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# Amphenol ICC

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Enabling The  
Electronics Revolution

# Overview

# Amphenol ICC

## FCi Basics

[www.amphenol-icc.com/basics](http://www.amphenol-icc.com/basics)



### Millipacs<sup>®</sup> High Speed (HS)

- 2mm hard metric backplane with mating compatibility to IEC 61076-4-101 series hard metric connectors, and can be upgraded up to 25Gb/s



### Minitek<sup>®</sup> MicroSpeed

- Outstanding signal integrity for high data rates



### BergStak<sup>®</sup> 0.50mm and 0.80mm

- High density and flexible solutions for high-speed applications

### OCTIS<sup>™</sup> Outdoor IO

- High speed signal and power, lightning protection, EMI shielding, and ease of installation for outdoor, compact and harsh environments

### Minitek MicroSpace<sup>™</sup>

- Crimp-to-Wire connector platform's unique design enables LV214 Severity-2 and performs at 1.8, 1.5 and 1.27mm pitch



### Conan<sup>®</sup>

- Unique design with an audible 'click' sound enhances the security and ease of use

## Amphenol AORORA

[www.amphenol-icc.com/aorora](http://www.amphenol-icc.com/aorora)



### 0.50mm FFC/FPC

- Easy to operate and vibration-proof
- Wide height range from 1.25mm to 5.80mm with 4 to 80 contact positions in both vertical and right angle orientations
- Front/back/vertical flip and slider mechanisms with ZIF or Non-ZIF cable terminations



### 1.00mm FFC/FPC

- Easy to operate and prevents against solder and flux wicking
- Wide height range from 2.00mm to 5.04mm with 3 to 34 contact positions in both vertical and right angle orientations
- Front flip and slider mechanisms with ZIF or Non-ZIF cable terminations



### Micro Board-to-Board

- Low profile and fine pitch for high density applications
- High current rating (Up to 3A)
- Chamfer connector design prevents mismatching



### Floating Board-to-Board

- Floating range of  $\pm 0.50$ mm in the X, Y and Z directions
- High speed performance (Up to 2.5Gb/s)
- Double contact points for enhanced contact reliability



### RJ/RJMG

- Modular Jacks, widest variety of standard, high performance and integrated magnetics



### Mini/Micro Power STD/PLUS/SUPER

- Power connectors in multiple standard configurations, with enhanced current handling versions



### High Speed Automotive

- Connectors for Automotive Electronics: HSD, HSC, HSBridge, NETBridge, Floating BTB



### USB

- Wide variety of USB 2.0, USB 3.0, USB 3.1 Gen1 & Gen2 in Type A, micro/mini, Type C, single port and stacked, multiple configurations and combos



### Fan Connectors

- Unique modular fan interconnect solutions for Servers, Storage and Data Center applications



### Harsh Environment

- Ruggedized, IP67 sealed standard interfaces including RJ, USB, USB-C, D-Subs, HDMI, and new/custom interfaces

## High Speed IO CONNECTORS



### CFP2

- Rated for 56G per channel with resonance dampening for improved signal integrity
- Designed to be compatible with 100G Form Factor Pluggable (CFP) Multi-Source Agreement for Ethernet and other applications



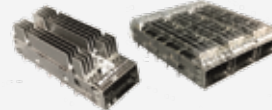
### OSFP

- High speed high signal integrity octal SFP footprint is optimized for signal integrity performance
- Supports up to 400G in aggregate over an 8x50G electrical interface



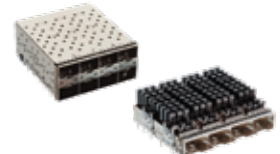
### QSFP-DD

- High speed double density QSFP interface supports up to 400G in aggregate over an 8 x 50G electrical interface



### ExtremePort™ QSFP+

- Electrical interface employs 4 lanes that operate up to 56G. PAM4 modulation providing solutions up to 200G aggregate bandwidth
- Backwards compatible with QSFP28
- Meets CEI56GPAM4 VSR requirements
- Available in Ganged, Stacked, and Stacked SMT



### ExtremePort™ SFP+

- Electrical interface employs 1 lane that operates up to 56G
- Backwards compatible with SFP28
- Available in Ganged and Stacked

# High Speed IO CABLES

[www.amphenol-icc.com/high-speed-io](http://www.amphenol-icc.com/high-speed-io)



## 100G / 200G QSFP Cables

- 4 lanes per cable – 28G & 56G per lane capability
- Passive & active cables; 26AWG to 32 AWG cable
- Supports cable lengths up to 5 meters



## 100G QSFP Active Optical Cables

- Capable of speeds up to 25.78125Gb/s or 28.056Gb/s per channel
- Supports 100G Ethernet and Infiniband 4xEDR and 4x32FC protocol
- Transmission distance up to 100m (MMF)



## 200G / 400G QSFP DD Cables

- 8 lanes per cable – 28G & 56G per lane capability
- Double the bandwidth per port vs. QSFP
- Backwards plug compatibility with QSFP



## 300G CXP2 Active Optical Cables

- Capable of transmitting data at rates up to 25.78125Gb/s
- Full duplex 12 channel transmissions
- Up to 300Gb/s aggregate bandwidth per channel



## 200G / 400G OSFP Cables

- 8 lanes per cable – 28G & 56G per lane capability
- Thermal management engineered into cabled solution
- PAM4 modulation providing solutions up to 400G aggregate bandwidth



## Mini-SAS HD Active Optical Cables

- Fully compliant to SAS 2.1 (6Gb/s) and SAS 3.0 (12Gb/s) industry standards
- Supports PCI Express Gen3 (8Gb/s) applications
- Operates up to 48Gb/s aggregate bandwidth
- Transmission distance up to 100m (MMF)

# Power Solutions

[www.amphenol-icc.com/power-solutions](http://www.amphenol-icc.com/power-solutions)



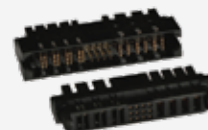
## EnergyEdge™ X-treme

- Dual-contact design for 3000W at 12V
- 25% improvement in current linear density
- 23% size reduction compared to traditional card edge connectors



## Barklip® IO

- Rated up to 200A/contact
- Part of OCP Standard Design
- Ultrasonically welded for long-term reliability



## PwrBlade Ultra® HD

- Now has 2.0mm pitch for high density signals
- Side guide design allows for additional 2 rows of contacts
- High Power – 75A/contact  
Low Power – 45A/contact



## CoolPower® SDM

- Rated up to 35A/contact
- 5.6mm x 14mm footprint for space constraint applications
- Backplane, coplanar, and orthogonal configurations



## PwrMAX® G2

- 18% depth reduction on the board
- Additional gatherability of +/- 0.5mm for blind mate applications
- Rated up to 100A/contact



## PwrBlade+® IO

- High power – 60A/contact  
Low power – 25A/contact
- Cable-to-cable and cable-to-board configurations
- Part of OCP Standard design



### Mini Cool Edge 0.60mm

- Designed to meet SFF TA-1002, Gen Z, EDSFF, OCP 3.0 and JEDEC spec



### PCIe Gen 4 and Gen 5

- Meets industry standard PCIe 4.0 and 5.0 with high speed up to 32GT/s per differential signal pair



### DDR4 and DDR5

- Designed to meet JEDEC SO-023 and JEDEC MO-329 spec

### Slim Cool Edge 0.60mm

- Designed for high speed up to 32GT/s (or 56GT/s PAM4) capability

### SAS PCIe (U.2 & U.3) 4.0 and 5.0

- Designed to meet SFF8639 and SFF8680 spec with high speed up to 24Gb/s or 32GT/s

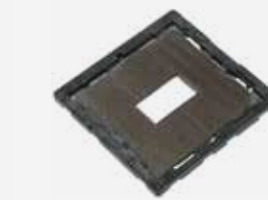
### Double Density Cool Edge 0.80mm

- Designed to accommodate both high speed and low speed signal and power in a space-saving format



### M-Series™ 56

- Designed to support high technology products in board-to-board or flex assembly architectures from 4-15mm
- Next-generation differential pair contact design for 56G NRZ, 112G PAM4 performance



### cLGA<sup>®</sup> & cSTACK

- Mechanically robust dual compression technology with pin counts up to 5000+
- High performance sBGA configurations are readily available with speeds to 56G+



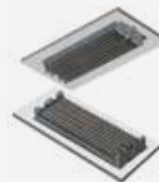
### cSTACK™ & CUSTOM FLEX

- Designed for applications where flexibility, space, weight and performance are critical
- Available with BGA, LGA, SMT, press-fit or thru-hole connector terminations



### Lynx™ QD

- Designed in multiple form factors: right angle, coplanar and vertical stacker
- Optimized for differential pair signaling to support PCIe Gen5 and 56G performance



### Chameleon<sup>®</sup>

- Designed for a customizable pin field with dedicated DP, SE and Power from 6-10mm
- Capable up to 25G for 100Ω differential applications



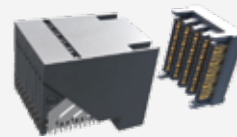
### Paladin<sup>®</sup>

- Supports data rates beyond 112G PAM4; industry leading signal to noise performance
- Consistent signal integrity performance over the entire mating range
- Flexible architecture supports direct orthogonal, traditional backplane, mezzanine, coplanar and cable requirements



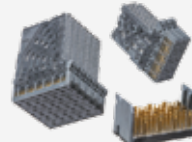
### XCede<sup>®</sup> HD

- Supports designs from 8G to 56G PAM4
- The de facto standard for high performance backplane designs with industry leading density
- Supports Embedded Capacitors



### ExaMAX<sup>®</sup>

- Cost optimized with scalable performance beyond 56G PAM4
- Innovative design supports low insertion/extraction forces along with reduced crosstalk and low insertion loss
- Flexible architecture supports direct orthogonal, traditional backplane, coplanar and cable requirements



### XCede<sup>®</sup>

- Supports designs from 8G to 56G PAM4 Scalable and flexible design supports all your system requirements
- Supports Embedded Capacitors



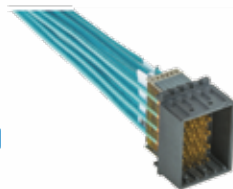
### ExaMEZZ<sup>®</sup>

- Cost optimized with scalable performance up to 56G PAM4
- Innovative design supports low insertion/extraction forces along with reduced crosstalk and low insertion loss
- Stacked height range from 15 to 45mm in 2 and 4 pair configurations



### AirMax<sup>®</sup>

- Cost optimized with scalable performance beyond 25G PAM4
- Traditional backplane offering including standard and inverse gender
- Standard is 3-, 4- and 5-pair



### XCede<sup>®</sup>

- Supports designs from 8G to 56G PAM4
- Scalable and flexible design supports all your system requirements
- Supports Embedded Capacitors



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