

# Server & Storage Solutions

Amphenol is a leader in providing industry proven solutions used across server and storage equipment, and next-generation enterprise applications.





Amphenol Communications Solutions (ACS), a division of Amphenol Corporation, is a world leader in interconnect solutions for Communications, Mobile Consumer Products, RF, Optics, Broadband and Commercial electronics markets.

Amphenol Corporation is one of the world's largest designers and manufacturers of electrical, electronic and fiber optic connectors and interconnect systems, antennas, sensors and sensor-based products and coaxial and high-speed specialty cable.

ACS has an expansive global presence in research and development, manufacturing, and sales. We design and manufacture a wide range of innovative connectors as well as cable assemblies for diverse applications including server, storage, data center, mobile, RF, networking, industrial, business equipment and automotive.



Strong Global Presence

We place heavy emphasis on R&D for both new product and technology development, focusing on the advancement of the next generation of high-speed interconnects and power distribution solutions as well as innovative manufacturing solutions.

- Our R&D centers worldwide have registered thousands of patents and licensing agreements, developing some of the world's first innovations in connectors such as Shield-less High-Speed Connectors, Ball-Grid-Array Attachments, economical Stamped High-Power Contacts and cost effective yet reliable plating processes.
- We relentlessly seek improvements of our products, increasing our solutions' overall cost effectiveness, precision and reliability. This ensures that we meet or even surpass the ever changing needs and expectations of market trends.



GROUPS

Commercial High Speed

Mobile Consumer Broadband

Halo

37,000+ Employees Worldwide

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ARGENTINA

BRAZIL

#### **Applications**

Amphenol provides high-density, high-performance interconnect solutions for server and storage equipment used in multiple applications and markets.









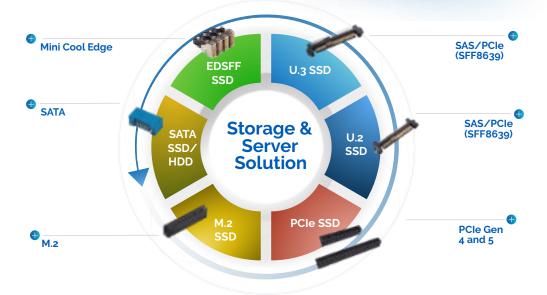




### **Enterprise storage**

Amphenol offers a wide range of high-performance enterprise SSD connector solutions for M.2, EDSFF, SAS, U.2, U.3, SATA and PCIe applications.





#### Server & Storage



## Mini Cool Edge for GENZ/EDSFF/

- · 0.60mm pitch connector, supports high speed up to 112G PAM4
- Designed to meet SFF TA1002, Gen Z, EDSFF, OCP NIC 3.0 specifications
- · Vertical, right angle, straddle mount and orthogonal options are available



#### **Double Density Cool Edge for Ultra Compact Design**

- 0.80mm pitch, power and signal hybrid connector
- Highly configurable wafer design for differential, single-ended and power
- Supports high speed of up to 32GT/s(or 56GT/s PAM4) capability



#### **Slim Cool Edge for High-Speed Hybrid Design**

- 0.65mm pitch one-piece support high speed, sideband and power hybrid
- Supports high speed up to 32GT/s (or 56GT/s PAM4) capability
- · Supports up to 330pin maximum



#### **Standard Cool Edge 0.8mm for Automotive and 5G Antenna**

- Robust design with EMI shielding for Automotive Ethernet and Power applications
- · Hybrid option for small cell active antenna BTB application
- · One-piece small form factor to save space



#### PCIe® M.2 Gen 5 and Gen 4

- 67 contacts on 0.50mm pitch fully compliant with PCI-SIG PCIe® M.2 specification
- · Dual Stacked, Shielded versions are
- Right angle, vertical and various connector heights and keying options offered



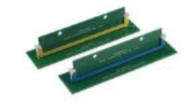
#### PCle® Gen4/5/6

- X1, X4, X8, X16, X24, X32 standard links
- · 1.00mm pitch, vertical and right angle with options for ridge, locked latch, side latch, blade hold down, open wall
- Extensive range include options for surface mount, through-hole solder, press-fit and straddle mount terminations and keying options offered



#### **DDR5 SO-DIMM Connectors**

- 262 positions connector in high-density design of 0.50mm pitch
- · 4.00mm, 8.00mm, 5.20mm and 9.20mm
- Right angle and vertical orientation with SMT mechanical hold-downs



#### **DDR SMT Memory module** Connectors

- Designed to meet JEDEC SO-016, SO-017, SO-019, SO-023, and the new SO-023D specification.
- U DIMM/R/LR Socket, Metal tab, Standard/Narrow/ latch available



#### **PSAS, SAS and SATA Connectors**

- SAS connectors (29-pins) support hot plugging and blind mating of HDDs/SSDs. 2 signal lanes support up to 24Gb data rate (SAS 4.0).
- PSAS connectors (68pins) support SAS HDD and NVME SSDs with 2 SAS lanes supporting up to 24G data rate and 4 PCle lanes supporting up to 32G (PSAS 5.0) data

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#### Compression, Board to Board Connectors and Interposer

- Provides a connection between either two PCB modules or one PCB and an electrical module
- Single-piece compression-type or twopiece board-to-board surface mount connectors



#### **ExtremePort™ Z-Link**

- Compliant with Gen-Z and OCP NIC specifications. SFF-TA-1002/1020 solution
- High speed of up to 56Gb/s PAM4
- Supports both cable and card edge applications



#### **RJMG**

- 10/100T, 1GBT (10/100/1000-BT), 2.5G, 5G, 10G, Power Over Ethernet (PoE, 15W-150W), integrated with surge protection.
- Commercial 0~70°C and industrial -40~85°C & -40~105°C.
- Meets IEEE802.3ab and supports various Ethernet PHY



#### Mini Cool Edge IO

- Up to 64Gb/s PAM4, PCle® Gen 4, PCle® Gen 5, PCle® Gen 6, over 1.0 meter transmission distance
- 0.60mm pitch connectors support both cable and card edge connections
- Options for 92Ω, 85Ω and 95Ω impedance and various pin number options - meeting PCle®/NVMe/SAS/ SFP(+)/QSFP specifications



#### **ExtremePort™ Swift**

- Ultra-low profile, 0.60mm pitch connector in 8X, 16X configurations. Mating height 8.38mm
- Designed for unshielded, internal I/O connectors
- \* With  $85\Omega$  impedance and meets PCIe® Gen 5 NRZ 32G specifications



#### **Power Connectors**

- Wire to Board connectors in 3.0 mm and 4.2mm pitch with current ratings from 6.5A to 20A per pin
- Designed for IT and Datacom applications



#### Multi-Trak™

- Combines original PCIe® and Mini Cool Edge IO in one connector to provide both power (21A) and high/low-speed signal
- Up to 56Gb/s PAM4, PCIe® Gen 5, and target PCIe® Gen 6
- Options for  $85\Omega$  impedance and various pin number options meeting PCle®/NVMe/SAS/OCP DC-MHS/ SFF-TA-1033 specifications



#### **USB Type-C Connectors**

- Performs to USB4 and Thunderbolt4 highspeed specifications, and backward compatible with USB3.2 Gen1 and Gen2
- Waterproof versions featuring unique Oring technology (LIM) perform up to IPX8
- Supports up to 240W (5A/48V) power supply



#### **Fan Connectors**

- Blind-Mate Interface Wire to Board connectors from 1.25mm to 2.54mm pitch with max current rating 5.5A/pin.
   Designed for Server and Storage applications
- Card to Wire connectors in 2.44mm and 2.54mm pitch with current rating 4A/pin. Designed for Switch application

#### Server & Storage



#### BarKlip® BK500 IO

PwrBlade® MiniMezz

applications

**System** 

in still air

25A per contact (low power)

• Up to 50A per contact (high power) and

Available stack heights range from 8mm

to 20mm (tooled in 1mm increments)

• +/- 0.80mm gatherability for blind mate

PwrMAX® I/O Cable Connector

· Latching options available

· Patented GCS® and GXT® plating

Rated up to 50A/Contact (100A/column)

without exceeding 30°C temperature rise

- Distributes up to 500A per contact
- Simple configurable plug-and-play solutions
- Fully compliant with ORv3 Power Output Specifications



#### BarKlip® BK150 IO

- Distributes up to 150A per contact between busbars, cables, and circuit boards
- Simple configurable plug-and-play solutions
- Fully compliant with ORv3 IT Gear Power Input Solution Specifications



## AC Input Connector and Cable Assemblies

- 7-Pin connector designed for Star, Delta, and single-phase connections
- Simple configurable plug-and-play solution designed to meet various current and voltage ratings
- Fully compliant with OCP ORv3 Power Shelf Universal Input Connect Specifications



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# PwrBlade® Mini Cable-to-Board Connector

- Rated up to 25A per power contact (50A/ column) without exceeding 30°C temperature rise in still air
- Modular tooling design
- 12AWG for power contacts and 26AWG-22AWG available for signal contacts





## PwrBlade® Mini Board-to-Board Connector

- Rated up to 45A per high power contact (4 adjacent contacts)
- Low profile 8.10mm height above board
- · Modular tooling designs



#### PwrBlade® ULTRA HD

- Up to 85A per contact
- 2.0mm high density signal pitch
- Ultra-low profile height of 9.6mm above board for optimized airflow
- PwrBlade+® IO
- Up to 60A per contact (high power) & 25A per contact (low power)
- Power & signal contacts are highly configurable
- Wide range of wire sizes available

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#### BarKlip® XP300/ XP200

- · Current ratings up to 300A and 200A
- · Mates with 3.0mm busbar
- · ±2.0mm gatherability



#### PwrMAX® G2

- Highest density blind-mate Power and Signal connector series
- Up to 130A per contact and 18% size
- · Orthogonal, mezzanine, coplanar and right-angle configurations available for both PCB and busbar applications



#### ComboLock® 1.00mm/3.00mm

- · Compact, hybrid wire-to-board connector.
- · Active Positive Latching
- · 1.5A signal, 10A power



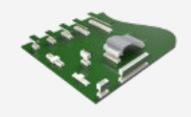
#### CoolPower® SDM

- Up to 35A per pin, high current Coolband contact technology
- Backplane, coplanar, and orthogonal configurations available
- 2 position or 4 position available



#### Minitek® PICPwr OCP Connector **Solutions**

- Newly launched 12V connector solution supports Open Compute Project Power Distribution and Management architecture requirements
- Operating power and voltage is 864W at



#### Conan® 1.00mm

- · Secure, reliable connector
- · Audible "click" to ensure perfect mating
- · Speed up to 8 Gb/s.



#### **EnergyEdge™ X-treme**

- · 3000W at 12V
- Available in straddle mount, right angle, right angle coplanar, and vertical configurations
- · 25% increase in current linear density



#### Minitek® Pwr Connector and Cable **Assemblies**

- Complete interconnect solutions for wire-to-wire and wire-to-board
- · Available in pitch sizes of 3.00mm, 4.20mm and 5.70mm
- Current ratings from 5A to 28A



#### BergStak® 0.80mm

- · Ideal for use in high density applications
- · Wide range of positions and stack heights
- · Speed up to 16 Gb/s.



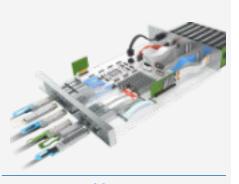
# **High Speed**



#### **cLGA® Land Grid Array Socket** System

HIGH PERFORMANCE, LOW COST CHIP-TO-BOARD APPLICATION

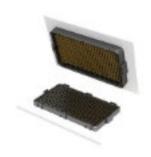
Designed to bring conventional connector material construction to high performance, low cost chip-to-board applications. Used in applications ranging from handheld computer products to supercomputer



#### OverPass™ Cable System

INDUSTRY-LEADING DIRECT HIGH-SPEED INTERCONNECT

Amphenol's OverPass™ cable system offers a broad range of capabilities that allow our customers to efficiently transmit high speed signals from near an ASIC to anywhere in their system.



#### **M-Series 56 Mezzanine** Connectors

56GB/S HIGH SPEED MEZZANINE BGA CONNECTOR SYSTEM

Leveraging proven technologies, including an industry leading BGA design, offering superior self-aligning and self-leveling. With a next generation differential pair contact .design for up to 56Gb/s NRZ and 112Gb/s PAM4 performance.







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# Amphenol COMMUNICATIONS SOLUTIONS

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