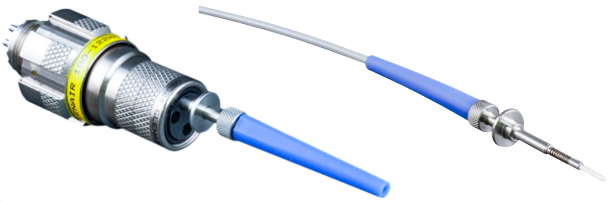
Tight-Tolerance Fiber Optic Connection System

THE INDUSTRY'S MOST COMPLETE HIGH-PERFORMANCE D38999 SERIES III FIBER OPTIC SYSTEM

MIL-DTL-38999 type fiber optic connection system termination, inspection, test, and cleaning tools—discrete part numbers and complete kits are available now from Glenair. We also offer comprehensive F/O training services for assembly and maintenance technicians.



Glenair optical fiber test probes and connector adapters provide accurate and repeatable testing of MIL-DTL-38999 F/O assemblies.

Glenair M29504/04 and /05 QPL termini are in stock and ready for immediate, same-day shipment.

Glenair signature FiberCon backshells incorporate a multi-channel grommet to stabilize termini and prevent cracking and micro-bending between the cable and termini. Available purple color-coded protective covers and accessories.

Glenair SuperNine ultra tight-tolerance shell, cavity, and keyway dimensions deliver precise axial alignment for ultra-low multi-channel insertion loss values for both singlemode and multimode fiber

Eye-Beam™ GLT termini and jumpers are easily integrated into Glenair MIL-DTL-38999 type connector packaging

Special small form-factor single-channel simplex fiber optic connectors IAW D38999

Turnkey PEEK and fluoropolymer conduit fiber optic cable protection systems with color-coded conduit adapters and backshells.

Turnkey multichannel environmental cable assemblies with pure fiber or hybrid electrical/optical layouts

Turnkey breakout assemblies for inside-the-box applications

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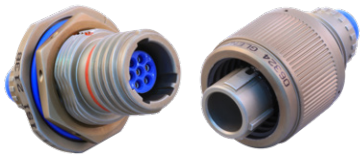
MATERIAL AND FINISH		
Code	Material	Finish Description
M*	Aluminum Alloy	Electroless Nickel
MA		Electroless Nickel, Matte
ME		Electroless Nickel
MT		Nickel-PTFE, Gray
NF		Cadmium, Olive Drab
TZ		Tin-Zinc, Bronze-Gold
ZN		Zinc-Nickel, Olive Drab
ZNU		Zinc-Nickel, Black
ZR		Zinc-Nickel, Black (RoHS)
XM	Composite	Electroless Nickel
XMT		Nickel - PTFE, Grey
XW		Cadmium, Olive Drab
XZN		Zinc-Nickel, Black
MS	Stainless Steel	Electroless Nickel
ZL		Electro-Deposited Nickel
Z1		Passivate
AB	Marine Bronze	No Plating

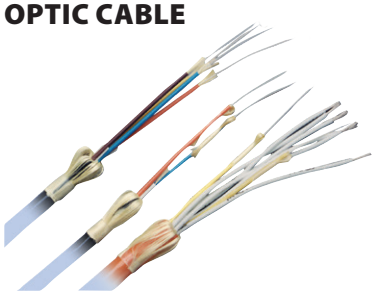
*Inactive for new design. Use "ME" finish.

NEW SACRIFICIAL PLATING CADMIUM REPLACEMENT:



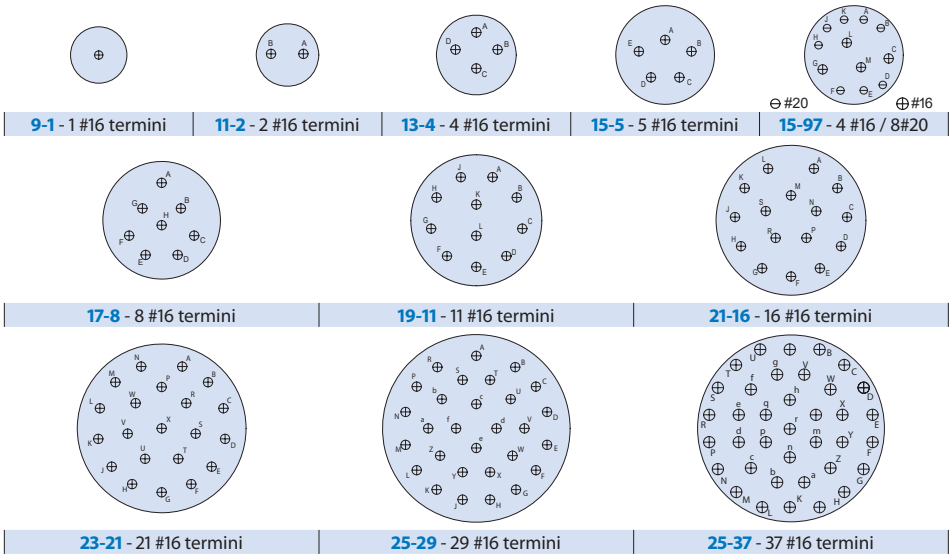
Tin-Zinc 500 (TZ) is the new Glenair gold-standard replacement for Cad over Nickel with excellent conductivity and 500 hours salt-spray resistance.

BULK SIMPLEX FIBER OPTIC CABLE



All Glenair fiber optic connection systems are supported with a complete range of bulk simplex cable choices including stepped and graded-index configurations as well as radiation and atomic oxygen resistant configurations for satellite applications.

INSERT ARRANGEMENTS (mating face, pin insert shown)



9-1 - 1 #16 termini | **11-2** - 2 #16 termini | **13-4** - 4 #16 termini | **15-5** - 5 #16 termini | **15-97** - 4 #16 / 8#20

17-8 - 8 #16 termini | **19-11** - 11 #16 termini | **21-16** - 16 #16 termini

23-21 - 21 #16 termini | **25-29** - 29 #16 termini | **25-37** - 37 #16 termini

- **Glenair SuperNine 180-091 series IAW MIL-DTL-38999 Series III connectors, designed and optimized for use with optical termini**
- **Ultra-tight tolerance shell and cavity dimensions for precise axial alignment**
- **Wider master key dimension on plug connector for improved cavity alignment**
- **Ultra-lightweight composite thermoplastic connector solutions plus lightweight aluminum, rugged stainless steel and marine bronze**
- **Qualified size #16 MIL-PRF-29504 pin-socket precision ceramic termini**
- **Insert arrangements from 2 to 37 ways**
- **Advanced RoHS-compliant finish solutions**
- **IP68 in mated condition (10 meters, two hours)**

MIL-PRF-29504/04 AND /05 FIBER OPTIC TERMINI PERFORMANCE SPECIFICATIONS	
Test Type	Performance Requirement
Optical Insertion Loss, Multimode (MM) *	0.35 dB Typical (50/125 and 62.5/125), restricted launch
Optical Insertion Loss, Singlemode (SM) *	0.30 dB Typical (9/125)
Optical Return Loss	Better than -40 dB - PC Polish Better than -50 dB - Enhanced PC Polish
Discontinuity, Vibration	MM: 0.5 dB or more for 50 µs or more SM: 0.5 dB or more for 50 µs or more
Discontinuity, Shock	MM: 0.5 dB or more for 50 µs or more SM: 0.5 dB or more for 100 ms or more
Operating Temperature	-55°C to +165°C (dependent on epoxy and cable)
Temperature (Thermal) Shock	-55°C to +165°C, 5 Cycles
Temperature Life	+165°C, 1000 hours
Mating Durability	500 cycles (cleaning after 100 matings)
Vibration - Sinusoidal	60.0 Grms at ambient temperature. Monitored for Discontinuity.
Vibration - Random at Temperature	41.7 Grms at 125°C. Monitored for Discontinuity.
Vibration - Random at Ambient	49.5 Grms at ambient temperature. Monitored for Discontinuity.
Mechanical Shock (High Impact)	Per MIL-DTL-901, grade A, type B, class I. Monitored for Discontinuity.
Mechanical Shock (Half-Sine Pulse)	300 G Peak over 3ms duration. Monitored for Discontinuity.
Corrosion Resistance (Salt Spray)	48 hours
Cable Pull Out Force, Termini	22.0 lbs (dependent on cable construction)
Terminus Retention	22.0 lbs

* Optical Insertion Loss values when tested in Tight Toleranced Connectors