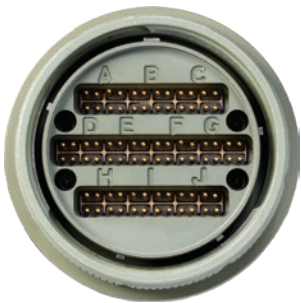
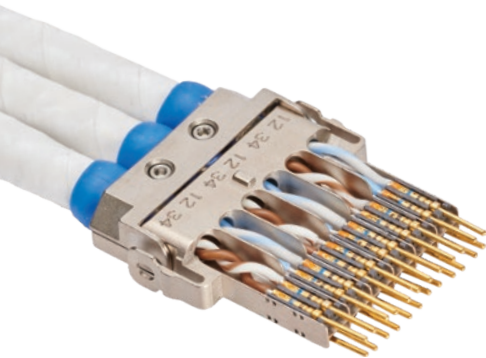
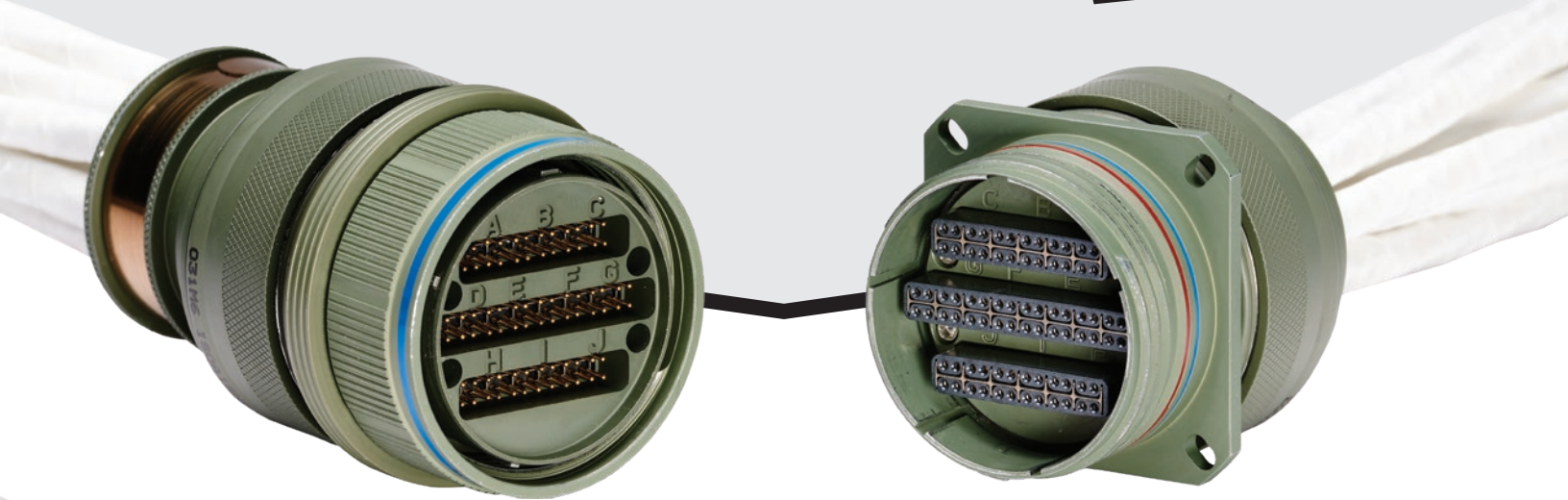




**MACHFORCE™** is a D38999 style high-speed 10G Ethernet connector designed for rugged aerospace and defense applications. Its patented design offers robust electrical performance, increased data transfer density, easy termination and field repairability. MACHFORCE is also offered as a complete assembly for custom solutions and unique applications.



## **FEATURES AND BENEFITS**

### ***Reliable Electrical Performance and Multiple Disconnects with High-Speed Module***

The patented high-speed module ensures continuous signal integrity through impedance control, data pair isolation and a unique shield termination design providing 360° grounding contact. The connector's optimized electrical performance allows for multiple disconnects.

### ***10 Ethernet Ports for 10G Performance***

The rectangular pin configuration maximizes shell size density and increases the amount of data transmitted per connector. It offers the highest number of ports in the market with 10 ports for 4-pair Ethernet cables to reliably achieve 10G performance.

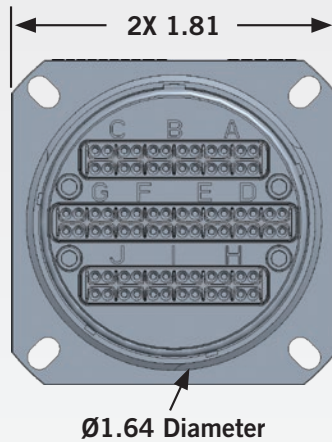
### ***Easy Termination and Field Repairable with Anti-Decoupling Ring and Standard Tools***

The patented anti-decoupling ring reduces the mating force required for connector engagement and allows for easy connect and disconnect with a gloved hand. It permits quick access to the high-speed module for the easiest and most direct access to terminated wires on the market. In addition, usage of industry standard tools, 22D pins and sockets simplify termination and field repairs.

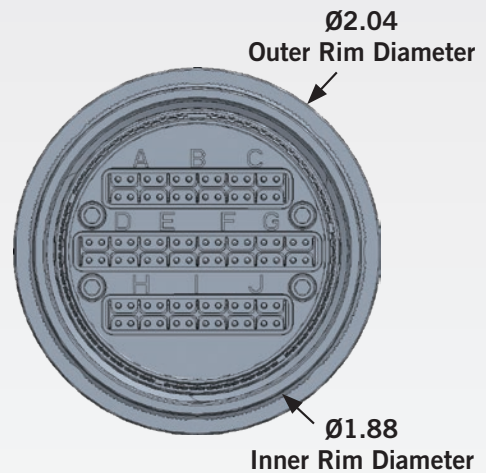
# CONNECTOR DIMENSIONS



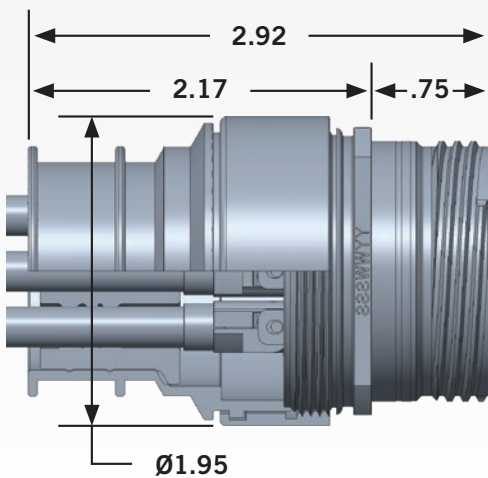
Mounting Nut Plate Cut-Out



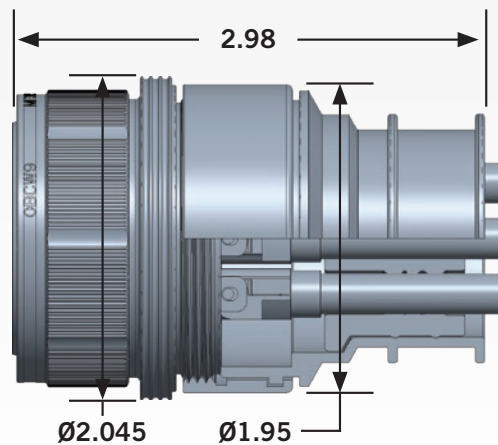
Flange Interface - Socket End View



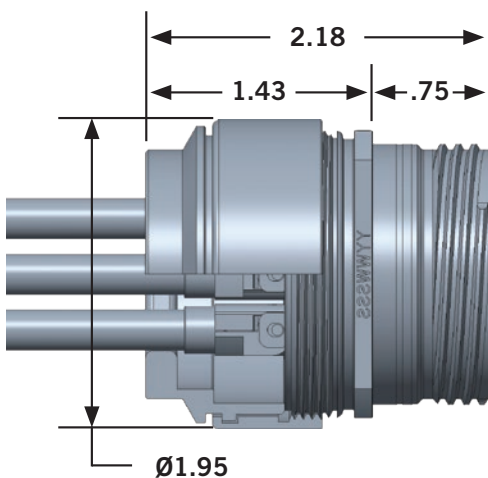
Plug Interface - Pin End View



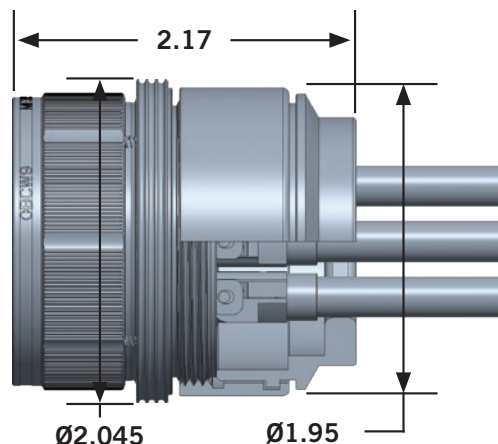
Flange Standard Backshell-Sealed



Plug Standard Backshell-Sealed



Flange Low Profile Backshell-Unsealed



Plug Low Profile Backshell-Unsealed

All dimensions are in inches unless otherwise specified.

## PROPERTIES

### SHELL

- Type: D38999 Series III
- Size: 25
- Styles: Plug & Flange MT Receptacle
- Clearance Panel Thickness: 0.197in (5.003mm)

### MATERIALS

- Body Components: Aluminum
- ADR Ring: Steel
- Insulators: Liquid Crystal Polymer
- Grommets & Seals: Fluorosilicone

### COUPLING TORQUE

- Maximum engagement & disengagement: 40 inch pounds (4.6 N-m)
- Minimum disengagement: 5 inch pounds (0.6 N-m)

### WEIGHT

- Flange: 0.171lb (79g)
- Plug: 0.271lb (122g)
- Standard Backshell: 0.121lb (55g)
- Low Profile Backshell: 0.0811lb (37g)

### PLATING

- Cadmium Olive Drab
- Black Zinc Nickel

### OPERATING TEMPERATURE

- -65°C to 200°C

### CONTACTS

- M39029-58-360 & M39029-57-354

# PRODUCT TESTING

TEST PROCEDURE	TEST STANDARD	RESULT
Ethernet Performance at Temperature (-65°C to 200°C)	EIA-568-C CAT6A	PASS
Shell to Shell Conductivity	MIL-DTL-38999 Rev M: 4.5.25	PASS
Salt Spray (Dynamic) (500 mating cycles during 500 hours of salt spray)	MIL-DTL-38999 Rev M: 4.5.13.2	PASS
Mechanical Shock (300g – 3 shocks per each of 6 axes)	MIL-DTL-38999 Rev M: 4.5.24.1	PASS

TEST PROCEDURE	TEST STANDARD	RESULT
Random Vibration (37.8g <sub>rms</sub> – 3 axes)	MIL-DTL-38999 Rev M: 4.5.23	PASS
Temperature Cycling (-65°C to 200°C)	MIL-DTL-38999 Rev M: 4.5.4	PASS
Coupling and Uncoupling Torque	MIL-DTL-38999 Rev M: 4.5.7	PASS
Lightning Strike	MIL-DTL-38999 Rev M: 4.5.47	PASS
Insulation Resistance at Ambient	MIL-DTL-38999 Rev M: 4.5.10.1	PASS
Dielectric Withstanding Voltage (600V)	MIL-DTL-38999 Rev M: 4.5.11.1	PASS

## MACHFORCE PART NUMBER BUILDER

### CONNECTOR

PRODUCT	<b>MF</b>	Family: MACHFORCE		
SHELL TYPE	<b>3825</b>	D38999 – Size 25		
SHELL STYLE	<b>F</b>	Flange Mount Receptacle*	<b>P</b>	Straight Plug
CONTACT	<b>S</b>	Sockets (Flange Only)	<b>P</b>	Pin (Plug Only)
PLATING	<b>W</b>	Cadmium Olive Drab	<b>Z</b>	Black Zinc Nickel

KEY POSITION DETAIL		K°	L°	M°	N°	<b>C</b>	K°	L°	M°	N°	
		<b>N</b>	80	142	196		293	66	140	200	257
		<b>A</b>	135	170	200		310	62	145	180	280
		<b>B</b>	49	169	200		244				

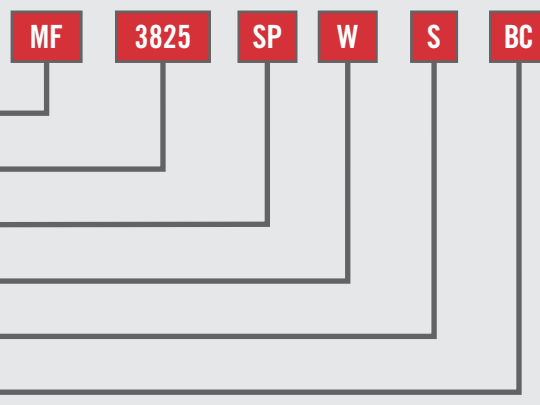
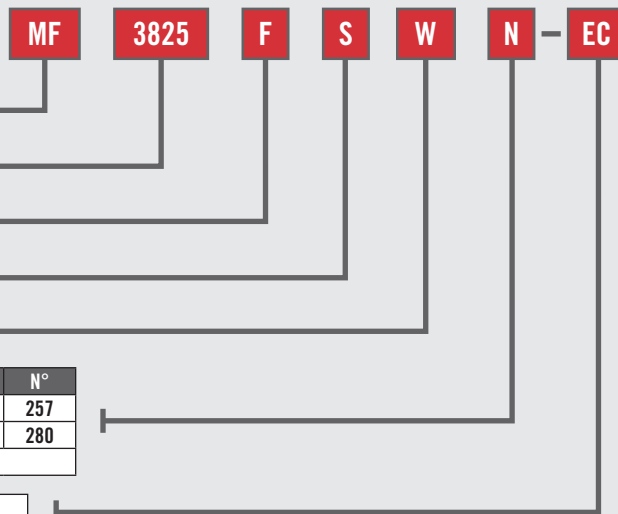
CABLE TYPE	<b>EC</b>	24 AWG Ethernet (E6A6824)	<b>ED</b>	26 AWG Ethernet (E6A6826)
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\*¼" Mounting Nut Plates Available

### BACKSHELL

PRODUCT	<b>MF</b>	Family: MACHFORCE		
SHELL TYPE	<b>3825</b>	D38999 – Size 25		
STYLE	<b>SP</b>	Standard Profile Sealed	<b>LP</b>	Low Profile Unsealed
PLATING	<b>W</b>	Cadmium Olive Drab	<b>Z</b>	Black Zinc Nickel
ANGLE	<b>S</b>	Straight		

CABLE TYPE	<b>BC</b>	24 AWG Ethernet (E6A6824)	<b>BD</b>	26 AWG Ethernet (E6A6826)
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## MACHFORCE ASSEMBLIES

MACHFORCE can be delivered as a complete interconnect solution and assembled according to an application's unique requirements. PIC Wire & Cable's 10G Base-T CAT6a Ethernet cables E6A6826 & E6A6824 have been tested and approved for use with MACHFORCE.

Part Number	Speed Rating	Data Conductor	Weight lbs/100 ft (kg/100 m)	O.D. in (mm)	Jacket	Temperature Range (°C)	Max Distance ft (m)
E6A6824	10G BASE-T	24 AWG SPCA	4.4 (6.5)	0.26 (6.60)	White Fluoropolymer Tape Laser Markable	-55/+200	246 (75)
E6A6826	10G BASE-T	26 AWG SPCA	3.2 (4.8)	0.22 (5.59)	White Fluoropolymer Tape Laser Markable	-55/+200	214 (65)