

METRAL® 1000 SERIES

OVERVIEW

FCI's Metral® 1000 Series is a high speed 2mm backplane connector system consisting of Right-Angle receptacles and vertical headers. The 1000 Series features a unique stripline structure in the receptacle and outer ground shields in the header. Apart from these features, the connectors are similar to the FCI Standard Metral® Connectors. The stripline structure allows the Metral® 1000 Series to have improved signal performance when routed in either a single-ended or a differential pair configuration.

The Metral® 1000 Series is available in 5x6 and 8x12 module sizes with shrouds for midplane applications. The system also features dedicated ground rows. Two-, three-, and four- module monoblocks for the 5-row connector are available.

Metral 1000 Series connectors are designed to conveniently stack end-to-end with other FCI Metral products. The Metral 1000 Series Right Angled Receptacles are also available with Pin in Paste Termination.



FEATURES

- Fully shielded strip-line transmission structure for Receptacles & Outer Ground Shields for Headers
- Stackable end-to-end with other FCI Metral® Products
- All contacts can be used for signals since the grounds are built into the receptacle strip-line and header shield structure
- Available in 5 and 8-row configurations
- Press-fit Headers and Receptacles
- Receptacles also available with PIP Termination
- Dual-Beam Receptacle contacts
- Various Header loading patterns available
- Rear Plug up Options
- 200 Mating Cycles
- RoHS Compliant

BENEFITS

- Reduced Cross Talk & Improved Signal Performance (Less than 5% multi-line active NEXT @ 200ps rise time in differential applications)
- No loss of Pitch and Adaptable to the Metral® Platform
- Higher Contact Density
- Flexibility of Connector Size
- Easy Application on Boards and Repair
- Application Flexibility
- Ensure Reliable Connection
- Customized Selection
- Midplane Application
- Better Durability
- Meet environmental, health and safety 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 3A when one contact is powered at a 30°C max. temperature rise
- Contact Resistance: 20mΩ max.
- Insulation Resistance: 1000MΩ min.
- Signal Integrity: Data and SPICE models are available at www.fci.com.

ENVIRONMENTAL

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

MECHANICAL PERFORMANCE

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

SPECIFICATIONS

- IEC 61076-4-104
- FCI Product Specifications
 - GS-12-110 for 5-row connectors
 - GS-12-134 for 8-row connectors
- FCI Application Specifications
 - GS-20-010 for headers and shrouds
 - 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 – Press fit
- Tape&Reel – Pin in Paste

TARGET MARKET / APPLICATIONS

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

PART NUMBERS

Number of Rows & Positions	For Daughter Card Thickness	Header	Receptacle	Shroud
5-Row 5x6	1.27mm (0.050in.) – 2.54mm (0.100in.)	84817-XXX	84688-XXX/10082662-102LF	73993-XXX
5-Row 5x6	1.27mm (0.050in.) – 2.54mm (0.100in.)	73983-XXX	73981-XXX	73993-XXX
5-Row 5x6	2.54mm (0.100in.) – 3.40mm (0.134in.)	84881-XXX	84854-XXX	84882-XXX
8-Row 8x12	1.27mm (0.050in.) – 3.40mm (0.134in.)	74983-XXX	74981-XXX	74993-XXX

Note: All Dash numbers – XXX represent available options such as plating types, tail lengths for headers. Lead-free and RoHS-compliant products are designed by the addition of LF as a suffix to the dash number.

BPLMETRAL1K015EA4

Mouser Electronics

Authorized Distributor

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[FCI / Amphenol:](#)

[73983-1002](#) [73983-5011](#) [74983-102011](#) [84688-103](#) [84817-101027LF](#) [73983-1011LF](#) [74983-102001LF](#) [74981-102LF](#) [73983-1005](#) [73983-1012](#) [73983-1031](#) [73983-9012](#) [74817-1001](#) [74817-1014](#) [74983-102004](#) [74983-102050](#) [74983-102051](#) [74983-502001](#) [74983-502011](#) [84817-101027](#) [98030-1002LF](#) [98030-1003LF](#) [84817-101001](#) [84817-101011](#) [84817-101025](#) [84817-101026](#) [84817-102001](#) [84817-102026](#) [84817-103026](#) [84817-104002](#) [84817-104026](#) [84817-501021](#) [84817-502021](#) [84818-101](#) [84881-101011](#) [84881-101021](#) [84881-101050](#) [63743-1006LF](#) [63743-5004LF](#) [63743-9006LF](#) [63779-5002LF](#) [63779-5003LF](#) [63784-1008LF](#) [63784-1010LF](#) [63784-1011LF](#) [63784-1015LF](#) [63784-1016LF](#) [63784-1020LF](#) [63784-1021LF](#) [63784-1022LF](#) [63784-1023LF](#) [63784-1024LF](#) [63784-1027LF](#) [63784-1032LF](#) [63784-1033LF](#) [98030-1012](#) [98030-1013](#) [98030-1014](#) [10041743-301LF](#) [10041744-102LF](#) [10041744-302LF](#) [10056334-102LF](#) [55831-101LF](#) [60066-5004LF](#) [63743-1008LF](#) [63743-5008LF](#) [63743-5012LF](#) [63784-1039LF](#) [63784-1034LF](#) [63784-1035LF](#) [84965-302004LF](#) [98030-1012LF](#) [98030-1014LF](#) [98173-102LF](#) [73983-5031LF](#) [74817-1025LF](#) [74817-1031LF](#) [74817-1032LF](#) [74817-1046LF](#) [74817-1057](#) [74817-9012LF](#) [74817-9015LF](#) [74817-9016LF](#) [74983-102052LF](#) [74983-102058LF](#) [74983-502004LF](#) [74983-502061LF](#) [84817-101002LF](#) [84817-101021LF](#) [84817-101022LF](#) [84817-101023LF](#) [84817-101024LF](#) [84817-101028LF](#) [84817-101032LF](#) [84817-101034LF](#) [84817-102024LF](#) [84817-102028LF](#) [84817-102029LF](#) [84817-103001LF](#) [84817-103034LF](#)