

# AIRMAX VS® I/O CABLE ASSEMBLIES

## OVERVIEW

The FCI AirMax VS® I/O connectors and cable assemblies, the first I/O high-performance connector system to use a shield-less design with an air dielectric between conductors, deliver signal densities up to 63.5 differential pairs per inch while exhibiting low insertion loss and low crosstalk. This interconnect system allows hardware system designers to scale differential signal transmission from 2.5Gb/s per channel up to 10Gb/s per channel without requiring any connector system enhancements or upgrades.

The AirMax VS® cables are constructed using 4 differential pair per column wafers with the wafers being spaced on 2mm centerlines. The cable assemblies are offered in either 96 or 120 positions configurations and mate with corresponding AirMax VS® board mount connectors in vertical and right angle configurations. The cables are retained to the board headers via a passive latching system.

Additionally, customized I/O solutions that meet customer specific internal or external application requirements are possible and can include features such as alternative cable retention methods, such as active latches or jack screws, and overall EMI shielding to address external front-panel or rear-plug I/O cabling solutions.



## FEATURES & BENEFITS

- Innovative shield-less design delivers low loss and crosstalk
- Uses air dielectric between adjacent conductors to deliver lowest insertion loss and crosstalk
- High-speed serial data rates that can scale from 2.5Gb/s to beyond 10Gb/s without requiring a revision to the basic connector platform
- Applicable for internal and external cabling applications

## TARGET MARKETS/APPLICATIONS

- Communications
  - IP Switches
  - IP Routers
  - ATM switches
  - 3G Base stations
- Data
  - Servers
  - Storage Systems
- Industrial
  - Medical
  - Test & Measurement





## TECHNICAL INFORMATION

### MATERIALS

- Raw cable – Individual differential pair cables of 26AWG wire size
  - Alternate AWG wire sizes can be made available upon request
  - 40pair (Max.) counts depending on cable configuration
- Internal cables bundled with Halogen Free snakeskin jacketing
- Airmax VS® cable end connector
  - Contact: Copper alloy
  - Housings: High temperature thermoplastic; UL94V-0 compliant

### ELECTRICAL PERFORMANCE

- Differential Impedance: 100Ω +/- 10 @ 70ps rise time (20–80%)
- Within Pair skew: < 10ps/meter
- Pair-to-pair skew: < 50ps/meter
- Withstanding voltage: 300V DC
- Current rating: 0.5A max. per contact

### ENVIRONMENTAL

- Operating temperature range: –20°C to 85°C
- RoHS compliant
- Thermal shock – EIA 364–32, Condition 1, 5 cycles, –55°C to 85°C
- Temperature life – EIA 364–17, Method A, condition 3, Time Condition C, 500 hours, 85°C
- Mixed Flowing gas – EIA 364–65, Class IIA – 10 days unmated and 10 days mated

### MECHANICAL PERFORMANCE

- Durability: 50 cycles
- Mating force: 0.6 N max. per contact
- Un-mating force: 0.15 N min. per contact
- Cable axial strain relief – 90 N min.
- Cable flex: 140° flex; 25 cycles per EIA 364–41

### SPECIFICATIONS

- GS- 12-1039 – Product specification– Airmax VS® cable assembly
- GS-12-344 – Product specification– AirmaxVS® cable I/O receptacle

### APPLICABLE INDUSTRY STANDARDS

- According to customer system application interface

## PART NUMBERS

Description	Part Numbers
AirMax VS® internal cable assembly – 8 IMLA	10122257
AirMax VS® internal cable assembly – 10 IMLA	10110653
Mating header – Vertical I/O header – 10 IMLA’s wide, passive latching features	10041268
Mating header – R/A I/O header – 10 IMLA’s wide, passive latching features	10041398
Mating header – R/A I/O header – 8 IMLA’s wide, passive latching features	10061399

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