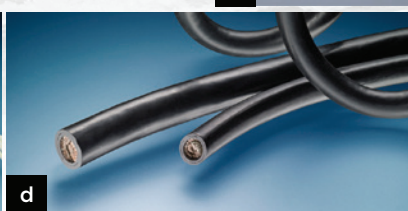
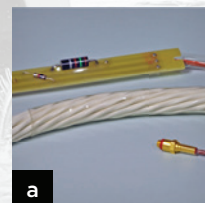
f. Z-PACK HM-Zd Plus Board-to-Board Connectors

Enable increased field speed up to 15 Gbps by mating to existing Z-PACK HM-Zd header. Reduce noise and system crosstalk with double ground design in the receptacle and lead frame.

HARSH

ENVIRONMENTS

Electronic components are expected to work in more extreme conditions than ever before. Withstand these rugged environments with TE's new products that provide protection against the most challenging situations your application may experience including vibration, moisture, debris and sunlight.



a. HT-200 Heat-Shrinkable Tubing

Increase product reliability with improved impact and abrasion with tough, flexible, thin-wall insulation. Meet or exceed military and industrial standards with high temperature performance and protect from most industrial solvents, fuels and chemicals.

b. AS85049 Band Straps & Adaptors

Provide protection and strain relief for wires and cables attaching to most military circular connectors. Allow ease of installation and repair with side-entry design.

c. DEUTSCH 369 Series Power Connectors

Provide design flexibility by offering 3, 6, and 9 position configurations. Protect against moisture and dust with fully sealed cable and mating interface.

d. Flexible Diesel Resistant Power Cable (FDR25S)

Provide an optimal solution for complex cable routing where high flexibility and small bend radii are required. Enable mechanically tough performance with resistance to insulation abrasion.

e. CeeLok FAS-T Nano I/O Circular Connectors

Achieve up to 10 gigabit Ethernet rates for high-speed transmission of data. Improve signal integrity through uniform cross talk cancellation with T-shaped pin pattern.

f. Side Entry Tinel-Lock Rings

Design for simple, one-piece construction with interlocking ends. Ensure full recovery when thermochromic paint on ring changes color.

g. UV-Resistant Sealed Circular Plastic Connectors

Withstand temperatures up to 110°C and eliminate the need for replacement of UV-degraded housings. Achieve low cost and easy installation with built-in IP67 sealing capability.

h. Ruggedized Optical Backplane Interconnect System

Comply with VITA 66.1 standard with a high-density, blind-mate optical interconnect. Maximize optical performance with optimized receptacle design.

INNOVATIVE SOLUTION



Industrial Control

Reliable, quick to install and industry-proven components



Small Devices

Ease transition to higher data rates, increased protection and smaller packaging



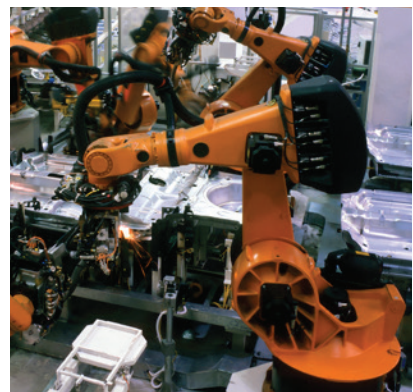
Material Handling

Save on system maintenance costs and down time



Building Safety & Security

Stay ahead of the trend for increased building intelligence

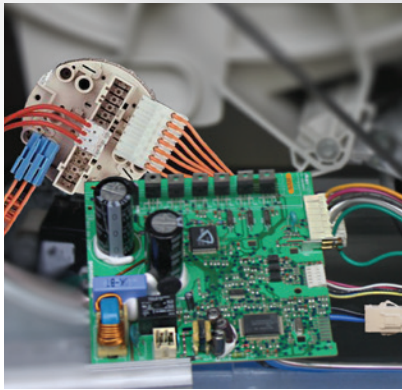


Motion & Drives

Save power and reduce applied cost while increasing system reliability

NS

Whether you are designing a new system or enhancing an existing design, TE is your solution provider for electromechanical and electronic components.



Subsystem Design

Support end products across many industries



I/O Communications

Satisfy needs of diverse markets and solve size and data rate challenges



Lighting

Seamlessly integrate controls and transmit power and data across multiple building systems



Elevator/Escalator

Development capabilities range from simple modifications to unique custom designs



HVAC

Stay ahead of the trends for increased building comfort and control



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