



# **BULKHEAD FEEDTHROUGH**

Amphenol Military & Aerospace Bulkhead Feedthrough Connectors

# PRODUCT SUMMARY

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# PRODUCT OVERVIEW



Amphenol Military and Aerospace Operations (AMAO) has the largest and broadest selection of interconnect products in the military and aerospace markets. Amphenol can provide all interconnect needs, from small, lightweight systems attachments to large, complex assemblies and everything in between. Amphenol's connectors can be found in every military and commercial aerospace market including UAVs, Avionics, Ground Vehicles, Naval Systems, Missiles, and Soldier Systems.

Military and aerospace engineers often need to pass power and signal wires through hulls, airframes, bulkheads, decks, and/or armored structures. Bulkhead Feedthrough Connectors are the perfect solution for ensuring electrical performance is maintained, especially in high pressure environments where sealing requirements are paramount. Bulkhead Feedthrough Connectors eliminate permanent fixing of cable harnesses through panels or bulkheads. They eliminate the need for cables to be passed through holes, which can lead to chafing, while providing greater flexibility, mechanical integrity, and ease of access for serviceability. Bulkhead Feedthrough Connectors are also designed to allow users to disconnect wires to maintain and service smaller cable runs instead of a single continuous cable.

Amphenol offers one of the broadest ranges of Bulkhead Feedthrough Connectors available in the industry. They are available in many different configurations including:

- MIL-DTL-38999 Series I, II and III
- Hermetic
- Fiber Optic
- Coaxial and RF
- High current / Voltage
- Rectangular D-sub styles
- Specialized Glass-to-Metal connections

Epoxy and Glass-to-Metal Sealed Hermetic versions are ideally suited for harsh high-pressure / low-leakage applications for Airborne, Naval, and Space environments. Fiber Optic Feedthroughs are sealed and available for single or multi-mode cables. Custom products can also be developed to suit any application.

# CIRCULAR PRODUCTS



## D38999 Series III:

- TV, SJT, LJT versions
- Pin-to-pin, pin-to-socket, socket-to-socket versions
- Aluminum, stainless steel, aluminum bronze, and titanium
- Single hole and square flange
- Long reach versions for thicker panels
- Hermetically sealed versions available



## D38999 with UTS Crimp Contact:

- Crimp termination using Amphenol's UTS (Universal Termination System)
- Intermateable and intermountable with standard plugs
- Uses Amphenol's filter epoxy compound
- Skydrol and jet fuel resistance inserts, seals, and backfill



## Rhino Connectors:

- For use on penetration panels and bulkheads
- Intermateable with our Rhino power connectors
- IP68 sealed
- Up to 1000A
- IP2X electrical interface
- Single hole and square flange versions
- Long reach versions for thicker panels



## MIL-C-26482 Series I & II:

- Wall mount and jam nut receptacles in sizes 8 through 24
- Quick positive coupling with bayonet coupling system
- 1000 VAC(RMS) operating voltage
- Fix type pin socket contact
- Pin-to-pin, pin-to-socket, and socket-to-socket layouts



## MIL-DTL-5015:

- Available in wall mount and jam nut with either threaded or reverse bayonet coupling
- Pin-to-pin, pin-to-socket, and socket-to-socket layouts
- Available in a variety of shell and contact styles
- Stainless steel bayonet pin option for achieving increased mechanical life



## MIL-DTL-22992 Class L and QWLD:

- High current capacity range: 40 to 200 amps
- Direct current or single/three phase, 60/400 Hz alternating current
- Automatic grounding for safety
- Increased shell size for greater durability than similar standard connectors



### D38999 Hermetic Feedthroughs:

- Wall mount and jam nut receptacles in sizes 8 through 24
- Available in pin-to-pin and pin-to-socket layouts with hermeticity of  $10^{-7}$  He cc/sec
- EMI shielding capability of 65dB min. at 10 GHz
- Operates under severe high temperature vibration through 200 deg



### Hermetic Bulkhead:

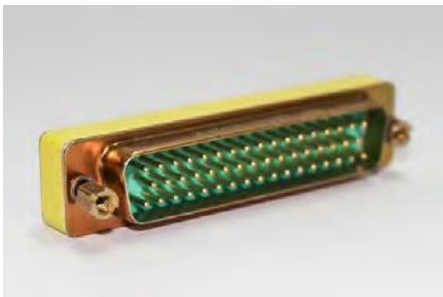
- MIL-DTL-38999 Series I
- 25-4 layout (56 ways)
- Helium leak rate of  $1 \times 10^{-8}$  cc/sec
- Stainless steel shell



### ARINC 801 Feedthrough:

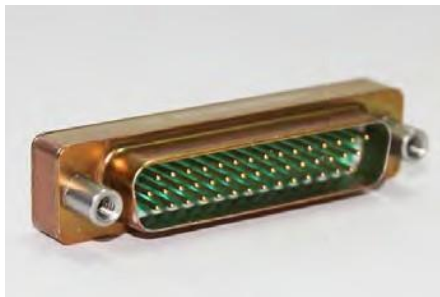
- ARINC 801 fiber optic connector format
- Panel-mounted, double-ended jam-nut receptacle with pin-to-pin contacts
- Sealing rates in excess of  $10^{-5}$  cc/sec
- Standard shell sizes and arrangements for multi-mode and single-mode optical fiber

## RECTANGULAR PRODUCTS



### MIL-DTL-24308 D-Sub:

- Available in standard density in shell sizes 1 through 5; insert layouts of 9, 15, 25, 37, and 50 pins
- Available in pin-to-pin, pin-to-socket, and socket-to-socket layouts
- Epoxysealed, customized designs
- Helium leak rate of  $10^{-5}$  cc/sec



### MIL-DTL-24308 HD D-Sub:

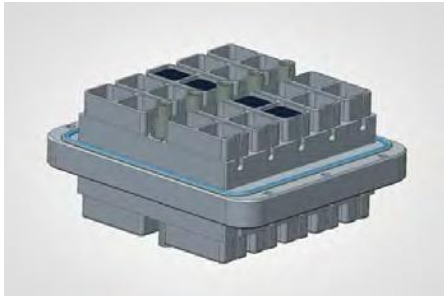
- Available in high density in shell sizes 1 through 5; insert layouts of 15, 26, 44, 62, and 78 pins
- Available in pin-to-pin, pin-to-socket, and socket-to-socket layouts
- Epoxy sealed, customized designs
- Helium leak rate of  $10^{-5}$  cc/sec



### HD 15 Pin D-Sub:

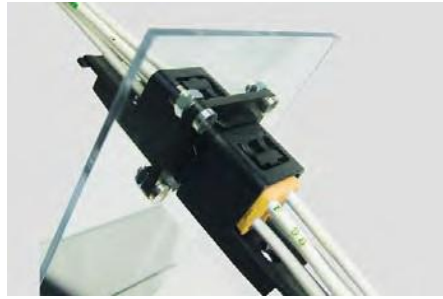
- For wind energy and solar energy systems
- Available in pin-to-pin, pin-to-socket, and socket-to-socket layouts
- Other layouts can be manufactured as required

# RECTANGULAR PRODUCTS



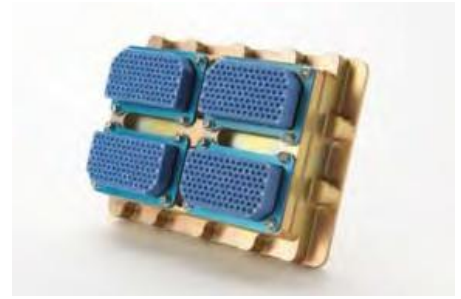
## SIM Connectors:

- Space efficient and modular design
- SIM modules in overmold technology
- Versatility of mixing and matching RF, fiber optics, signal, and power
- Suited for custom design
- SIM specification according to EN4165



## SIM Splices:

- Space efficient and modular design
- Compatible with the whole range of EN4165/SIM modules
- SIM modules in overmold technology
- Fire/smoke/toxicity conform to ABD 031 and FAR25853



## ARINC 404 Connectors:

- ARINC 404 bulkhead solutions designed for commercial and military aircraft, missile, space and satellite applications
- Features guide posts, float mount and threaded hardware to ensure proper alignment
- Application specific designs with custom arrangements and high speed solutions

# HIGH SPEED ETHERNET



## Ethernet Penetrator:

- Pressure-tight Ethernet penetrator designed for retro-fit into bulkhead packing glands
- Rugged Mil-Spec Ethernet connections on either side
- Supplied with a spring locknut assembly for secure mounting and anti-rotation



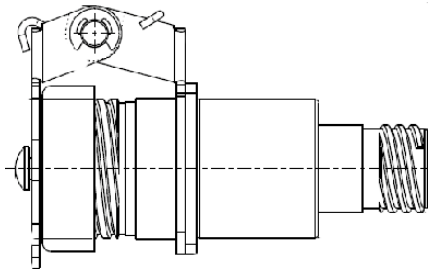
## USB <-> MIL-DTL-26482:

- USB to Standard 26482 12-10 pin layout adapter
- ABS 1547 for avionics applications
- Plastic snap cap available for USB side



## USB FTV <-> 38999 15-35 Plug:

- USB FTV to Standard 38999 15-35 layout adapter
- C4ISR and avionics applications
- Version with flange and snap cap also available



**USB FTV <-> Quadrax:**

- USB to a single Quadrax contact - Bulkhead
- C4ISR and avionics applications
- Metal snap cap available on RJ45 side



**USB FTV <-> 38999 11-98 Plug:**

- USB FTV to standard 38999 11-98 pin layout adapter
- C4ISR and avionics applications
- Version with flange and snap cap also available



**RJ45 <-> MIL-DTL-26482:**

- RJ45 to standard 26482 12-10 pin layout adapter
- ABS 1547 for avionics applications
- Plastic snap cap available for RJ45 side



**RJFTV <-> 38999 15-35 Plug:**

- RJFTV to standard 38999 15-35 pin layout adapter
- C4ISR and avionics applications
- Metal snap cap available for RJ45 side



**RJF <-> Quadrax Cables:**

- RJ45 to a single or dual Quadrax cables
- Avionics applications
- Metal snap cap available on RJ45 side



**RJF <-> Quadrax Receptacle:**

- RJ45 to 2 Quadrax contacts - Bulkhead
- Avionics applications
- Metal snap cap available on RJ45 side

# FIBER OPTIC PRODUCTS



## TFOCA II Feedthrough:

- 4 and 6-channel configurations
- Hermaphroditic design for versatility
- Available in aluminum, marine bronze, brass, and stainless steel with a variety of finishes
- Applications: Military tactical deployments, Oil & Gas, Industrial, Broadcast



## Well Head Outlet (WHO) Feedthrough:

- Single channel, single mode fiber optic feedthrough for well head outlets
- Dual seal design
- Available as an assembly using customer-specified cable
- Applications: Oil & Gas



## Custom Feedthrough Designs:

- Broad portfolio of connectors and depth of engineering expertise to offer optimized fiber and fiber/copper feedthrough solutions per customer requirements
- Applications: Military tactical deployments, Oil & Gas, Industrial, Broadcast

# RF CONNECTOR PRODUCTS



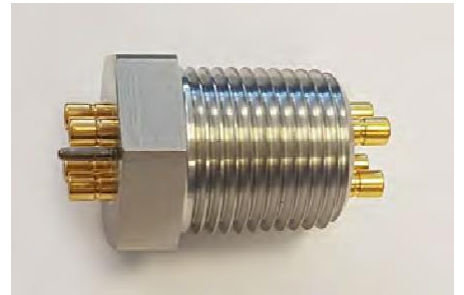
## Bulkhead RF Adapters and Connectors:

- Stainless steel, corrosion resistant construction
- Waterproof (IP68) and hermetic versions available
- Between series and in-series standard interface options
- DC - 65 GHz options
- Ku-band frequencies supported



## Bulkhead Push-On RF Adapters and Cables:

- Ideal for multiport applications
- Radial and axial float to absorb tolerance stackup
- Adapters and cable connectors available
- Standard series include BMA, BMZ, SMP, SMPM, SMPS



## Coaxial Feedthroughs:

- SMB coaxial RF connectors
- Characteristic impedance 50 Ohms
- Shell sizes available in 1/2", 3/4", and 1" NPT
- Up to 8 ways in largest shell size

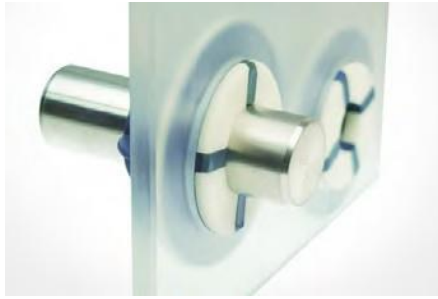


# RELATED ACCESSORIES



## Lightening Hole Bushings:

- Made to help guide wire bundles through aircraft frames and stringers
- Made with smooth edges to reduce wire chaffing
- Quick-snap 1 part installation process reduces hardware
- Various sizes and custom products available



## Sealed Feedthrough Accessories:

- Full lightweight composite
- Easy and quick installation from one side of the structure
- Electrical insulation between pipes/cables and structure
- Self-locking mechanism (no extra parts needed)



## Dust Caps:

- Environmental protection of circular connectors
- Designed to meet requirements of Mil-Spec connectors
- D38999, M26482, M5015, M83723 and other Mil-Spec versions available

# THE AMPHENOL ADVANTAGE



Amphenol Military & Aerospace Operations (AMAO) offers unique advantages that no other interconnect manufacturer can:

**Global footprint, local support:**

With 21 divisions in North America, Europe, and Asia, we can provide a local, regional presence to design and build any interconnect solution.

**Cost-effective partnerships:**

AMAO utilizes a vertically integrated supply chain to flow down the most competitive costs to our customers, even on the most complex solutions.

**Manufacturing versatility:**

Many AMAO interconnect solutions have dual-production locations and off-set options which means our customers benefit from low-cost options without the fear of a single-source position.

**Technology proliferation from other Amphenol divisions:**

As the 2nd largest interconnect company in the world, we're highly diversified and can provide our proven COTS technology from the antennas, sensors, industrial, and automotive markets to the military and aerospace world.

Amphenol Military & Aerospace Operations is perfectly aligned to provide the latest technologies, cost-effective manufacturing and supply chain management, and local support to solve any military and aerospace interconnect need.

# Amphenol

Turkey&MiddleEast

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