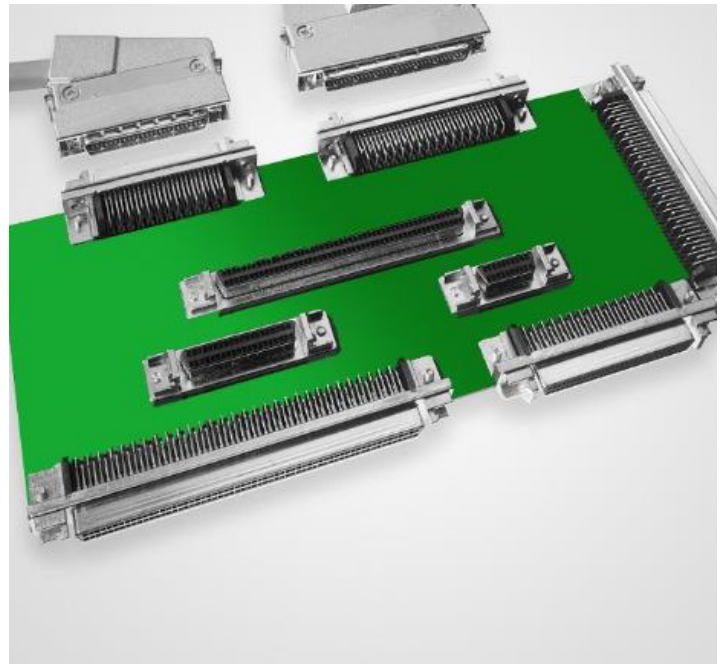# WHAT'S NEW WITH AMPLIMITE CONNECTORS

TE CONNECTIVITY'S COMMITMENT TO D-SUB CONNECTORS

TE Connectivity (TE) is committed long-term to the growth and development of our D-sub connector portfolios, including AMPLIMITE connectors. The breadth of the TE's D-sub portfolio can allow for a wide-array of application and customization to address most customers' needs. Whether it's brand-new design, updating equipment, or expanding upon a current system – we encourage you to consider TE's reliable, dependable, and long-tenured portfolio of AMPLIMITE connectivity offered solutions.

FINDING NEW OPPORTUNITIES WITH AMPLIMITE CONNECTORS

You may be familiar with AMPLIMITE connectors – and perhaps are already integrating these products into your solutions. The evolving technological landscape has allowed expanding applications for AMPLIMITE products, encouraging reevaluation of the portfolio's eclectic solutions. Considering the following points – and many more – will help you determine if AMPLIMITE products are the right fit for you:

EXPANDING APPLICATIONS

The AMPLIMITE connectors portfolio has been a long-tenured product line within TE, but their applications continue to grow as technology advances.

Your may have utilized TE's AMPLIMITE product lines in traditional applications over the years – such as industrial machinery, telecommunications, servers, and computers. However, the simplistic and versatile nature of the AMPLIMITE connector portfolio prompts consideration of a much broader-range of applications in the technology-space.

AMPLIMITE connectors have recently been used in solutions such as:

- **Personal and on-the-go devices due to a rugged, compact design**

- **Testing, measurement, and instrumentation equipment due to durable performance in harsher environments**

- **Laboratory, examination, and other medical equipment due to quality and reliability**

- **Industrial IoT sensors and gateways for complex automation challenges**

- **Interface and Media converters due to strong signal integrity**

- **Automotive components such as forklift steering columns and control boxes**

MILITARY & COMMERCIAL CROSS-PARTS

The AMPLIMITE connector portfolio contains both military-grade and commercial-use product variants. The rugged and durable design of these connectors can allow for implementation in military-grade applications, including military and space-related equipment. However, can allow customers who need cost-effective, commercial solutions may be able to find their product needs within the AMPLIMITE product lineup.

Many of TE's Series 109 standard-density and Series 90 high-density military-grade connectors may conform to latest MIL-DTL-24308 and AS39029 specifications and can be intermate-able with connectors from other manufacturers. The Series 109 connectors use size 20 contacts, while Series 90 connectors use size 22 contacts.

The military-grade connectors within the AMPLIMITE product portfolio has metal retention clips and screw machine contacts. Military connectors also include ULTRA-LITE non-magnetic alternatives to commercial counterparts and are also useful for high-temperature environments.

Below is a table showing a sampling of military-grade AMPLIMITE connectors and their associated commercial counterparts:

Military			Commercial (COTS)		
Part Number	Description	Differentiation	Part Number	Description	Differentiation
1218748-2	AMPLIMITE SZ 2 PLUG. 15 POS	• Zinc-plating • Product Specification MIL-C-24308 • Coaxial and power contacts available • Standard and high-density configurations available	205206-9	CRIMP SNAP PLUG ASSY,SIZE 2	• Zinc-plating • Product Specification 108-40005 • Standard contacts only • High-density configuration
205166-1	AMPLIMITE ASG, PLUG.S TD. 109,3	• Cadmium-plating • Copper alloy contacts • Product Specification MIL-C-24308 • Standard and high-density configurations available	5205208-1	CRIMP SNAP PLUG ASSY, 25 POS	• Zinc-plating • Phosphor bronze contacts • Product Specification 108-40005 • High-density configuration
204503-1	AMPLIMITE ASY, PLUG.S TD.90,2	• Cadmium-plating • Copper alloy contacts • Product Specification MIL-C-24308 • Standard and high-density configurations available	5749717-1	PLUG ASSY,26P,HDP-22,CN	• Tin-plating • Phosphor bronze contacts • Product Specification 108-1268 • High-density configuration
205163-1	RECEPT ASSY, 15 POSN, AMPLIMITE	• Cadmium-plating • Copper alloy contacts • Product Specification MIL-C-24308	1658644-1	HDP-20,RCPT,SIZE 2, 15 POSN,CL	• Tin-plating • Phosphor bronze contacts • Product Specification 108-40005

For more information about these products, TE's new Commercial Off the Shelf document describes in detail the crossover between TE Connectivity's commercial and military portfolios. You can also refer to both the military and commercial AMPLIMITE product catalogs for detailed information as well. Links to these documents have been provided in the Related Reference Material section of this paper.

A REMINDER ABOUT STANDARDS

The AMPLIMITE connectors can comply to numerous industry standards. The following are some notable standards to be considered:

- **SCSI (Small Computer System Interface): Specifies the command sets which devices use to communicate with one another. This commonly applies for outside devices connected to a PC such as storage, disks, printers, and CD-ROMs.**

- **VESA (Video Electronics Standards Association): Products that comply with VESA industry-wide interfacing standards for PC, workstation, and consumer electronics industries. This commonly applies for data transmission from a PC to outside device, such as monitor.**

- **RS-232: Standard for serial communication between data terminal equipment (DTE) and data communication equipment (DCE).**

- **RS-485: Defines the electrical characteristics of receivers and drivers used in serial communications.**
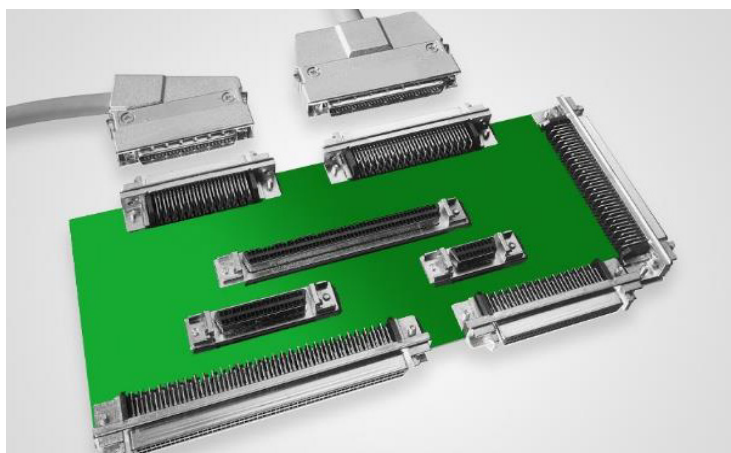
COMPETITOR CROSS-REFERENCE

TE.com provides a competitor cross-reference, which helps you compare competitor's offerings to the extensive TE Connectivity product portfolios. A link to the Competitor Cross-Reference has been provided in the Related Reference Material section of this paper.

CONSIDER THESE DIFFERENTIATED PORTFOLIO OPTIONS

The AMPLIMITE product portfolio currently has over 12,000 active parts, components, accessories, and tooling options to address most of your needs. The long-tenure of the product lines underscores the reliability, dependability, and quality of AMPLIMITE connectors and its staying-power in the marketplace.

Consider the following product offerings:

AMPLIMITE .050 SERIES CONNECTORS

The .050 Series Connector series is a portfolio of TE that offers a higher-density alternative to the traditional HD-20 and HD-22 product lines. The series includes right-angle and vertical D-sub versions with flat-face, latch block, and latch block with rail mating face options. The press-fit connectors in the .050 Series also have a 120-pin version not included in other portfolios. The ruggedness of the metal shell construction of the .050 Series connectors allows them to be used in harsher environments and provides EMI/RFI shielding. These connectors can also be compatible with a variety of termination options, including press-fit, SMT, and wave solder.

RIBBON-CABLE OFFERINGS

The AMPLIMITE ribbon-cable termination offerings can allow for optimized cable assembly and management in complex systems. Ribbon-cable are strongly-recommended for high-volume solutions due to the lower total applied cost vs crimp counterparts. These TE AMPLIMITE ribbon-cable offerings can provide a simplistic solution for many customers.

CONTACT PLATING OPTIONS

AMPLIMITE connectors in the AMPLIMITE portfolio have contacts which are plated to help ensure strong performance in many environments.TE can offer a selection of plating materials and thicknesses to help address most of your needs.

AMPLIMITE connectors contacts are made with either brass or phosphorous bronze and are plated with materials such as:

- Tin: used on termination end of contact

- Nickel and Palladium Nickel: used on underplate

- Gold: flash used on mating end of contact

MOUNTING OPTIONS

The portfolio of AMPLIMITE connectors includes a variety of mount-options, allowing your customers to select tailored solutions to address some of their needs. These mounting options including the following configurations:

- Cable-Mount: connector mount is installed onto the terminating cable

- Panel-Mount: connector is mounted through a hole in a panel

- Vertical/Right-Angle PCB-Mount: connector leads used to mount to PCB

ACCESSORIES, COMPONENTS, AND HARDWARE

The AMPLIMITE product portfolio offers a robust array of cable connector accessories, components, and hardware to complement the core AMPLIMITE cable connectors. These are including, but not limited to:

- Connector Contacts: Available in HDP-20, HDP-22, and HDE-20 varieties

- Cable Clamps: Shielded and Unshielded

- Hardware: Male/Female Screwlocks, Screw/Washer/Hex Nut kits, Latching Blocks, Ferrules

EMI AND RFI PROTECTION

AMPLIMITE products offer shielding from Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI). This interference can negatively affect electronic devices by suppressing internal signaling or causing internal emissions that interfere with its operation.

The AMPLIMITE cable-mount connectors with a front and back metal shell can provide this EMI/RFI shielding, including the entire .050 Series connector portfolio.

The AMPLIMITE product portfolio has options with and without EMI/RFI protection, depending on your needs.

SUMMARY

TE Connectivity's AMPLIMITE product portfolio offers a wide-range of offerings to to address most customer's design challenges. While used traditionally in many industrial applications, the evolving technological landscape has broadened the possibilities for the implementation of AMPLIMITE products in many markets. With a diverse portfolio of components and accessories, consider reevaluating AMPLIMITE products to to address your connectivity connectivity needs.

For more information on the AMPLIMITE product portfolio, refer to the reference material linked below.

RELATED REFERENCE MATERIAL

AMPLIMITE Commercial Catalog

AMPLIMITE Military Catalog

Commercial Off the Shelf (COTS) Document

AMPLIMITE Straight Posted Connectors Quick Reference Guide

AMPLIMITE Right Angle Posted Connectors Quick Reference Guide

AMPLIMITE .050 Series Connectors Quick Reference Guide

AMPLIMITE Cable Connectors and Shielding Hardware Kits Quick Reference Guide

AMPLIMITE Cable Connector Accessories Quick Reference Guide

AMPLIMITE Virtual Sample Kit

TE Connectivity Competitor Cross-Reference Site