





DEUTSCH

38999 CONNECTORS SERIES I, III, AND IV

Rugged Circular Connectors in Mil-Spec and Derivative Configurations to Meet the Widest Range of Harsh Environments and Applications

DEUTSCH 38999 CONNECTORS

Series I, III, and IV



Subminiature Circular Connectors Built for Harsh Environments

TE Connectivity (TE) is your one-stop source for MIL-DTL-38999 and 38999-style connectors. We offer mil-qualified Series I, III, and IV connectors in a wide array of configurations, materials and finishes to help meet the needs of ground, aerospace, and marine applications. The subminiature circular connectors are time tested for reliability in harsh environments. Our 38999 connectors include support for:

- Signals
- Power
- RF
- Optical
- Hermetic sealing
- EMI filtering

Beyond Mil Specs

Because of the widespread popularity of 38999 Series III connectors, we have also used this form factor for designs to meet a variety of configurations beyond those of MIL-DTL-38999. This gives you a familiar, reliable connector and access to the full range of backshells and other accessories.

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.





Recent 38999 Highlights

RoHS-Compatible Finishes

Our 38999-qualified connectors are available with cadmium-free, environment-resisting plating options offering 500-hour salt spray resistance and a -65°C to +175°C temperature range.

Class T: Nickel-PTFE

Class Z: Black zinc nickel



PC Board-Mount Connectors

TE offers hundreds of different sizes and types of standard and extended-tail contacts. Direct board mounting not only saves weight and space, it enhances system reliability and performance by replacing a separable interface with a more reliable soldered interconnection.



MC801 Connectors

Expanding your options from our already broad fiber-optic portfolio, MC801 connectors combine a 38999 shell with the capability to use industry-standard 801 optical termini. We support a full range of interface styles to help allow you to achieve the full benefits of fiber's bandwidth, reach, and noise immunity.



CeeLok FAS-X Connectors

Take control of high-speed networking with connectors that support up to four 10G Ethernet channels with excellent signal integrity. Using standard 39029 contacts, the connectors can be field terminated using standard tools.



MIL-DTL-38999 Connectors

	Series I	Series III	Series IV
Coupling Mechanism	Bayonet 1/3 turn	Threaded 360° turn	Breech lock 1/4 turn
Shell Materials	Aluminum	Stainless steel Aluminum Composite	Aluminum
Features		Scoop proof Environmentally sealed Hermetic versions Filter versions Spring fingers for EMI control	
Shell Platings		Olive drab cadmium Passivated Electroless nickel Electrodeposited nickel Nickel PTFE (Series III) Black zinc-nickel (Series III)	
Contact Sizes, Std		23, 22, 20, 16, 12, 8	
Shell Sizes		9, 11, 13, 15, 17, 19, 21, 23, 25	
No. of Signal Contacts, Max.		187	
Contact Type		MIL-C-39029	
Contact Styles		Crimp Solder cup or eyelet PCB tail	
Operating Temperatures		-65°C to +200°C -65°C to +175°C -65°C to +150°C (Depends on shell finish)	
Durability (Mating Cycles)		500 (High-durability versions available)	
Standard Configurations		**Plugs** Straight, with or without EMI spring fingers Lanyard release **Receptacles** Box mounting, both front and rear panel mounting Wall mounting, both front and rear panel mounting Jam nut, rear panel mounting Solder mounting Through-bulkhead	

MIL-DTL-38999 CONNECTORS



MIL-DTL-38999 Series I

Bayonet coupling ring with constant mating torque
- Quick connect/disconnect: 1/3 turn

Corrosion Resistant
- 500-hour salt spray resistance
- Thermoplastic clips molded directly with insert
- RFI fingers for EMI protection

Typical Applications
- Ground vehicles



DTS Series Connectors MIL-DTL-38999 Series III

Triple-start, self-locking threaded coupling
- Disconnect: 360° turn

Capable
- Light weight
- VG 95319 qualified
- EN3645 qualified

Versatile
- More choice in shell sizes, materials, inserts, filtering and EMI protection, and environmental sealing

Typical Applications
- Ground, aerospace, and marine
- Most widely used 38999 style



DTS-K and –S Series Connectors MIL-DTL-38999 Series III Classes K and S

Extreme Environments
- -65°C to +200°C operating temperature
- Withstands high vibration and shock
- Corrosion-resistant stainless steel shell
- Fire tested to +1093°C

Typical Applications
- Engines in ground vehicles, aerospace, and UAVs
- High-temperature, high-vibration areas



DIV Series Connectors MIL-DTL-38999 Series IV

Breech lock coupling
- Quick connect/disconnect: Quarter turn

High Performance
- Optimized for SWAMP area applications
- Visual, audible and tactile full-mate indicators

Typical Applications
- Missiles
- Aircraft
- Ground vehicles



ACT Series Connectors MIL-DTL-38999 Series III Composite Shells

Weight Saving
- Lightweight composite shell

Rugged
- -65°C to +200°C operating temperature
- Excellent corrosion resistance: withstands 2000-hour salt spray
- Up to 1500-mating-cycle durability

Typical Applications
- Commercial and military aerospace
- UAVs



Lanyard-Release Plugs MIL-DTL-1760

Instant Disconnection
- Designed for munitions stores
- MIL-DTL-38999/31 qualified

MIL-DTL-1760 Types 1 and 2
- Type 1 available in aluminum and composite versions for drop launch
- Type 2 incorporates a replaceable buffer system for rail launch

Typical Applications
- Ground and air-launched missiles
- Smart bombs

38999-DERIVED CONNECTORS



Wildcat 38999 High-Density Connectors

High Density
- Nearly double the contact density of standard M38999 connectors
- Four shell sizes, 11 to 64 contacts
- 3 amps per contact

Lightweight and Space Saving
- Aerospace grade aluminium
- Rear removable crimp and PCB contacts
- -65°C to +175°C / +200°C (plating dependent)

Typical Applications
- Universal soldier
- UAV
- Communications



HDJ Series Connectors 38999 Series 1.5

Reduced Profile
- Based on 38999 Series I coupling interface lengths and Series II diameters
- Meets LN29729 standard
- Meets J 62.017 and DIN 65002 standards
- -55°C to +175°C operating temperature

Typical Applications
- Military aerospace

38999-DERIVED CONNECTORS



DTB Series Connectors 38999 Series III Bronze Shells

Designed for Marine Application
- Marine bronze shell for marine applications
- Excellent corrosion resistance
- Dry mate sealing down to 4 m immersion
- -65°C to +175°C operating temperature

Compliant
- STD CECC 75201-002
- RoHS compliant

Typical Applications
- Shipboard
- Ground vehicles



MC3 and MC4 Optical Connectors

MC3
- 5, 8, or 12 fibers (shell size 19, 23, or 25)
- Aluminum shell
- 2.5 mm termini

MC4
- 2 fibers (shell size 9)
- Aluminum shell
- 2.5 mm termini



MC5 and MC6 Optical Connectors

MC5
- 1, 2, 4, 6, 8, 10, 18, 30 fibers (shell sizes 11 through 25)
- Composite shell
- 1.25 mm termini

MC6
- 12 or 24 fibers
- Composite shell
- MT ferrules



MC801 Optical Connectors

High Performance
- Uses industry-standard ARINC 801 termini
- 1.25 mm ferrules for high contact density
- Multimode and single mode
- PC and APC finishes

Lightweight
- Aluminum shell

Convenient
- Compatible with LC termination processes and tooling



D38999 Series III QPL Fiber-Optic Connectors

Capable
- Up to 36 fibers
- MIL-PRF-29504/4 and /5 termini

Rugged
- Aluminum or composite shells
- Shock and vibration resistant
- Moisture and corrosion resistant



PRO BEAM Inserts

Versatile
- Expanded beam for size 11 and 15 shells
- 1, 2, 4, or 8 fibers

Durable
- No wear on fiber optic interface
- Vibration resistant
- Highly resistant to dirt and debris



PRO BEAM EB16 Termini

Convenient
- Expanded beam termini for 38999 Series III size 16 cavities

Durable
- No wear on fiber optic interface
- Very vibration resistant
- Highly resistant to dirt and debris

Repeatable Low-Loss Performance
- Low sensitivity to thermal fluctuations and interface contamination
- Stable operation over life of system

Easy To Use
- Drop-in replacement for M29504/4 and /5 physical contact termini



High Power 38999-Style Connectors

High Current Capacity
- Up to 1000 A in a size 25 shell
- Single and multicontact configurations

Space Saving
- Hybrid configurations with signal and power contacts
- Variety of shell sizes

Rugged
- Rear removable crimp contacts
- Dedicated sealed backfitting and cable support grommet
- Excellent contact retention under severe vibration

38999-DERIVED CONNECTORS



CBC Series Bussed Connectors

Simple, Reliable Wire Bussing
- Internal pc board connects contacts for grounding distribution, power distribution, and similar needs
- Range of standard and custom bussing configurations

Weight and Space Saving
- Composite and aluminum shells
- Eliminates external bussing components
- Shell sizes 9 through 25



Ruggedized Commercial Connectors

Versatile
- RJ45, with Cat 5e, 6, or 6A performance
- USB 2.1, up to 480 Mb/s
- USB 3.0, up to 5 Gb/s
- SIM card receptacle
- Micro SD card receptacle
- LC, for multimode and single-mode fiber

Rugged
- Shell options include aluminum, bronze, stainless steel, titanium, and composite
- Sealed up to IP68 for fluid and dust-laden environments



Hermetic Connectors

High Performance
- Glass-to-metal sealing
- Airtight under high pressures, vibration, and temperatures

Rugged
- Resists extreme changes in temperature or pressure
- -65°C to 200°C
- Wide range of special configurations

Typical Applications
- Pressurized systems
- Fuel tanks and other hazardous materials
- Harsh environments



Filter Connectors

EMI Protection
- Pi, LC, CL, C configurations
- Mixed capacitance, grounded or feedthrough lines
- Filter values from 100 pF to 1 µF, subject to specific requirements

EMP Protection
- Transient voltage suppression
- Resists EMP, NEMP, lightning strike, or ESD
- Fast transient clamping



Quadrax Connectors

High Speed, High Density
- Up to 8 Quadrax contacts in a size 25 shell
- One Quadrax contact in a size 9 shell
- Integral ground plane

Rugged
- High-strength aluminum alloy shell
- Nickel, zinc cobalt, or olive drab cadmium plating
- 360° shielding
- -65°C to +175°C

Typical Applications
- High-speed networking



CeeLok FAS-X Connectors

High Speed
- Supports 10G Ethernet and beyond
- One 10G Ethernet channel in size 11 shell
- Four channels in size 25 shell

Compatible
- AS39029 contacts
- Fast field termination and repair, using standard tools
- Available with aluminum or composite shells with a variety of finishes

Typical Applications
- High-speed networking



Feedthrough Connectors

Convenient
- Suited to bulkhead pass-through and connector-saver applications
- Wide range of gender matching, materials, and sizes



Backshells and Accessories

Wide Backshell Range
- AS85049-compliant band straps and adapters
- Available in all materials and finishes
- Straight, 45°, or 90°
- Options on low profile, extended length and alternative angles

Shielded or Unshielded
- Shielded for individual or overall 360° screening options

Compatible
- Compatible with Mil-Spec dimensions and performance

For More Information

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