

# AirMax® POWER CONNECTOR MODULES

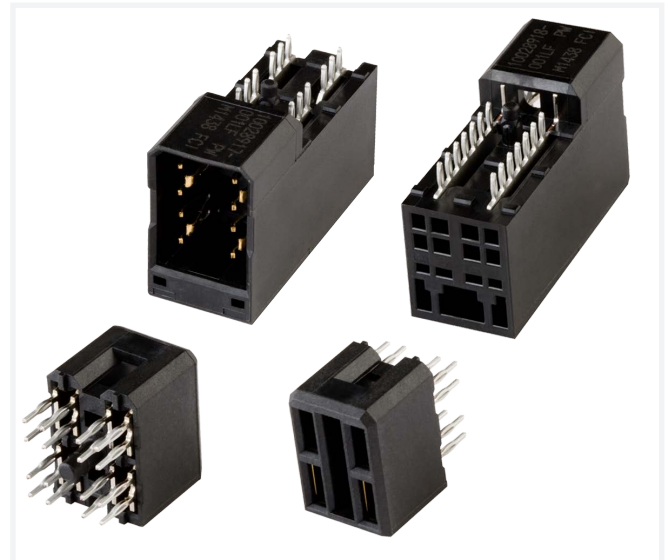
## Part of the AirMax® Connector Family

Amphenol  
FCI

## HIGH PERFORMING AND DURABLE CONNECTORS

Hard Metric high power connectors are a perfect complement to AFCI's ExaMAX®, AirMax®, ZipLine® and Millipacs® signal connectors. These power connectors mount alongside their signal counterparts and are used in applications where bulk current is delivered by backplane or midplane to power consuming components on a mating daughter card.

- Multiple points of contacts– made of high conductivity copper alloy
- Unique housing design allows airflow
- 1x2 version carries 40Amps per contact for a total of 80Amps per module
- 2x2 and 2x3 versions carry 20Amps per contact
- UL 60950 compliant (Finger Safe)



### TARGET MARKETS



### FEATURES

- High conductivity alloys plus air venting in the housings
- Hard Metric equipment practice
- Options for first-mate/last-break sequencing with 2 pin heights
- Finger safe backplane receptacles
- Press-fit termination
- High Temperature housings suitable for reflow process

### BENEFITS

- Enables up to 80Amps in a 1x2 or 2x2 module only 12mm wide
- Assures compatibility with any Hard Metric signal connectors
- Enables hot pluggable designs assuring very high system up times
- Assures operator safety
- Fits any manufacturing process

## TECHNICAL INFORMATION

### MATERIAL

- Housing: High Temperature Thermoplastic (UL94V-0)
- Contact Base Metal: Copper Alloy
- Contact Finish
  - Separable Interface: Performance-based plating over Nickel
- Termination Area: Tin or Tin-lead over Nickel

### MECHANICAL PERFORMANCE

- Durability: 200 mating cycles

### APPROVALS AND CERTIFICATIONS

- UL 60950 & IEC 60950-1 Prevention of Operator Access to Energized Parts
- Telcordia GR-1217-CORE Central Office

### PACKAGING

- Tubes

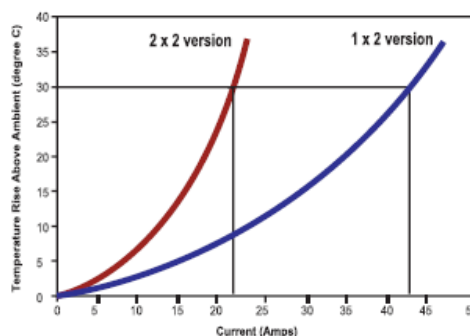
### ELECTRICAL PERFORMANCE

- Current Rating: See table for maximum amps per contact for test configurations with dual (double sided) external copper pads of noted weight
- Operating Voltage: 150V max.
- Dielectric Withstanding Voltage: 1500V
- Insulation Resistance: >10,000MΩ min.
- Contact Resistance: ≤1.0mΩ initially and after environmental exposure

### SPECIFICATIONS

- Product Specification: GS-12-220
- Application Specification: GS-20-023

### TEMPERATURE RISE CURVE



Current information is in still air (no air flow) with multiple contacts energized unless otherwise noted

### TARGET MARKETS/APPLICATIONS



Switches  
Router  
Access  
Optical Transmission  
Wireless Base Station



Server  
Switches  
Storage



Test & Measurement



Medical

| Receptacle Type           | Number of Connectors Fully Powered | Copper Pad Weight | Maximum Current Per Contact |       |
|---------------------------|------------------------------------|-------------------|-----------------------------|-------|
|                           |                                    |                   | 1 X 2                       | 2 X 2 |
| Vertical Receptacle (2X2) | 1                                  | 5oz               | 40A                         | 20A   |
|                           | Up to 5 adjacent                   | 5oz               | 32A                         | 14A   |
|                           | 1                                  | 2oz               | 32A                         | 15A   |
|                           | Up to 5 adjacent                   | 2oz               | 27A                         | 12A   |
| R/A Receptacle (2X2)      | 1                                  | 2oz               | 37A                         | 18A   |
|                           | Up to 5 adjacent                   | 2oz               | 29A                         | 14A   |

## PART NUMBERS

### AirMax VS® POWER CONNECTORS

| Application | Number of Contacts | Contact Array | Height above PCB | Product Variation    |                    |
|-------------|--------------------|---------------|------------------|----------------------|--------------------|
|             |                    |               |                  | Vertical Receptacle  | Right Angle Header |
| Backplane   | 2                  | 1x2           | 14.7mm           | 10028916-xxxxP00LF** | 10028918-001LF     |
|             | 4                  | 2x2           | 14.7mm           | 10028916-xxxxP00LF** | 10028917-001LF     |
|             | 4                  | 2x2*          | 11.5mm           | 10028916-xxxxP00LF** | 10073379-001LF     |
|             | 6                  | 2x3*          | 11.5mm           | 10061290-xxxxxxPLF** | 10061289-001LF     |

\* indicates the connector set matches the above-board height of an AirMax VS® 3-pair signal connector

\*\* xxxx and xxxxxx are placeholders for contact mating length combinations. Reference the product drawings for available options.

### RIGHT ANGLE APPLICATION

| Receptacle Type     | Number of Columns fully powered | Copper Pad Weight | Max. Current Per Contact  |                                 |
|---------------------|---------------------------------|-------------------|---------------------------|---------------------------------|
|                     |                                 |                   | Mated to a 1x2 R/A Header | Mated to a 2x2 / 2x3 R/A Header |
| Vertical Receptacle | 2                               | 5oz               | 40A                       | 20A                             |
|                     | Up to 10 adjacent               | 5oz               | 32A                       | 14A                             |
|                     | 2                               | 5oz               | 32A                       | 15A                             |
|                     | Up to 10 adjacent               | 5oz               | 27A                       | 12A                             |

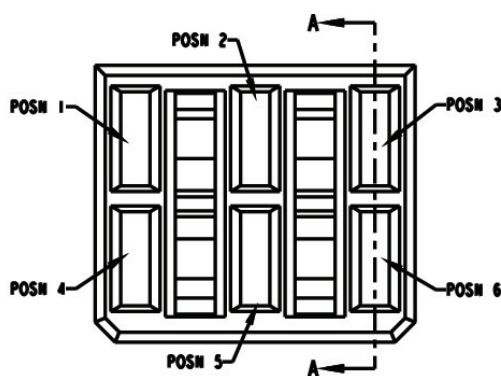
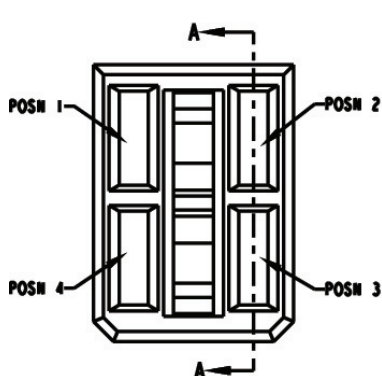
#### Disclaimer

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

## HARD METRIC BACKPLANE/MIDPLANE POWER MODULES

| Minimum Card Slot Spacing (mm) | Contacts |            | Power Rating     |                 | Number of Columns | Column Pitch (mm) | Module Width Along Card Edge (mm) | Product Variation   |                    |
|--------------------------------|----------|------------|------------------|-----------------|-------------------|-------------------|-----------------------------------|---------------------|--------------------|
|                                | Total    | Per Column | Amps Per Contact | Amps per Module |                   |                   |                                   | Backplane/Midplane  | Daughter Card      |
|                                |          |            |                  |                 |                   |                   |                                   | Vertical Receptacle | Right Angle Header |
| 20                             | 2        | 1          | 40               | 80              | 2                 | 6                 | 12                                | 10028916-4444P00LF  | 10028918-001LF     |
| 20                             | 2        | 1          | 40               | 80              | 2                 | 6                 | 12                                | 10028916-4554P00LF  | 10028918-001LF     |
| 20                             | 2        | 1          | 40               | 80              | 2                 | 6                 | 12                                | 10028916-5555P00LF  | 10028918-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4444P00LF  | 10028917-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4455P00LF  | 10028917-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4554P00LF  | 10028917-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4555P00LF  | 10028917-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-5554P00LF  | 10028917-001LF     |
| 20                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-5555P00LF  | 10028917-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4444P00LF  | 10073379-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4455P00LF  | 10073379-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4554P00LF  | 10073379-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-4555P00LF  | 10073379-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-5554P00LF  | 10073379-001LF     |
| 17                             | 4        | 2          | 20               | 80              | 2                 | 6                 | 12                                | 10028916-5555P00LF  | 10073379-001LF     |
| 17                             | 6        | 2          | 20               | 120             | 3                 | 6                 | 18                                | 10061290-554555PLF  | 10061289-001LF     |
| 17                             | 6        | 2          | 20               | 120             | 3                 | 6                 | 18                                | 10061290-555444PLF  | 10061289-001LF     |
| 17                             | 6        | 2          | 20               | 120             | 3                 | 6                 | 18                                | 10061290-545555PLF  | 10061289-001LF     |

Note: For the receptacle modules, the first four or six positions following the dash in the part number specify the contact length in each contact position: 4 = short contact for last mate/first break; 5 = long contact for first mate/last break. Reference the product drawings for additional information.



Listed part numbers designate the standard lead-free offering. Contact AFCI to request options with tin-lead finish in termination areas.

**HCI® BACKPLANE/MIDPLANE HIGH POWER MODULES**

| Minimum Card Slot Spacing (mm) | Contacts |            | Power Rating     |                 | Number of Columns | Column Pitch (mm) | Module Width Along Card Edge (mm) | With Molded Center Guide | Product Variation   |                    |
|--------------------------------|----------|------------|------------------|-----------------|-------------------|-------------------|-----------------------------------|--------------------------|---------------------|--------------------|
|                                | Total    | Per Column | Amps Per Contact | Amps per Module |                   |                   |                                   |                          | Backplane/Midplane  | Daughter Card      |
|                                |          |            |                  |                 |                   |                   |                                   |                          | Vertical Receptacle | Right Angle Header |
| 25                             | 2        | 1          | 83               | 166             | 2                 | 14.6              | 22.9                              | Yes                      | 10087939-001LF      | 10087937-001LF     |
| 24                             | 2        | 1          | 83               | 166             | 2                 | 7.3               | 15.6                              | No                       | 10078768-001LF      | 10078770-001LF     |
| 24                             | 3        | 1          | 75               | 225             | 3                 | 7.3               | 22.9                              | No                       | 10078902-001LF      | 10078904-001LF     |

Note: For right angle headers with one first mate/last break contact, please use the -002LF dash number option.

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[10124635-001LF](#) [10124620-5455P00LF](#) [10061290-444545PLF](#) [10052620-5544P00LF](#) [10146092-444444PLF](#)  
[10146092-555444PLF](#)