

# Product Overview



**Amphenol**CANADA  
MILITARY & AEROSPACE

# TABLE OF CONTENTS

<b>Company Overview .....</b>	<b>1</b>
<b>Rack &amp; Panel Connectors .....</b>	<b>4</b>
ARINC 600 .....	5
MMA SERIES .....	6
R58 SERIES .....	7
ARINC 404 .....	8
SMC SERIES .....	9
R27 SERIES .....	10
R39 Family .....	11
<b>Micro Connectors .....</b>	<b>14</b>
D-Subminiatures .....	15
Micro-D Family .....	17
M83513 Qualified Micro-D .....	19
100 SERIES .....	20
105 SERIES - Stripline .....	21
107 SERIES - Panel Seal .....	22
108 SERIES - Low Profile .....	23
119 SERIES - Integrated Shell .....	24
"K" SERIES - Keyed Hardware .....	25
Micro C .....	26
MicroPlus .....	27
ClickMate .....	28
Retangular modular micro (RMM) .....	29
<b>Z Series Space Grade .....</b>	<b>32</b>
<b>Filter Connectors .....</b>	<b>36</b>
R64F SERIES .....	39
308 SERIES .....	40

# Our Company

Headquartered in Markham, just outside of Toronto, Canada, and with subsidiaries in Belleville, Canada, and Nogales, Mexico, Amphenol Canada Corp. has been an international leader in the interconnect, a division of the industry. From design and manufacturing through quality inspection and shipping, Amphenol Canada has over 50 years of experience in the Military/Aerospace and Commercial markets.

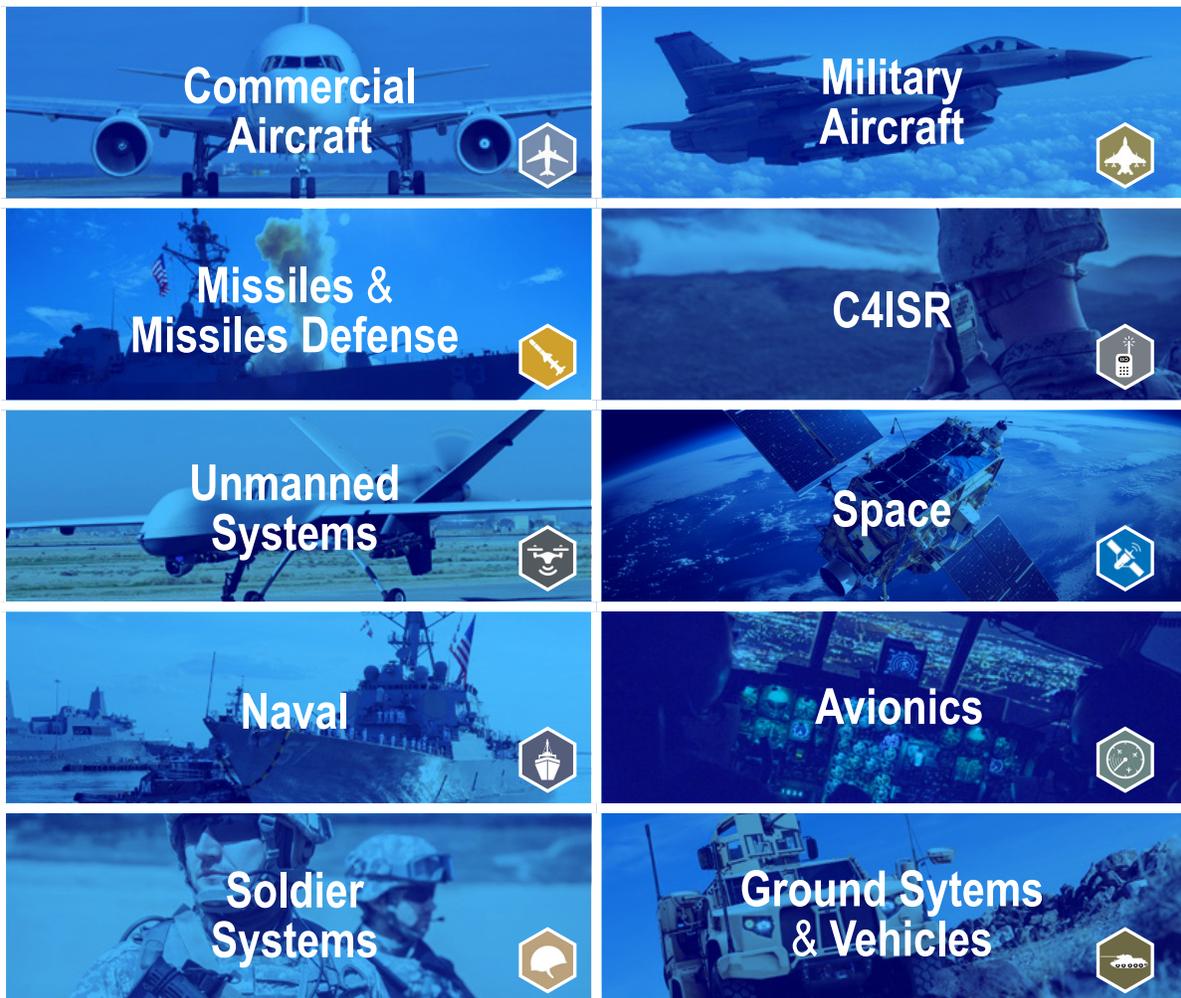


ACC has pioneered many unique technologies to address the interconnect needs of increasingly demanding applications, including Filtered Connectors and Interconnect devices for EMI and EMP protection, Ruggedized connectors for Harsh Environments, industry-leading High-Speed signal connectors for use in the rapidly growing In-flight Entertainment industry of Commercial Aviation.

With markets including Military and Commercial Aerospace and Defense, our expertise in understanding and supporting our many customers' interconnect needs has earned Amphenol Canada a reputation of quality and excellence among the world's leading users of electronic components.

# Our Markets

Excellence shines in our aerospace & military interconnect solutions, powering critical operations with seamless communication, data transfer, & control. From ground systems to space applications, we enable success in sectors demanding reliability & performance. Trust us to elevate your endeavors with unmatched connectivity solutions, *enabling the electronics revolution* in every mission.



# Vertical Integration

Amphenol Canada offers seamless vertical integration, encompassing advanced in-house design, machining, and molding capabilities to serve our global customers. From concept to testing, we bring your interconnect visions to life, tailoring solutions to your needs.

Experience reduced lead times and costs through our streamlined approach, as we internally mold and machine all components, providing a competitive edge while centralizing operations.

### **MACHINE SHOP**

Our cutting-edge machine shop employs advanced milling and 5-axis machinery, supported by in-house design and programming for cost-effective outcomes.

### **MOLD SHOP/TOOL ROOM**

At the forefront of molds and tooling, ACC pioneers new molds and enhances designs, fostering innovation and expanding our product range.

### **ACF PLANAR TECHNOLOGY**

Our ACF division excels in planar capacitors that enhance ACC's premium filtered product line. Recent upgrades reinforce our status as a premier planar capacitor supplier.

### **GLOBAL PRODUCTION & SUPPLY CHAIN**

Streamlined global production and supply chain processes, aligned with our vertical integration strategy, reduce costs without compromising exceptional solutions.



# Rack & Panel Connectors

INFINITE POSSIBILITIES





## **ARINC 600**

ARINC 600 connectors are recognized as the main standard rack and panel connectors for commercial aircraft avionics, as well as nearly unlimited options for use in military and non-airborne applications.



### Features & Benefits

- Low insertion force contacts
- Both environmental and non-environmental versions
- Front removable keying posts
- Field replaceable inserts for size 22 and power contacts
- Crimp, coaxial, power, printed circuit, and wire wrap contacts
- Fully compatible with Boeing BACC66E-K, and Airbus ASN E0161-E0165, ABS0831 specifications





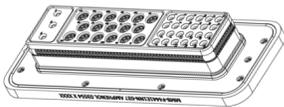
## MMA SERIES

MMA Series combines many of the best features from popular product lines including ARINC 600's power, RF, fiber optic and Quadrax contacts, pins low mating forces and shrouded size 22.

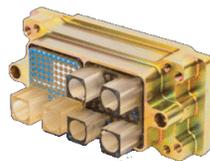


### Features & Benefits

- Blind Mate Low Mating Force Modular Connector
- Size 22 pin contacts protected from damage by being shrouded by the insert face
- Composite shells and Backshells available



MMB



MMC



MMD





## ***R58 SERIES***

R58 Series are high-performance rugged connectors designed with MIL-DTL-83733 compatibility. Amphenol Canada is also M83733 equivalent and is proud to be the only qualified supplier to JN1122.



### Features & Benefits

- Harsh environmentla applications
- Shield and corrosion resistance
- Field-proven assembly allow contacts to be inserted and extracted from the rear
- Contacts meet AS39029
- Available in both filtered and non-filtered





## ARINC 404

Amphenol's "AR" Series, compliant with MIL-C-81659 and ARINC Spec 404, serves aerospace, military, and computer periphery uses. This versatile connector excels in various applications.



### Features & Benefits

- Five shell styles, up to four insert cavities, accommodating diverse contact sizes (12, 16, 20, 22, 5, and 9)
- Mix of standard/coaxial contacts for tailored signals
- Non-environmental and environmental options available
- Offers transient protection, filtering, and application-specific designs.
- Proven sealing, durability, and signal integrity for demanding environments.





## ***SMC SERIES***

Crafted as a superior alternative for industry needs, the SMC connector series suits high-performance, high-altitude, and reliability-critical uses in military and commercial aircraft.



### Features & Benefits

- Low-profile, stackable composite shell
- Modular, environmentally sealed insert assemblies
- Supports quarter-turn mating hardware & backshells
- Ideal applications: Military avionics, engine & flight controls, HUDs, FADECs

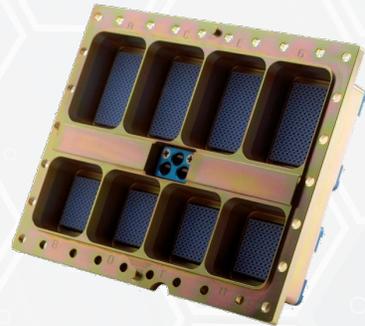
*Qualified to **F-35** program specifications*





## ***R27 SERIES***

R27 Series is a robust rectangular connector designed to meet or surpass all the requirements of the MIL-DTL-83527 specification and EN 3682 European Standard.



### Features & Benefits

- Enhanced environmental sealing
- More robust and durable shells
- EMI Shielding springs
- Interchangeable insert patterns with ARINC 600 models
- Available in both filtered and non-filtered



# ***R39 FAMILY***

The R39 Series covers a family of connectors providing high performance in the severe environment demands of military and space specifications. All are based on the unique Amphenol Canada R39 rectangular space-saving footprint alternative to circular connectors, using the same wide range of contacts and the same crimp and insert/removal tooling as D38999.



***R39 Series  
Standard***

## Features & Benefits

- Uses the same contacts as standard D38999 (AS39029)
- Low profile, blind mating, and rugged
- High density 127 position inserts or mixed inserts with power, RF or fiber optic available





Discover *infinite possibilities* within the R39 Connector Family:



***R393 Series***  
*High Speed*

Rugged multiport option supporting multiple RF contact styles including shielded quadrax for reliable high-speed communications.



***R39U Series***  
*Reverse Quadrax*

Industry matching reverse-gender quadrax configurations for drop-in design. More variations and custom options are available.



***R398 Series***  
*Harsh Environment*

Compact scoop-proof arrangements d-sub alternative size 23 contact with available PCB and crimp terminations.



# Micro Connectors

INFINITE POSSIBILITIES

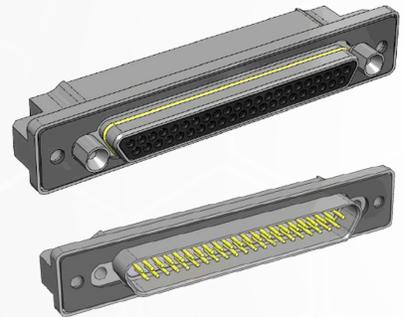


# ***D-SUBMINIATURES***

In aerospace and military sectors, D-sub connectors are crucial, seamlessly linking essential functions. In steadfast support of these sectors, Amphenol Canada offers a diverse array of D-sub connectors, meticulously engineered for standard and high-density needs.

## ***D83 SERIES***

This compact D-sub product bridges the gap between micro-D and D-sub configurations, offering reliable crimp and combo arrangements, while minimizing size in a versatile rectangular package.



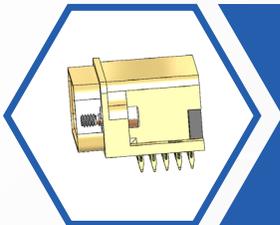
### **Features & Benefits**

- Standard and custom discrete contact arrangements AWG 23 to 12 (M39029 style)
- Can accommodate RF contacts and fiber optics
- Suitable for high-speed communications up to 10Gbps (e.g. 10GBASE-T@ 500MHz)
- Interface and environmental performance exceeding standard format rectangular connectors



### ***SD308 Series***

One-piece shells in machined, cast aluminum or tough, high-temperature thermoplastic. Gold-plated fixed screw machined contacts, and flexible solder cup or PCB tail terminations. Explore a full range of standard and hi-density arrangements for all your connectivity needs.



### ***C308 Series Compliant Tail***

Compliant tail termination variant with same construction, performance and cost structure as SD308 Series. Available NAFI compliant and conformal coat piercing, including parylene.



### ***D308 Series High Performance***

Sealed or unsealed in custom configurations. Available crimp terminations, combo arrangements to match industry offerings.

# MICRO-D FAMILY

With its unique design, Amphenol's Micro-D Connectors exceed US military standards (M83513) while offering optimal performance.

Alongside M83513 rectangular connectors, Amphenol produce circular, strip line, PC board, and hybrid connectors, featuring diverse contacts like power, signal, coaxial, and fiber optics. This highlights our commitment to innovation, providing versatile interconnect solutions that lead to *infinite possibilities*



**MIL-DTL-83513**  
**QPL**



**100 Series**



**105 Series**  
*"Stripline"*



**107 Series**  
*Panel Seal*



**108 Series**  
*Low Profile*



**119 Series**  
*Integrated Shell*



**"K" Series**  
*Keyed Hardware*



**Micro C**



**MicroPlus**



**ClickMate**



## Twist Pin Contacts



**Twist Pin contacts** are developed and now offered by Amphenol Canada as an alternate format pin technology, meeting military spec performance and reliability (full M83513 compliance).

Supports all plug connector configurations including new compression termination products (Micro-C family).

## MBS Backshells

Amphenol Canada's MBS Backshells are designed to deliver screening, sealing, strain relief and are can be custom-engineered to shield against wear, environmental factors, and EMI.



These backshells, available with or without screen termination, ensure lasting performance in sealed and unsealed electronics systems. Also available for various Amphenol product lines including ARINC, MMA, R27 (M83527), D-Sub, and more.



## ***M83513 QUALIFIED MICRO-D***

Amphenol has maintained QPL listing for decades, and the mainstay of our offering is our precision stamped pin with proven military spec performance and reliability in countless mission-critical applications.

Our goal is to provide industry-leading quality, price, and lead time for all standard offerings, through multiple sales channel options.



### Part number reference

Solder Cup	M83513/ <b>01</b> – / <b>02</b> – / <b>06</b> – / <b>07</b>
Wired	M83513/ <b>03</b> – / <b>04</b> – / <b>08</b> – / <b>09</b>
Standard hardware	M83513/ <b>05</b>
<b>PCB tail - <i>Right Angle</i></b>	
Compact Footprint	M83513/ <b>10</b> – / <b>11</b> – / <b>12</b> – / <b>13</b> – / <b>14</b> – / <b>15</b>
Standard Footprint	M83513/ <b>16</b> – / <b>17</b> – / <b>18</b> – / <b>19</b> – / <b>20</b> – / <b>21</b>
<b>PCB tail - <i>Straight</i></b>	
Compact Footprint	M83513/ <b>22</b> – / <b>23</b> – / <b>24</b> – / <b>25</b> – / <b>26</b> – / <b>27</b>
Standard Footprint	M83513/ <b>28</b> – / <b>29</b> – / <b>30</b> – / <b>31</b> – / <b>32</b> – / <b>33</b>





# 100 SERIES

The 100 Series is a versatile Micro-D Connector, meeting varied industry needs. Its compact design and reliable construction, makes these connectors a top choice for critical connections in confined spaces.



## Features & Benefits

- Supplied pre-wired and fully potted
- Plastic and metal shells are intermateable and intermountable
- Metal shells to provide RFI/EMI shielding
- Also available in straight and right angle PCB termination style in multiple configurations (tin plated / solder dipped)

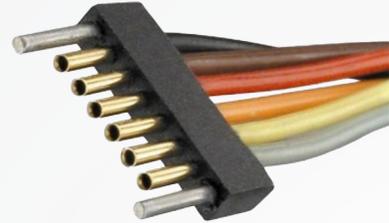




# 105 SERIES

## Stripline

The 105 Series "Stripline" Micro-D Connectors are engineered to meet military/aerospace standards (M83513), offering reliable connectivity with single or multiple rows, guide pin, and latching options.



### Features & Benefits

- One piece moulded insulator
- Copper alloy, gold plated contacts (1 - 30 positions)
- 300 series standard stainless steel guide pin and latching hardware options
- Configurable for all single and multiple row arrangements
- Military/aerospace standard wiring interconnect using existing M83513 pin & socket standards





# 107 SERIES

## Panel Seal

The 107 Series Panel Seal Micro-D Connector offers a wide range of panel mounting applications, from environmental to hermetic setups, while delivering comprehensive protection against EMI and moistures.



### Features & Benefits

- Insulated or conductive O-Ring supplied
- Pre-wired and fully potted
- Ground spring to improve EMI protection (optional)
- Metal shells to provide RFI/EMI shielding





# 108 SERIES

## Low Profile

The 108 Series Micro-D Connectors are a remarkable space-saving solution offering RFI/EMI shielding and pre-wiring. While keeping the same dimensions as plastic standards, it offers more flexibility with its lower flange height.



### Features & Benefits

- Reduced flange height in comparison with standard 100 series connectors
- Metal shells to provide RFI/EMI shielding
- Pre-wired and fully potted
- Ideal for tight spaces
- Intermateable with 101R and 108R only





# 119 SERIES

## *Integrated Shell*

The 119 Series Connectors' quick implementation for terminated cables and integrated backshell makes it a cost-effective solution for the traditional Micro-D + backshell option while maintaining its electrical performance.



### Features & Benefits

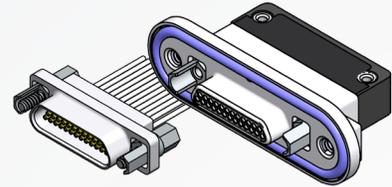
- One-piece shell body design
- Fully intermateable with existing M83513 connectors
- Lower cost than traditional Micro-D + backshell
- Available in all standard wire options
- Identical electrical performance of conventional M83513 design





## **“K” SERIES** *Keyed Hardware*

Amphenol’s “K” Series connectors offers interconnect solutions with customizable keying, complemented by a range of hardware options. Achieve compact, high-performance mating for your connectivity requirements.



### Features & Benefits

- Customer-modifiable keying for dense interconnect applications
- Hardware keying options for all series, offering compact and configurable mating





## Micro C

Introduced as Solderless Surface Mount Micro-D (SSMM) in 2019, this series brings reduced footprint and improvement in the PCB's assembly time and cost efficiency, making them ideal for all settings, from standard to space-grade applications.



### Features & Benefits

- Amphenol surface mount clip technology
- Fully intermateable with standard M83513 connectors
- Reduced footprint and increased contact density
- Available with precision stamped pins or new twist pin options
- Eliminates the need for washing and soldering processes saving time and cost in PCB assembly
- Allows for double sided PCB design, allowing for more components





# MicroPlus

The ultra-compact option for micro sized contacts. The MicroPlus extends our compression termination technology to a unique footprint while maintaining maximum performance.



## Features & Benefits

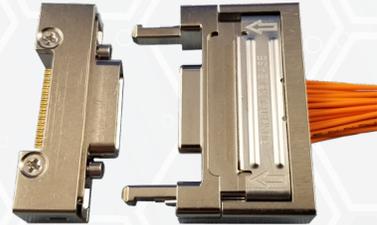
- Amphenol surface mount clip technology
- Eliminates the need for washing and soldering processes saving time and cost in PCB assembly
- Alternate to standard M83513 connectors with ultra small footprint
- Low force board mount and mating
- Allows for double sided PCB design, allowing for more components





# ClickMate

Our latest innovation for the micro-D interconnect product line, the ClickMate is ready to include today as part of your mission-critical requirements.



## Features & Benefits

- Rugged, reliable, and durable
- Solid mating with audible latch confirmation
- Available polarized options for dense connector panel arrangements
- Push action clip release prevents inadvertent un-mating in the field





# RMM SERIES

Our Rectangular Modular Micro (RMM) connector series embodies compactness, lightweight design, simplicity, and cost-effectiveness. Designed to suit board and wire applications, with 2mm center-to-center contact spacing, RMM series support signal, power and high-frequency connections.



## Features & Benefits

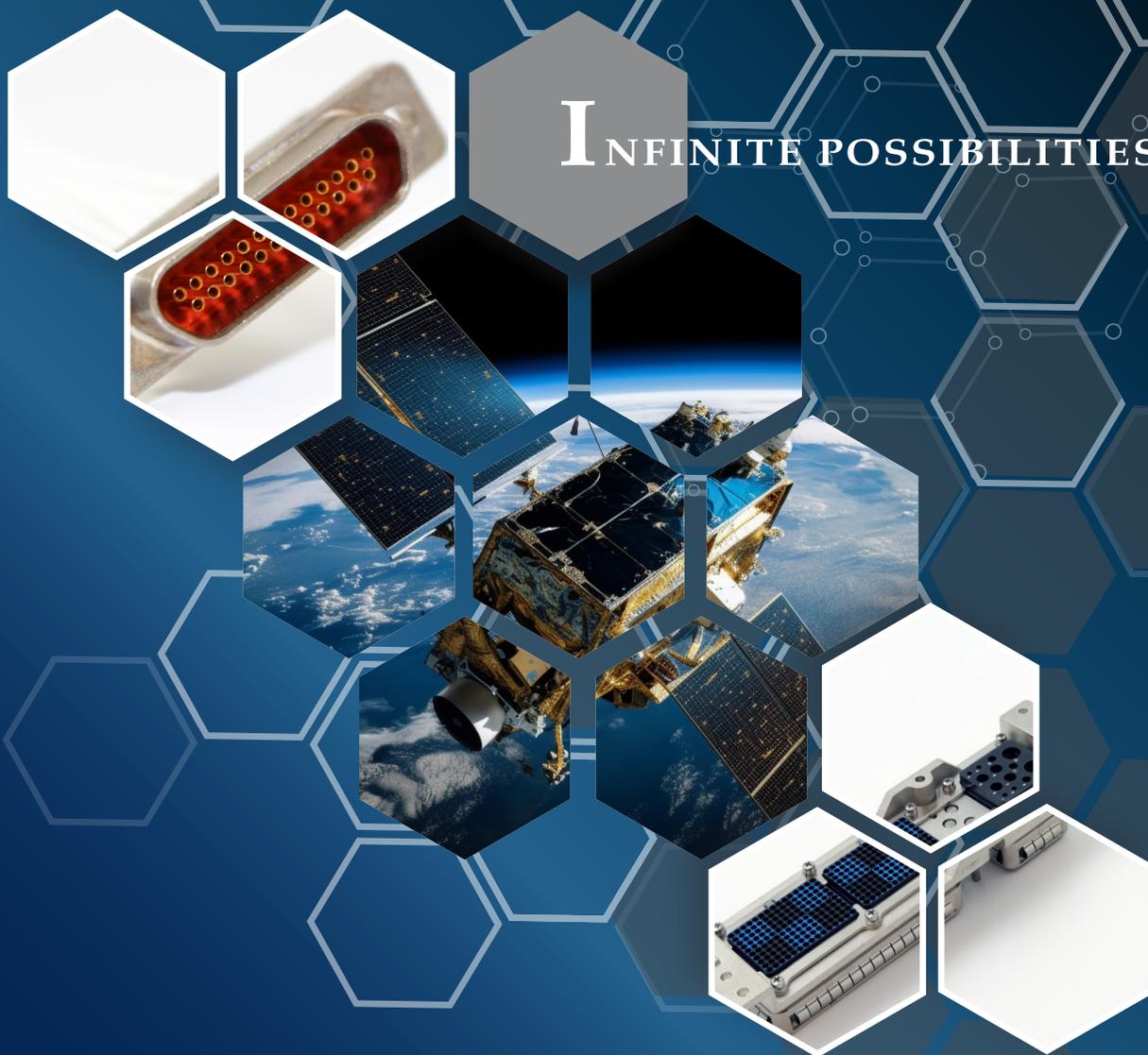
- Modular insert arrangements - Signal, Power and RF positions
- Expandable insert patterns - 1 to 3 rows, 2 to 120 positions
- Mixed layout options: High frequency, high power, and low-frequency contacts in one connector
- Lower profile than traditional Micro-D series





# Z Series Space Grade

I NFINITE POSSIBILITIES



# Z SERIES SPACE GRADE

Amphenol Canada has a proven track record for supplying space-grade custom products for mission-critical applications. We offer single lot control and outgassed material control which has been previously only available for custom applications and customer SCDs.

The **Z** Series part numbering provides a new and generalized approach to meeting these high-reliability & extreme environment requirements. This is **AVAILABLE FOR ALL PRODUCT LINES**, and for ordering straight out of our many product catalogs.

All you need to indicate for a space-grade build, screening, and testing is to add the **Z** prefix followed by a qualification-level code suffix (Please refer to the document Datasheet for more information).

### Z prefix followed by qualification level code suffix

CODE	STANDARD	Single Lot Building/Control	Outgassing Control
-L0	Standard qualification requirements		
-L1	Level 1 NASA EEE-INST-002		
-L2	Level 2 NASA EEE-INST-002		
-L3	Level 3 NASA EEE-INST-002		



## Properties

Amphenol Canada's **Z** Series connectors are engineered to address extreme stress challenges faced by components in satellite launches and LEO orbits, meeting demanding requirements such as:



**Minimal Size and Weight**



**Vibration and Shock Resistance**



**Extreme Temperature Resistance**



**Minimal Outgassing Effects**



**Electrostatic Discharge (ESD) Control**



**Electromagnetic Interference (EMI) Reduction**



**Corrosion Control**





# Filter Connectors

INFINITE POSSIBILITIES



# *Filtering*

Low-pass filter connectors are vital for addressing EMI problems in military and commercial settings. They employ capacitors and ferrite inductors for high efficiency, cost-effectiveness, and space-saving. Amphenol's solderless designs lessen stress on ceramic elements, ensuring excellent physical and thermal shock resistance. Filtering is available for integration into almost all Amphenol Canada products.

The integration of the filter elements into the connector, rather than a board-level solution, results in many **ADVANTAGES** to the user:

- Reduction in space and weight
- Reduction in inspection and assembly labour
- Superior shielding effectiveness
- Improved high frequency EMI performance by elimination of parasitic effects associated with board level filters



**FILTER RACK  
AND  
PANEL CONNECTORS**



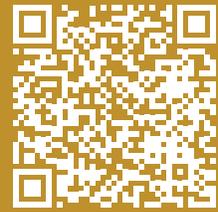
**TERMINATION MODULES**



**FILTER RECTANGULAR  
CONNECTORS**



**FILTER CIRCULAR  
CONNECTORS**



## ***R64F SERIES***

R64F Series Filter audio connectors meet or exceed all MIL-C-55116 requirements, including mating durability, environmental sealing, and thermal cycling. Also available in the original 164F Series circular format.



### Features & Benefits

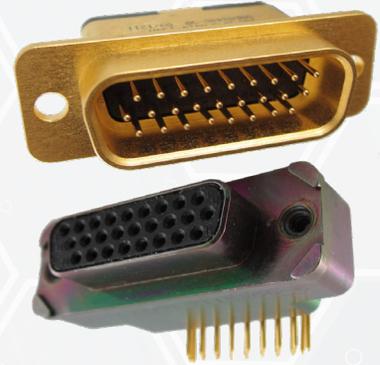
- All standard radio interfaces supported
- Custom contact arrangements offered
- Fixed pad contacts mate with all standard radio accessory cables & plugs





## 308 SERIES

ACC's Filtered D-subminiature connectors are ideal for high reliability applications. As all our filtered designs, these connectors feature stress-isolating, solderless construction and allow transfer of shock and vibration waveforms without damaging filtering elements.



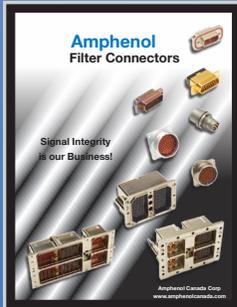
### Features & Benefits

- All sizes and termination styles are available
- Standard and custom filtering topologies offered
- Combo and mixed contact arrangements available



# Amphenol CANADA

MILITARY & AEROSPACE



Filter Connectors Catalog



ARINC 404 Catalog



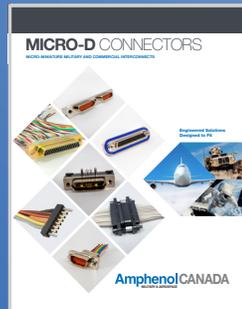
MMA Series Catalog



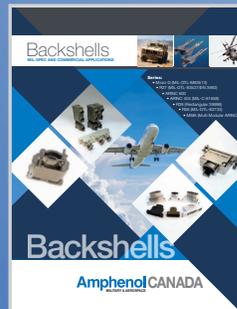
ARINC 600 Catalog



R27 Catalog



Micro-D Connectors Catalog



Backshells Catalog



R58 Series Catalog



Download 2D drawings & 3D models using our online configurator



Amphenol Canada

5950 14th Avenue  
Markham, ON  
Canada, L3S 4M4



(416) 291-4401

sales@amphenol-acc.com

www.amphenolcanada.com