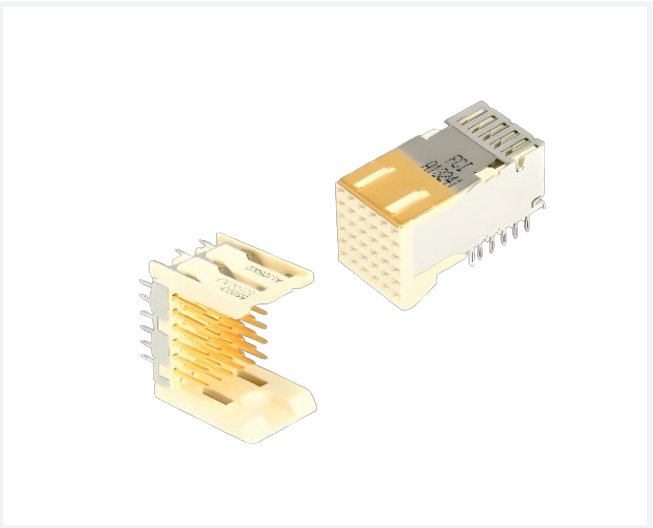
Metral® 4000 Series

ENHANCED FUTUREBUS+ SUPPORT UP TO 6.25 G FOR HIGH-SPEED APPLICATIONS



Amphenol's FCI Basics Metral® 4000 Series is a high-speed 2 mm backplane connector system consisting of right-angle receptacles and vertical headers. The 4000 Series features a unique stripline structure in both the receptacle and header. Compared to the Metral® 1000 and 2000 Series, Metral® 4000 receptacle connectors employ a modified receptacle contact geometry optimized for 100 Ω differential signals.

This yields a better impedance match and lower insertion loss. The headers and receptacles use a press-fit pin designed for 0.60 mm drilled holes. The system is designed to conveniently stack end-to-end with other Amphenol Metral® products.

TARGET MARKETS

- Data Rate: 6.25 Gb/s
- Dedicated ground rows in addition to ground shields between columns
- Meets IEEE Futurebus+ standard
- Available in press-fit and 5 × 6 module size

FEATURES	BENEFITS
Fully shielded strip-line transmission structure for receptacles and headers	Reduced crosstalk & improved signal performance (less than 5% multi-line active NEXT @ 100ps rise time in differential applications)
Stackable end-to-end with other Amphenol Metral® products	Supports blind mating
Optimized contact geometry	Support different applications
Available in 5-row configurations for receptacles and 5/8-row configuration for headers	Meets V-by-One HS standards
Press-fit headers and receptacles	Suitable for automotive application
Smaller press-fit PCB hole diameter	Better routing and lower via capacitance
Dual-beam receptacle contacts	Provides electrical reliability and withstands vibration
Various header loading patterns	Allows customized selection
25 pairs/inch in 5-row connector	High contact density
250 mating cycles as per IEC Performance Level-1	Better durability
Lead-free and RoHS compliant	Meets health, safety, and environment requirements

TECHNICAL INFORMATION

MATERIALS

- Housings: High-temperature, glass filled LCP, UL94V-0
- Receptacle Contacts: Copper Alloy
- Header Pins: Copper Alloy
- Ground Shields: Copper Alloy
- Plating:
  - Contact Area: per Telcordia® GR-1217-core for Central Office and Uncontrolled Environment
  - Press-fit Tails: Matt Tin

ELECTRICAL PERFORMANCE

- Current Rating: 1A when all contacts are powered or 3 A when one contact is powered at a 30°C max. temperature rise
- Contact Resistance: 40 mΩ max.
- Insulation Resistance: 1000 MΩ min.
- Signal Integrity: Data and SPICE models are available at www.amphenol-cs.com

ENVIRONMENTAL

- Operating Temperature Range: -65°C to +105°C

MECHANICAL PERFORMANCE

- Mating Force: 0.55N max. per contact pair including ground and shield contacts
- Withdrawal Force: 0.20N min. per contact pair including ground and shield contacts

SPECIFICATIONS

- IEC 61076-4-104
- Amphenol Product Specifications
  - GS-12-184
- Application Specifications
  - GS-20-014 for headers
  - GS-20-017 for receptacles

SPECIFICATIONS

- Recognized per UL/CSA
- Qualified per Telcordia® GR-1217-CORE, Central Office (CO) and Uncontrolled Environment (UE)

PACKAGING

- Tubes

TARGET MARKETS/APPLICATIONS



Transmission
Access
Switches
Routers



Servers
Storage Enclosures



Rack-based Systems

Disclaimer
Please note that the above information is subject to change without notice.

PART NUMBERS

Number of Rows & Positions	Daughter Card Thickness	Header	Part Numbers
5–Row 5 × 6	1.27 mm (0.050 in.) – 2.54 mm (0.100 in.)	55003–XXXXXX	52057–XXX
5–Row 5 × 6	2.54 mm (0.100 in.) – 3.40 mm (0.134 in.)	59569–XXXXXX	52062–XXX

Note: The above table captures only a representative list of parts. Please refer our website, www.amphenol–cs.com or contact Amphenol for other part number details.

Lead–free and RoHS compliant products are designed by the addition of LF as a suffix to the dash number.

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