



2M Connector Series

2M CONNECTOR SERIES

The 2M Connector Series is designed for interconnect applications requiring high performance and reduced size and weight. This smaller, high density, lightweight, connector far exceeds the competition in quality and performance levels. The 2M Series is a superior and versatile connector designed and tested to mil-spec standards, comparable to MIL-DTL-38999. Its features include:

SUPERIOR ANTI-DECOUPLING

- + 2M801 and 2M805 Series are designed to withstand the high vibration levels of 38999
- + 2M Dualok exceeds high vibration levels of 38999

RUGGEDIZED

- + 2M Series is available in aluminum and stainless steel with corrosion resistant platings

VERSATILE

- + Four coupling options
- + Seven plating options including RoHS compliant
- + Over 40 insert patterns including mixed contact arrangements
- + Terminations Styles:
 - Crimp, Soldercup, PC Tail (straight and 90 degree), Flex Circuits
- + High speed solutions; copper & fiber optic (USB, Ethernet)
- + Braided and Overmolded cable assemblies
- + Filter EMI, ESD and Hermetic Solutions
- + Full range of accessories:
 - Backshells, Heat Shrink Boots, Protection Caps

HIGH DENSITY

- + Up to 60% more contact density than the standard 38999 connectors
- + Up to a 50% reduction in physical size compared to standard 38999

SIZE AND WEIGHT SAVINGS

- + Up to a 70% weight savings and 50% size savings compared to 38999

AVAILABILITY

- + Over 90,000 part numbers available, stock to build in 48 hrs

CUSTOM

- + Fast, superior customized solutions. Shell modifications, mix contact technology, etc. We customize to fit your application!

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2M Technical Overview

The 2M Connector Series of connectors joins Amphenol Aerospace’s Micro-Miniature product offerings. Amphenol is known for designing and manufacturing the latest in innovative interconnect solutions for over 90 years. When your application needs a smaller and lighter weight connector, 2M is the ideal interconnect that provides versatility of styles and plating options along with the assurance that comes with using a mil-spec performance connector for harsh environmental conditions. 2M has an improved mating force, consistent in the 2M801 and 2M805 Series and is intermateable and intermountable with existing micro-miniature connectors.



SERIES	2M801	2M803	2M804	2M805
TYPE	Dual-Start ACME Thread	Bayonet	Push-Pull	Tri-Start ACME Thread
DESCRIPTION	More rugged keys and threads.	Quick-mating, light duty, general purpose. Not rated for immersion, 50 milliohms shell-to-shell resistance.	Breakaway connector for headsets and tactical equipment. Gold-plated spring for long mating life and superior EMI shielding.	"Anti-Decoupling" ratchet mechanism and ground spring for military airframes and avionics boxes. Fast mating.
CONTACTS	1 to 130	1 to 55	1 to 85	1 to 130
COUPLING	Threaded Coupling with 1 1/2 Turns to Full Mate	1/4 turn lock Bayonet	Push-Pull, Quick-Disconnect	Tri-Start Thread
WATER IMMERSION, MATED	MIL-STD-810 Method 512 1 Meter for 1 Hour	Splash-proof	MIL-STD-810 Method 512 1 Meter for 1 Hour	MIL-STD-810 Method 512 1 Meter for 1 Hour
VIBRATION & SHOCK	-26 Plugs with Ratchet 43.9 g's Random Vibration, 60 g's Sine Vibration; 300 g's Shock.	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	43.9 g's Random Vibration, 60 g's Sine Vibration; 300 g's Shock
MATING CYCLES	2000 Cycles (9-16 Plugs) 500 Cycles (-26 Plugs)	1000 Cycles Aluminum 2000 Cycles Stainless Steel	2000 Cycles	500 Cycles
ELECTRICAL PERFORMANCE	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC
EMI SHIELDING	Very Good	Fair	Very Good	Excellent

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2M SERVICE CLASSES / PLATINGS				
	RoHS Compliant	FINISH	CONDUCTIVITY	CORROSION RESISTANCE
C	✓	Aluminum/Black Anodize (Non-conductive)	NONE	360 HRS
M	✓	Aluminum/Electroless Nickel	EXCELLENT	96 HRS
NF		Aluminum/Cadmium with Olive Drab Chromate	EXCELLENT	500 HRS
MT	✓	Aluminum/Nickel-PTFE (Duralon)	EXCELLENT	500 HRS
Z1	✓	Stainless Steel/Passivated	EXCELLENT	500 HRS
ZN	✓	Aluminum/Zinc-Nickel with Olive Drab Chromate	GOOD	500 HRS
ZNU	✓	Aluminum/Zinc-Nickel with Black Chromate	GOOD	500 HRS



Dualok

2M801 Dualok

Amphenol offers a Dualok Plug for high vibration applications in the 2M801 Series



2M Filtered High Density Interconnects

All series of the 2M family of connectors can be filtered. Amphenol's EMI protection connectors offer the versatility of our standard 2M connectors with EMI protection to suit the demands of your application.

Advantages of Filter Connectors:

- + Reduction in overall weight and space with the elimination of external filtering
- + Reduction in solder joints
- + Fewer components equals a cost effective solution with increased reliability
- + Eliminates radiated and conducted EMI from entering the box
- + Perfect for retrofits or late design-ins
- + Can utilize standard connector packaging

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TYPICAL 2M CUSTOMER:

OUR TARGET MARKETS ARE:

Military

- + C4I
- + Rugged Displays
- + Battery
- + Charging Systems
- + Satellites
- + Missile
- + Ground Vehicle

Military Aerospace

- + Avionics
- + Braking Systems
- + Counter Measures
- + Engine
- + Weapon Systems
- + UAV

Commercial Aerospace

- + Avionics
- + Engine
- + In-flight Entertainment
- + Braking Systems
- + Fuel Management
- + Landing Gear

Industrial

- + Downhole Drilling
- + Mining
- + C4I
- + Wind Turbine
- + Satellites
- + Racing
- + Rail Mass Transit

HOW TO DESIGN-IN 2M:

KEY QUESTIONS ASKED...

Q. Why should 2M be considered the superior choice for customers over the competition and MIL-DTL-38999?

A. Amphenol is the original creator and designer of many Mil-Specs, such as the well known and trusted 38999. Amphenol uses the same design principles and quality materials that have been field tested and approved for over 30 years in 38999 products. In most regards, the 2M Series is essentially a smaller, high density 38999 product.

Q. Is this product intermatable with the Glenair "Mighty Mouse" ?

A. The 2M Series was designed and tested to be intermatable with the "Mighty Mouse" product.

Q. How does the 2M801 and 2M805 Series Anti-Decoupling compare to MIL-DTL-38999?

A. 2M801 and 2M805 Series are designed to withstand the high vibration levels of 38999.

Q. Can the 2M Series be used for Space Application?

A. The standard 2M Series can be outgassed and baked to meet space requirements.

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