



 **ELECTRONICS**

# High Speed & Power Selector

## BACKPANEL

### AIRMAX VS



#### FEATURES & BENEFITS

- A full set of building blocks for backplane, co-planar, mezzanine, and cable-to-board applications in Hard Metric building practices
- Innovative edge-coupling technology and air dielectric between adjacent conductors deliver lowest insertion loss and crosstalk
- High-speed serial data rates can scale from 2.5 Gb/s to data rates up to 12.5 Gb/s without requiring redesign of a basic platform
- Opposed dual-beam receptacle contact structure provides high reliability
- Contains no interleaving shields reducing connector weight, cost and PCB routing complexity.
- Lead-free and RoHS-compatible options are available

#### WHERE TO USE

- With AirMax VS® connector system, FCI gives back plane system designers the freedom to rethink the way products are designed. Based on a radical design concept, AirMax VS® (Virtual Shield) connectors eliminate the need for interleaving ground shields by using air as highly efficient dielectric

- Servers, Storage
- IP router, switches & gateways
- Enterprise routers
- Base stations
- ATCA™ zone 3
- Medical and test equipment



### METRAL HS



#### FEATURES & BENEFITS

- Shielded strip-line transmission structure in both header and receptacle
- Performance in accordance with Telcordia CO
- Three Metral High speed series are plug-compatible; cost effective selection
- Stackable end-to-end with other FCI Metral products
- Dual-beam Receptacle contacts
- Metral 4000: Contact geometry optimized for 100 Ohm differential pairs
- Metral 4000: Less than 5% multi-line active NEXT@100 ps (10-90%) rise time in differential applications
- Metral 4000: Less than 1.0dB insertion loss at 5Gb/sec

#### WHERE TO USE

- **Communications**
  - Transmission • Access • Switches • Routers
- **Data**
  - Servers • Storage Enclosures
- **Industrial, Instrumentation and Medical**
  - Rack based Systems

Selection Table	1000 series Header	2000 series Header	4000 series Header
1000 series Receptacle	622 Mb/s	1.25 Gb/s	2.5 Gb/s
4000 series Receptacle	1.25 Gb/s	2.5 Gb/s	5 Gb/s

### ZIPLINE



#### FEATURES & BENEFITS

- Supports backplane and orthogonal midplane applications
- 72 differential pairs on 1.85 mm column pitch delivering 84.6 differential pairs per inch of card edge while allowing a minimum 25.0 mm card slot pitch
- Highest signal density available at data rates up to 12.5 Gb/s
- Uses AirMax VS® edge-coupling technology to deliver low insertion loss and crosstalk
- Allows for a mixed differential (orthogonal or back plane), single-edge or power pin assignments within a connector

#### WHERE TO USE

- The Zipline™ connector system addresses customer demands for Maximum signal density – a paramount requirement for future equipment platforms requiring data rates up to 12.5 Gb/s.

- Servers
- Storage
- IP router
- Switches & Gateways
- Base stations



## MEZZANINE

### GIG-ARRAY



#### FEATURES & BENEFITS

- Ball Grid Array (BGA) termination for process friendly attachment
- Stack Heights of 15 mm - 40 mm
- Demonstrated solder joint reliability of greater than 22 years (IPC-SM-785)
- 1mm x 0.65mm BGA grid optimizes routing and electrical performance
- 100 Ohm differential pair matched impedance assures consistent high speed performance
- 10 Gb/s differential pair performance supports high speed data rates
- Polarized design assures proper mating of the connector

#### WHERE TO USE

- The GIG-ARRAY® connector is designed to meet the needs of up to 10Gb/s applications requiring up to 296 signal pins per connector. FCI's long tradition as a BGA connector in novator assures expertise and reliability in the GIG-ARRAY® BGA design.

- Transmissions, access, switches, networking
- Servers, storage
- Industrial controls & equipment



### MEG-ARRAY



#### FEATURES & BENEFITS

- Ball Grid Array (BGA) termination for process friendly attachment
- Stack Heights of 4 mm to 14 mm
- 1.27mm x 1.27mm BGA grid optimizes routing and electrical performance
- Bandwidth of 5Ghz (10Gb/s) for differential pairs
- Demonstrated solder joint reliability of greater than 22 year (IPC-SM-785)
- Meets Telcordia GR-1217-CORE and NPS-25298-2 specifications for utilization in telecom applications

#### WHERE TO USE

- The MEG-Array® connector is designed to meet the needs of 10Gb/s applications requiring up to 528 signal pins per connector. The combination of multiple stack heights (4mm to 14mm) and multiple sizes (81 signals to 528 signals) allows for optimal design flexibility while yielding less than 1% cross-talk performance when configured differentially.

- Transmissions, access, switches, optics, networking
- Servers, storage
- Industrial controls & equipment
- Analytical & diagnostic
- Medical



### Power Supply



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#### FEATURES & BENEFITS

- Cost effective, low loss stamped-and-formed power contacts
- High current density solutions up to 82A/contact
- Number of power and signal contacts is highly configurable for custom power applications
- Ventilated housings for maximized airflow plus low profile height
- Capable of carrying DC, AC and distributed power
- Rugged molded-in housing guides are ideal for blindmate applications
- Up to three levels of sequential contact mating for hot swap applications

#### WHERE TO USE

- AC/DC pluggable power supplies in data and telecom applications
- Server System Infrastructure (SSI)-compliant server systems
- Industrial PCs
- Industrial controls & instrumentation
- Medical

**Power Solutions**

### Power I/O



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#### FEATURES & BENEFITS

- Cost effective, low loss stamped-and-formed power contacts
- High current density solutions up to 100A/contact
- Capability to provide custom cable assemblies
- Number of power and signal contacts is highly configurable for custom power distribution applications
- Capable of carrying DC, AC and distributed power
- Squeeze-to-release latch and panel mount options are both available

#### WHERE TO USE

- Distributed power within AC/DC data and telecom applications
- Industrial PCs
- Industrial controls & instrumentation
- Medical

**Power Solutions**

### Host-To-Card



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#### FEATURES & BENEFITS

- Cost effective, low loss stamped-and-formed power contacts
- High current density solutions up to 40A/contact
- Ventilated housings for maximized airflow
- Accommodates both Hard Metric & FutureBus equipment practices
- Stackable power solution for use next to high (and low) speed backpanel connectors such as AirMax, ZipLine, Metral and Millipacs
- Two levels of sequential contact mating for advanced ground requirements

#### WHERE TO USE

- Blade board interface in blade servers
- Controller board interface in storage enclosures; compliant with the Storage Bridge Bay (SBB) storage enclosure controller slot industry standard
- Industrial PCs
- Industrial controls & instrumentation
- Medical

**Power Solutions**

### EYEMAX



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#### FEATURES & BENEFITS

- 4x version provides 8 differential pairs
- High-speed data rates:
  - Infiniband SDR: 2.5 Gb/s per channel
  - Infiniband DDR: 5.0 Gb/s per channel
  - Ethernet CX4: 3.125 Gb/s per channel
- Impedance-controlled paddle card with capability to upgrade for equalization
- Die-cast shells for enhanced EMI shielding performance
- Right-angle, surface-mount PCB receptacles offer variety of locating post and panel-mount options

#### WHERE TO USE

- **Communications**
  - Switches • Routers
- **Data**
  - Servers • Server clusters • Storage systems
  - HPC and data centers
- **Industry standards**
  - Infiniband (SDR, DDR) • 10G Fibre Channel
  - 10G Base-CX4 Ethernet (IEEE 802.3ak)
  - SFF-8470 for SATA or SAS

**High Speed CONNECT/ONS**

### Mini Multi Lane SAS / SATA



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#### FEATURES & BENEFITS

- Ruggedized 26-position cabling interconnect system is SFF-8088 (shielded – external) and SFF-8086 compatible
- Paddle card design is optimized for signal integrity and mechanical performance
- Low profile "pull-to-release" latching system provides secure connection and allows stacking
- Adaptive, robust EMI Gasket and die-cast backshell assure proper EMI shielding
- Controlled wire management and termination process assures consistent high-speed electrical performance

#### WHERE TO USE

- **Communications**
  - Switches
- **Data**
  - Servers • RAID systems • Storage racks
  - External Storage systems • SAS/SATA HBA interfaces
  - Direct-attached storage (DAS)
- **Industry standards**
  - SATA-IO Serial ATA (SATA) Specification
  - INCITS/ANSI Serial-Attached SCSI (SAS) specification
  - SFF-8088 and SFF-8086

**High Speed CONNECT/ONS**

### DENSISHIELD



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#### FEATURES & BENEFITS

- 8-pair connectors can be mounted side by side on 12.5mm pitch enabling multiple I/O ports along a card edge
- Robust strain relief with short cable exit enables close spacing between chassis panel and cabinet door or wall
- Low vertical profile allows use in systems having 15mm pitch card slot spacing
- Crimp ferrule system reliably terminates EMC shield of cable to connector covers
- Robust EMC shield to chassis panel termination with shielding down to PCB level

#### WHERE TO USE

- **Communications**
  - Switches • Routers • Base stations
- **Data**
  - Servers • Storage systems
- **Industrial**
- **Medical**
- **Test equipment**

**High Speed CONNECT/ONS**

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