

Hermetic DC Connectors



Hermetic Rectangular DC Connectors

PA&E designs and manufactures custom ultra-rugged, light-weight hermetic connectors for use in extreme environments. MIL-SPEC interfaces combined with unique materials and shell design options provide the ultimate in flexibility and reliability.

Standard Configurations ■ Junior-D, Micro-D, Sub-D, and Nano-D

High Performance ■ Ceramic-sealed copper alloy pins for high electrical performance

Innovative Designs ■ Custom configurations, unique shell materials

High Reliability ■ Proven in harsh environments



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Nano-D Connectors (.025" Contact Pitch)

PA&E's Nano-D connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. Our Nano-D connectors are manufactured to exceed the requirements of MIL-DTL-32139.



PART NUMBER	DESCRIPTION
PAE-ND Series 100	DC Connector, Nano-D, Low Profile
PAE-ND Series 200	DC Connector, Nano-D, Standard Profile

Junior-D™ Connectors (.030" Contact Pitch)

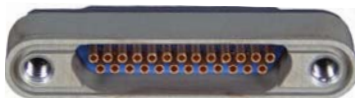
PA&E's Junior-D connectors are miniature version of our mil-spec Sub-D connectors. They have a space savings of 70% over a standard Sub-D. Junior-D connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications.



PART NUMBER	DESCRIPTION
PAE-JD Series 100	DC Connector, Junior-D, Low Profile, Flanged
PAE-JD Series 200	DC Connector, Junior-D, Low Profile, Not Flanged
PAE-JD Series 300	DC Connector, Junior-D, Standard Profile, Flanged
PAE-JD Series 400	DC Connector, Junior-D, Standard Profile, Double-Ended

Micro-D Connectors (.050" Contact Pitch)

PA&E's Micro-D connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. This connector line includes options for light-weight, all aluminum versions; a configuration for non-magnetic applications and an HTCC interface alternative. Our Micro-D connectors are manufactured to exceed the requirements of MIL-PRF-83513.



PART NUMBER	DESCRIPTION
PAE-MD Series 100	DC Connector, Micro-D, Low Profile, Flanged
PAE-MD Series 200	DC Connector, Micro-D, Low Profile, Not Flanged
PAE-MD Series 300	DC Connector, Micro-D, Standard Profile, Flanged
PAE-MD Series 400	DC Connector, Micro-D, Standard Profile, O-Ring Flanged
PAE-MD Series 500	DC Connector, Micro-D, Standard Profile, Double-Ended
PAE-MD Series 600	DC Connector, Micro-D, Standard Profile, Solderable

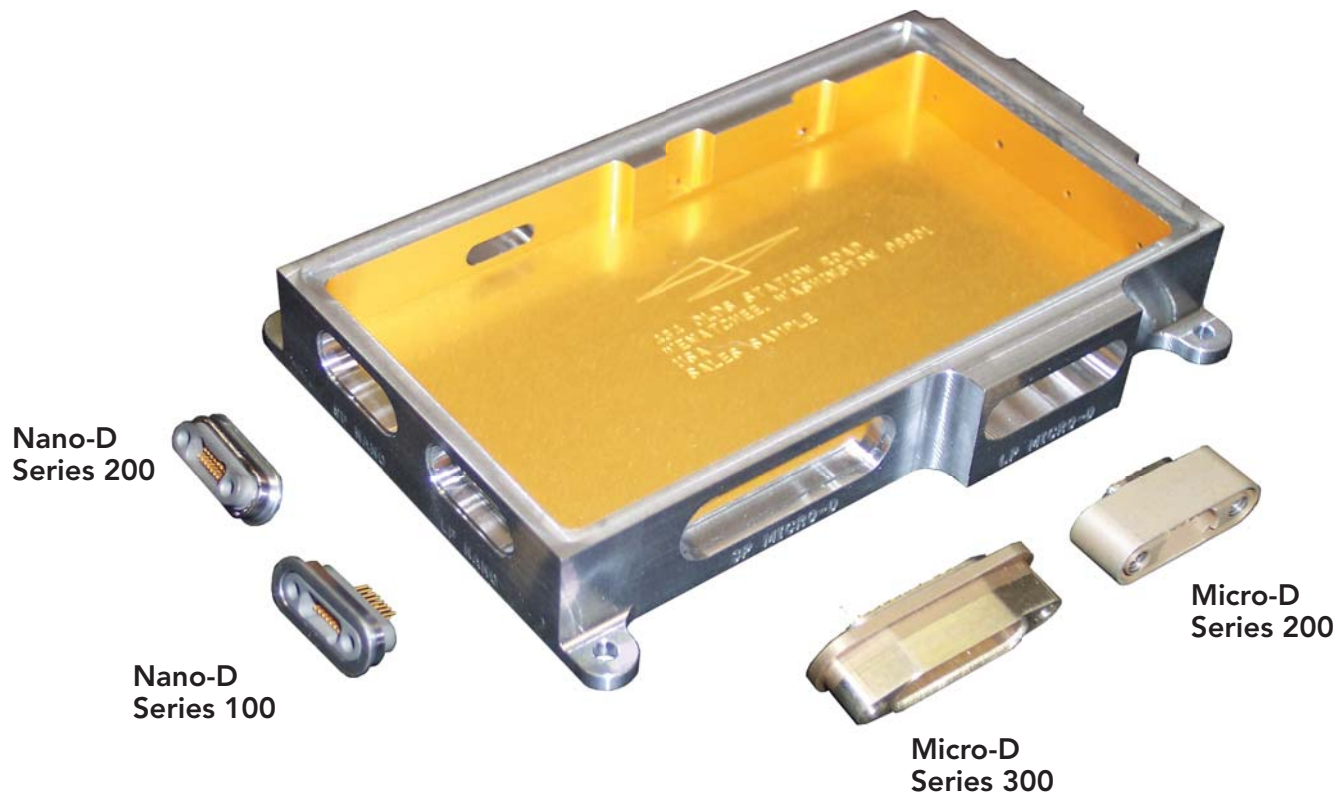
Sub-D Connectors (.100" Contact Pitch)

PA&E's Sub-D connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. Our Sub-D connectors exceed the requirements of MIL-DTL-24308.



PART NUMBER	DESCRIPTION
PAE-SD Series 100	DC Connector, Sub-D, Standard Profile, Flanged
PAE-SD Series 200	DC Connector, Sub-D, Standard Profile, O-Ring Flanged
PAE-SD Series 300	DC Connector, Sub-D, Standard Profile, Solderable
PAE-SD Series 400	DC Connector, Sub-D, Standard Profile, Double Ended

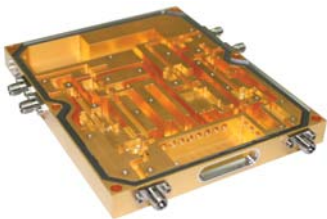
Hermetic DC Connectors



	NANO-D		JR.-D				MICRO-D						SUB-D			
	Series 100	Series 200	Series 100	Series 200	Series 300	Series 400	Series 100	Series 200	Series 300	Series 400	Series 500	Series 600	Series 100	Series 200	Series 300	Series 400
MATERIAL COMPATIBILITY	Designed for Aluminum, Titanium or Iron/Nickel Alloy Applications															
CONTACT MATERIAL	303 SS/ Inconel X-750		Beryllium Copper CDA Alloy 172/173													
SHELL FINISH OPTIONS	Passivated, Nickel/Gold Plated or Chromate Conversion Coated as Applicable															
CONTACT FINISH	Nickel/Gold Plating															
INTERFACE	Per MIL-DTL-32139		Proprietary				Per MIL-PRF-83513						Per MIL-DTL-24308			
NUMBER OF CONTACTS	9, 15, 21, 25, 31, 37 and 51		9, 15, 21, 25, 31 and 37				9, 15, 21, 25, 31, 37, 51 and 100						Per MIL-DTL-24308			
OPTIONAL SOLDER CUP	Contact PA&E															
LEAK RATE	Less than 1X10 ⁻⁹ cc/sec Helium at 1 Atmospheric Differential Pressure															
THERMAL CYCLING	Tested to 500 (minimum) thermal cycles without hermetic performance loss															
INSULATION RESISTANCE	Connectors Provide Greater than 5,000 Megohms at 500 VDC When Tested in IAW MIL-STD-1344, Method 3003															
DIELECTRIC WITHSTANDING VOLTAGE	Connectors Exhibit no Evidence of Breakdown or Flashover When Tested in IAW MIL-STD-1344, Method 3003															
CORROSION	Connectors Meet Salt Spray Test in IAW MIL-STD-1344, Method 3003															
OPERATING TEMP.	-65°C to 200°C															

Hermetic Solutions for Extreme Environments

Integrated Packaging



Using technologies such as Kryoflex® and explosively bonded metals, PA&E designs and manufactures hermetic packaging for extreme environments — whether it's integrating components that protect satellites deep in space or connectors for oil-drilling tools that bore deep below the earth's surface. By pairing our Kryoflex and explosively bonded metal technologies, we can build hermetic packages using precision laser welding rather than solder joints, thus eliminating the two most common causes for hermetic package failure: solder joint fatigue and cracked glass.

DC Connectors



PA&E's hermetically-sealed rectangular DC connectors exceed most mil-spec requirements and are designed for use in military and commercial applications, where environmental conditions require an extremely rugged and reliable hermetic seal. The uniquely-controlled CTE characteristics, chemical bonding properties and polycrystalline structure of Kryoflex allows PA&E to manufacture these hermetic connectors with 304L stainless steel shells and gold-plated beryllium-copper contacts to maintain excellent electrical performance and environmental characteristics.

RF/Microwave Connectors



PA&E's 50 Ohm hermetic RF/Microwave connectors are designed for use in military and commercial applications where environmental conditions require an extremely rugged and reliable hermetic seal. Low-loss Corning 7070 glass is used for dependable electrical performance. PA&E manufactures these hermetic RF connectors from a variety of compatible shell and contact materials, in both laser weld and solder-in styles, which provide excellent electrical and environmental performance characteristics.

Bonded Metals



PA&E has been the innovative leader in the explosive metal working field for over 30 years. Our customers have access to some of the world's most exciting metal working technologies, such as: Explosive Metal Bonding, Explosive Metal Forming, Explosive Shock Hardening and Dynamic Powder Metal Compaction. These high-strain rate technologies offer unique metal working advantages that can help our customers achieve the impossible.

For further information contact us at sales@pacaero.com
or visit our web site www.pacaero.com

