

## TE CONNECTIVITY (TE) SOLUTIONS FOR TEST & MEASUREMENT


















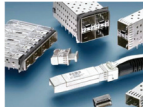








With rapidly up-and-coming and cutting-edge technologies such as 5G and electric and autonomous vehicles, the test and measurement industry is set to usher in a new round of growth.

The fast, iterative market is accompanied by the diversification and complication of test requirements. As a world leader in connectivity and sensors, TE Connectivity (TE) has decades of experience as well as deep and highly capable engineering expertise. This, in addition to a broad portfolio of products and one-stop-shop solutions, can help support your needs for high-performance, extendable and cost-efficient test and measurement equipment.



TE products and solutions can enable you to quickly and accurately measure current, voltage and other parameters as the precision of electronics continues to increase. TE is committed to supporting the next generation of test and measurement systems upgrades.

Product		Key Product Features	
<b>BOARD-TO-BOARD</b>			
<b>Z-PACK HM-Zd/ HM-Zd Plus/ PCIe Gen 5 HM-Zd Connectors</b>		<ul style="list-style-type: none"> <li>Specified high speed connector by PXI System Alliance</li> <li>Upgradable performance from 10 to 25+ Gbps</li> <li>Available for 20, 30, 40 differential pairs</li> <li>Robust ground shield promotes mechanical durability</li> <li>Fully interchangeable and intermatable with similar products from ERNI</li> <li>New PCIe Gen 5 HM-Zd can get 32G NRZ data rate upgrade and is backward compatible with Z-PACK HM-Zd/HM-Zd Plus</li> </ul>	—
<b>Z-PACK HM 2mm/ eHM 2mm Connectors</b>		<ul style="list-style-type: none"> <li>Specified backplane connector by PXI System Alliance</li> <li>Comply with IEC 61076-4-101</li> <li>Modular 2mm pitch with flexible configuration</li> <li>High density system with 5, 5+2, 8, 8+2 row product offering</li> <li>Support hot swap functions and different keyings</li> </ul>	—
<b>0.5mm Free Height Connectors</b>		<ul style="list-style-type: none"> <li>Allows for high pin counts in a small footprint to save PC board real estate</li> <li>Available in 220, 240, and 440 position configurations</li> <li>Offered in a variety of stacking heights, ranging from 5mm to 8mm</li> <li>Available on tape-and-reel packaging for lead protection and automated placement</li> </ul>	
<b>0.8mm Free Height Connectors</b>		<ul style="list-style-type: none"> <li>Stack heights from 4mm to 20mm</li> <li>40-440 positions</li> <li>Polarized housings to prevent mis-mating</li> <li>Locating posts for proper positioning</li> <li>Tube, tray, or tape and reel packaging options</li> </ul>	
<b>0.8mm Free Height + 32 Gbps Connectors</b>		<ul style="list-style-type: none"> <li>Stack height: 12mm</li> <li>80 positions</li> <li>Polarized housings to prevent mis-mating</li> <li>PCIe Gen 5 32 Gbps compatible with 26 differential pairs</li> <li>Blind mate connector</li> </ul>	
<b>STRADA Whisper High Speed Backplane Connectors</b>		<ul style="list-style-type: none"> <li>Proven 56 Gbps connector</li> <li>Simple upgrade path</li> <li>Industry leading crosstalk performance</li> <li>Robust signal pins and ground shields</li> <li>Best-in-class EMI performance</li> <li>Flexible design options to support most architectures</li> <li>1.5mm un-mate electrical performance</li> <li>Skew-less design without cancellation tricks</li> </ul>	
<b>Eurocard Connectors</b>		<ul style="list-style-type: none"> <li>Meets DIN 41612 and IEC 60603-2</li> <li>Two-piece reliability</li> <li>Polarized housings</li> <li>Flame retardant</li> <li>Types B, C, D, F, M, Q and R</li> <li>Standard DIN sizes, also half, third, and expanded sizes</li> <li>1.5mm un-mate electrical performance</li> <li>Selective contact loading</li> </ul>	
<b>POWER</b>			
<b>ELCON High Power Drawer/FORGE Connectors</b>		<ul style="list-style-type: none"> <li>Hot plug, blind mate connectors</li> <li>AC/DC, power and signal</li> <li>35A to 200A per power contact</li> <li>Custom configurable</li> </ul>	—
<b>ELCON Mini Connectors</b>		<ul style="list-style-type: none"> <li>Supports high current up to 40A per contact and a 400v rating, with a cost-effective stamped contact design that is only slightly larger than an HDMI connector</li> <li>Feature small, 8mm height form-factor</li> <li>Low resistance, highly reliable interface</li> <li>Positive metal latch retention</li> </ul>	
<b>MULTI-BEAM XL, MULTI-BEAM XLE, and MULTI-BEAM HD Power Connectors</b>		<ul style="list-style-type: none"> <li>Modular tooling makes the connector highly configurable</li> <li>Slim guide sockets reduce the overall PCB footprint</li> <li>Vented housing allows for better heat dissipation</li> </ul>	
<b>CABLE &amp; CABLE ASSEMBLIES</b>			
<b>USB Type-C Cable Assemblies</b>		<ul style="list-style-type: none"> <li>Standard USB2.0/USB3.0/USB3.1</li> <li>Power: 3A/5A</li> <li>PTC (Circuit Protection)</li> <li>Excellent bending and EMC performance offer customization</li> </ul>	—
<b>Ethernet Mini I/O Cable Assemblies</b>		<ul style="list-style-type: none"> <li>Compact size, saves up to 75% of space compared to conventional RJ45 plugs</li> <li>Variety of cable versions, Mini I/O to Mini I/O or Mini I/O to RJ45</li> <li>Providing protection in most harsh environments</li> <li>High flexible cables usage inside the cabinet</li> </ul>	—
<b>High-Speed Multimedia Cable Assemblies</b>		<ul style="list-style-type: none"> <li>Receptacle and cable assembly</li> <li>High speed: 38 Gbps/lane (rev.4)</li> <li>Max. power supply: 2.0A/pin</li> <li>Small form factor: height 3mm min.</li> <li>33 pin/43 pin 0.6mm pitch</li> <li>Active cable assembly is available</li> </ul>	—

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Product		Key Product Features	
<b>INPUT/OUTPUT (I/O)</b>			
<b>Sliver Connectors</b>		<ul style="list-style-type: none"> <li>Flexible, robust and provides optimal signal integrity</li> <li>Super slim with a 0.6mm contact pitch</li> <li>Highly robust metal housing design on the connector cage</li> </ul>	
<b>Modular Jack Connectors</b>		<ul style="list-style-type: none"> <li>Up to Cat6 performance</li> <li>Available with single, multiple and stacked configurations</li> <li>High reliability and meets TIA-1096-A</li> </ul>	
<b>QSFP, QSFP28/56 Connectors</b>		<ul style="list-style-type: none"> <li>Offers 4 channels (4x) of 10G, 32+ Gbps data rates</li> <li>QSFP28/56 product supports 100 Gbps Ethernet (28 Gbps x 4), and 100 Gbps InfiniBand (IB) Enhanced Data Rate (EDR) requirements</li> <li>QSFP28/56 product supports future 56 Gbps PAM-4 technologies</li> </ul>	
<b>Mini-SAS/ Mini-SAS HD Connectors</b>		<ul style="list-style-type: none"> <li>Internal or external storage solutions for high speed serial I/O interfaces</li> <li>Greater port density in Mini-SAS HD</li> <li>Internal and external Mini-SAS/Mini-SAS HD support</li> <li>Mini SAS support to 6 Gbps, Mini-SAS support to 12 Gbps</li> <li>1x1, 1x2, 1x4 options</li> </ul>	
<b>SAS Drive Connectors</b>		<ul style="list-style-type: none"> <li>Point-to-point serial protocol that is used to move data to and from storage devices, particularly hard drives</li> </ul>	—
<b>NGFF (M.2) Connectors</b>		<ul style="list-style-type: none"> <li>Available in various heights</li> <li>0.5mm pitch with 67 positions</li> <li>Designed for both single and double-sided modules</li> <li>Available in various keying options for module cards</li> <li>Supports PCIe 3.0, USB 3.0, SATA 3.0 standards</li> </ul>	
<b>OSFP Connectors and Cable Assemblies</b>		<ul style="list-style-type: none"> <li>TE's OSFP connectors and cable assemblies provide data rates of 200G up to 400 Gbps</li> <li>Designed for both 28G NRZ and 56G PAM-4 protocols, with a roadmap to 112G PAM-4 for future system upgrades</li> </ul>	
<b>QSFP-DD Interconnects</b>		<ul style="list-style-type: none"> <li>QSFP-DD doubles the density of QSFP interconnects with an 8-lane electrical interface capable of 28 Gbps NRZ or 56 Gbps PAM-4 to achieve 200 or 400 Gbps aggregate per port</li> <li>QSFP-DD is backwards compatible with existing QSFP modules</li> </ul>	
<b>CDFP Connectors and Cable Assemblies</b>		<ul style="list-style-type: none"> <li>16 channels of up to 28 Gbps data rates for 400 Gbps total bandwidth</li> <li>Simple one-piece, press-fit pluggable I/O assembly provides flexibility and standardization to address design needs</li> <li>Perfect for high speed networking and high performance computing applications</li> </ul>	
<b>SFP/ SFP+/ SFP28 Connectors</b>		<ul style="list-style-type: none"> <li>Support applications up to 28 Gbps NRZ and 56 Gbps PAM-4</li> <li>Offers cages in single-port, ganged (1xN) and stacked (2xN) configurations; belly- to-belly mounting cages also offered</li> <li>Features elastomeric gaskets or springs for EMI containment</li> <li>Offers heat sink and light pipe options</li> <li>Stacked cages include an integrated high-speed connector</li> </ul>	 
<b>USB Type-C Connectors</b>		<ul style="list-style-type: none"> <li>Standard USB 3.0 (USB 3.1)</li> <li>5 Amp power</li> <li>5-10 Gbps data rate</li> </ul>	
<b>USB 3.0 Type-A Connectors</b>		<ul style="list-style-type: none"> <li>Standard USB 3.0</li> <li>Right angle</li> <li>Through hole</li> </ul>	
<b>AMPLIMITE Connectors</b>		<ul style="list-style-type: none"> <li>Known as AMPLIMITE, D-Subminiature Connectors, or D-Subs</li> <li>Rugged D-shaped shell and reliable design</li> <li>Product breadth supports a broad range of design needs and applications</li> </ul>	

## MEMORY CARD

<b>SD Card Connectors</b>		<ul style="list-style-type: none"> <li>Various standard and micro connector configuration sizes</li> <li>High-speed data transfer rate</li> <li>Designed for ease of customer use with available push/push and push/pull mating</li> <li>Manufactured to address existing SD memory card standards</li> <li>Available in top and bottom mounting configurations</li> </ul>	
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## Test & Measurement Solutions

Product	Key Product Features		
<b>BATTERY INTERCONNECTS</b>			
<b>Battery Interconnects for Mobile Devices</b>		<ul style="list-style-type: none"> <li>Centerline of 2.5mm-6.5 mm</li> <li>Various positions including 2, 3, 4, and 6</li> <li>Working height ranges from 0.4mm-6.7mm</li> <li>Wide current rating from 1.5 Amperes to 5 Amperes</li> </ul>	
<b>Battery Connectors and Holders</b>		<ul style="list-style-type: none"> <li>High density, versatile interconnects with six-position receptacles and headers featuring contacts on a 2.0mm centerline</li> <li>Available in right angle or vertical mount headers with left, right or keyless polarization, system is designed to permit mating and unmating at any angle between 0°-90°</li> </ul>	—
<b>RF CONNECTORS</b>			
<b>SMA, BNC, MCX/MMCX 2.92mm, 2.40mm 1.85mm</b>		<ul style="list-style-type: none"> <li>High frequency up to 67 GHz</li> <li>High precision, high stability</li> <li>A wide range of industry-standard families to help address your needs</li> </ul>	—
<b>RF ADAPTERS</b>			
<b>N, SMA, 2.4mm, 1.85mm Serial Adapters</b>		<ul style="list-style-type: none"> <li>Expansive RF portfolio</li> <li>Excellent electrical performance</li> <li>Robust product design</li> <li>Competitive price</li> </ul>	—
<b>RF TESTING CABLE ASSEMBLY</b>			
<b>N, SMA, 3.5mm, 2.92mm, 2.40mm Serial 1.85mm</b>		<ul style="list-style-type: none"> <li>High performance, cost-effective and durable</li> <li>Long life and stability</li> <li>High frequency up to 67 GHz</li> </ul>	—
<b>ANTENNAS</b>			
<b>24-44 GHz Dual Polarized Horn Antenna</b>		<ul style="list-style-type: none"> <li>Broad mmWave band coverage of 24-44 GHz</li> <li>Wide bandwidth on 5G New Radio (NR) bands (N257, N258, N260 and N261)</li> <li>High directivity of signal (strong signal in a concentrated direction)</li> <li>Horizontal and vertical 2-port dual polarized design increases signal handling capacity</li> </ul>	
<b>IC SOCKETS</b>			
<b>CPU Sockets</b>		<ul style="list-style-type: none"> <li>Socket is supplied with a cap to facilitate vacuum pick and place</li> <li>Backplates are available in zinc or nickel plating</li> </ul>	—
<b>DIP and HOLTITE Sockets</b>		<ul style="list-style-type: none"> <li>Solderless zero profile HOLTITE socket available</li> <li>Precision four-finger inner contacts or dual leaf contacts are optional</li> <li>Open frame and closed frame housings</li> <li>1 to 48 positions</li> </ul>	
<b>DIMM and SO DIMM Sockets</b>		<ul style="list-style-type: none"> <li>Wide variety</li> <li>Custom sizes on request</li> <li>Designed for industry standard JEDEC DIMMs for new and existing memory modules</li> <li>Socket options include vertical solder tail, vertical press fit, right angle, and 25° angle</li> </ul>	
<b>WIRE-TO-BOARD CONNECTORS</b>			
<b>Mini CT Connectors</b> (New Micro CT now in development)		<ul style="list-style-type: none"> <li>Two termination methods: IDC, Crimp: IDC AWG 26-28; Crimp AWG 24-28</li> <li>Circuits range from 2-20 single row and 20-40 dual row</li> <li>Kinked leg options for self-retention on boards</li> <li>Drawer and lattice series</li> <li>Panel mount configuration available</li> </ul>	
<b>FPC Connectors</b>		<ul style="list-style-type: none"> <li>Pitch: 0.25 to 1.25 pitch; pin counts: 3 to 60 pins</li> <li>Slant FPC insertion option to maximize PCB layout area</li> <li>Low profile (less than 1mm) economical product offerings</li> <li>Wide portfolio enabling high design flexibility with proven quality &amp; reliability</li> </ul>	
<b>AMP-LATCH Ribbon Cable Interconnects</b>		<ul style="list-style-type: none"> <li>Mass termination capabilities</li> <li>No need to strip or prepare wire</li> <li>Labor savings</li> <li>Variety of centerlines and options</li> </ul>	
<b>HPI Connectors</b>		<ul style="list-style-type: none"> <li>Centerline: 1.0mm-2.5mm; Positions: 2-32</li> <li>Square-peg technology enables product compatibility with industry standard products</li> <li>Broad portfolio that can support applications where a signal or low power needs to be routed through a device</li> </ul>	

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